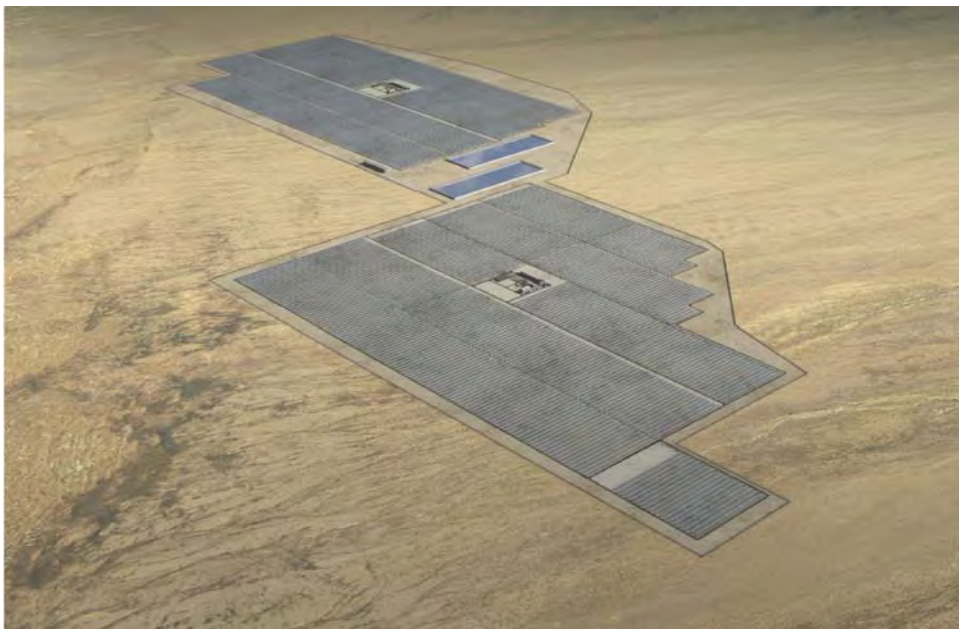
BLM

Bureau of Land Management

PLAN AMENDMENT/FINAL EIS FOR THE GENESIS SOLAR ENERGY PROJECT

Volume 2 of 3



August 2010

APPENDIX A
Figures

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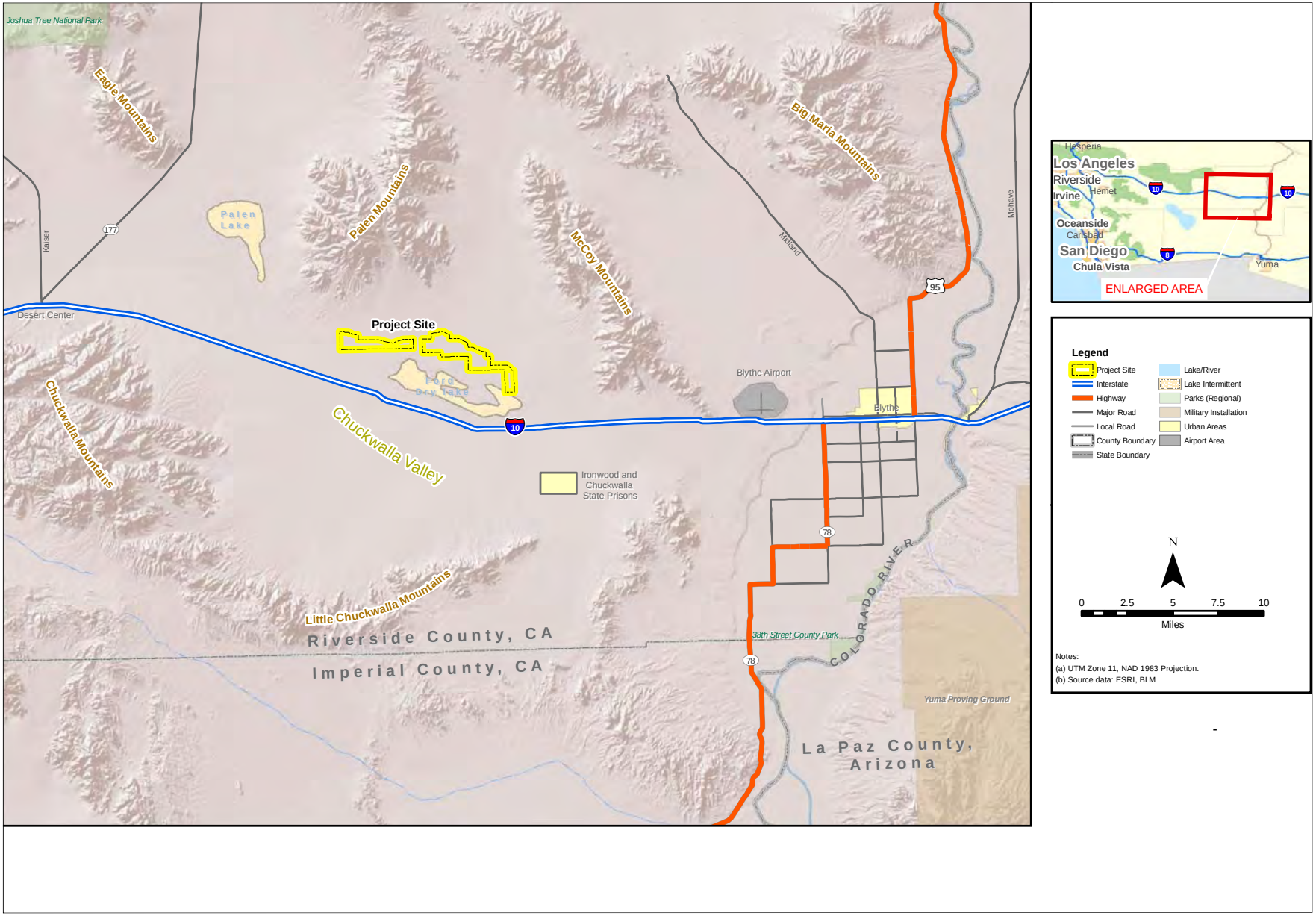
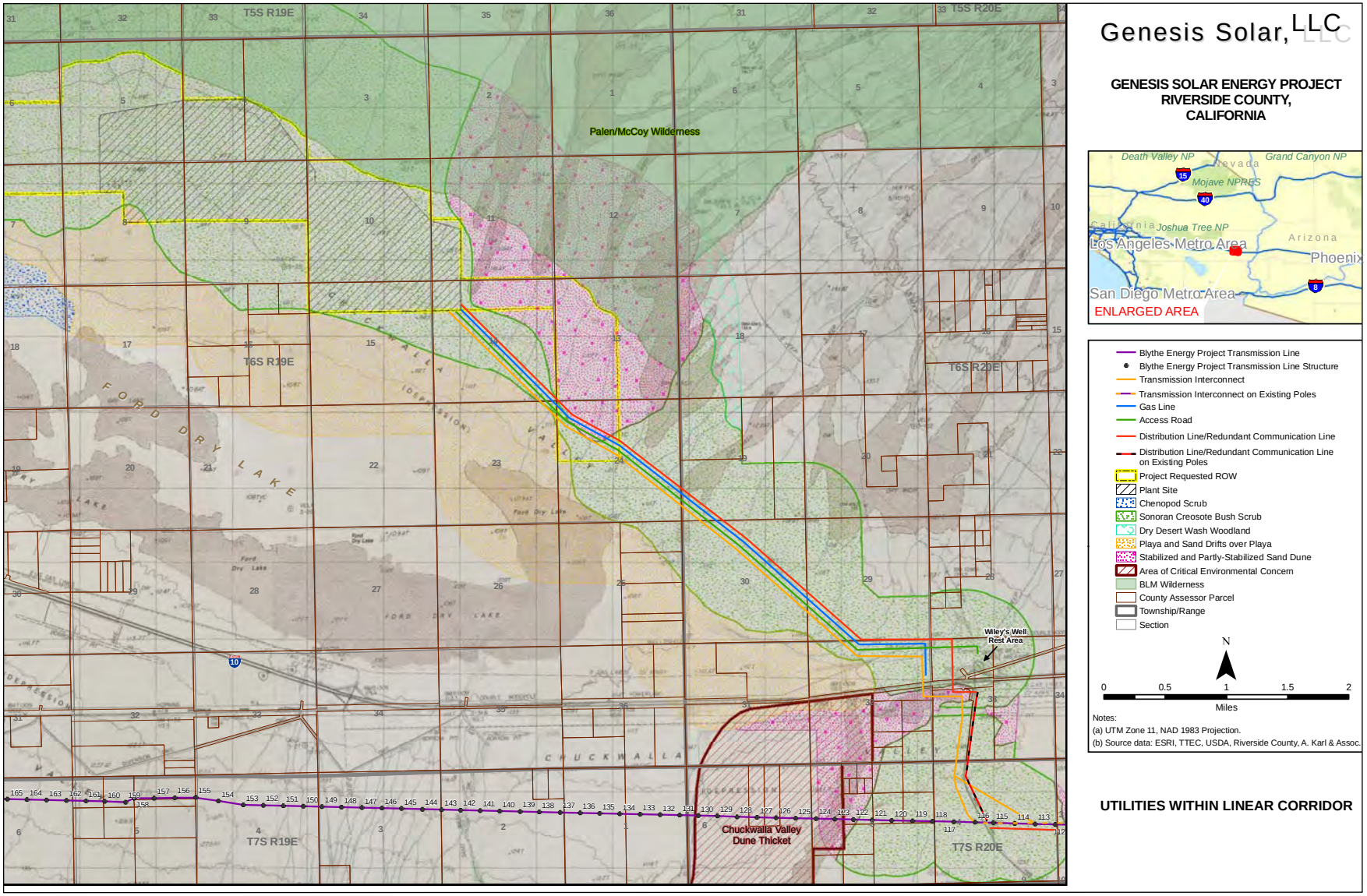


SOURCE: CEC Genesis RSA, June 2010

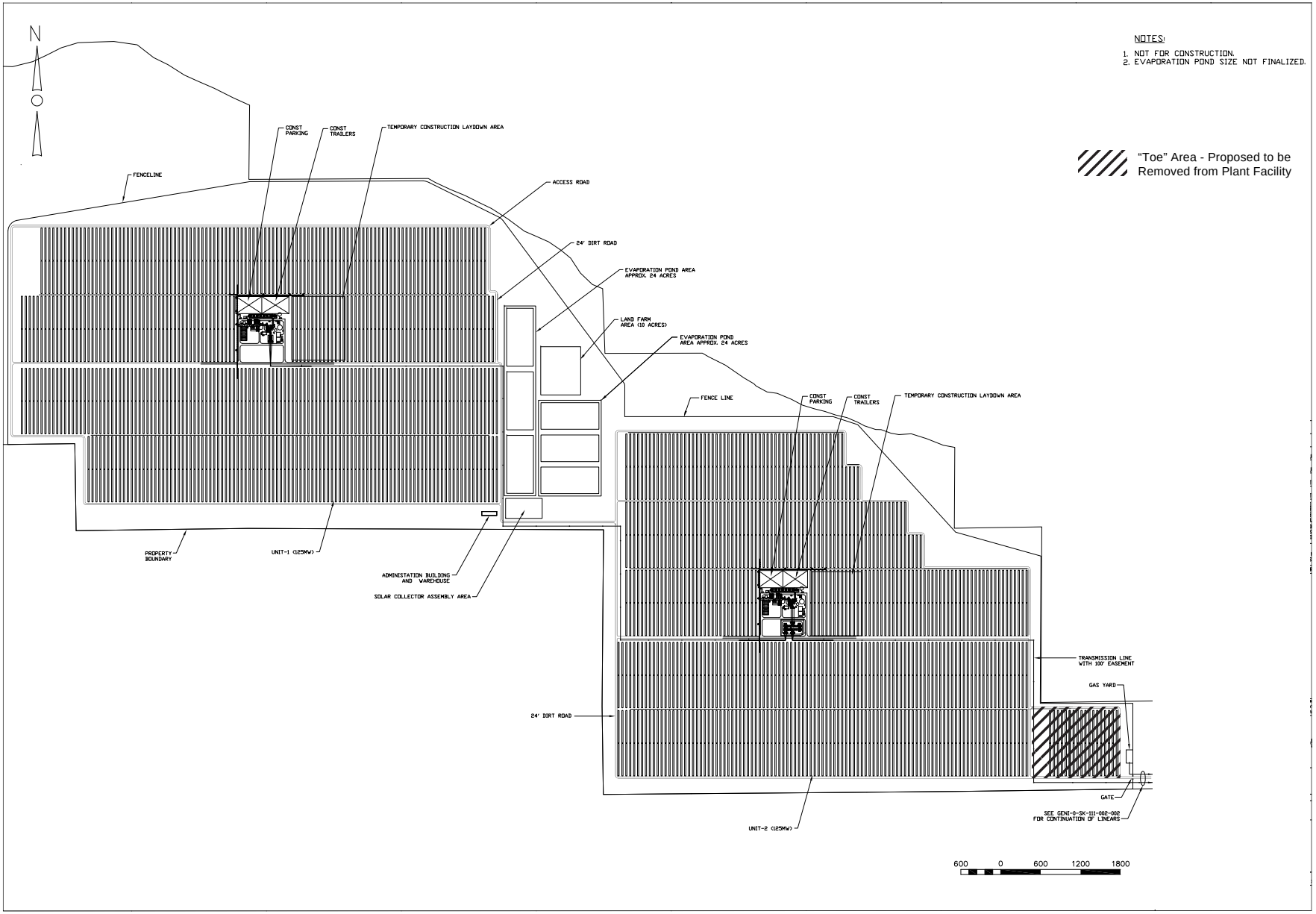
Figure 1-1
Location Map



SOURCE: California Energy Commission, August 6, 2010

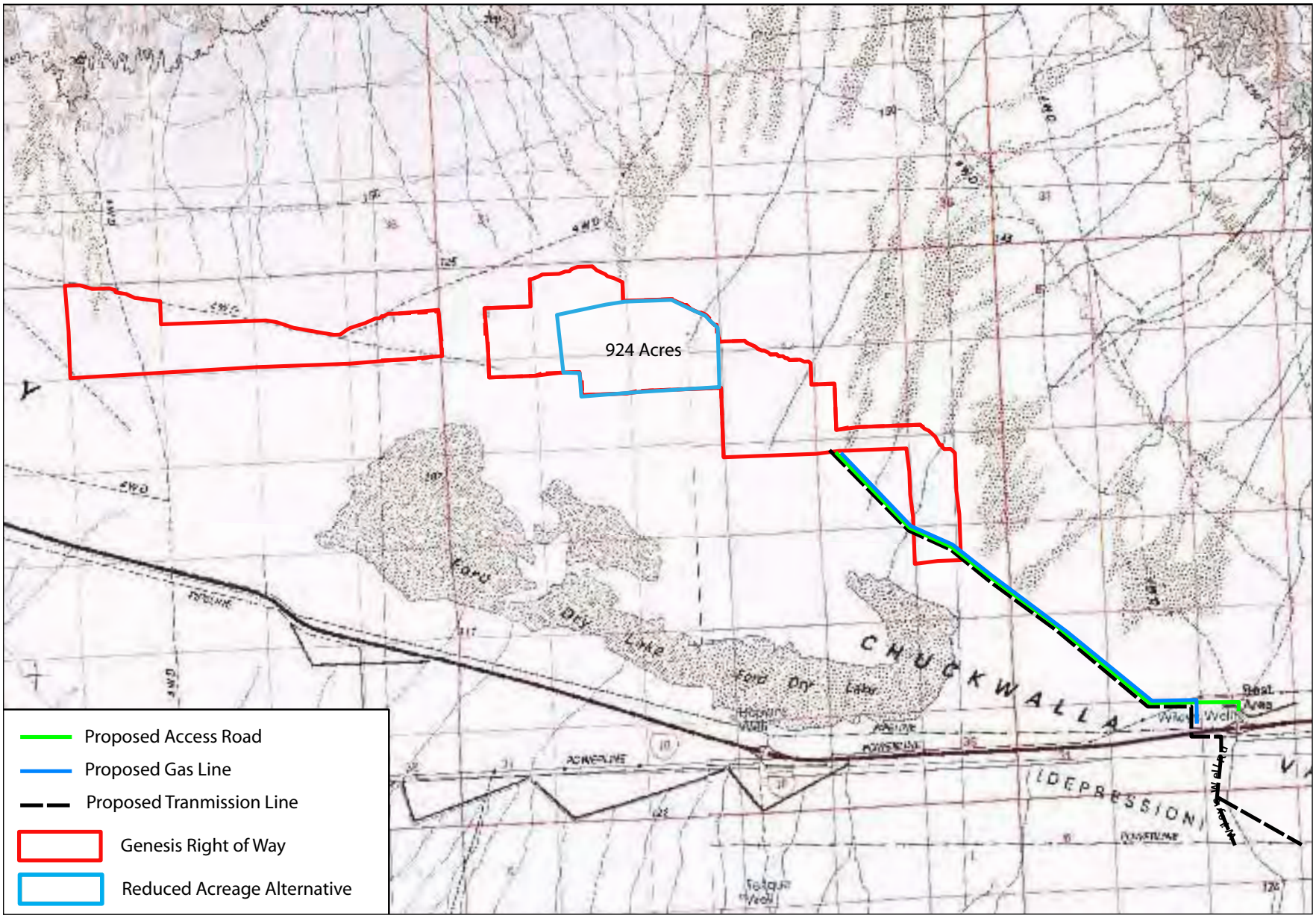
Figure 2-1

Facility Footprint and Linear Corridor Revision - December 2009



SOURCE: Genesis AFC, August 2009

Figure 2-2
Overall Site Plan



SOURCE: California Energy Commission, August 9, 2010

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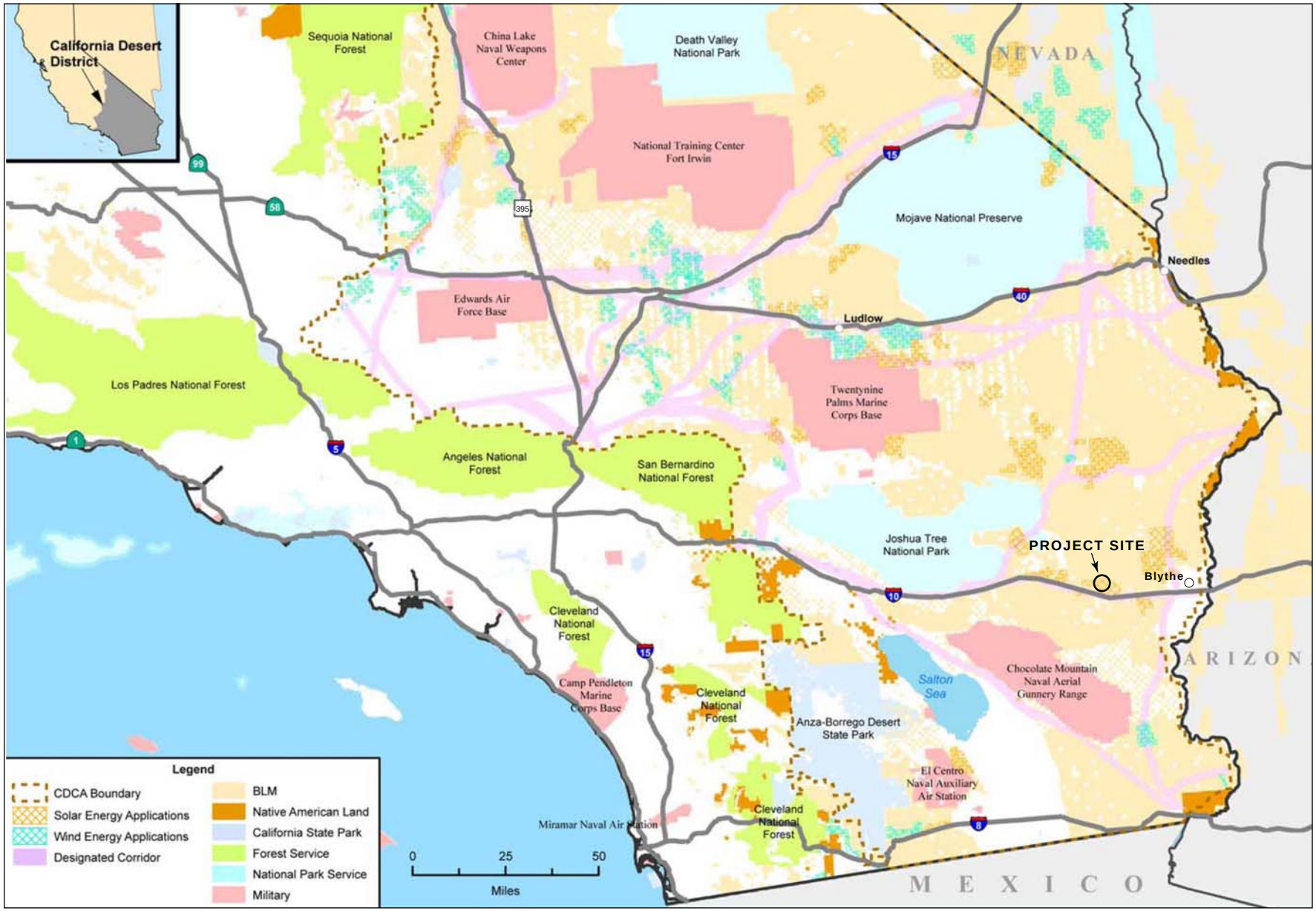
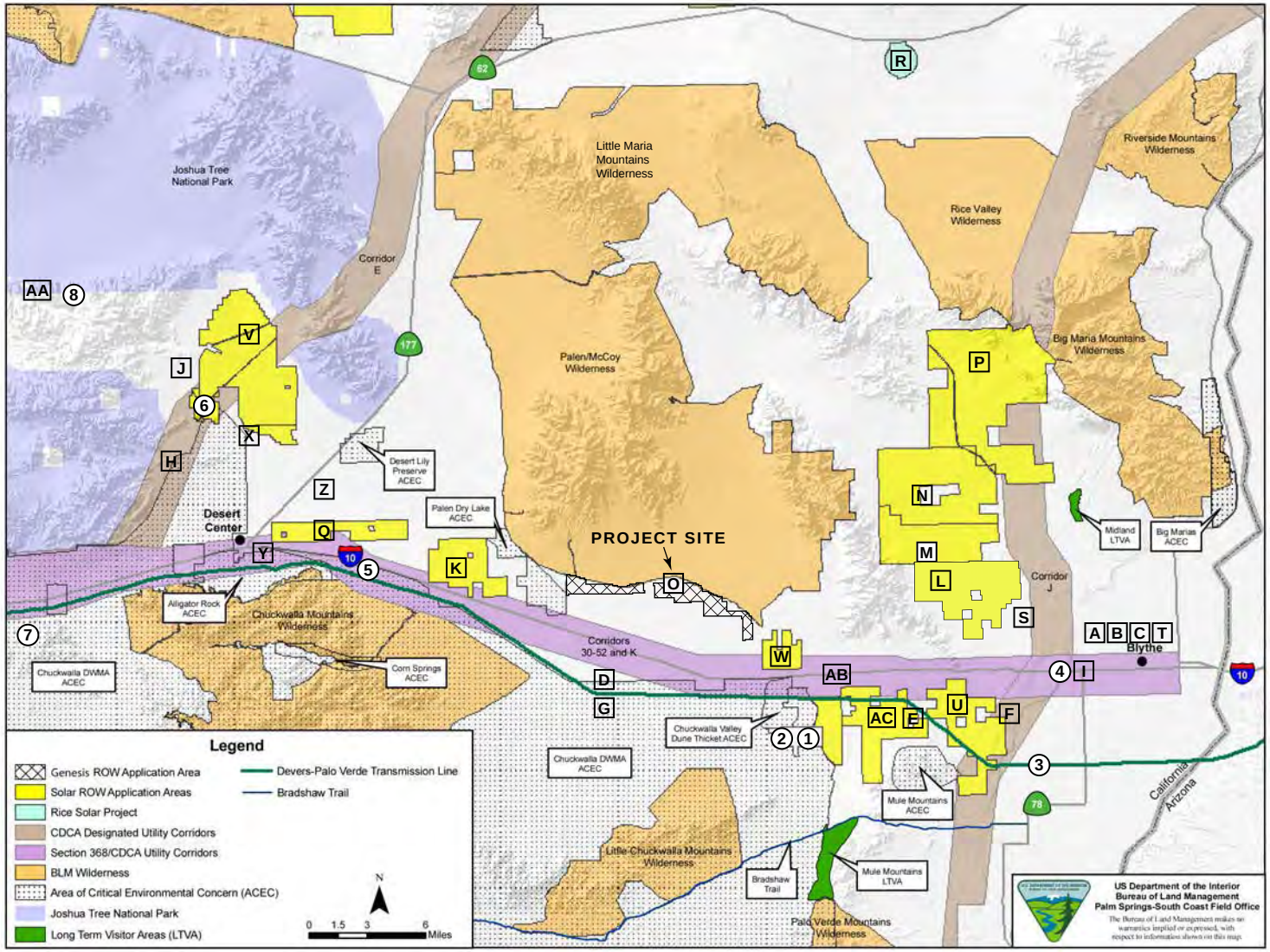
Figure 2-3
Reduced Acreage Alternative



SOURCE: CEC Genesis RSA, June 2010

Figure 2-4

Regional Land Use and Renewable Energy Applications



Proposed Projects

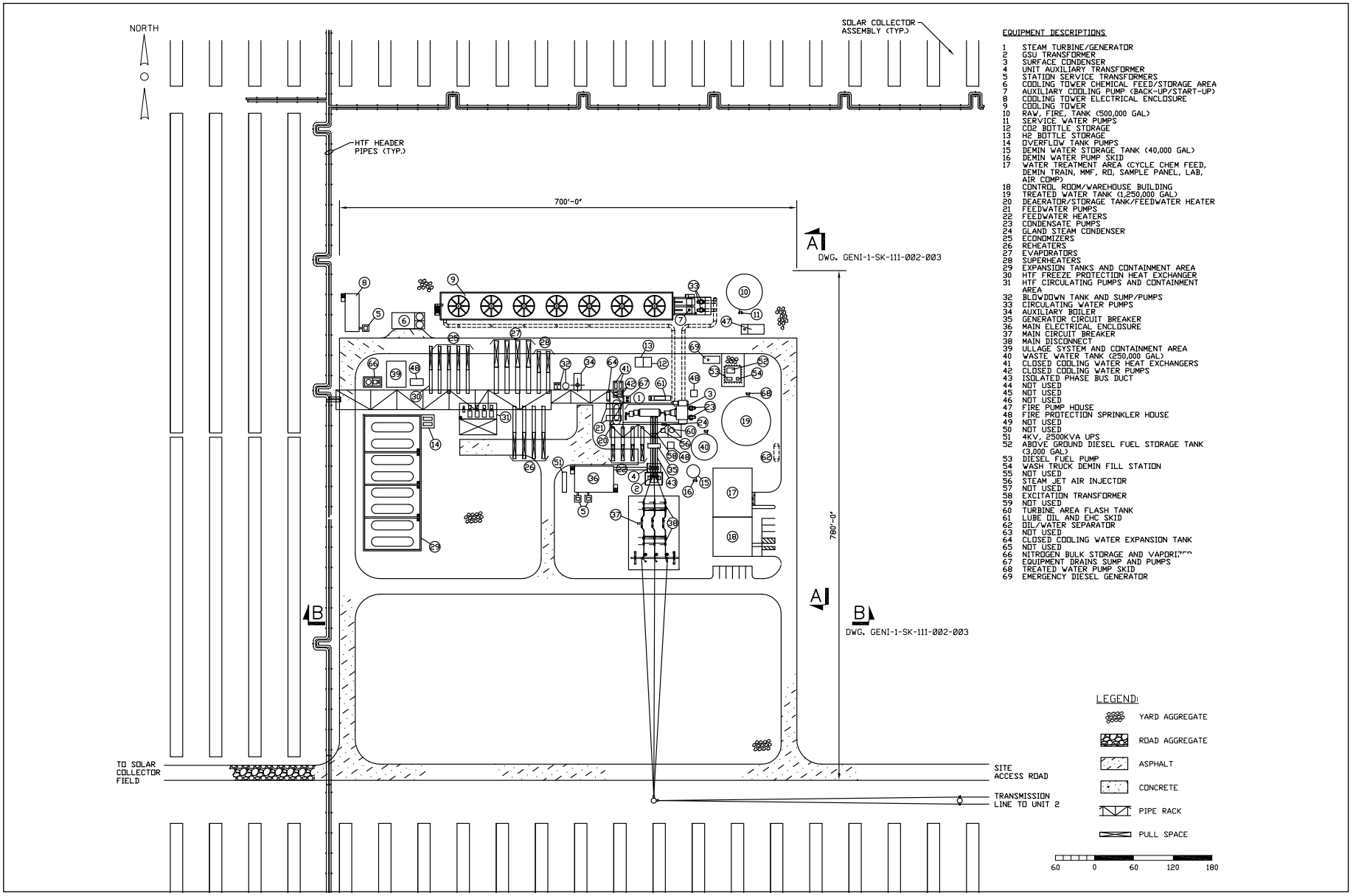
- **A** Four Commercial Projects
- **B** Intake Shell
- **C** Fifteen Residential Developments
- **D** Devers-Palo Verde 2 Transmission Line Project
- **E** Colorado Substation and Expansion
- **F** Blythe Energy Project Transmission Line
- **G** Desert Southwest Transmission Line
- **H** Green Energy Express Transmission Line Project
- **I** Blythe Energy Project II
- **J** Eagle Mountain Pumped Storage Project
- **K** Palen Solar Power Project
- **L** Blythe Solar Power Project
- **M** NextEra (FPL) McCoy
- **N** McCoy Soleil Project
- **O** Genesis Solar Energy Project
- **P** Big Maria Vista Solar Project
- **Q** Chuckwalla Solar I
- **R** Rice Solar Energy Project
- **S** Blythe Airport Solar I Project
- **T** Blythe PV Project
- **U** Desert Quartzite
- **V** Desert Sunlight
- **W** Mule Mountain Soliel Project
- **X** Eagle Mountain Soleil
- **Y** Red Bluff Substation (Location is unknown)
- **Z** Chuckwalla Valley Raceway
- **AA** Eagle Mountain Landfill Project
- **AB** Wileys Well Communication Tower
- **AC** Mule Mountain Solar Project

Existing Projects

- **1** Chuckwalla Valley State Prison
- **2** Ironwood State Prison
- **3** Devers-Palo Verde 1 Transmission Line
- **4** Blythe Energy Project
- **5** West-wide Section 368 Energy Corridors
- **6** Eagle Mountain Pumping Plant
- **7** Recreational Opportunities
- **8** Kaiser Mine

SOURCE: CEC Genesis RSA, June 2010.

Figure 2-5
BLM Rights of Way with Existing and Future/Foreseeable Projects

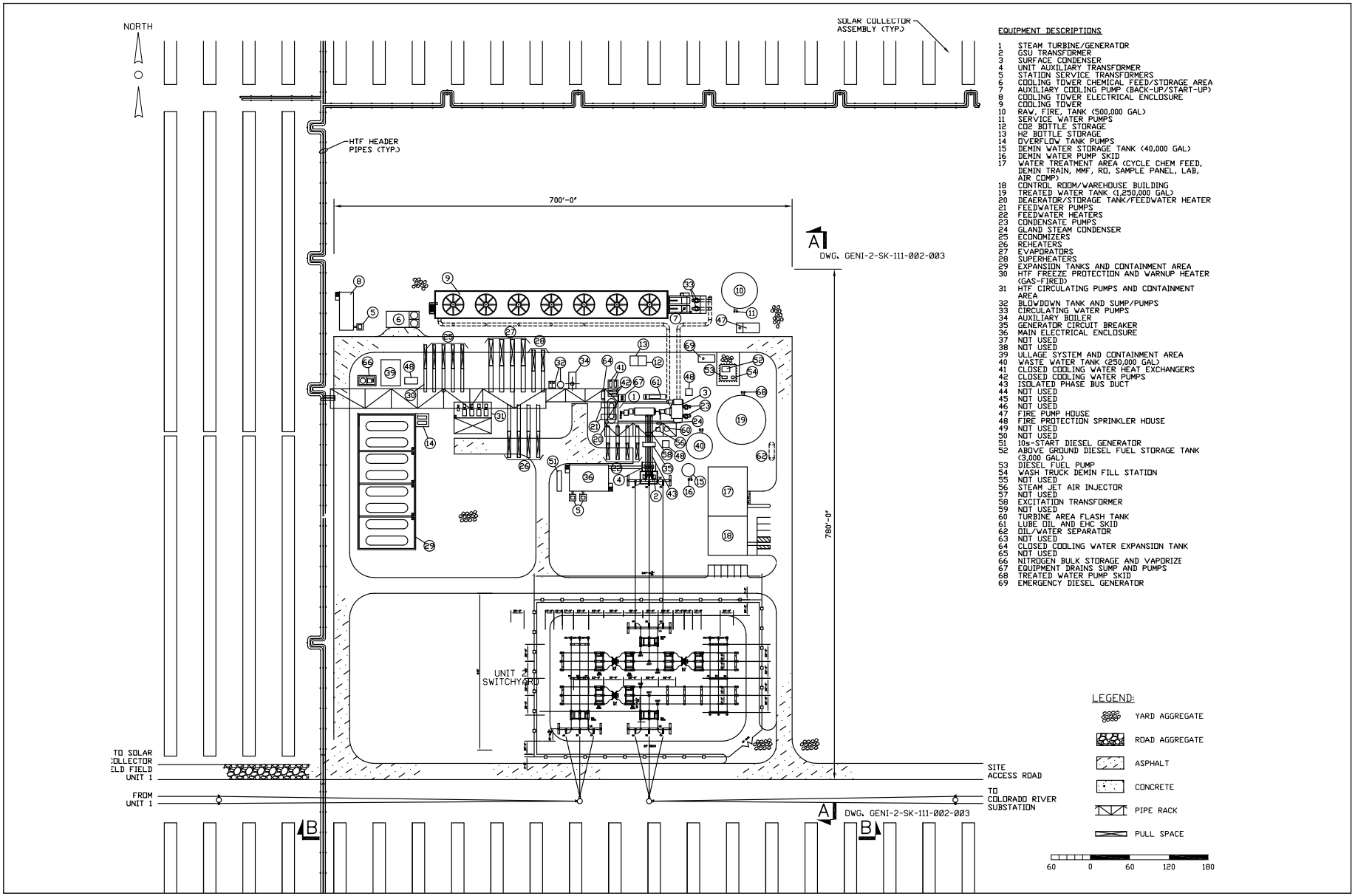


A-2

SOURCE: Genesis AFC, August 2009

Figure 2-6

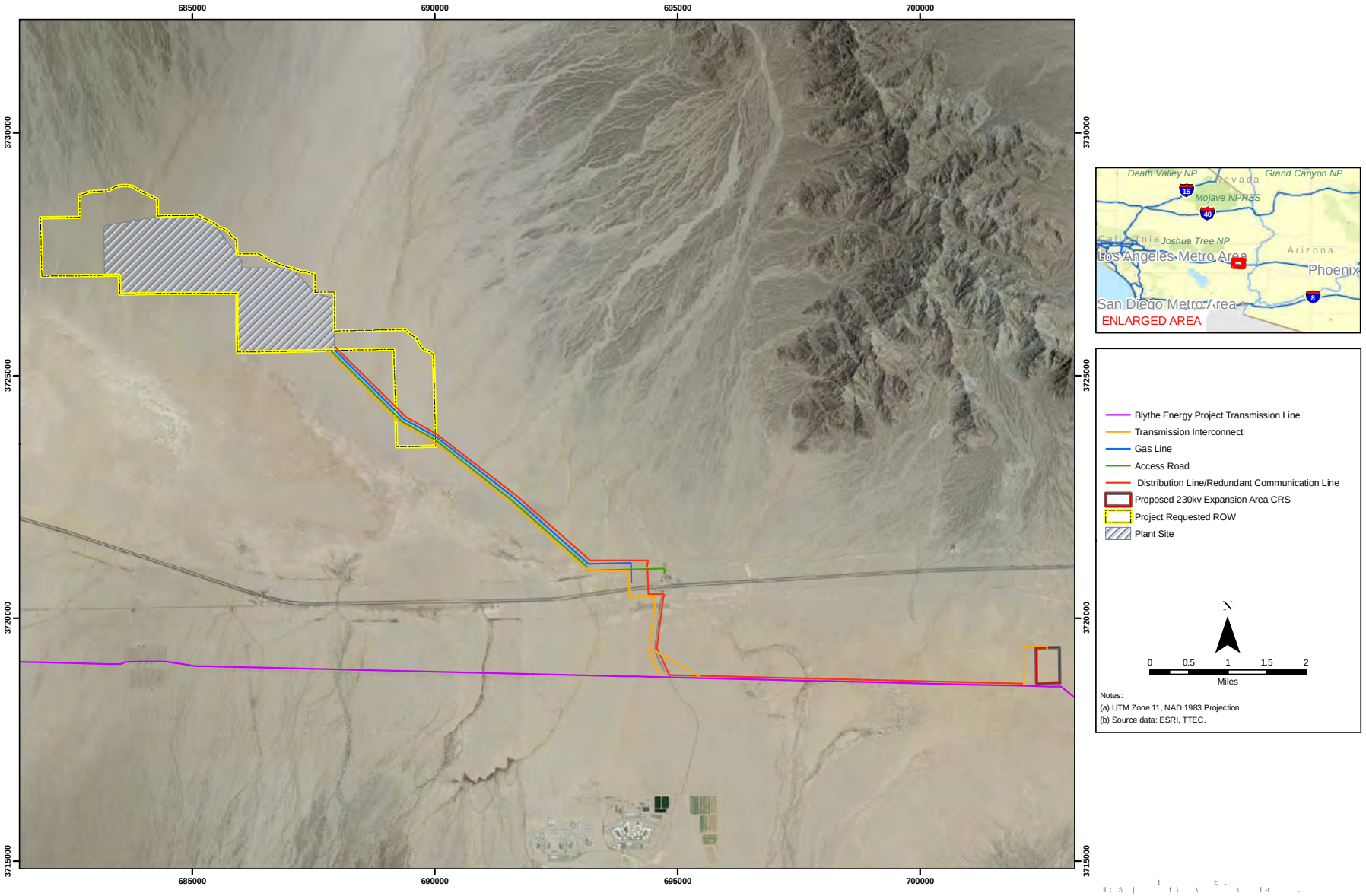
Conceptual Power Block Layout, Unit 1



SOURCE: Genesis AFC, August 2009

Figure 2-7

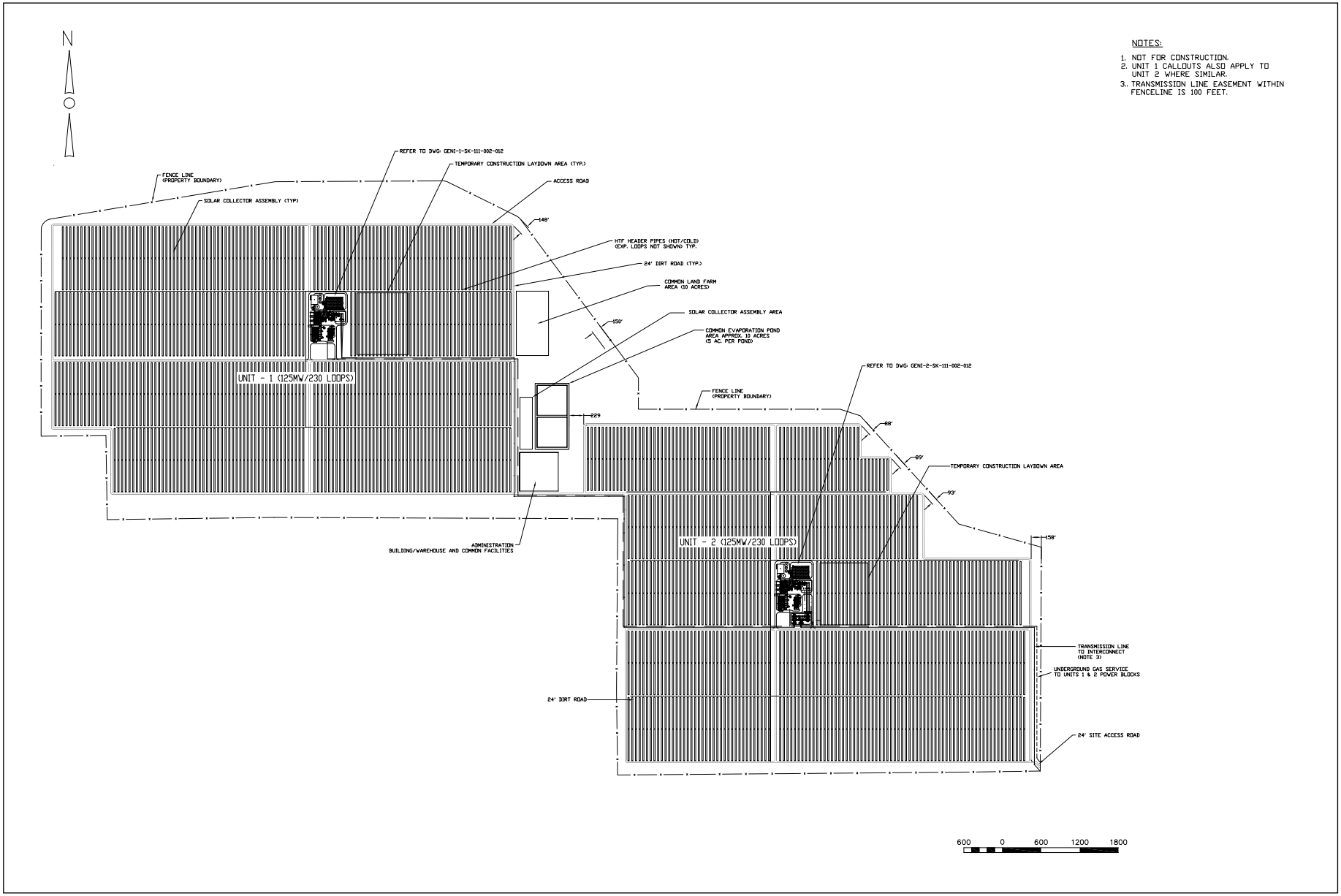
Conceptual Power Block Layout, Unit 2



SOURCE: Tetra Tech EC Inc., August 4, 2010

Figure 2-8

Telecommunications and Distribution Line Routes

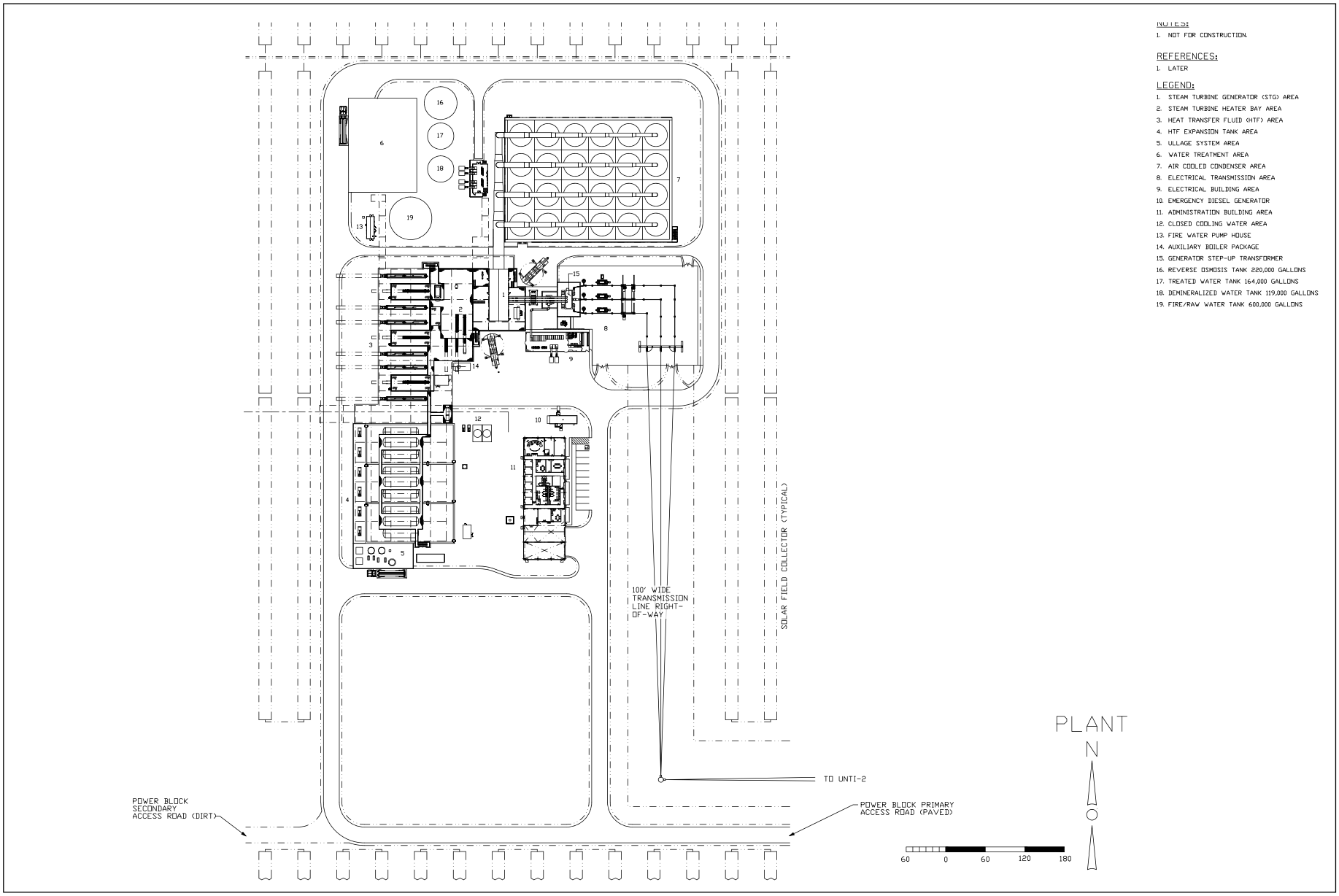


A-5

SOURCE: Tetra Tech EC Inc., July 13, 2010

Figure 2-9

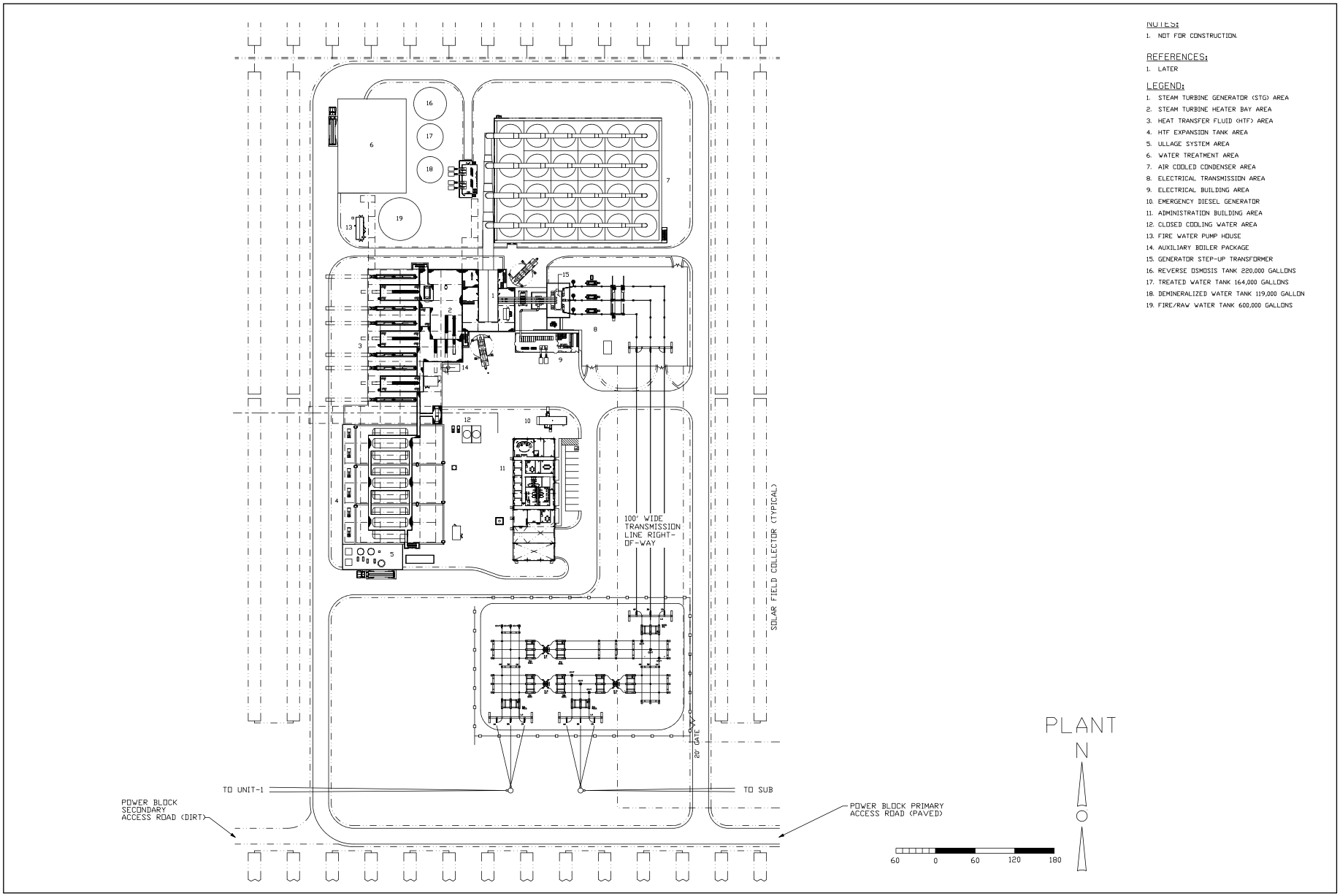
Dry Cooling Alternative: Overall Site Plan



SOURCE: Tetra Tech EC Inc., July 13, 2010

Figure 2-10

Dry Cooling Conceptual Power Block Layout, Unit 1



SOURCE: Tetra Tech EC Inc., July 13, 2010

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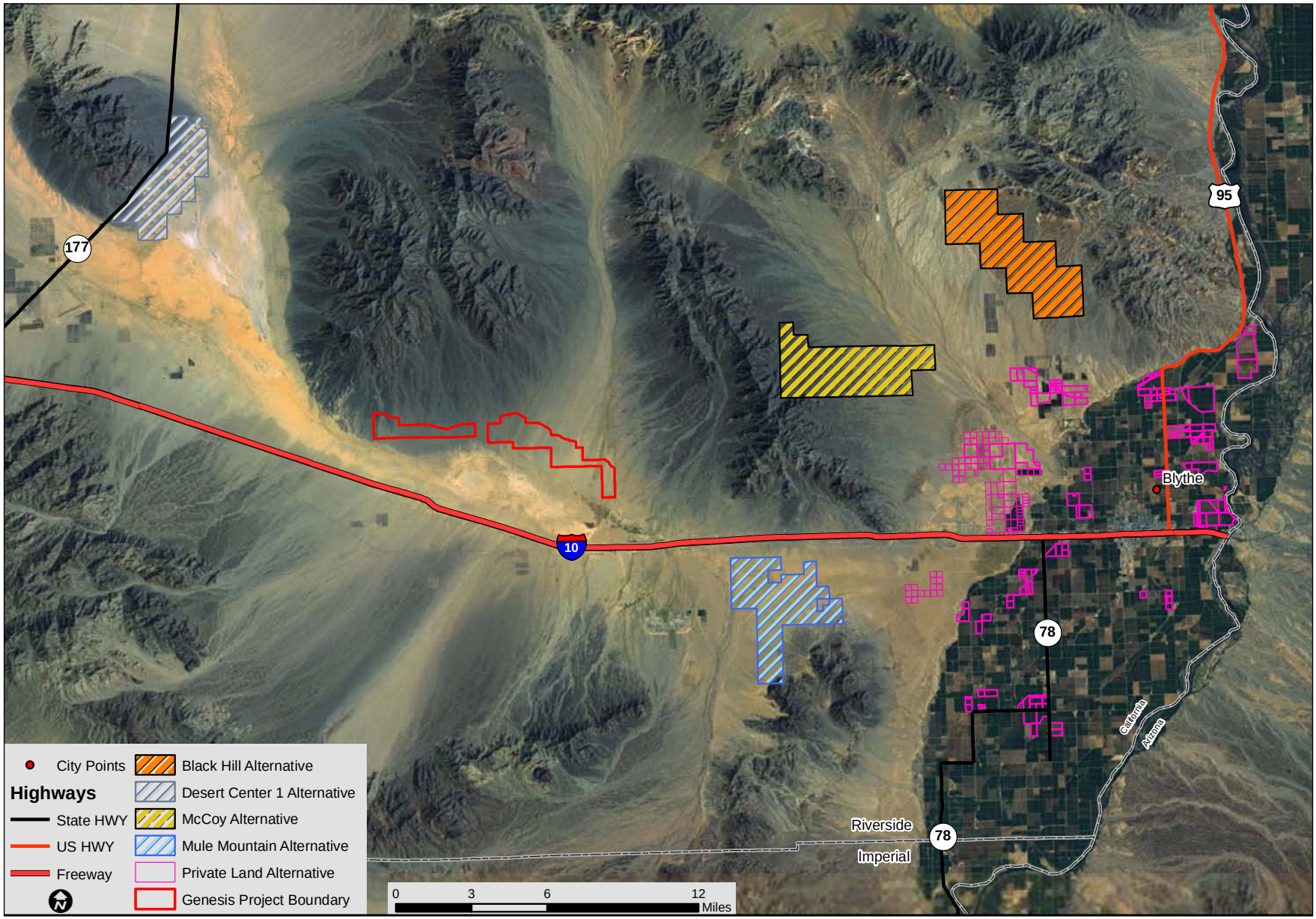
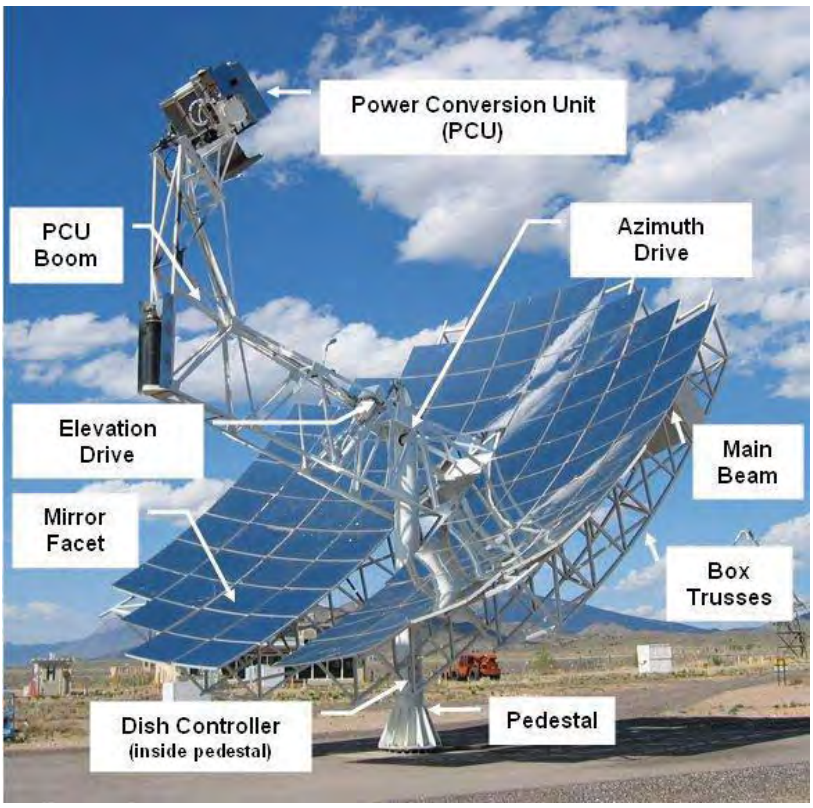
Figure 2-11

Dry Cooling Conceptual Power Block Layout, Unit 2



SOURCE: CEC Genesis RSA, June 2010

Figure 2-12
Alternatives Considered but Eliminated
From Detailed Analysis – Alternative Sites



Stirling dish (from Stirling Energy Systems website)

Solar Power Tower (from ISEGS PSA, 2008)

SOURCE: CEC Genesis RSA, June 2010

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Figure 2-13
Alternatives Considered but Eliminated From Detailed Analysis – Alternative Solar Generation Technologies

Linear Fresnel technology
(Wikipedia.org, Fresnel_reflectors_ausra.jpg)

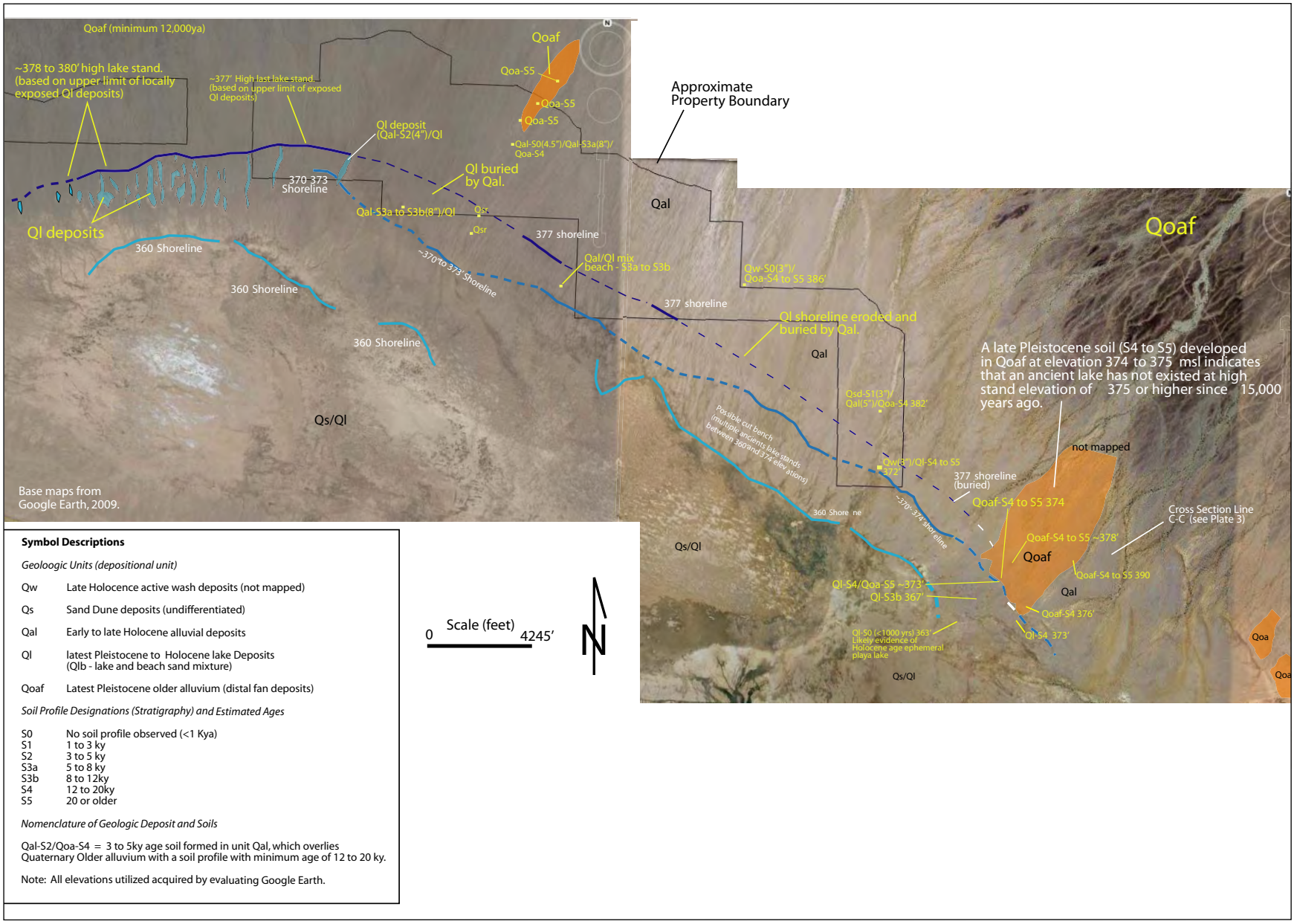
First Solar's thin film solar photovoltaic field
(Photo: Susan Lee)

Canon Solar Partners proposes to use the 35 kW Amonix system
(Canon 2008)

SunPower's PowerTracker Solar in Gwangju City Power Plant, South Korea - 1 MW
http://www.sunpowercorp.com/For-Power-Plants.aspx

SOURCE: CEC Genesis RSA, June 2010

Figure 2-14
Alternatives Considered but Eliminated From Detailed Analysis –
Linear Fresnel and Photovoltaic Technologies



Symbol Descriptions

Geoloogic Units (depositional unit)

Qw	Late Holocence active wash deposits (not mapped)
Qs	Sand Dune deposits (undifferentiated)
Qal	Early to late Holocene alluvial deposits
Ql	latest Pleistocene to Holocene lake Deposits (Qlb - lake and beach sand mixture)
Qoaf	Latest Pleistocene older alluvium (distal fan deposits)

Soil Profile Designations (Stratigraphy) and Estimated Ages

S0	No soil profile observed (<1 Kya)
S1	1 to 3 ky
S2	3 to 5 ky
S3a	5 to 8 ky
S3b	8 to 12ky
S4	12 to 20ky
S5	20 or older

Nomenclature of Geologic Deposit and Soils

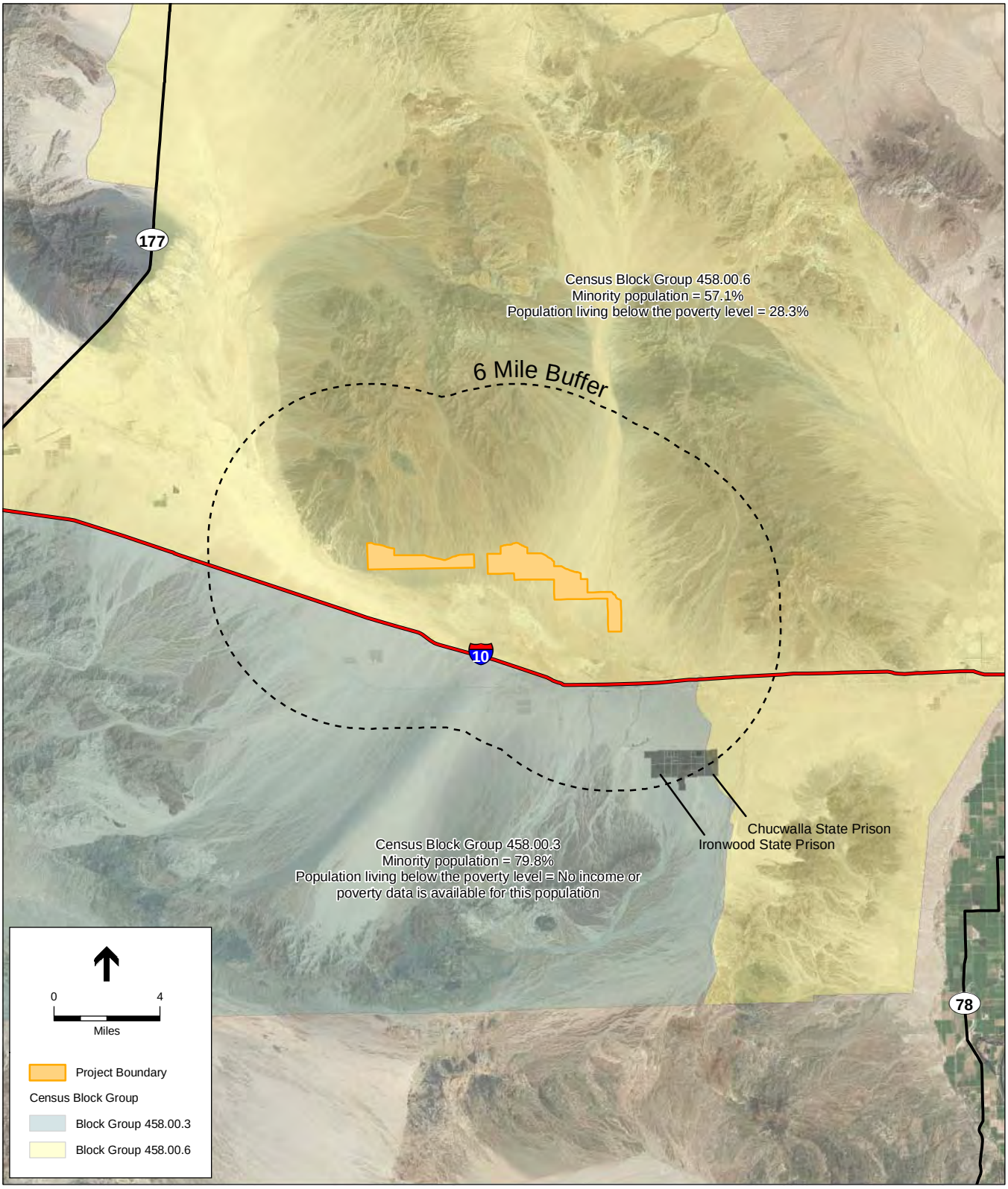
Qal-S2/Qoa-S4 = 3 to 5ky age soil formed in unit Qal, which overlies Quaternary Older alluvium with a soil profile with minimum age of 12 to 20 ky.

Note: All elevations utilized acquired by evaluating Google Earth.

SOURCE: CEC Genesis SA, March 2010

Figure 3.4-1

Geomorphic Ancient Lake Shoreline Evaluation Map with Limited Geology, Ford Dry Lake, California



SOURCE: Census, 2000; CEC Genesis RSA, 2010

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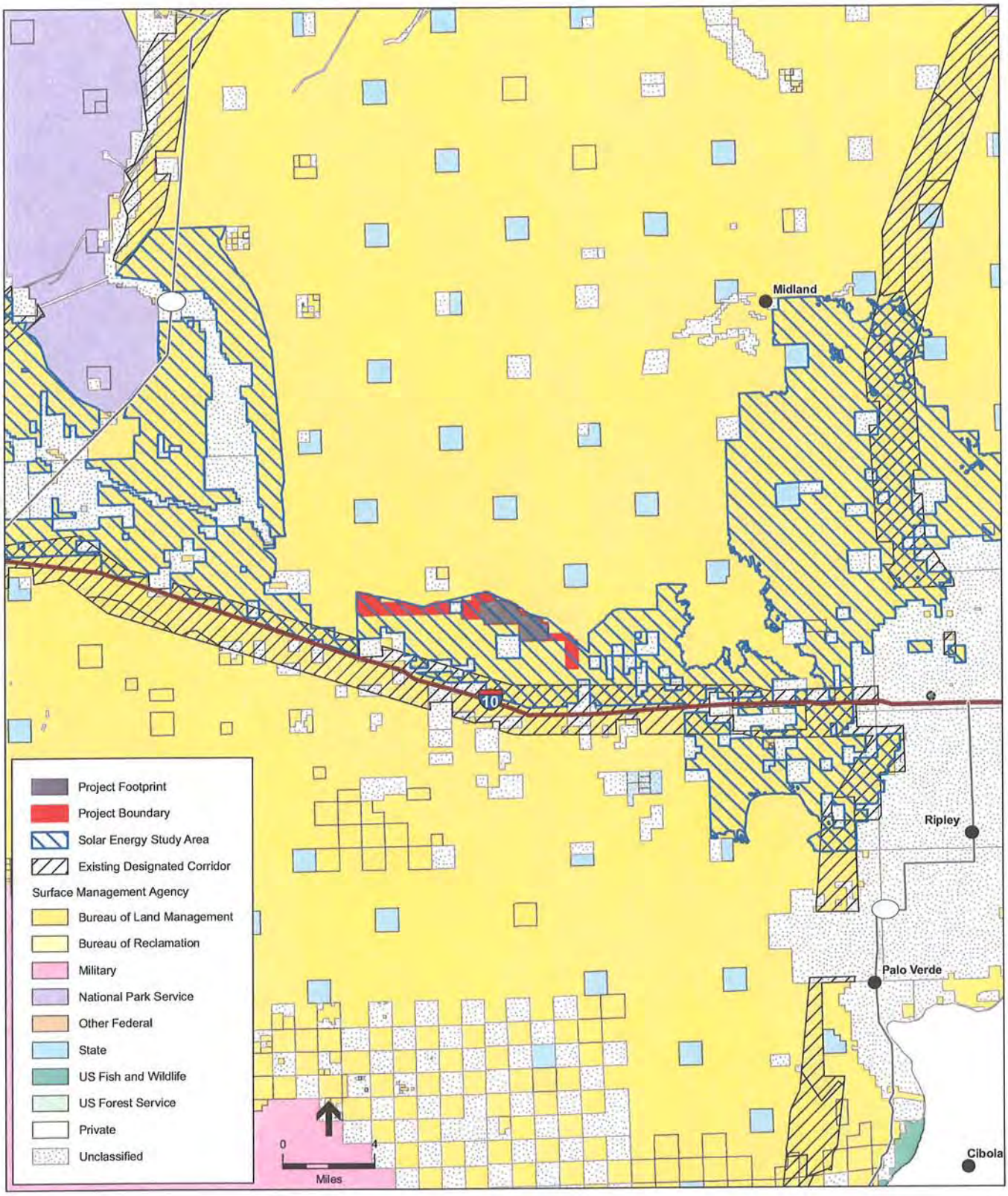
Figure 3.5-1
Census Block Groups within 6 Miles
of Project Site



SOURCE: CEC Genesis RSA, June 2010; ESA, 2010

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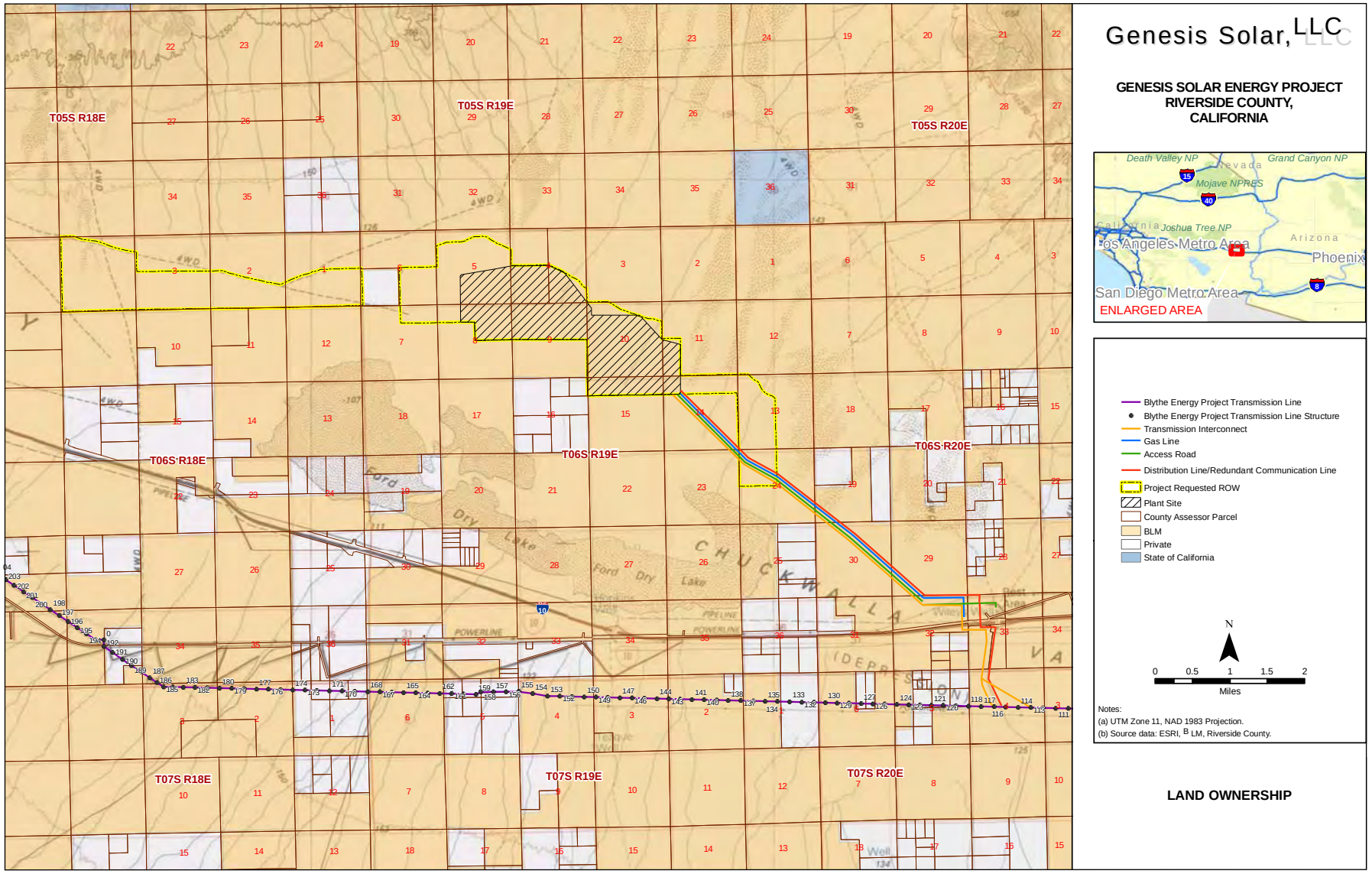
Figure 3.06-1

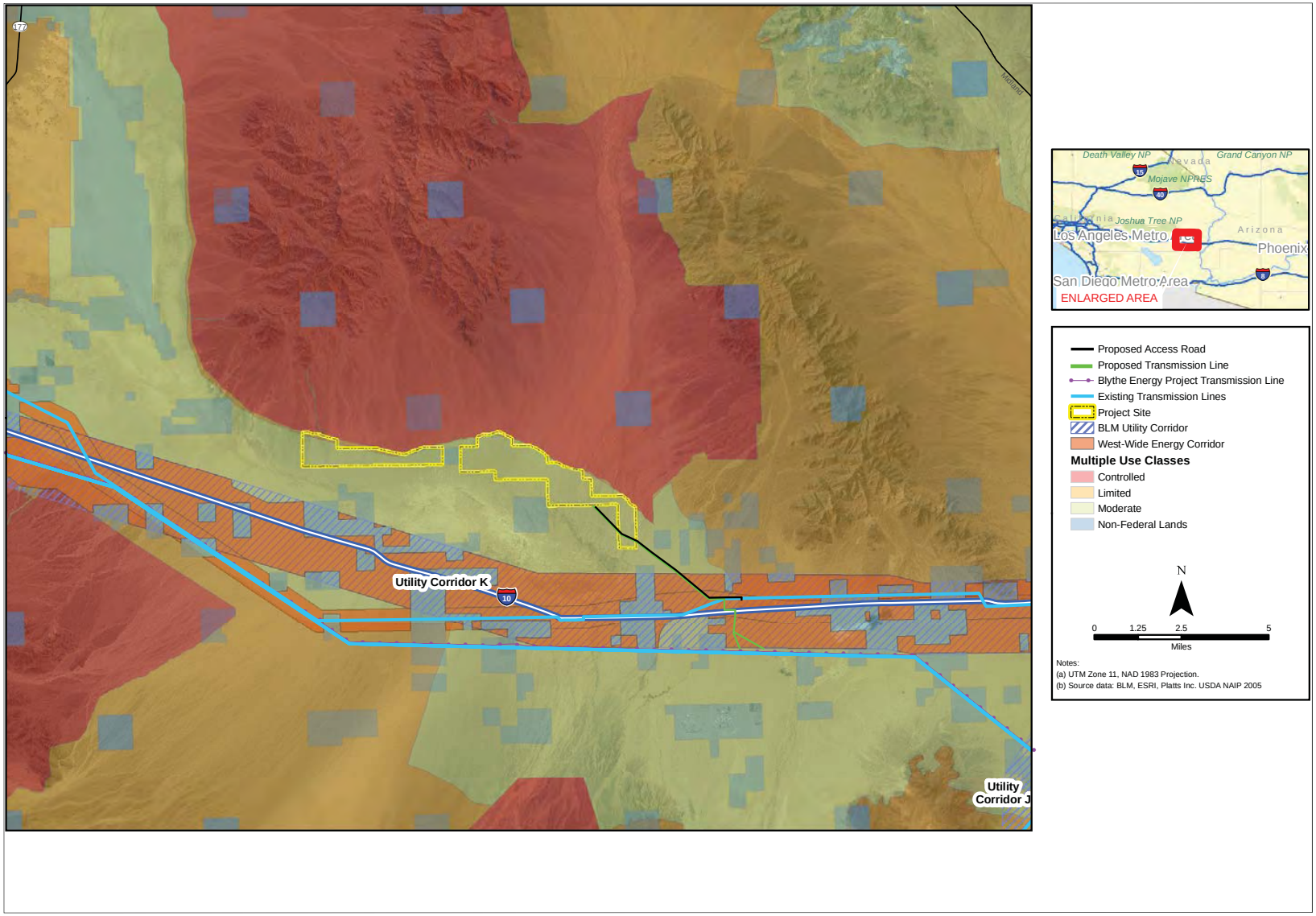
Solar Energy Study Areas and Land Use



SOURCE: Tetra Tech EC Inc., August 4, 2010

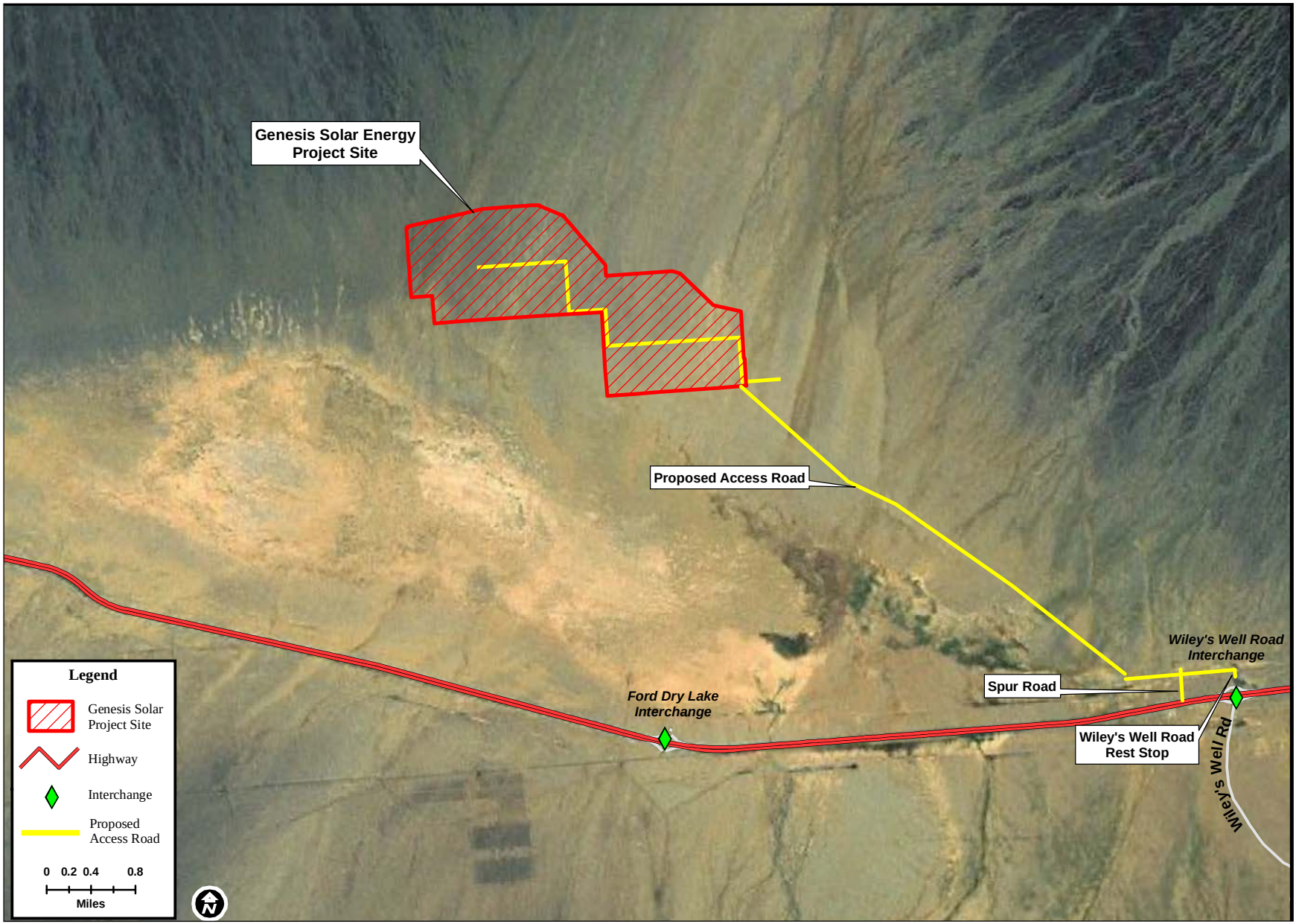
Figure 3.6-2

Proposed Ancillary Facilities and Land Ownership



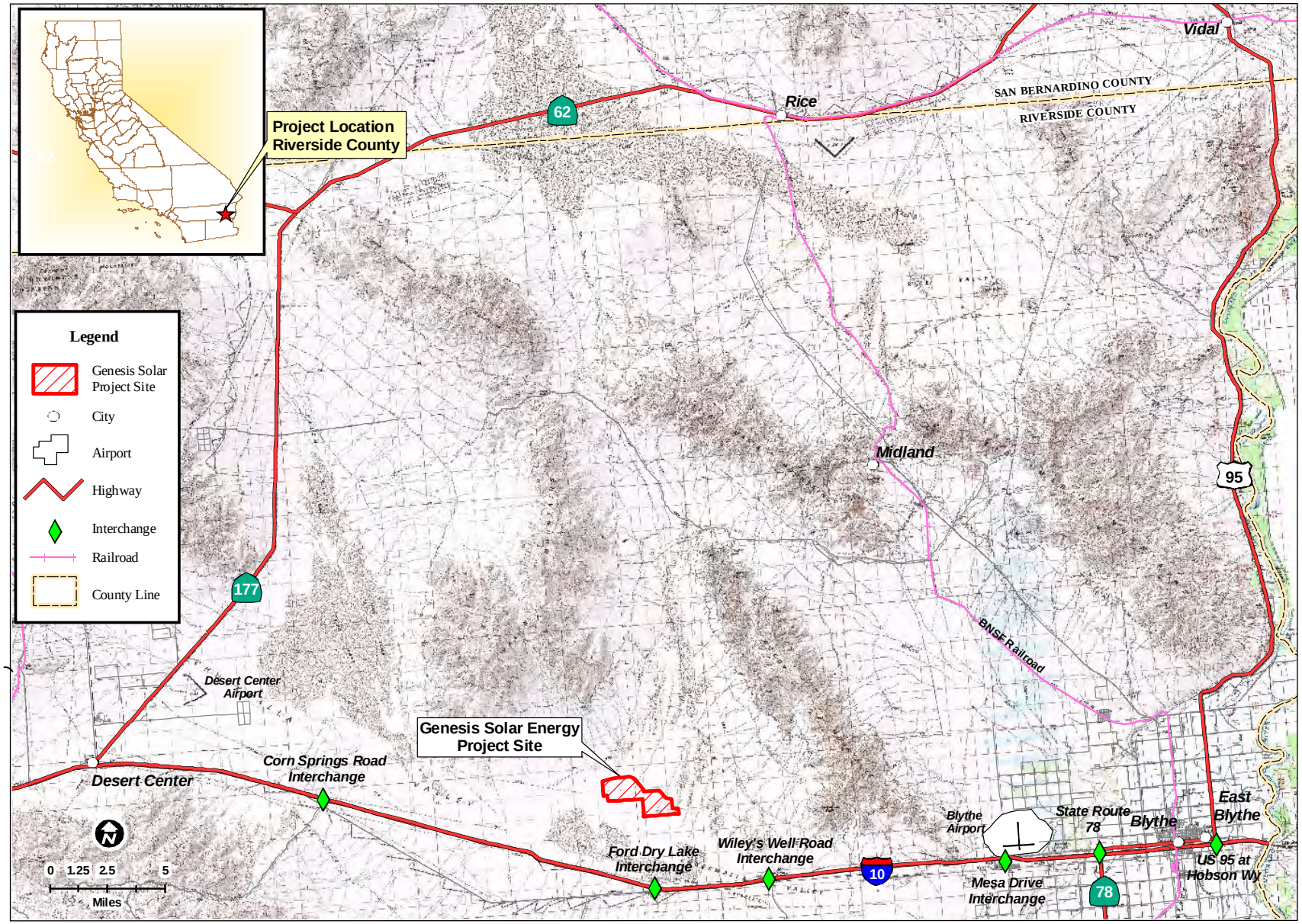
SOURCE: California Energy Commission, August 6, 2010

Figure 3.9-1
Map of CDCA Multiple Use Classes
in Eastern Riverside County



SOURCE: California Energy Commission, August 10, 2010

Figure 3.12-1
Local Transportation Network



SOURCE: CEC Genesis RSA, June 2010

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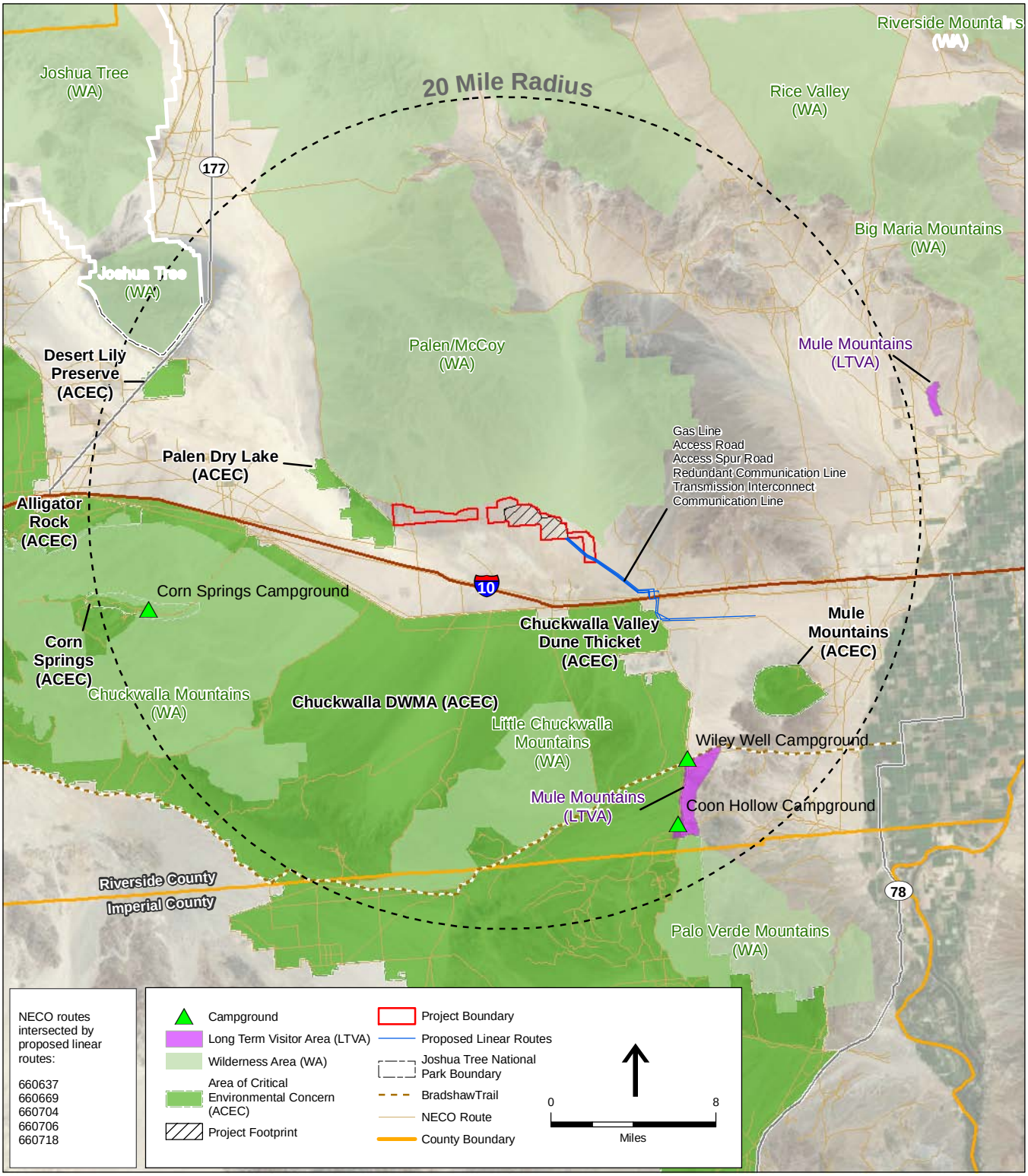
Figure 3.12-2

Regional Transportation Network



SOURCE: CEC Genesis RSA, June 2010; ESA, 2010

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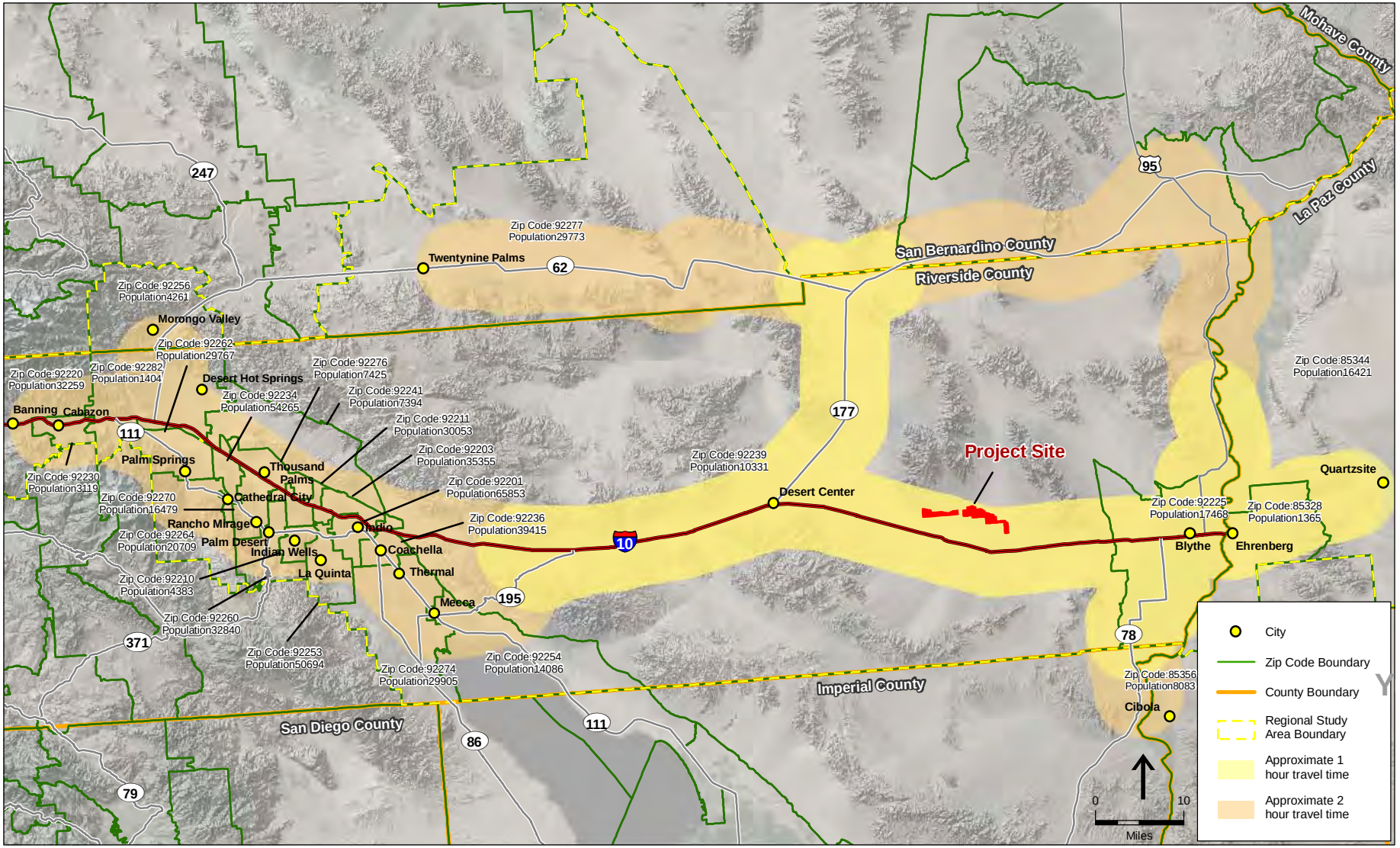
Figure 3.13-1

Special Designations within 20 Miles of Project Site



SOURCE:ESRI, 2010; Tele Atlas North America Inc., 2010; Census, 2000; Google Maps, 2010

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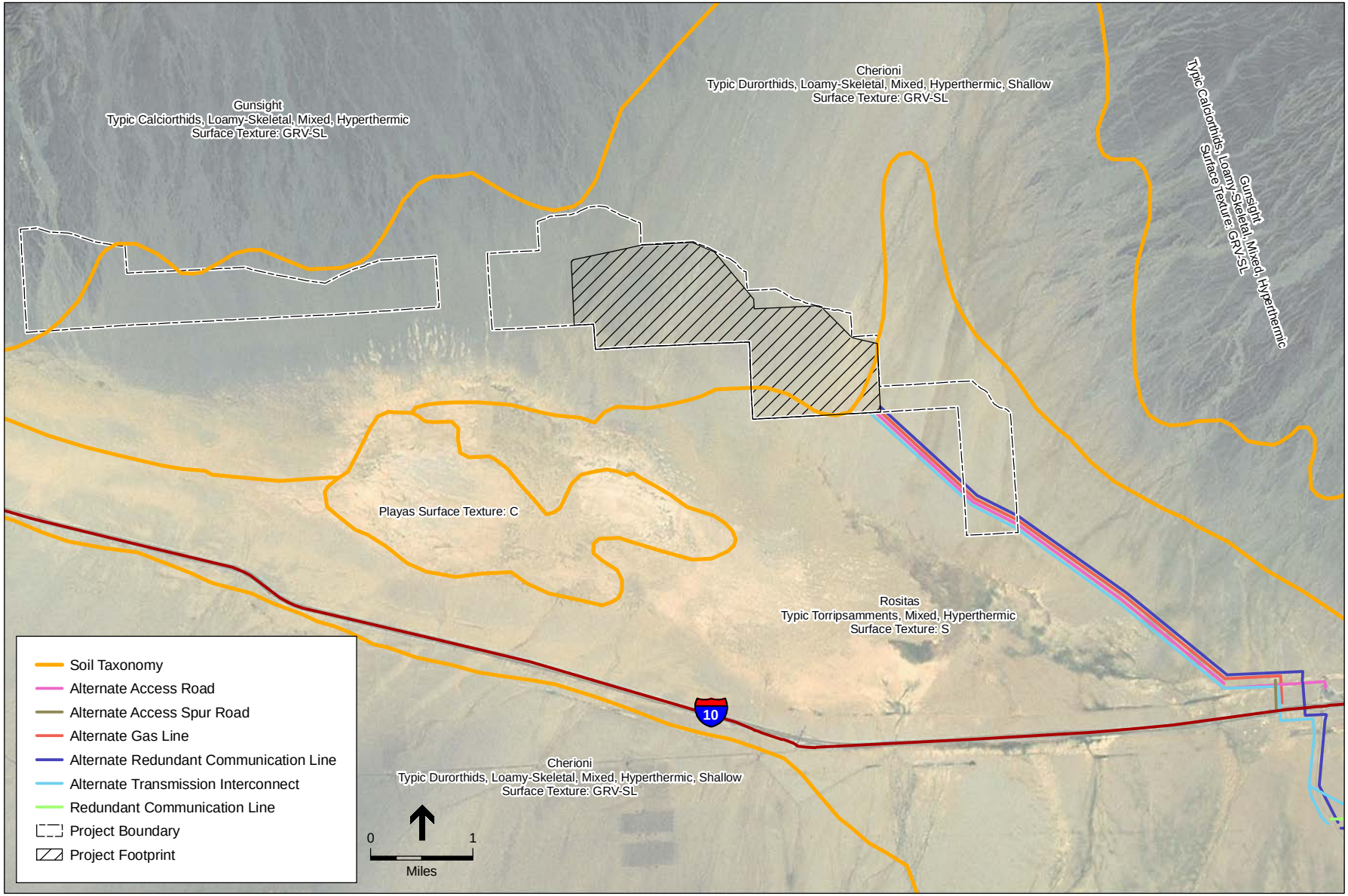
Figure 3.14-1

Regional Study Area
by Zip Code and Travel Distance



SOURCE: ESRI; SSURGO Soils Database; ESA, 2010.

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Figure 3.15-1
Soils

SOURCE: CEC Genesis RSA, June 2010

Figure 3.19-1
Panoramic View of Site
(Looking North from Ford Dry Lake Road Interchange)

Dry Lake Bed

Ironwood Tree

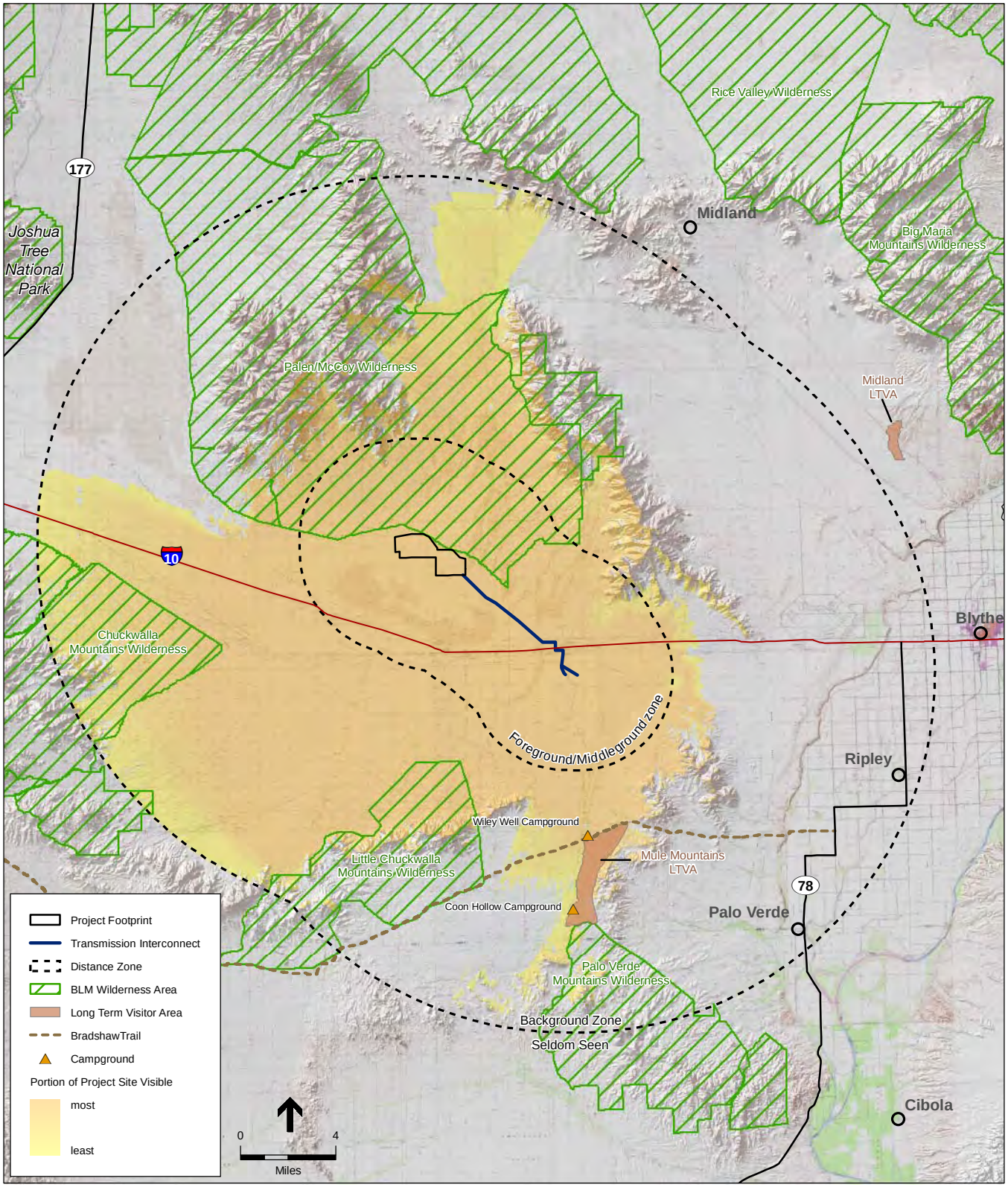
Creosote Scrub

Chuckwalla and Ironwood Prisons, Looking South from Wiley's Well Road, I-10

Devers-Palo Verde Transmission Line, Looking Southwest from Wiley's Well Road

SOURCE: CEC Genesis RSA, June 2010

Figure 3.19-2
Landscape Context Photographs



SOURCE: CEC Genesis RSA, 2010 ESA, 2010

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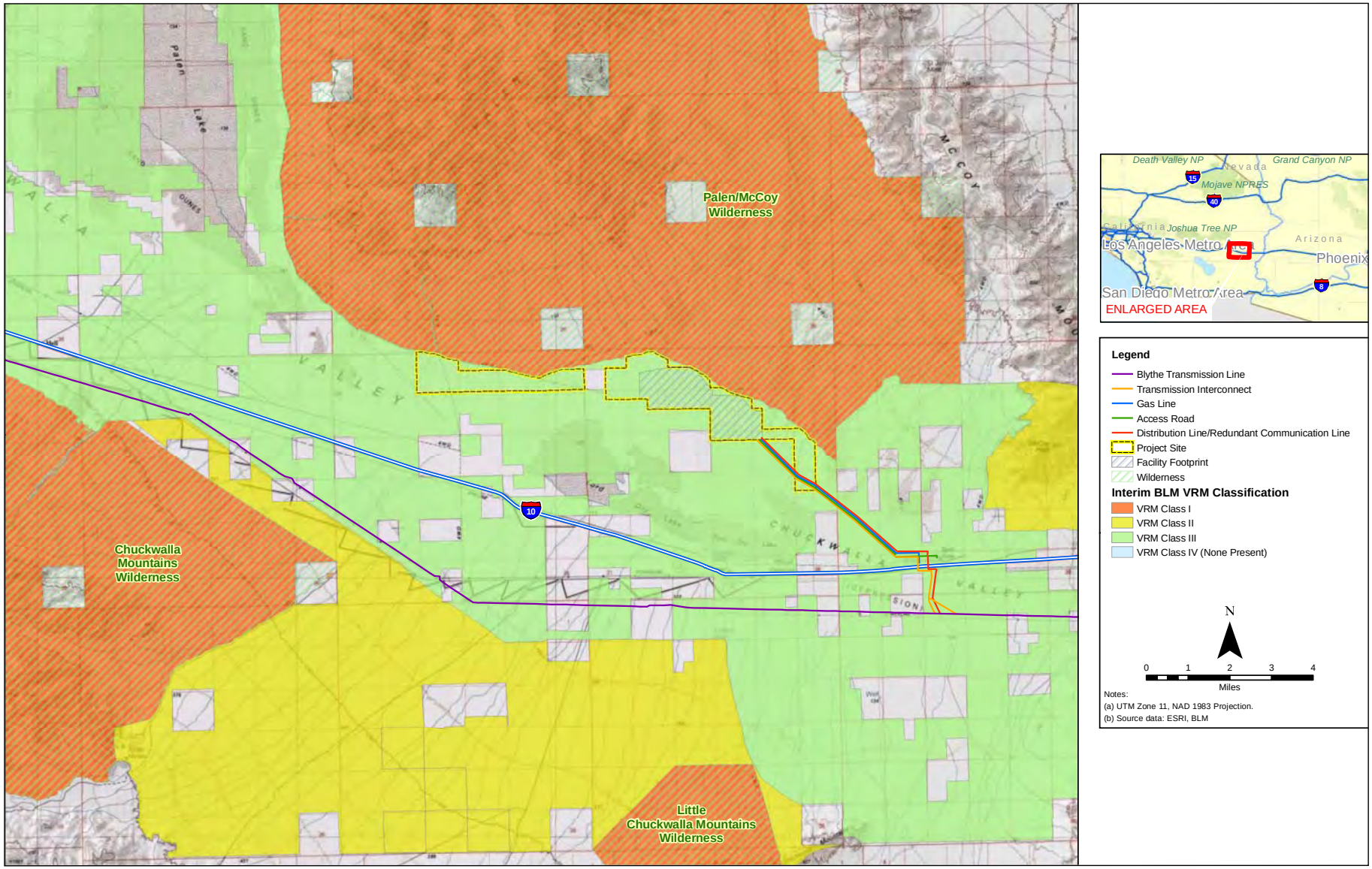
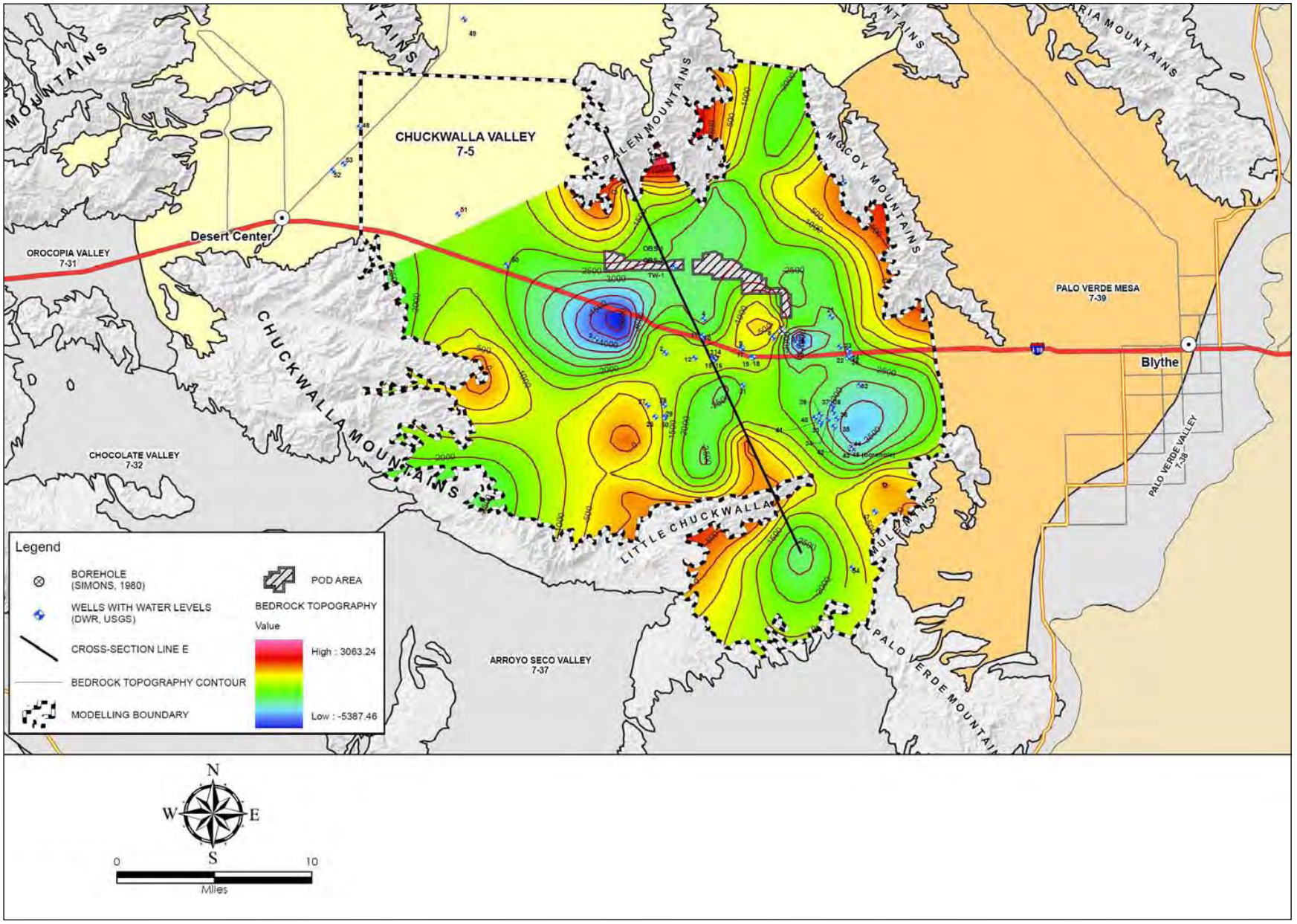
Figure 3.19-3
Project Viewshed



SOURCE: Tetra Tech EC Inc., August 4, 2010

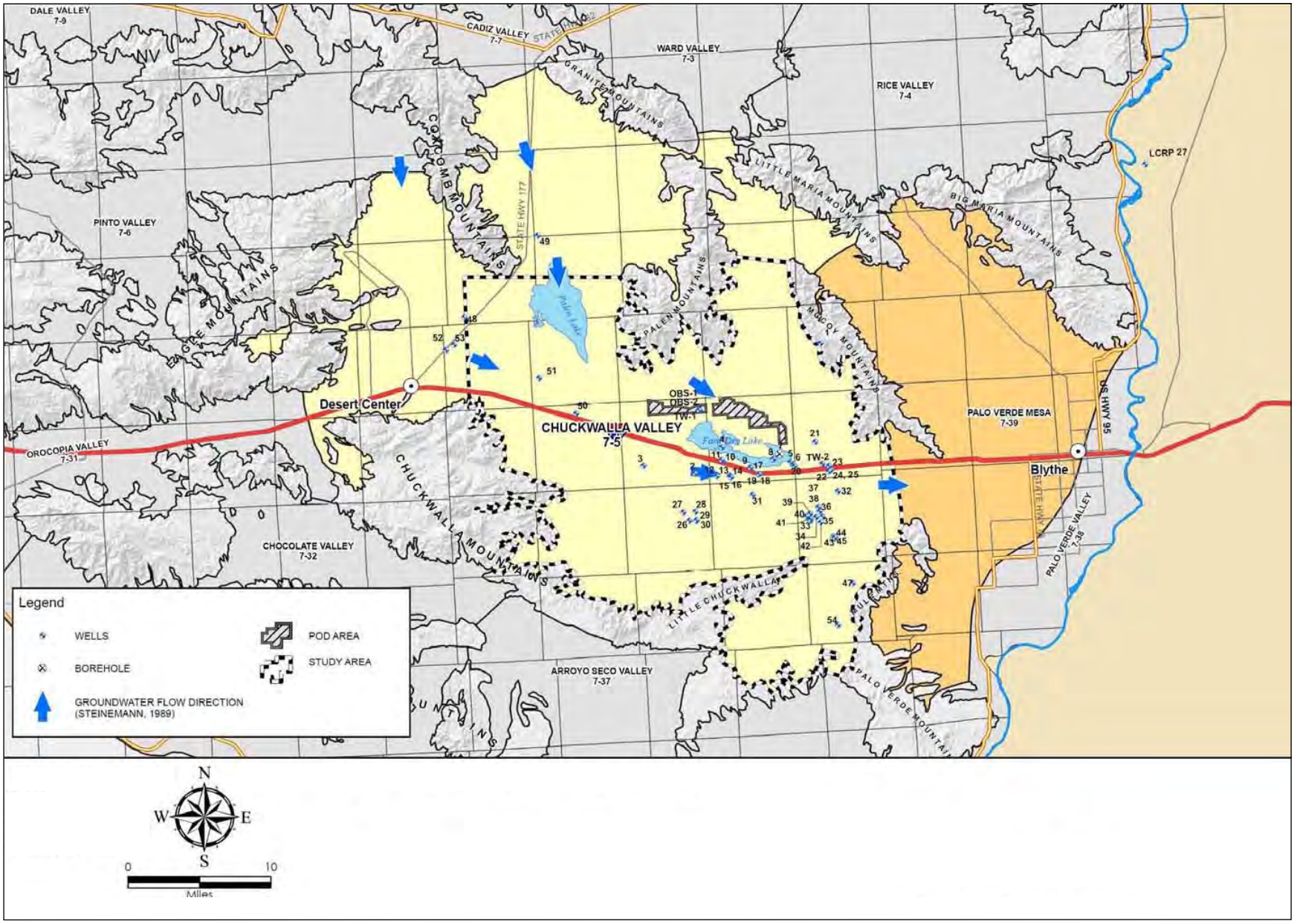
Figure 3.19-4
Interim VRM Classes



SOURCE: CEC Genesis RSA, June 2010

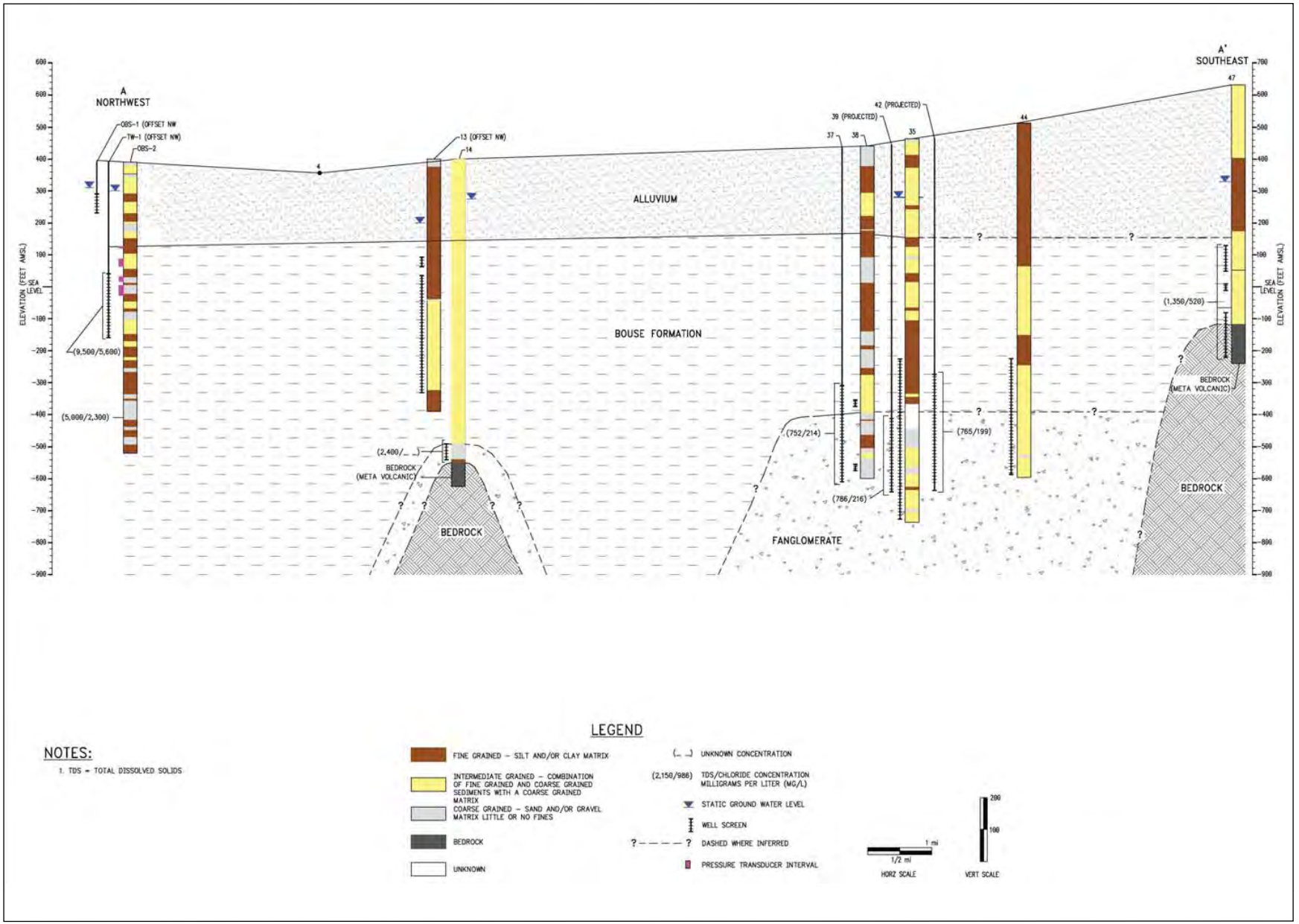
Figure 3.20-1

Chuckwalla Valley Groundwater Basin Bedrock Topography Map - Ford Dry Lake Area



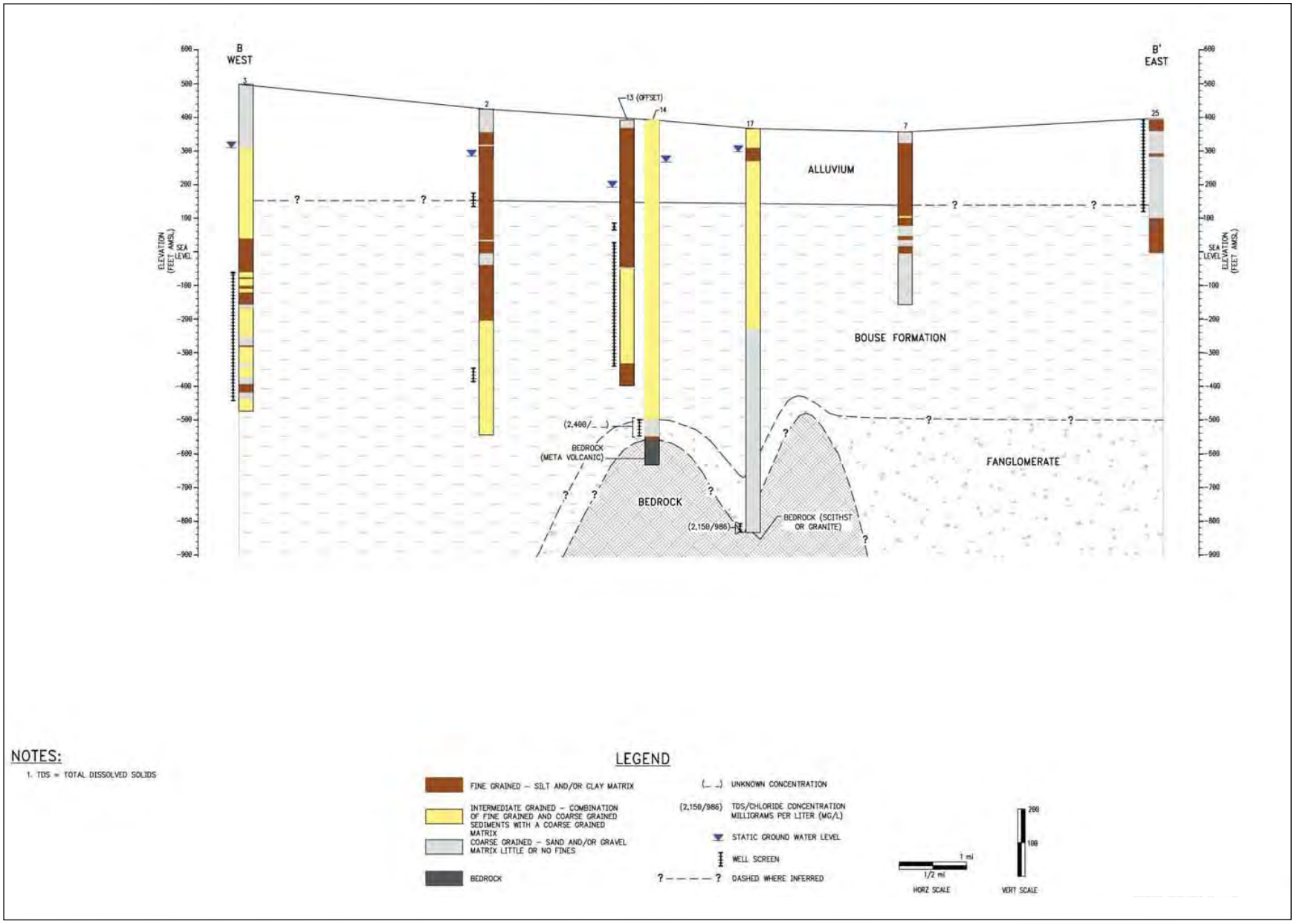
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-2
Hydrogeologic Setting



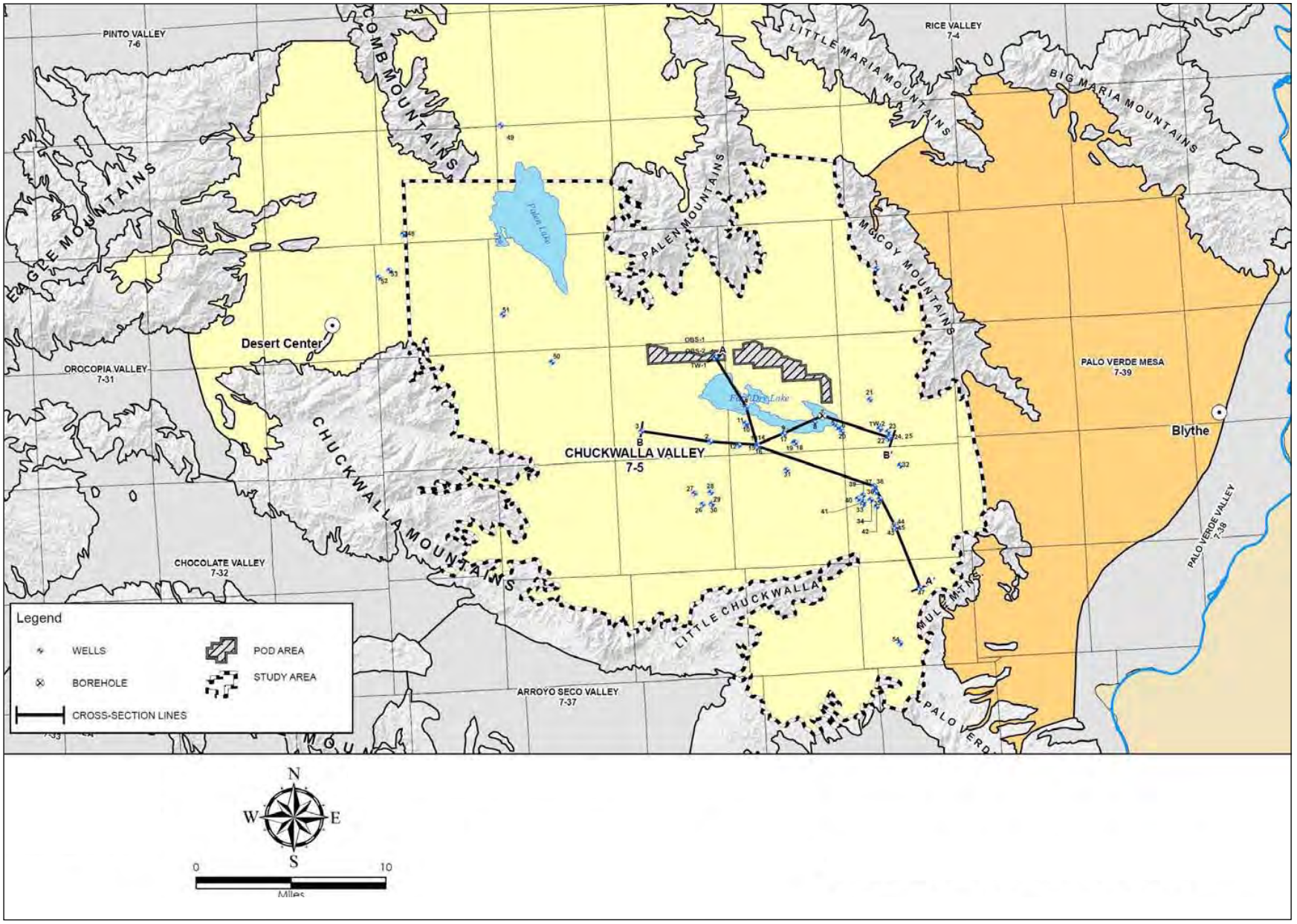
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-3
Hydrostratigraphic Cross-Section A-A'



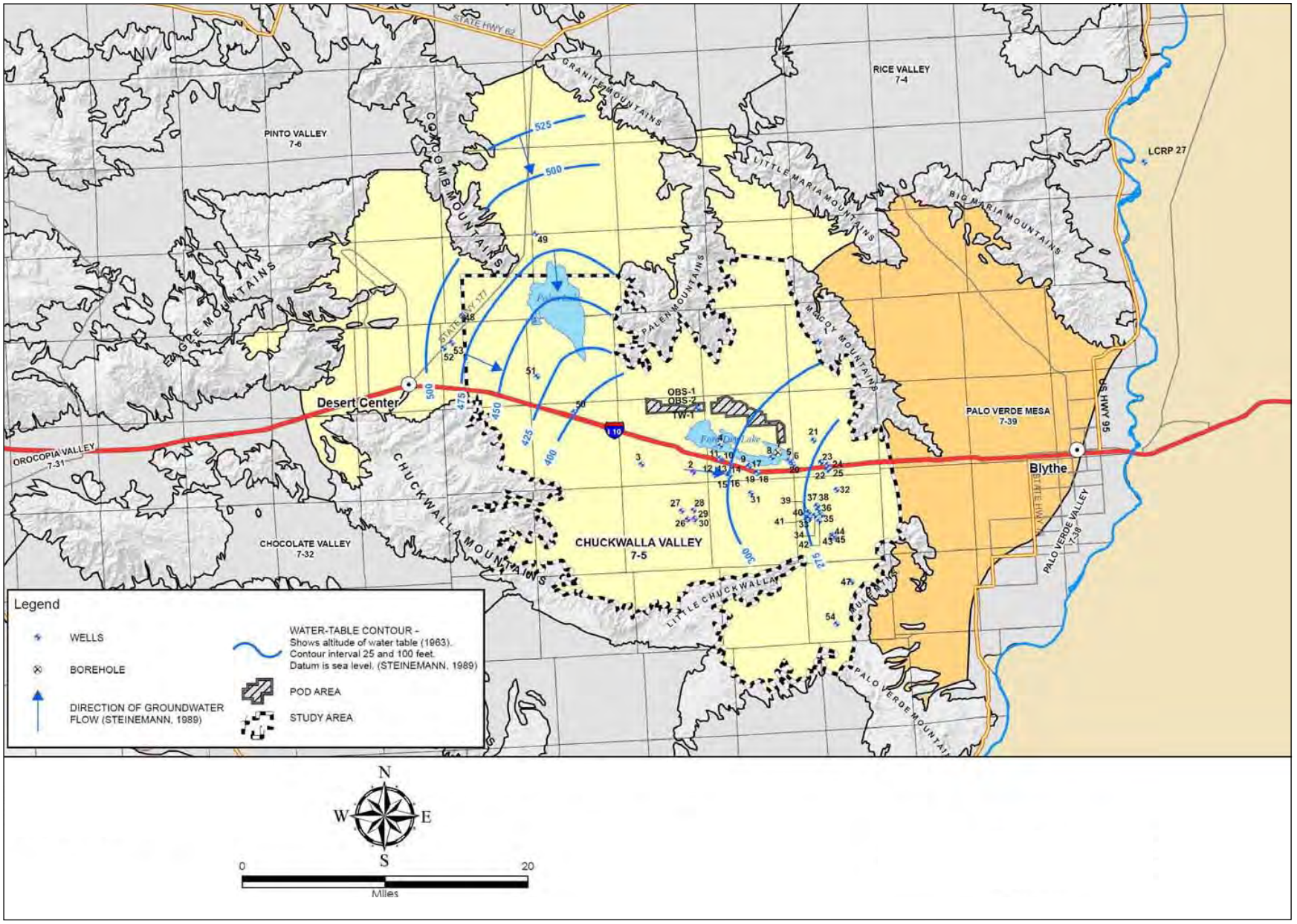
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-4
Hydrostratigraphic Cross-Section B-B'



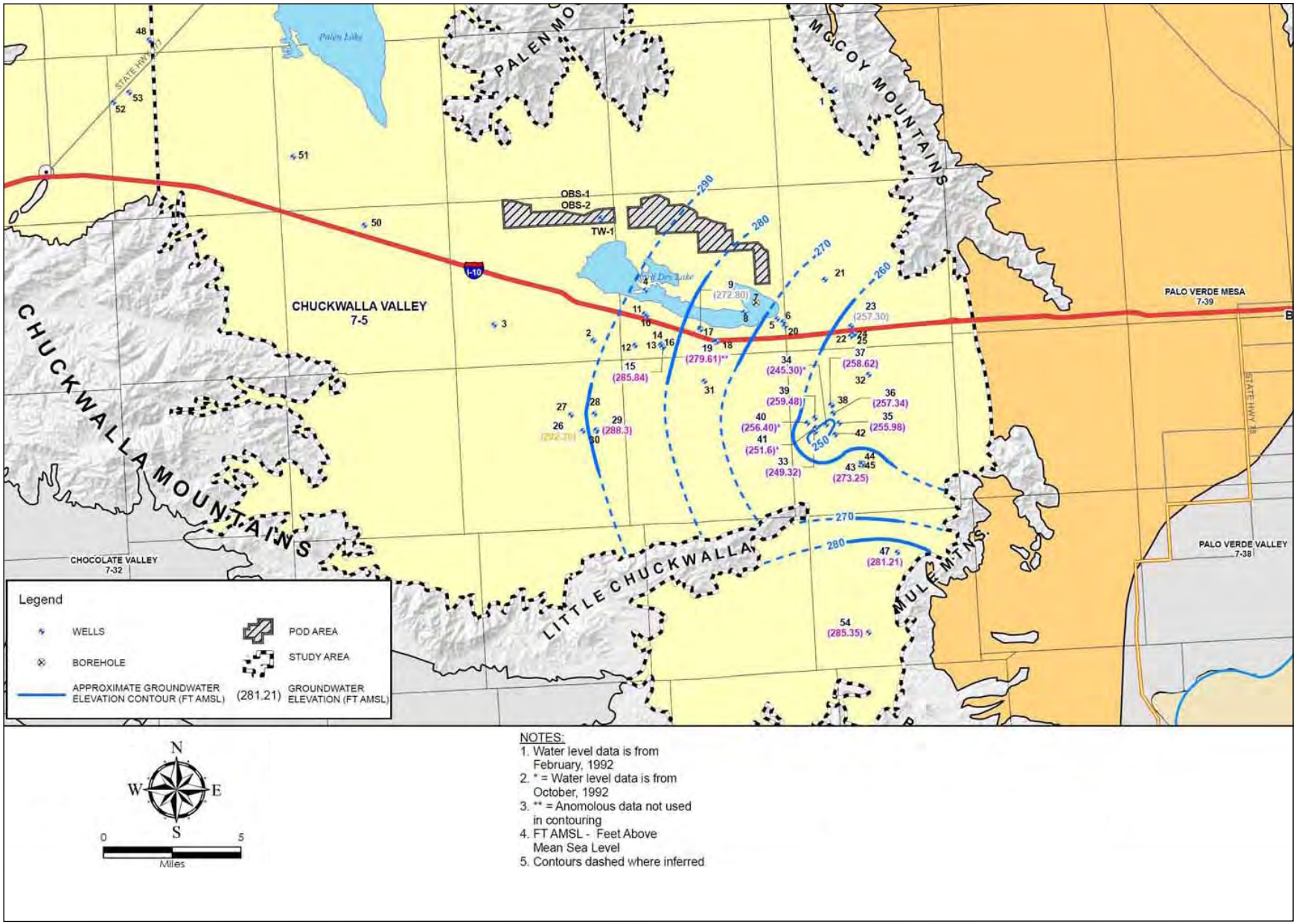
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-5
Hydrostratigraphic Cross-Section Lines



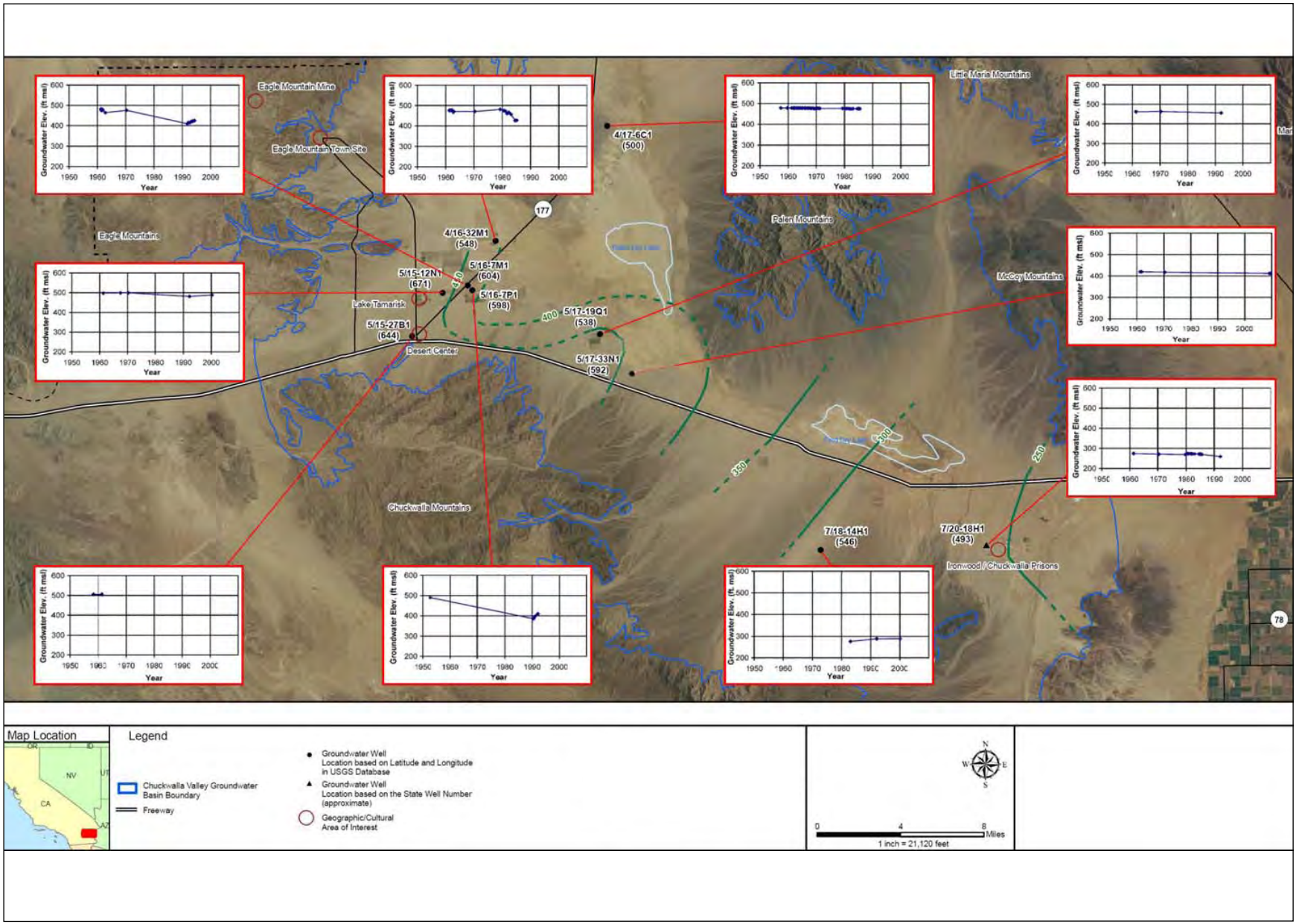
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-6
Groundwater Level Contour Map (1963)



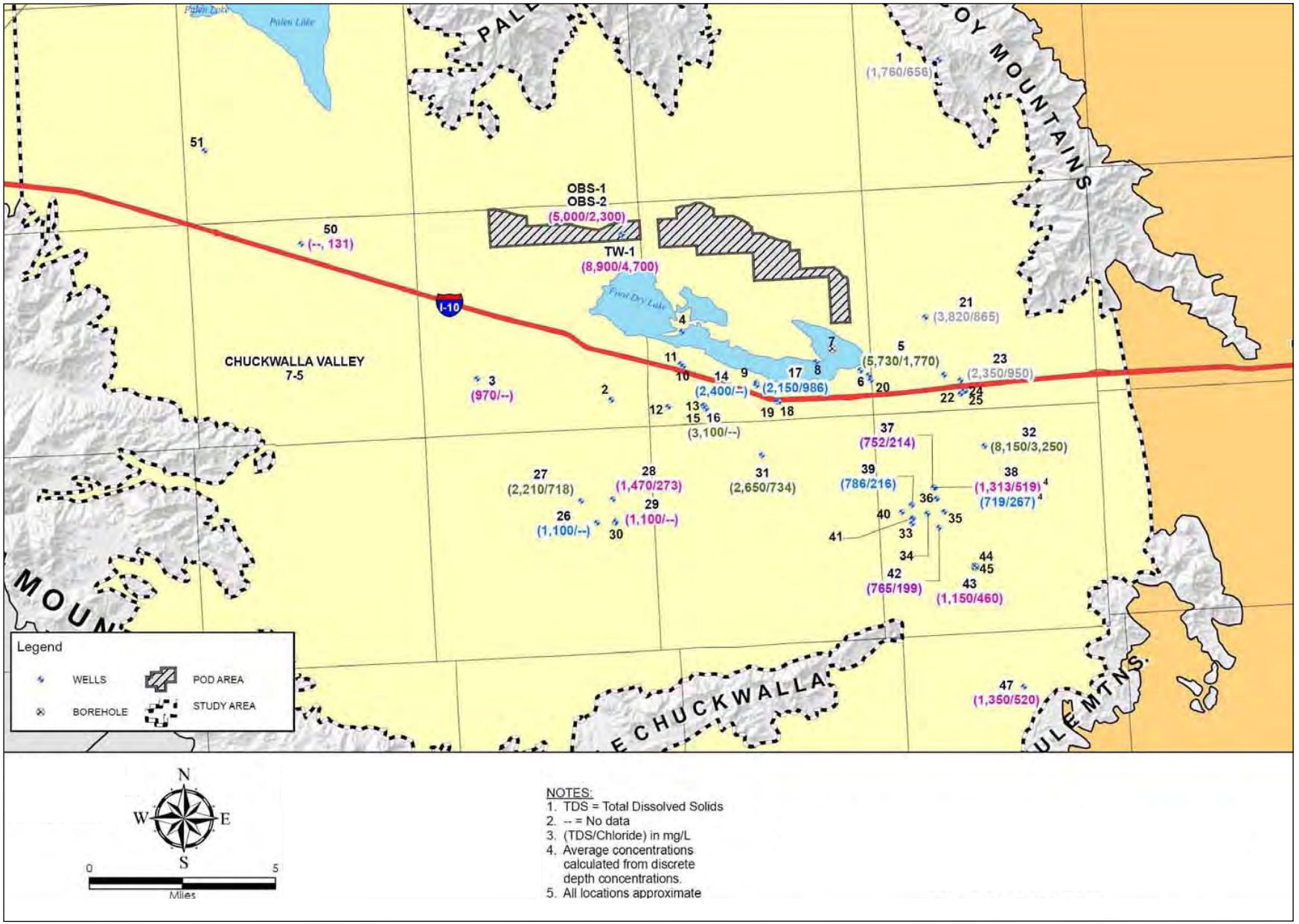
SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-7
Groundwater Level Contour Map (1992)



SOURCE: CEC Genesis RSA, June 2010

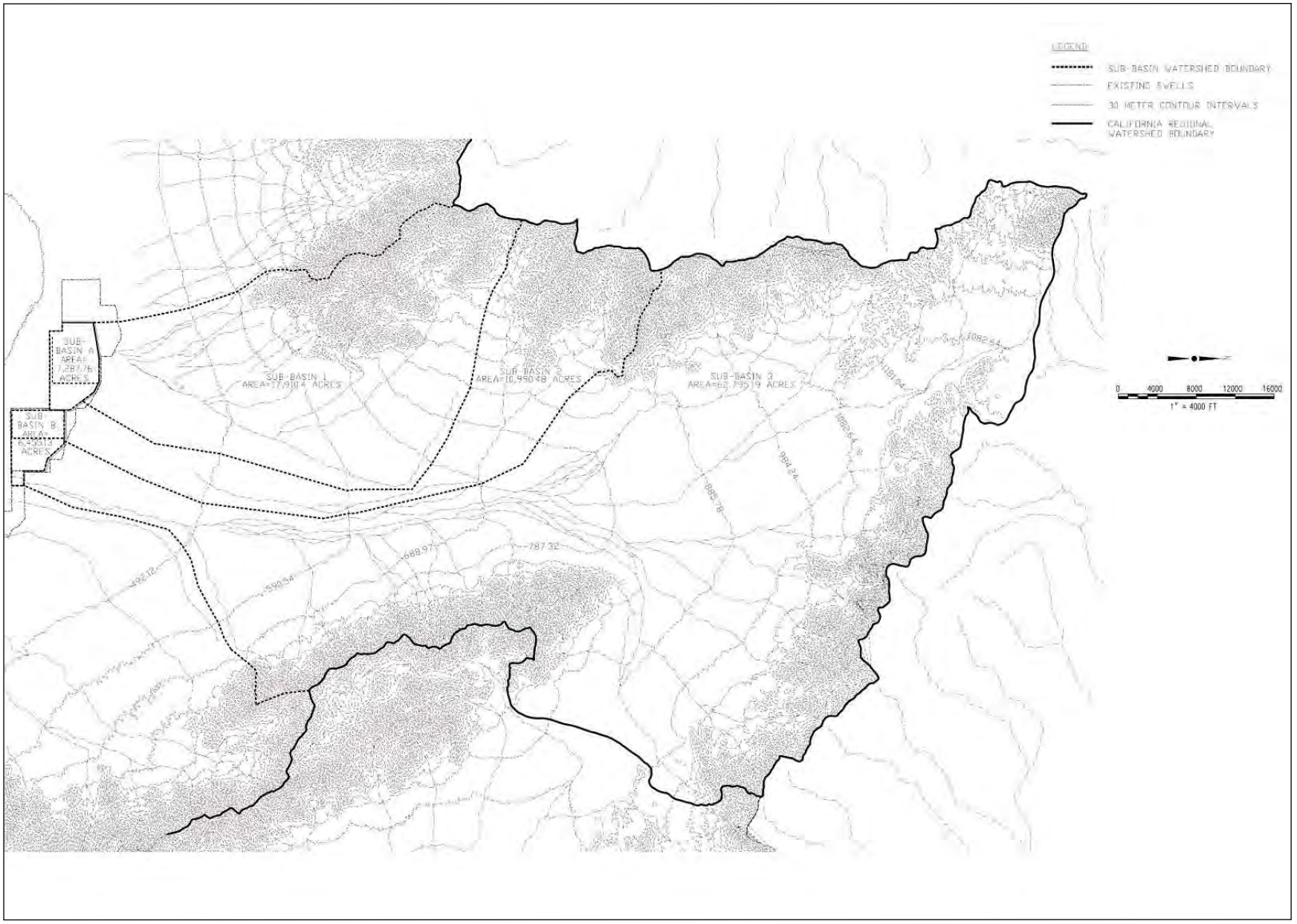
Figure 3.20-8
Basin Wide Hydrographs -
Chuckwalla Valley Groundwater Basin



SOURCE: CEC Genesis RSA, June 2010

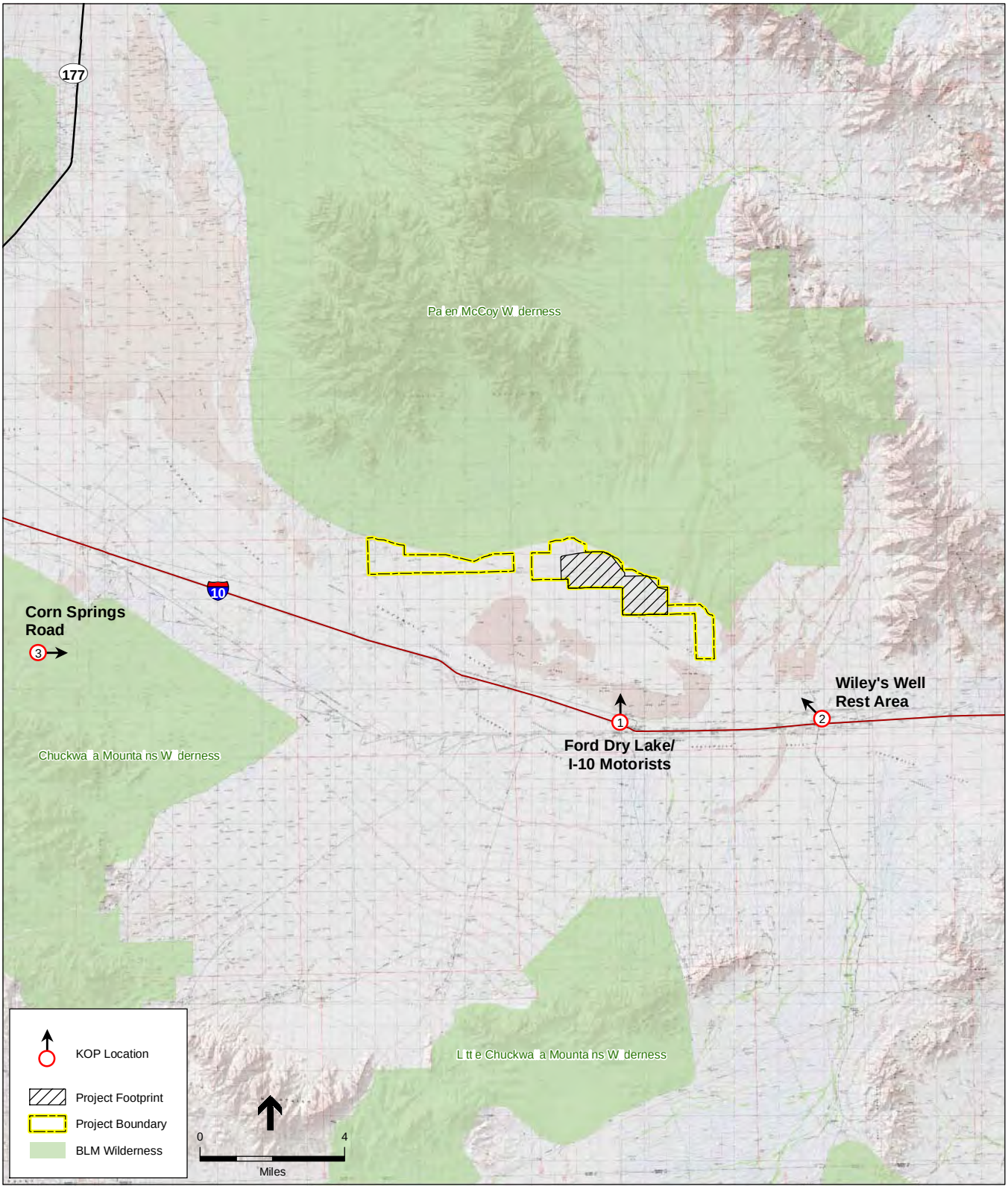
Figure 3.20-9

TDS and Chloride Concentrations Detected in Wells in the Eastern Chuckwalla Valley Groundwater Basin



SOURCE: CEC Genesis RSA, June 2010

Figure 3.20-10
Sub-Basin Watershed Boundaries



SOURCE: CEC Genesis RSA, 2010, ESA, 2010

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Figure 4.18-1

Location of Key Observation Points

SOURCE: CEC Blythe RSA , June 2010

Figure 4.18-2
Foreground View of an Existing Solar Energy Facility
(Kramer Junction SEGS Project)

Unidentified trough project under different lighting conditions

Acciona Nevada Solar One

Acciona Nevada Solar One

SOURCE: Genesis AFC, August 2009

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Figure 4.18-3

Aerial Views of Existing Solar Trough Projects

Kramer Junction

Nevada Solar One

SOURCE: Genesis AFC, August 2009

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Figure 4.18-4

Examples of Solar Trough Spread Glare

SOURCE: Genesis AFC, August 2009

Figure 4.18-5A
View from KOP-1, Ford Dry Lake Bridge Over I-10, Looking North (Existing)

SOURCE: Genesis AFC, August 2009

Figure 4.18-5B
View from KOP-1, Ford Dry Lake Bridge Over I-10, Looking North
(Simulated)

SOURCE: Genesis AFC, August 2009

Figure 4.18-6A
View from KOP-2, Wiley's Well Bridge Over I-10, Looking Northwest
(Existing)

SOURCE: Genesis AFC, August 2009

Figure 4.18-6B
View from KOP-2, Wiley's Well Bridge Over I-10, Looking Northwest
(Simulated)

SOURCE: Genesis AFC, August 2009

Figure 4.18-7A
View from KOP-3, Corn Springs BLM Road, Looking East
(Existing)

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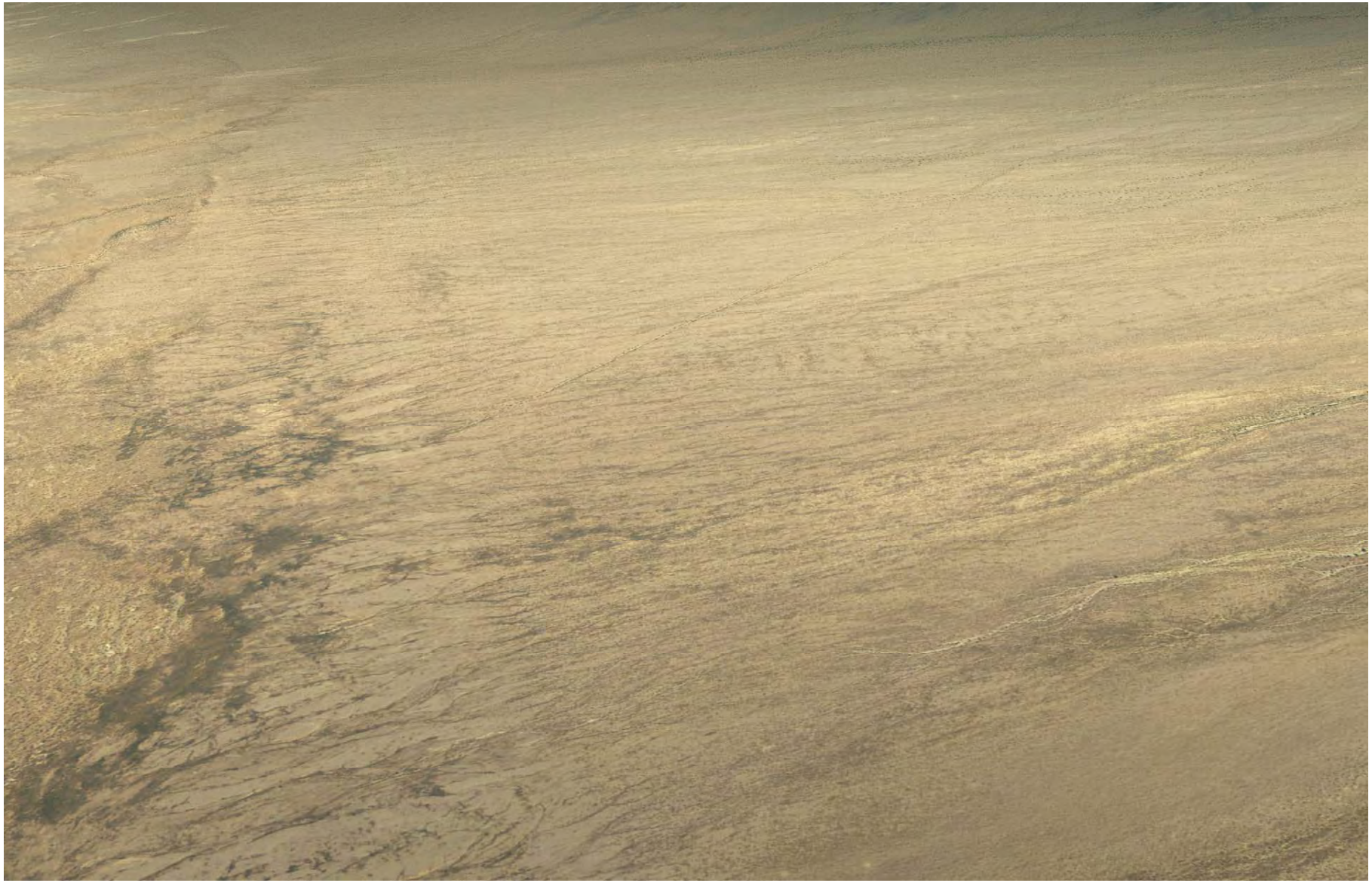
SOURCE: Genesis AFC, August 2009

Figure 4.18-7B
View from KOP-3, Corn Springs BLM Road, Looking East
(Simulated)



SOURCE: Genesis AFC, August 2009

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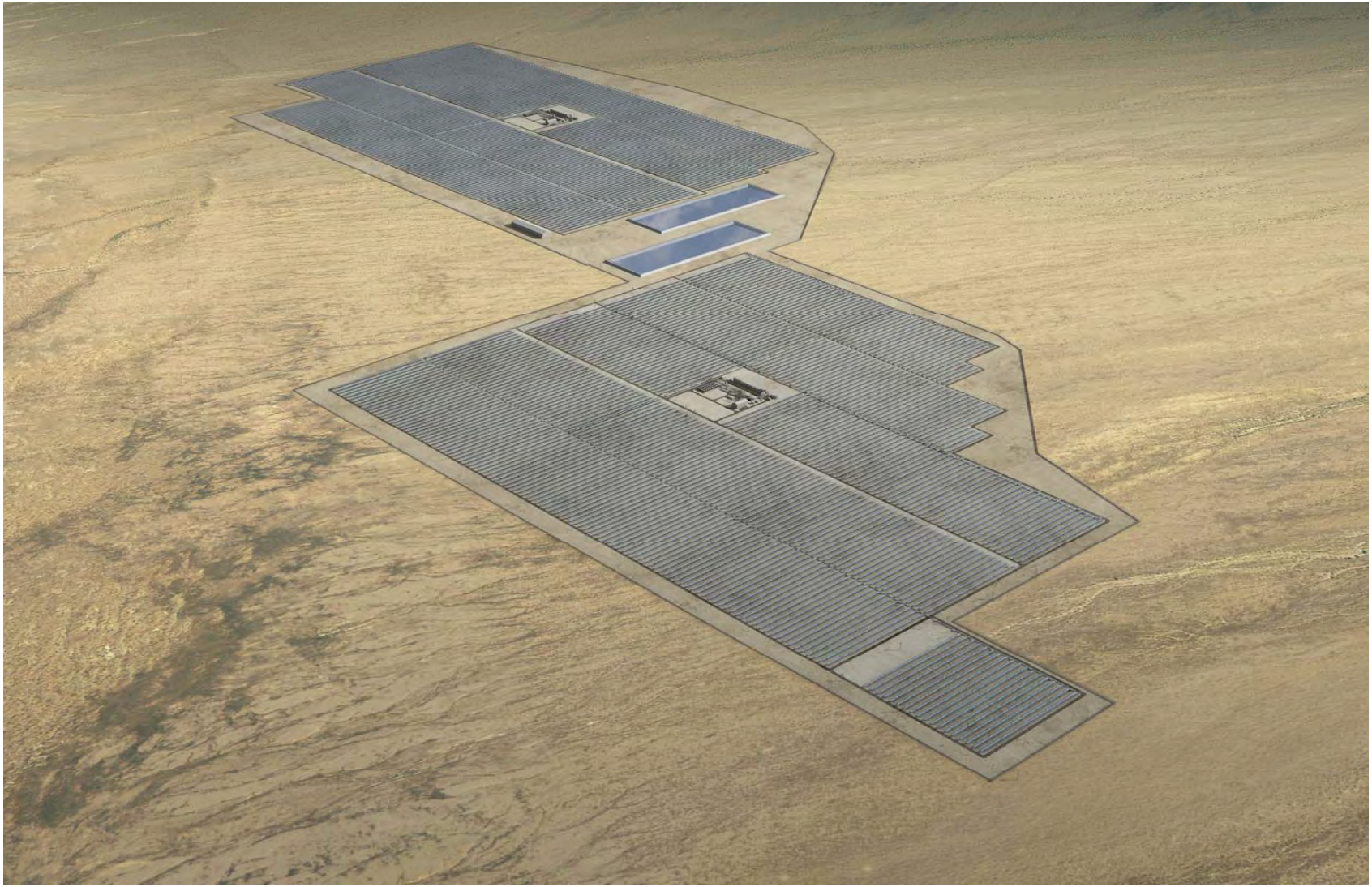
Figure 4.18-8A
Oblique Aerial View of GSEP
(Existing)



SOURCE: Genesis AFC, August 2009

Genesis Solar Energy Project FEIS . 210290

Figure 4.18-8B
Oblique Aerial View of GSEP
(Simulated)

Existing Condition

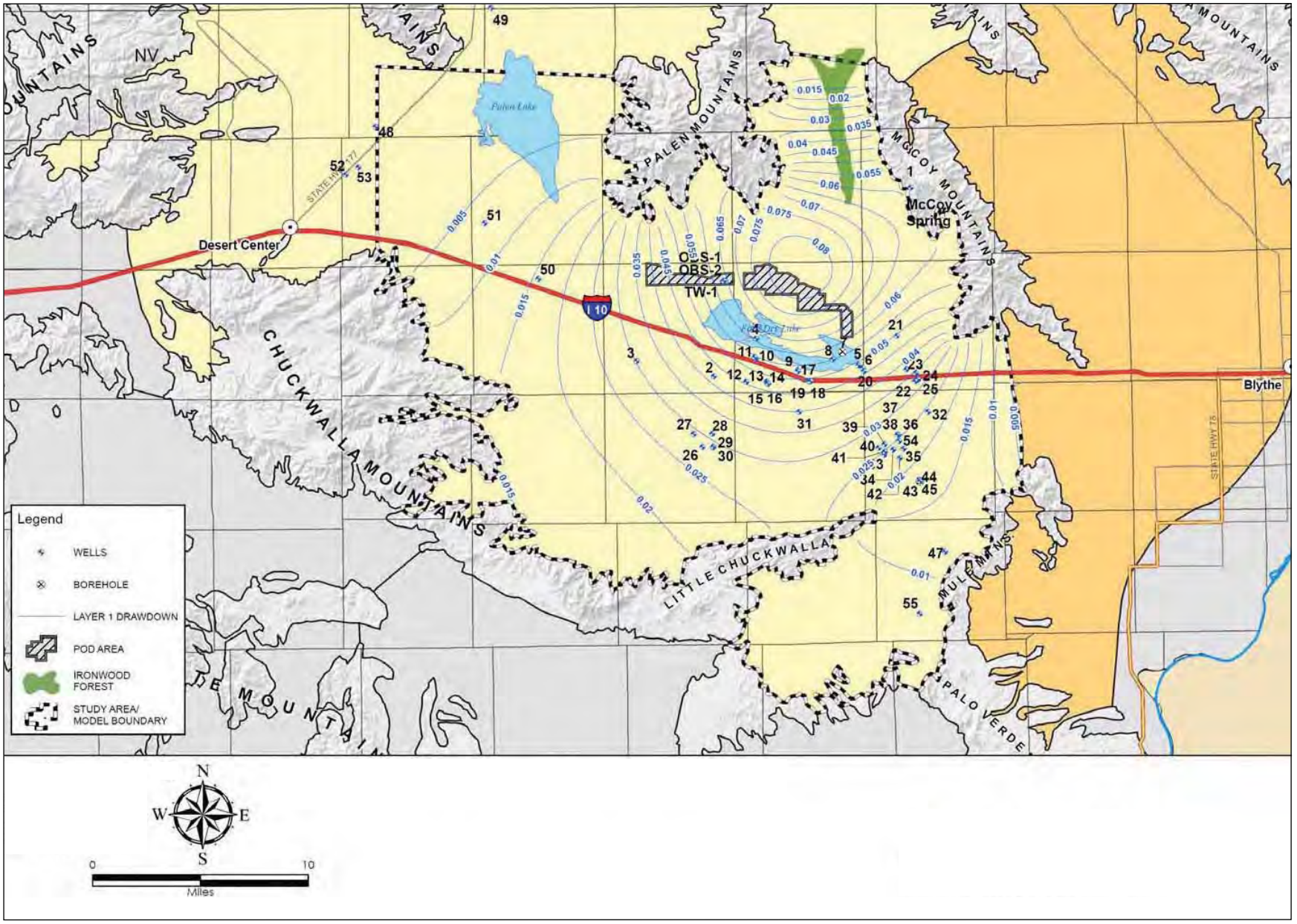
Simulated Condition

Genesis Solar Energy Project FEIS . 210290

SOURCE: Palo Verde Solar I AFC August 2009

Figure 4.18-9

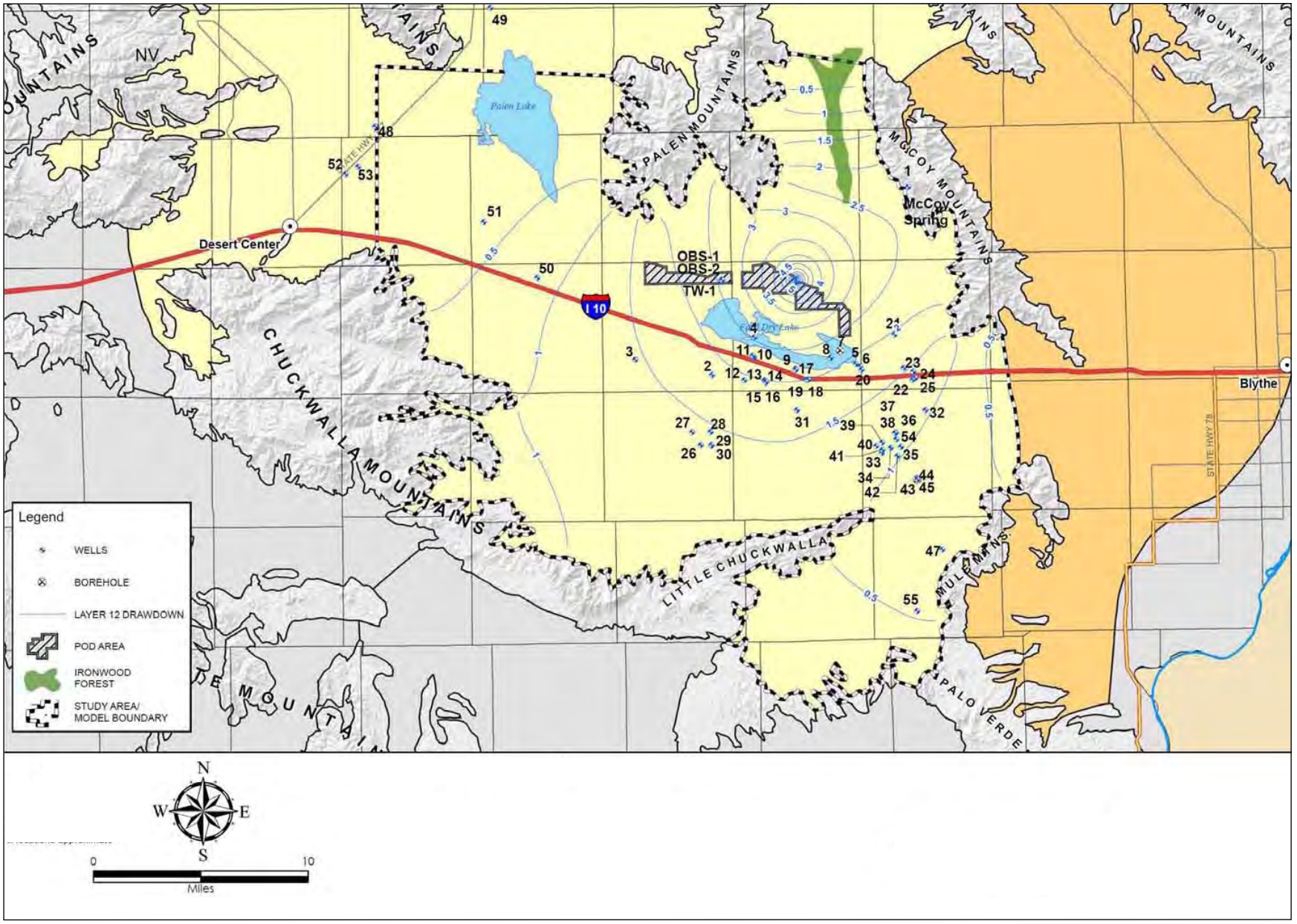
View from Eastbound I-10 Looking East Toward
Blythe Solar Power Plant Transmission Line



SOURCE: CEC Genesis RSA, June 2010

Figure 4.19-1

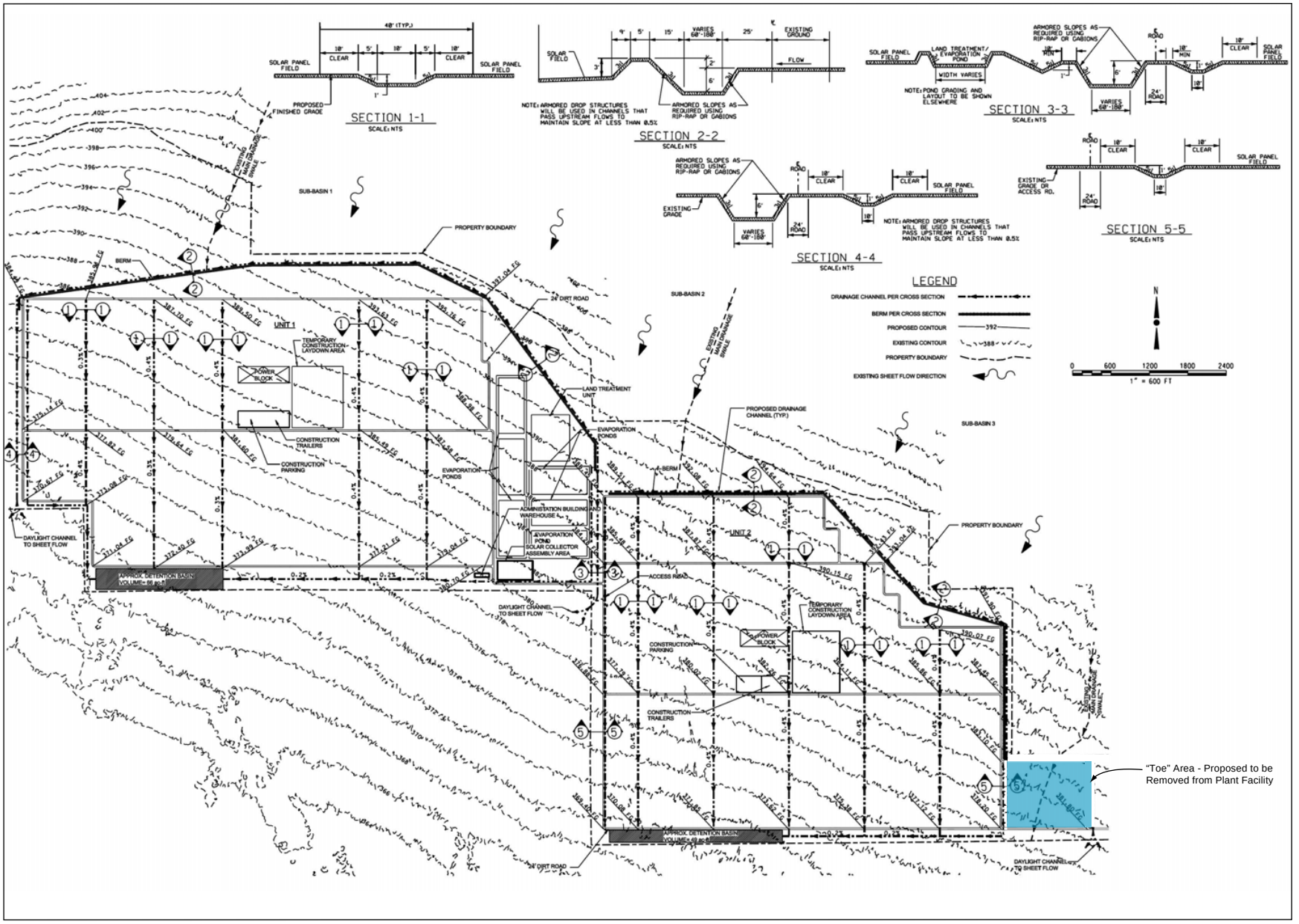
Predicted Drawdown at the Water Table (Layer 1) after 33 Years



SOURCE: CEC Genesis RSA, June 2010

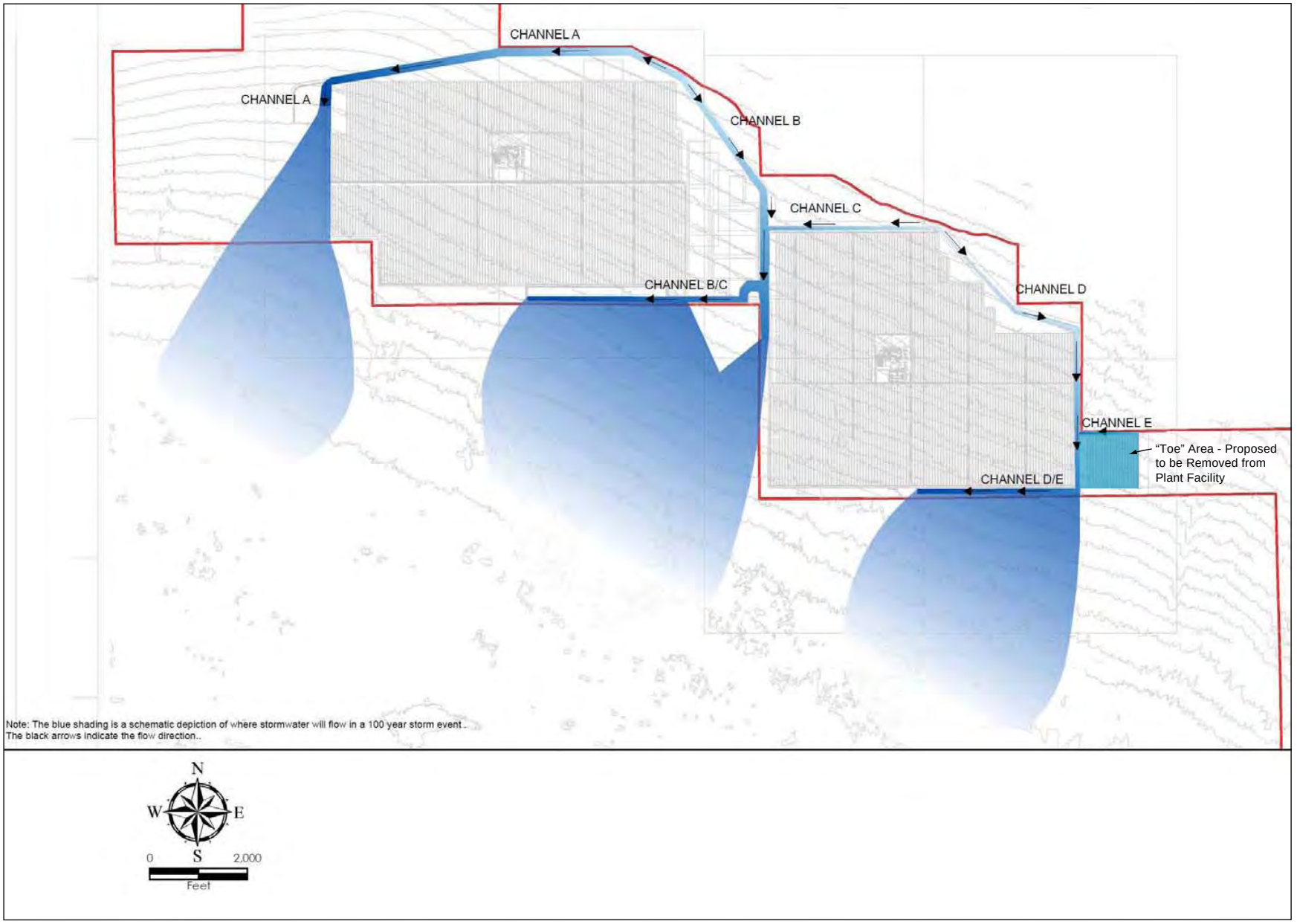
Figure 4.19-2

Predicted Drawdown in the Pumped Aquifer (Layer 12) after 33 Years



SOURCE: CEC Genesis RSA, June 2010

Figure 4.19-3
Drainage Concept Map



SOURCE: SOURCE: CEC Genesis RSA, June 2010

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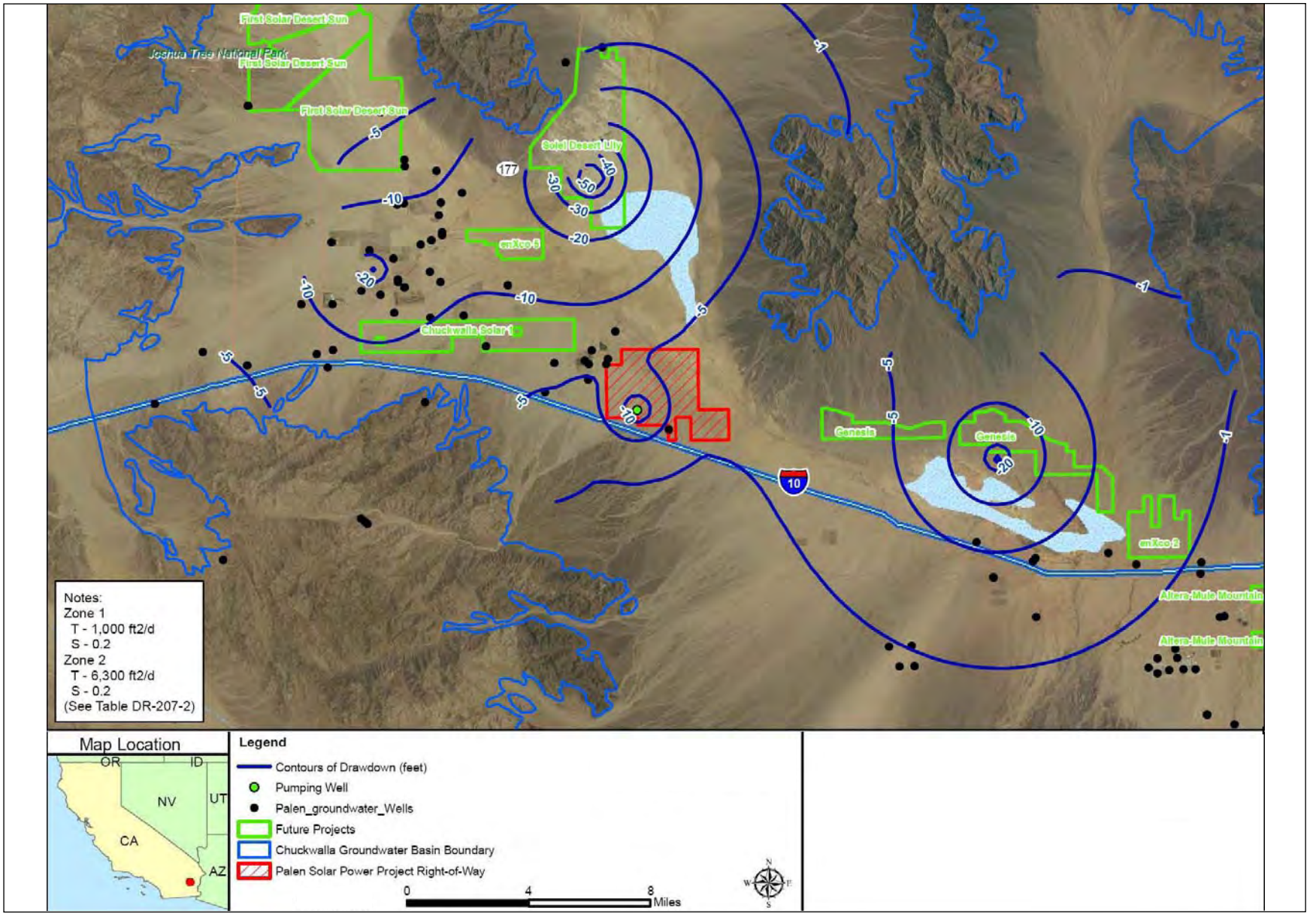
Figure 4.19-4

Post Development Flow Patterns



SOURCE: CEC Genesis RSA, June 2010

Figure 4.19-5
Predicted Drawdown for Cumulative Foreseeable Projects after 33 Years

APPENDIX B
Federal Laws, Regulations and Executive Orders

BLM must comply with the mandate and intent of the following federal laws (and any applicable regulations) and EOs that apply to BLM-administered lands and resources in the Planning Area.

B.1 Air

Clean Air Act (42 U.S.C. 7401 et seq.)

The primary objective of the CAA is to establish federal standards for various pollutants from both stationary and mobile sources and to provide for the regulation of polluting emissions via state implementation plans. In addition, the amendments are designed to prevent significant deterioration in certain areas where air quality exceeds national standards and to provide for improved air quality in areas which do not meet federal standards ("non-attainment" areas).

Federal facilities are required to comply with air quality standards to the same extent as non-governmental entities. Part C of the 1977 amendments stipulates requirements to prevent significant deterioration of air quality and, in particular, to preserve air quality in national parks, national wilderness areas, national monuments, and national seashores.

The amendments establish Class I, II, and III areas, where emissions of particulate matter and sulfur dioxide are to be restricted. The restrictions are most severe in Class I areas and are progressively more lenient in Class II and III areas.

Mandatory Class I federal lands include all national wilderness areas exceeding 500 acres. Federal land managers are charged with direct responsibility to protect the air quality and related values (including visibility) of Class I lands and to consider, in consultation with EPA, whether proposed facilities will have an adverse impact on these values.

B.2 American Indians

A. American Indian Religious Freedom Act (42 U.S.C. 1996)

This act recognizes that freedom of religion for all people is an inherent right and that traditional American Indian religions are an indispensable and irreplaceable part of Indian life. Establishing federal policy to protect and preserve the inherent right of religions freedom for Native Americans, this act requires federal agencies evaluate their actions and policies to determine, if

changes should be made to protect and preserve the religious cultural rights and practices of Native Americans. Such evaluations are made in consultation with native traditional religious leaders.

B. Native American Graves Protection & Repatriation Act (25 U.S.C. 3001-13)

This act establishes requirements for the treatment of Native American human remains and sacred or cultural objects found on federal land.

In any case where such items can be associated with specific tribes or groups of tribes, the agency is required to provide notice of the item in question to the tribe or tribes. Upon request, each agency is required to return any such item to any lineal descendant or specific tribe with whom such item is associated. There are various additional requirements imposed upon the Secretary.

C. Indian Sacred Sites (EO 13007, May 24, 1996)

In managing federal lands, agencies shall, to the extent practicable, permitted by law, and not inconsistent with agency functions, accommodate Indian religious practitioners' access to and ceremonial use of Indian sacred sites. Agencies are to avoid adversely affecting the physical integrity of these sites, maintaining the confidentiality of such sites, and informing tribes of any proposed actions that could restrict access to, ceremonial use of, or adversely affect the physical integrity of, sacred sites.

D. Consultation & Coordination with Indian Tribal Governments (EO 13175, November 6, 2000)

In formulating or implementing policies that have tribal implications, agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments.

E. Religious Freedom Restoration Act (42 U.S.C. §2000bb)

This act is aimed at preventing laws which substantially burden a person's free exercise of their religion. The Religious Freedom Restoration Act reinstated the **Sherbert Test**, mandating that **strict scrutiny** be used when determining if the **Free Exercise Clause** of the **First Amendment to the United States Constitution**, guaranteeing religious freedom, has been violated. In this, the courts must first determine whether a person has a claim involving a sincere religious belief, and whether government action has a substantial burden on the person's ability to act on that belief. If these two elements are established, then the government must prove that it is acting in furtherance of a compelling state interest, and that it has pursued that interest in the manner least restrictive, or least burdensome, to religion.

B.3 Antiquities/Archaeological

A. Antiquities Act (16 U.S.C. §§431-433)

This act authorizes the President to designate as National Monuments objects or areas of historic or scientific interest on lands owned or controlled by the United States. The act required that a permit be obtained for examination of ruins, excavation of archaeological sites, and the gathering of objects of antiquity on lands under the jurisdiction of the Secretaries of the Interior, Agriculture, and Army, and provided penalties for violations.

B. Historic Sites, Buildings and Antiquities Act (16 U.S.C. 461-462, 464-467)

This act declared it a national policy to preserve historic sites and objects of national significance. It provided procedures for designation, acquisition, administration, and protection of such sites. Among other things, National Historic and Natural Landmarks are designated under authority of this act.

C. Archaeological Resources Protection Act (16 U.S.C. 470aa - 470ll)

This act largely supplanted the resource protection provisions of the Antiquities Act for archaeological items. It established detailed requirements for issuance of permits for any excavation for or removal of archaeological resources from federal or Indian lands. It also established civil and criminal penalties for the unauthorized excavation, removal, or damage of any such resources; for any trafficking in such resources removed from federal or Indian land in violation of any provision of federal law; and for interstate and foreign commerce in such resources acquired, transported or received in violation of any state or local law.

D. Archeological and Historic Preservation Act (16 U.S.C. 469-469c)

This law was enacted to carry out the policy established by the Historic Sites Act, directed federal agencies to notify the Secretary of the Interior whenever they find a federal or federally assisted, licensed or permitted project may cause loss or destruction of significant scientific, prehistoric, or archaeological data. The act authorized use of appropriated, donated, and/or transferred funds for the recovery, protection, and preservation of such data.

E. National Historic Preservation Act (16 U.S.C. 470 et seq.)

This act provided for preservation of significant historical features (buildings, objects, and sites) through a grant-in-aid program to the states. It established a NRHP and a program of matching grants under the existing National Trust for Historic Preservation. The act established an Advisory Council on Historic Preservation, which was made a permanent independent agency in1976. Federal agencies are directed to take into account the effects of their actions on items or sites listed or eligible for listing in the NRHP.

F. Protection & Enhancement of Cultural Environment (EO 11593, May 13, 1971)

Federal agencies are to provide leadership in the preservation, restoration, and maintenance of the historic and cultural environment. Agencies are to locate and evaluate all federal sites under their jurisdiction or control which may qualify for listing on the NRHP. For sites that qualify, agencies are to initiate procedures to maintain such federally owned sites. The Advisory Council on Historic Preservation must be allowed to comment on the alteration, demolition, sale, or transfer of property which is likely to meet the criteria for listing as determined in consultation with the SHPO.

G. Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898, February 11, 1994)

Agencies shall make achieving environmental justice part of their mission by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations.

H. Preserve America (EO 13287, March 3, 2003)

Agencies shall provide leadership in preserving America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the federal government.

Each agency is to provide and maintain an assessment of the status of its inventory of historic properties and their ability to contribute to community economic development initiatives.

Where consistent with its mission and governing authorities, and where appropriate, agencies shall

1. seek partnerships with state and local governments, Indian tribes, and the private sector to promote the unique cultural heritage of communities and of the nation and to realize the economic benefit that these properties can provide; and
2. cooperate with communities to increase opportunities for public benefit from, and access to, federally owned historic properties.

B.4 Environment—Generally

A. National Environmental Policy Act (42 U.S.C. 4321 et seq.)

NEPA encourages productive and enjoyable harmony between man and his environment; promotes efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; and enriches the understanding of the ecological systems and natural resources important to the nation

NEPA requires that for recommendations or reports on proposals for legislation and other major actions significantly affecting the quality of the human environment that federal agencies through a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man's environment include a detailed statement by the responsible official on -

1. the environmental impact of the proposed action;
2. any adverse environmental effects which cannot be avoided should the proposal be implemented;
3. alternatives to the Proposed Action;
4. the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and
5. any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented.

B. Protection & Enhancement of Environmental Quality (EO 11514, Mar 5, 1970)

Federal agencies shall initiate measures needed to direct their policies, plans and programs so as to meet national environmental goals of protecting and enhancing the quality of the nation's environment to sustain and enrich human life.

Agencies should monitor, evaluate, and control on a continuing basis their agencies' activities so as to protect and enhance the quality of the environment. Such activities shall include those directed to controlling pollution and enhancing the environment and those designed to accomplish other program objectives which may affect the quality of the environment.

Agencies shall ensure the fullest practicable provision of timely public information and understanding of federal plans and programs with environmental impact in order to obtain the views of interested parties. This will include, whenever appropriate, provision for public hearings and shall provide the public with relevant information, including information on alternative courses of action.

C. Environmental Quality Improvement Act (42 U.S.C. 4371 et seq.)

Ensures that each federal agency conducting or supporting public works activities affecting the environment implements policies established under existing law principally by establishing the Office of Environmental Quality to provide assistance to, and oversight of, federal agencies.

D. Federal Land Policy and Management Act (43 U.S.C. 1701 et seq.)

The "Organic Act" for the BLM, this act provides for the inventory and planning of the public lands to ensure that these lands are managed in accordance with the intent of Congress under the

principles of multiple use and sustained yield. The lands are to be managed in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values that, where appropriate, will preserve and protect certain public lands in their natural conditions, provide food and habitat for fish and wildlife and domestic animals, and provide for outdoor recreation and human occupancy and use by encouraging collaboration and public participation throughout the planning process.

In addition, the public lands must be managed in a manner that recognizes the nation's need for domestic sources of minerals, food, timber, and fiber from the public lands.

Many old laws were repealed, but rights obtained under those laws are protected.

New authority for the disposal of appropriate public lands through sale or exchange is provided.

Right-of-way granting procedures are provided for both the BLM and the USFS.

The regulations contained in 43 CFR Part 1600 govern the BLM planning process.

B.5 Fire

Timber Protection Act (16 U.S.C. 594)

This act authorizes the Secretary of the Interior to protect timber on lands under the DOI's jurisdiction from fire, disease, and insects

B.6 Fish and Wildlife

A. Animal Damage Control Act (7 U.S.C. 426-426c)

This act, as amended, gives the Secretary of Agriculture broad authority for investigation, demonstrations, and control of mammalian predators, rodents, and birds.

B. Bald Eagle Protection Act (16 U.S.C. 668-668d)

This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds, parts, eggs, or nests.

C. Endangered Species Act (16 U.S.C. 1532 et seq.)

This act provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend, both through federal action and by encouraging the establishment of state programs. The act:

1. authorizes the determination and listing of species as endangered and threatened;
2. prohibits unauthorized taking, possession, sale, and transport of endangered species;

3. provides authority to acquire land for the conservation of listed species, using land and water conservation funds;
4. authorizes establishment of cooperative agreements and grants-in-aid to states that establish and maintain active and adequate programs for endangered and threatened wildlife and plants;
5. authorizes the assessment of civil and criminal penalties for violating the act or regulations; and
6. authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violation of the act or any regulation issued thereunder.

Section 7 of the Endangered Species Act requires federal agencies to ensure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

D. Neotropical Migratory Bird Conservation Act (P.L. 106-247)

This act provides grants to countries in Latin America and the Caribbean, and the United States for the conservation of neotropical migratory birds that winter south of the border and summer in North America. The law encourages habitat protection, education, researching, monitoring, and capacity building to provide for the long-term protection of neotropical migratory birds.

E. Conservation of Migratory Birds (EO 13186, January 10, 2001)

Under the principals of a MOU with the USFWS, each agency shall, to the extent permitted by law, subject to the availability of appropriations, within administration budgetary limits, and in harmony with agency missions, among others:

1. support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
2. restore and enhance the habitat of migratory birds, as practicable;
3. prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable;
4. design migratory bird habitat and population conservation principles, measures, and practices into agency plans and planning processes as practicable;
5. within established authorities and in conjunction with the adoption, amendment, or revision of agency management plans and guidance, ensure that agency plans and actions promote programs and recommendations of comprehensive migratory bird planning efforts; and
6. ensure that environmental analyses of actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds.

F. Recreational Fisheries (EO 12962, June 7, 1995)

Agencies shall improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities by such activities as:

1. developing and encouraging partnerships between governments and the private sector to advance aquatic resource conservation and enhance recreational fishing opportunities;
2. identifying recreational fishing opportunities that are limited by water quality and habitat degradation and promoting restoration to support viable, healthy, and, where feasible, self-sustaining recreational fisheries;
3. fostering sound aquatic conservation and restoration endeavors to benefit recreational fisheries;
4. supporting outreach programs designed to stimulate angler participation in the conservation and restoration of aquatic systems, and implementing laws under their purview in a manner that will conserve, restore, and enhance aquatic systems that support recreational fisheries.

G. Exotic Organisms (EO 11987, May 24, 1977)

Agencies, to the extent permitted by law, are to:

1. restrict the introduction of exotic species into the natural ecosystems on lands and waters owned or leased by the United States;
2. encourage states, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the U.S.;
3. restrict the importation and introduction of exotic species into any natural U.S. ecosystems as a result of activities they undertake, fund, or authorize; and
4. restrict the use of federal funds, programs, or authorities to export native species for introduction into ecosystems outside the U.S. where they do not occur naturally.

B.7 Land

A. Desert Land Act (43 U.S.C. 321 et seq.)

Allows entry of up to 320 acres of desert land of which the entryman intends to reclaim the land for agricultural purposes within 3 years. Lands must be determined to be available and classified pursuant to 43 U.S.C. 315f before such an entry can be allowed.

B. Sales of Public Lands (43 U.S.C. 1713)

Allows the sale of public lands found suitable for use other than grazing or the production of forage crops that also

1. is difficult and uneconomic to manage; or
2. the tract was acquired for a purpose for which the tract is no longer necessary, or
3. disposal of the tract will serve important public objectives

C. Exchanges of Public Land for Non-federal Land (43 U.S.C. 1716)

Allows the exchange of Public Land, or interests therein, for non-federal lands where it is determined (the Secretary finds) that the public interest will be well served by making the exchange. Values of the disposed and acquired lands must be equal in value.

D. Federal Land Exchange Facilitation Act (43 U.S.C. 1716, August 20, 1988)

Basically amends the exchange provisions of FLPMA to streamline and facilitate land exchange procedures and to expedite exchanges.

E. Federal Land Transaction Facilitation Act (PL 106-248, July 25, 2000)

Provides a more expeditious process for disposal and acquisition of land to facilitate a more effective configuration of land ownership patterns.

Funds from the sale of specified land is deposited in a special fund available to acquire land and to process additional land sales.

B.8 Rights-of-Way

With the passage of FLPMA in 1976, BLM was left with existing ROWs (Pre-FLPMA Rights-of-Way) and three basic authorities under which Public Lands may be used or dedicated to various types of ROWs.

A. Pre-FLPMA ROWs (43 U.S.C. 1701 Savings Provision)

Various laws provided for ROWs ranging from ditches and canals through communications to railroads. Some are indefinite in term and will remain under the pre-FLPMA authority until abandoned. Others have definite terms and will come under current authorities if amended or renewed.

B. Oil and Gas Pipeline ROWs (30 U.S.C. 185)

The Mineral Leasing Act of 1920, as amended, contains provisions for the issuance of ROWs for the transportation of natural gas and oil or products derived therefrom. The term of the ROW is limited to 30 years but is renewable. Where an application involves land administered by two or more federal agencies, the Secretary of the Interior has delegated the decision making to the BLM. Federal agencies are not eligible under this authority.

C. FLPMA ROWs (43 U.S.C. 1761 et seq.)

Title V of FLPMA gives the BLM authority to authorize most any type of ROW use, other than oil and gas ROWs, on the public lands. The term of the ROW is determined by need and conditions; it may be indefinite but usually is around 30 years. ROWs are renewable.

D. Federal Aid Highways (23 U.S.C. 317)

Where Federal Aid Highways are involved, the Secretary of Transportation may appropriate federal land for such highway projects. Applications or requests are usually filed by the State Department of Transportation through the local office of the FHWA. If BLM does not disapprove such a request within 120 days, the appropriation is automatic. When BLM issues a letter "consenting" to the appropriation, reasonable terms and conditions may be included.

E. Energy Supply, Distribution, or Use (EO 13211, May 18, 2001)

This order requires an impact and alternative analysis for any proposed rule that would have an adverse impact on energy supply, distribution, or use.

F. Action to Expedite Energy-Related Projects (EO 13212, May 18, 2001)

For energy-related projects, agencies shall expedite their review of permits or take other actions as necessary to accelerate the completion of such projects, while maintaining safety, public health, and environmental protections. The agencies shall take such actions to the extent permitted by law and regulation, and where appropriate.

G. Environmental Stewardship and Transportation Infrastructure Project Reviews (EO 13274, September 18, 2002)

Agencies shall take appropriate actions, to the extent consistent with applicable law and available resources, to promote environmental stewardship in the nation's transportation system and expedite environmental reviews of high-priority transportation infrastructure projects.

For transportation infrastructure projects, agencies shall, in support of the Department of Transportation, formulate and implement administrative, policy, and procedural mechanisms that enable each agency required by law to conduct environmental reviews with respect to such projects to ensure completion of such reviews in a timely and environmentally responsible manner.

H. Energy Policy Act (Pub. L. 109-58)

This act was signed into law on August 8, 2005. The act contains a multitude of provisions covering energy production, distribution, storage, efficiency, conservation, and research. The act requires efficiency standards for certain large appliances and extends Daylight Saving Time to reduce consumption. It provides funding to improve efficiency in low-income housing and expands the Energy Star program. It also requires the Federal Government to increase the

efficiency of its buildings and vehicles, and provides tax credits for certain energy-efficient purchases or improvements. Other topics of note are renewable energy, expanding of the Strategic Petroleum Reserve, fuel production access in federal lands, the banning of drilling in the Great Lakes, electricity reliability, hydrogen vehicles, vehicle efficiency and alternative fuels, ethanol, and motor fuels.

B.9 Mining and Mineral Leasing

A. General Mining Law (30 U.S.C. 21 et seq.)

This authority sets forth rules and procedures for the exploration, location, and patenting of lode, placer, and mill site mining claims. Claimants must file notice of the original claim with the BLM as well as annual notice of intention to hold, affidavit of assessment work, or similar notice.

B. Mining and Mineral Policy Act (30 U.S.C. 21a)

This act expressed the national policy to foster and encourage private enterprise in

1. the development of economically sound and stable domestic mining, mineral, metal, and mineral reclamation industries,
2. the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security and environmental needs,
3. mining, mineral, and metallurgical research, including the use and recycling of scrap to promote the wise and efficient use of our natural and reclaimable mineral resources, and
4. the study and development of methods for the disposal, control, and reclamation of mineral waste products, and the reclamation of mined land, so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining or mineral activities.

C. Stock Raising Homestead Act (43 U.S.C. 291-299)

Patents issued under this authority reserved minerals to the United States as well as the right to prospect for, mine, and remove said minerals. Certain conditions exist to protect the patentee's improvements.

D. Mineral Leasing Act (30 U.S.C. 181 et seq.)

This act authorizes and governs leasing of public lands for development of deposits of coal, oil, gas and other hydrocarbons, sulphur, phosphate, potassium, and sodium.

E. Federal Coal Leasing Amendments Act (30 U.S.C. §201)

This act made major changes in the way coal leases tracts are established, economic and environmental considerations, sale/leasing procedures, and penalties for violations.

F. Surface Mining Control and Reclamation Act (30 U.S.C. 1201 et seq.)

This act establishes a program for the regulation of surface mining activities and the reclamation of coal-mined lands, under the administration of the Office of Surface Mining, Reclamation and Enforcement, in the DOI.

The law sets forth minimum uniform requirements for all coal surface mining on federal and state lands, including exploration activities and the surface effects of underground mining. Mine operators are required to minimize disturbances and adverse impact on fish, wildlife, and related environmental values and achieve enhancement of such resources where practicable. Restoration of land and water resources is ranked as a priority in reclamation planning.

G. Geothermal Steam Act (30 U.S.C. 1001 et seq.)

This act authorizes and governs the lease of geothermal steam and related resources on public lands

H. Mineral Leasing Act for Acquired Lands (30 U.S.C. 351 et seq.)

This act authorizes and governs mineral leasing on acquired lands.

I. Materials Sales Act (30 U.S.C. 601)

Authorizes the sale or free use of vegetative materials and mineral material (so-called common varieties) not otherwise authorized by other law.

B.10 Pollution—General

A. Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.)

This act regulates the treatment, transportation, storage, and disposal of solid and hazardous wastes. The Service is required to comply with standards for wastes generated at its facilities. The key provisions include:

Identification and listing of hazardous waste and standards applicable to hazardous waste—requires reporting of hazardous waste, permitting for storage, transport, and disposal, and it includes provisions for oil recycling and federal hazardous waste facilities inventories.

1. Management for solid waste, including landfills.
2. Applicability of federal, state, and local laws to federal agencies.
3. Management, replacement, and monitoring of underground storage tanks.

B. Comprehensive Environmental Response Compensation and Liability Act (Superfund) (42 U.S.C. 9601 et seq.)

The "Superfund" statute was enacted in 1980; major amendments were enacted in 1983 and in 1986. The 1980 statute authorized, through 1985, the collection of taxes on crude oil and petroleum products, certain chemicals, and hazardous wastes. It also established liability to the U.S. Government for damage to natural resources over which the U.S. has sovereign rights and requires the President to designate federal officials to act as trustees for natural resources. Use of Superfund monies to conduct natural resource damage assessments was provided.

The 1983 amendments established a comprehensive system to react to releases of hazardous substances and to determine liability and compensation for those affected. The President is authorized to notify federal and state natural resource trustees of potential damages to natural resources and to coordinate related assessments.

Amendments enacted in 1986 (known as the Superfund Amendment and Reauthorization Act, or SARA), among others, 1) added effects on natural resources as a criterion for determining facilities to be placed on the National Priorities List; 2) mandated the designation of federal officials to act as trustees for natural resources and to assess damages and injury to, as well as destruction of, or loss of, natural resources; 3) stipulated that Superfund monies may only be used for natural resource damage claims if all administrative and judicial remedies to recover costs from liable parties have been exhausted; 4) clarified that federal facilities are subject to the same cleanup requirements and liability standards as non-governmental entities, and 5) eliminated the authorization for use of Superfund monies to conduct damage assessments.

C. Federal Environmental Pesticide Control Act (7 U.S.C. §136)

This act, in simple terms, provided for a program for controlling the sale, distribution, and application of pesticides through an administrative registration process and for classifying pesticides for "general" or "restricted" use. "Restricted" pesticides may only be applied by or under the direct supervision of a certified applicator

D. Toxic Substances Control Act (15 U.S.C. 2601 et seq.)

This act authorized the EPA to obtain data from industry on health and environmental effects of chemical substances and mixtures. If unreasonable risk or injury may occur, EPA may regulate, limit, or prohibit the manufacture, processing, commercial distribution, use, and disposal of such chemicals and mixtures.

E. Pollution Prevention Act (42 U.S.C. 13101 et seq.)

This act encourages manufacturers to avoid the generation of pollution by modifying equipment and processes, redesigning products, substituting raw materials, and making improvements in management techniques, training, and inventory control.

F. Federal Compliance with Right to Know Laws and Pollution Prevention Requirements (EO 12856, August 3, 1993)

Requires agencies to comply with the provisions of the Pollution Prevention Act and to assure all necessary actions are taken to prevent pollution. The Council on Environmental Quality provided guidance on pollution prevention in the Federal Register of January 29, 1993.

G. Solid Waste Disposal Act (42 U.S.C. 6901 et seq.)

Establishes a national policy that, wherever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible. Waste that is nevertheless generated should be treated, stored, or disposed of so as to minimize the present and future threat to human health and the environment. It directs the EPA to provide guidelines for the treatment, handling, and storage of such wastes.

B.11 Rangelands

A. Taylor Grazing Act (43 U.S.C. 215 et seq.)

The TGA was the Federal Government's first effort to regulate grazing on federal lands. Under the act grazing districts were established of vacant, unreserved, public domain lands which were chiefly valuable for grazing and raising forage crops. Grazing is regulated through leases or licenses for which a fee is paid. Grazing Administration Regulations (43 CFR 4100) provide for the development of state Standards for Rangeland Health and Guideline for Grazing Management. Such standards and guidelines are approved through the BLM's planning and NEPA processes.

The TGA also eliminated settlement on the public domain and provided for the classification and disposal of public lands more valuable for uses other than grazing or the production of forage crops.

B. Public Rangelands Improvement Act (43 U.S.C. 1901 et seq.)

This act was instituted to improve public rangeland conditions in the 16 contiguous western states on which there is, or which are capable of, domestic livestock grazing. Rangeland quality is determined by soil quality, forage values, wildlife habitat, watershed and plant communities, the current state of vegetation in a site in relation to its potential, and the relative degree to which the kinds, proportions, and amounts of vegetation in a plant community resemble the desired plant community.

C. Noxious Plant Control Act (43 U.S.C. §§1241-43)

Authorizes agencies to allow and pay for state authorities to enter federal land for the control/destruction of noxious plants.

D. Federal Noxious Weed Act (7 U.S.C. 2801 et seq.)

This act provides the Secretary of Agriculture authority to designate plants as noxious weeds by regulation and prohibits the movement of all such weeds in interstate or foreign commerce except

under permit. The Secretary of Agriculture also has authority to inspect, seize, and destroy products and to quarantine areas, if necessary, to prevent the spread of such weeds. The Secretary of Agriculture is also authorized to cooperate with other federal, state, and local agencies, farmers associations, and private individuals in measures to control, eradicate, or prevent or retard the spread of such weeds.

Each federal land-managing agency is to designate an office or person adequately trained in managing undesirable plant species to develop and coordinate a program to control such plants on the agency's land.

E. Invasive Species (EO 13112, February 3, 1999)

The purpose is to prevent the introduction of invasive species and provide for their control, as well as to minimize the economic, ecological, and human health impacts that invasive species cause.

Agencies whose actions may affect the status of invasive species shall: (1) identify such actions; (2) use relevant programs and authorities to prevent, control, monitor, and research such species; and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere

F. Wild Horses and Burros Act (16 U.S.C. 1331-1340)

This act provides for protection of wild, free-roaming horses and burros. It directs the BLM of the DOI and USFS of the Department of Agriculture to manage such animals on public lands under their jurisdiction.

B.12 Recreation

Recreation and Public Purposes Act (43 U.S.C. 869 et seq.)

This act provides for the lease or disposal of public lands and certain withdrawn or reserved lands to state and local governments, and qualified non-profit organizations to be used for recreational or public purposes. Prices charged for the use or acquisition are normally less than market value of the specific lands. Conditions are imposed in patents, and title may revert to the United States for cause.

B.13 Rivers and Streams

A. Wild & Scenic Rivers Act (16 U.S.C. 1271 et seq.)

This act establishes a National Wild and Scenic Rivers System and prescribes the methods and standards through which additional rivers may be identified and added to the system.

B. American Heritage Rivers (EO 13061, September 11, 1997)

This EO has three objectives: natural resource and environmental protection, economic revitalization, and historic and cultural preservation. Agencies, to the extent permitted by law and consistent with their missions and resources, shall coordinate federal plans, functions, programs, and resources to preserve, protect, and restore rivers and their associated resources important to our history, culture, and natural heritage.

B.14 Trails

National Trails System Act (16 U.S.C. 1241-1249)

This act provides for establishment of National Recreation, National Scenic, and National Historic Trails.

National Recreation Trails may be established by the Secretary of the Interior or Agriculture on land wholly or partly within their jurisdiction with the consent of the involved state(s) and other land managing agencies, if any. National Scenic and National Historic Trails may only be designated by an Act of Congress.

B.15 Water—General

A. Water Resources Planning Act (42 U.S.C. 1962a - 1962(a)(4)(e))

This act established a Water Resources Council to be composed of Cabinet representatives, including the Secretary of the Interior. It also established River Basin Commissions and stipulated their duties and authorities.

The council was empowered to maintain a continuing assessment of the adequacy of water supplies in each region of the U.S. In addition, the council was mandated to establish principles and standards for federal participants in the preparation of river basin plans and in evaluating federal water projects. Upon receipt of a river basin plan, the council was required to review the plan with respect to agricultural, urban, energy, industrial, recreational, and fish and wildlife needs.

B. Water Rights (43 U.S.C. 666)

This act waives the sovereign immunity of the United States where there is a suit designed to establish the rights to a river or other source of water, or the administration of such rights, and the United States appears to own or be in the process of acquiring rights to any such water. (The effect is to permit state courts to adjudicate federal water rights claims under state law.)

C. Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.)

The original 1948 statute, the Water Pollution Control Act, authorized the Surgeon General of the Public Health Service in cooperation with other federal, state, and local entities to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. During the development of such plans, due regard was to be given to improvements necessary to conserve waters for public water supplies, propagation of fish and aquatic life, recreational purposes, and agricultural and industrial uses. The original statute also authorized the Federal Works Administrator to assist states, municipalities, and interstate agencies in constructing treatment plants to prevent discharges of inadequately treated sewage and other wastes into interstate waters or tributaries.

Since 1948, the original statute has been amended extensively either to authorize additional water quality programs, standards, and procedures to govern allowable discharges, funding for construction grants, or general program funding. Amendments in other years provided for continued authority to conduct program activities or administrative changes to related activities.

D. Clean Water Act (PL 95-217)

The CWA extensively amended the Federal Water Pollution Act. Of particular significance were the following provisions:

1. Development of a BMP Program as part of the state areawide planning program
2. Authority for the USACE to issue general permits on a state, regional, or national basis for any category of activities which are similar in nature will cause only minimal environmental effects when performed separately and will have only minimal cumulative adverse impact on the environment
3. Exemption of various activities from the dredge and fill prohibition including normal farming, silviculture, and ranching activities (33 U.S.C. 1344(f))
4. Procedures for state assumption of the regulatory program.

The CWA requires the EPA to establish water quality standards for specified contaminants in surface waters and forbids the discharge of pollutants from a point source into navigable waters without a National Pollutant Discharge Elimination System (NPDES) permit. NPDES permits are issued by EPA or the appropriate state, if it has assumed responsibility. Section 404 of the CWA establishes a federal program to regulate the discharge of dredged and fill material into waters of the United States. Section 404 permits are issued by the USACE.

E. Safe Drinking Water Act (42 U.S.C. §300h)

This act establishes a program to monitor and increase the safety of all commercially and publically supplied drinking water. Amended in 1986 to require the EPA to establish Maximum Contaminant Levels (MCLs), Maximum Contaminant Level Goals (MCLGs), and Best Available Control Technology (BACT) treatment techniques for organic, inorganic, radioactive, and microbial contaminants, and turbidity. Current federal MCLs, MCLGs, and BACTs in public drinking water supplies were set in 1996.

F. Water Quality Act (PL 100-4)

This act provided the most recent series of amendments to the Federal Water Pollution Act. Provisions included:

1. Requirement that states develop strategies for toxics cleanup in waters where the application of BACT discharge standards is not sufficient to meet state water quality standards and support public health;
2. Increase in the penalties for violations of Section 404 permits; and
3. Requirement that EPA study and monitor the water quality effects attributable to the impoundment of water by dams.

G. Flood Control Act (16 U.S.C. 460d and other)

This act, as amended and supplemented by other flood control acts and river and harbor acts, authorizes various USACE water development projects. This statute expressed congressional intent to limit the authorization and construction of navigation, flood control, and other water projects to those having significant benefits for navigation and which could be operated consistently with other river uses. The authority to construct, operate, and maintain public park and recreational facilities in reservoir areas was also provided.

H. Oil Pollution Act (33 U.S.C. 2701 et seq.)

This act established new requirements and extensively amended the Federal Water Pollution Control Act to provide enhanced capabilities for oil spill response and natural resource damage assessment

Among other provisions are that federal trustees shall assess natural resource damages for natural resources under their trusteeship. Federal trustees may, upon request from an Indian tribe or state, assess damages to natural resources for them as well. Trustees shall develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent of natural resources under their trusteeship.

I. Floodplain Management (EO 11988, May 24, 1977)

The purpose of this EO is to prevent agencies from contributing to the “adverse impacts associated with the occupancy and modification of floodplains” and the “direct or indirect support of floodplain development.”

In the course of fulfilling their respective authorities, agencies “shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains.”

Before proposing, conducting, supporting or allowing an action in a floodplain, each agency is to determine if planned activities will affect the floodplain and evaluate the potential effects of the intended actions on its functions. Agencies shall avoid siting development in a floodplain “to avoid adverse effects and incompatible development in the floodplains.”

J. Protection of Wetlands (EO 11990, May 24, 1977)

Similar to Floodplain Management, agencies are directed to consider alternatives to avoid adverse effects and incompatible developments in areas of wetlands. New construction is to be avoided if possible.

K. Colorado River Storage Project Act (43 U.S.C. 6200)

This act authorized the Secretary of the Interior to construct a variety of dams, power plants, reservoirs, and related works. The act also authorized and directed the Secretary of the Interior, in connection with the development of the Colorado River Storage Project and participating projects, to investigate, plan, construct, and operate facilities to mitigate losses of and improve conditions for fish and wildlife and public recreational facilities. The act provided authority to acquire lands and to lease or convey lands and facilities to state and other agencies.

L. Colorado River Basin Project Act (43 U.S.C. 1501-1556)

This act provided a program for the comprehensive development of the water resources of the Colorado River Basin, and directed the Secretary of the Interior to develop, after consultation with affected states and appropriate federal agencies, a regional water plan to serve as the framework under which projects in the Colorado River Basin may be coordinated and constructed.

M. Colorado River Floodway Protection Act (100 Stat. 1129)

This act established a Colorado River Floodway Area, within which are prohibited 1) all new federal funding or financial assistance for any purpose (except for listed exceptions), 2) federal flood insurance for new construction or substantial improvements begun six months after enactment on existing structures, and 3) the granting of new federal leases (unless the Secretary of the Interior determines that the purpose is consistent with the act).

N. Colorado River Basin Salinity Control Act (43 U.S.C. §§1571-1599)

This act authorized the construction of facilities necessary to meet the terms of the 1973 Salinity Agreement with Mexico.

O. The Supreme Court of the United States of America, Consolidated Decree, Arizona v. California 547 U.S. 150 (2006)

This decree consolidates historical rulings, clarifies water rights within the Colorado River Basin, and affirms laws enacted by Congress such as the Colorado River Compact, 1922 and the Boulder Canyon Project Act (1928).

B.16 Wilderness

A. Wilderness Act (16 U.S.C. 1131 et seq.)

This act established a National Wilderness System of areas to be designated by Congress. It directed the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 or more acres and every roadless island (regardless of size) within National Wildlife Refuge and National Park Systems and to recommend to the President the suitability of each such area or island for inclusion in the National Wilderness Preservation System, with final decisions made by Congress. The Secretary of Agriculture was directed to study and recommend suitable areas in the National Forest System.

The act provides criteria for determining suitability and establishes restrictions on activities that can be undertaken on a designated area. Criteria set by Congress within this act states that wilderness areas have the following characteristics: (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and confined types of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value. The Wilderness Act also set the accepted uses of designated WAs and what uses are prohibited. The act sets special provisions for an agency's continuing management of existing or grandfathered rights such as mining and grazing and other agency mission related activities.

B. The California Desert Protection Act (P.L. 103-433)

This act designated lands in the California Desert as wilderness, established Death Valley and Joshua Tree National Parks, and established the Mojave National Preserve. Each WA designated would be administered by BLM in accordance with the provisions of the Wilderness Act, except that any reference to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this title.

B.17 Other

A. Base Closure and Realignment Act (Title II of P.L. 100-526)

The act establishes a preference for the sale of land made surplus as a result of base closures or reductions, with the funds to be utilized for the costs of the closures, or for transfer of the land to a local redevelopment authority. It does not require such sales, however, nor does it repeal the provisions of law permitting the no- or reduced-cost transfer of such land to federal agencies or the states for conservation purposes.

B. Cave Resources Protection Act (16 U.S.C. 4301 et seq.)

This act established requirements for the management and protection of caves and their resources on federal lands, including allowing the land managing agencies to withhold the location of caves from the public and requiring permits for any removal or collecting activities in caves on federal lands.

C. Federal Power Act (16 U.S.C. §§791-828c)

Established what is now the Federal Energy Regulatory Commission (FERC) studies water-related power development possibilities. Licenses and oversees the development of water power project on federal and non-federal lands. On federal land coordinates with agencies and for some agencies they may dictate conditions to be included in licenses.

The FERC also regulates interstate electric transmission lines and interstate oil and gas pipelines, and issues 'certificates of public convenience' for these interstate facilities.

D. Land and Water Conservation Fund (16 U.S.C. 460l - 460l-11)

The fund is derived from various types of revenue (primarily Outer Continental Shelf oil monies) and appropriations from the fund may be used for 1) matching grants to states for outdoor recreation projects and 2) land acquisition for various federal agencies.

E. Federalism (EO 13132, August 4, 1999)

In formulating and implementing policies that have federalism implications, agencies shall be guided by the following principles:

1. Federalism is rooted in the belief that issues that are not national in scope or significance are most appropriately addressed by the level of government closest to the people.
2. The people of the states created the national government and delegated to it enumerated governmental powers. All other sovereign powers, save those expressly prohibited the states by the Constitution, are reserved to the states or to the people.
3. The framers of the Constitution recognized that the states possess unique authorities, qualities, and abilities to meet the needs of the people and should function as laboratories of democracy.
4. The nature of our constitutional system encourages a healthy diversity in the public policies adopted by the people of the several states according to their own conditions, needs, and desires. One-size-fits-all approaches to public policy problems can inhibit the creation of effective solutions to those problems.
5. Policies of the national government should recognize the responsibility of—and should encourage opportunities for—individuals, families, neighborhoods, local governments, and private associations to achieve their personal, social, and economic objectives through cooperative effort.
6. The national government should be deferential to the states when taking action that affects the policymaking discretion of the states and should act only with the greatest caution

where state or local governments have identified uncertainties regarding the constitutional or statutory authority of the national government.

F. Takings (EO 12630, March 15, 1988)

The Fifth Amendment of the United States Constitution provides that private property shall not be taken for public use without just compensation. Government historically has used the formal exercise of the power of eminent domain, which provides orderly processes for paying just compensation to acquire private property for public use. Recent Supreme Court decisions, however, in reaffirming the fundamental protection of private property rights provided by the Fifth Amendment and in assessing the nature of governmental actions that have an impact on constitutionally protected property rights, have also reaffirmed that governmental actions that do not formally invoke the condemnation power, including regulations, may result in a taking for which just compensation is required.

Agencies shall evaluate carefully the effect of their actions on constitutionally protected property rights to prevent unnecessary takings and should account in decision making for those takings that are necessitated by statutory mandate.

G. Regulatory Impact Analysis (EO 12866, September 30, 1993)

Requires agencies to analyze the economic impact of proposed rules.

H. Off-Road Vehicles EO 11644, February 8, 1972 (EO 11989, May 24, 1977)

These orders require public land managers "to establish policies and procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands."

APPENDIX C
Results of Scoping

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United States Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office

NextEra Ford Dry Lake Solar Power Plant

BLM Land Use Application
File # CACA-48880

SCOPING REPORT

RESULTS OF SCOPING

January 2010

Palm Springs-South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262

Approved by: _____ _____
John R. Kalish Date
Field Manager

NextEra Ford Dry Lake Solar Power Plant

I. Introduction

A. Brief Description of the Project

Genesis Solar, LLC, a Delaware limited liability company and wholly owned subsidiary of NextEra Energy Resources, LLC (Applicants), proposes to construct, own, and operate the NextEra Ford Dry Lake Solar Power Plant (Project). The Project would be located approximately 25 miles west of the City of Blythe and 27 miles east of the unincorporated community of Desert Center in Riverside County, California, on lands administered by the Bureau of Land Management (BLM). Surrounding features include the McCoy Mountains to the east, the Palen Mountains (including the Palen/McCoy Wilderness Area) to the north, and Ford Dry Lake, a dry lakebed, to the south (see Figure 1 below). The Applicants have filed with BLM for a right-of-way (ROW) grant to construct, own and operate the Project.

The Project consists of two independent solar electric generating facilities with a net electrical output of 125 megawatts (MW) each, for a total net electrical output of 250 MW using parabolic trough technology similar to existing solar facilities in the Kramer Junction and Harper Lake areas that have been operating for more than 20 years. If approved, the Project would occupy, until decommissioning, approximately 1,800 acres, plus approximately 90 acres of linear facilities. [Note: “Linear Facilities” consist of access roads, gas pipeline, transmission line, etc.]

Parabolic trough solar thermal technology is widely considered a cost-effective and commercially proven technology for utility-scale solar electric power generating facilities. With this technology, arrays of parabolic mirrors collect radiant energy from the sun and refocus the energy on a receiver tube located at the focal point of the parabola. Through this process, a heat transfer fluid (HTF) is heated to high temperature (approx. 750°F) and piped through heat exchangers where it is used to generate high-pressure steam. The steam is then fed to a traditional steam turbine generator to generate electricity.

The Project proposes to use a wet cooling tower for power plant cooling. Water for the cooling tower makeup, process water makeup, and other industrial uses such as mirror washing would be supplied from onsite groundwater wells. Project cooling water blowdown would be piped to lined, onsite evaporation ponds. A generation-tie transmission line, access road, and natural gas pipeline would be co-located in one linear corridor to serve the main Project facility. This corridor would exit the facility to the south and would be approximately 6.5 miles long. The generation tie-line would cross Interstate 10 (I-10), and tie into the Blythe Energy Project Transmission Line. The generation tie-line would use the existing pole structures of the Blythe Energy Transmission Line to interconnect with the proposed Colorado River Substation to the east.

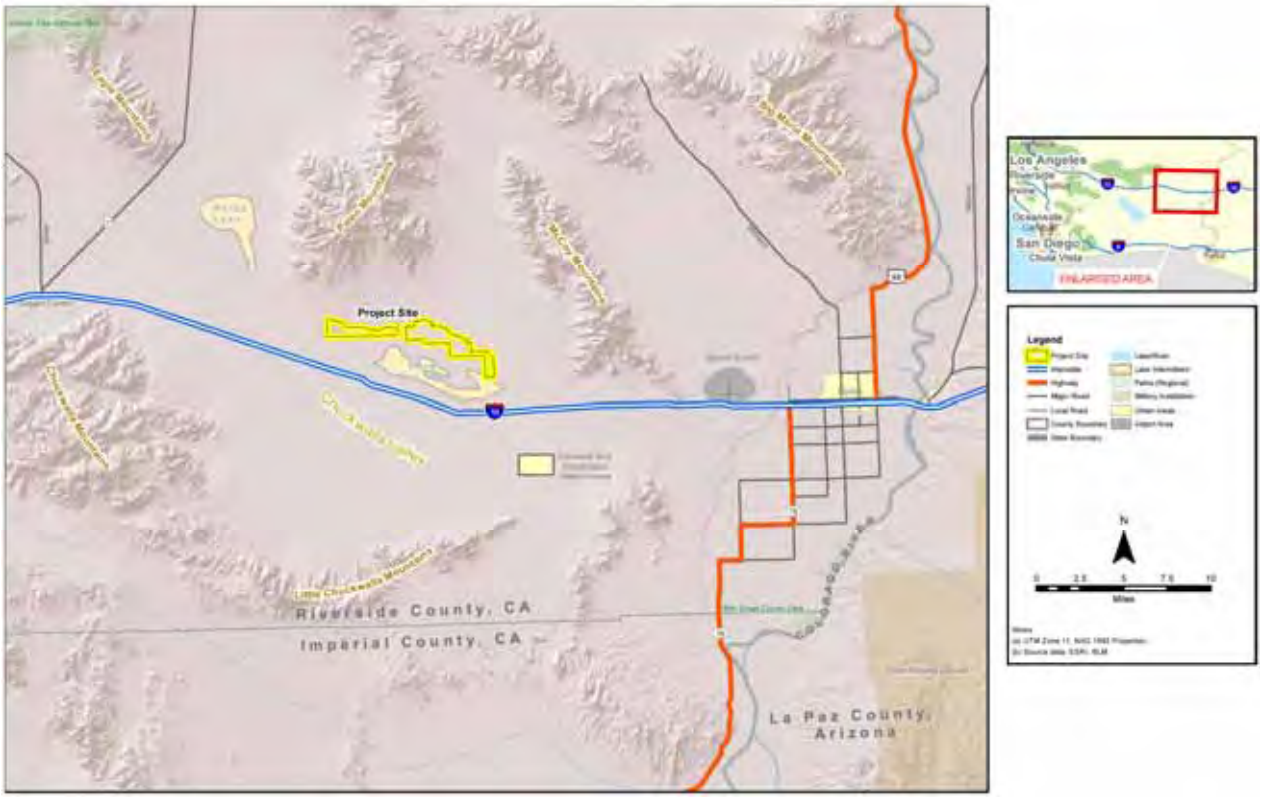

Figure 1: Project Location

B. Potential Land Use Plan Amendment to the California Desert Conservation Area Plan

The Project would be located on land that is subject to the BLM's California Desert Conservation Area (CDCA) Plan, and the Northern and Eastern Colorado Desert (NECO) plan. All of the public lands in the CDCA administered by BLM, except for a few small and scattered parcels, have been designated geographically as a Multiple Use Class (MUC) as follows: Controlled Use (C), Limited Use (L), Moderate Use (M), and Intensive Use (I). The Project would be located in MUC designated M lands. For M lands, wind and solar electric generation facilities may be allowed after National Environmental Policy Act (NEPA) requirements are met. The CDCA also states that sites associated with power generation or transmission not identified in the CDCA will be considered through the Plan Amendment process. The Project site is currently not identified as such in the CDCA. Therefore prior to ROW grant issuance, the Project would require a Land Use Plan Amendment (PA) to the CDCA.

C. Purpose and Need for the Project

The Proponent proposes to assist the State of California in meeting the State of California Renewable Portfolio Standard Program goals and reduce greenhouse gases

by developing a 250 MW solar thermal energy production plant and related facilities in Riverside County, California on BLM administered lands.

BLM's purpose and need for the Solar project is to respond to the Proponent's application under Title V of the Federal Land Policy and Management Act of 1976 (43 USC 1761) for a right-of-way grant to construct, operate and decommission a solar thermal facility on BLM-administered lands. BLM will consider alternatives to the Applicants' proposed action and will include terms and conditions. If BLM decides to approve issuance of a right of way grant to the Applicant, BLM's actions would include amending the California Desert Conservation Area Plan concurrently. BLM will take into consideration the provisions of the Energy Policy Act of 2005 in responding to the Applicants' application.

D. Agency Coordination

D.1 Lead Agency

Under current State Regulation, The California Energy Commission (CEC) is responsible for licensing solar thermal projects that are 50 MW and larger. Therefore, the Project is also under the jurisdiction of the CEC. The Applicants submitted an Application for Certification (AFC) for the Project to the CEC on August 24, 2009. The CEC and the BLM entered into a MOU on August 8, 2007 and as co-lead agencies under CEQA and NEPA agreed that a single environmental document can meet both agencies environmental requirements. It is assumed that any future EIS data and analysis will be incorporated into the CEC's AFC documentation and processes.

D.2 Cooperating Agency

The cooperating agency (CA) role derives from the National Environmental Policy Act (NEPA) of 1969, which calls on federal, state, and local governments to cooperate with the goal of achieving "productive harmony" between humans and their environment. The Council on Environmental Quality's (CEQ) regulations implementing the procedural provisions of the NEPA allow lead federal agencies to invite tribal, state, and local governments, as well as other federal agencies, to serve as CAs in the preparation of environmental impact statements. In 2005, the BLM amended its Land Use Planning Handbook (H-1601-1) to ensure that it engages its governmental partners consistently and effectively through the CA relationship whenever land use plans are prepared or revised.

State agencies, local governments, tribal governments, and other federal agencies may serve as CAs. CEQ regulations recognize two criteria for CA status: jurisdiction by law and special expertise.

40 CFR 1508.5 (CEQ) Defining eligibility. "Cooperating agency" means any Federal agency other than a lead agency which has "jurisdiction by law" or "special expertise" with respect to any environmental impact….A State or local agency of similar qualifications or, when the effects are on a reservation, an Indian Tribe, may by agreement with the lead agency become a cooperating agency.

The BLM has invited approximately 29 tribes and multiple state and local agencies to participate in the planning process as Cooperating Agencies. To date, no agencies have agreed to be Cooperating Agencies.

II. Scoping Process Summary

A. Notice of Intent

The BLM published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) level Land Use Plan Amendment on November 23, 2009 in the Federal Register. Publication of the NOI began a 30-day formal scoping comment period which ended on December 23, 2009. BLM provided a website with Project information that also described the various methods of providing public comment on the Project including an e-mail address where comments could be sent electronically.

B. Public Notification

Notification for a public Scoping Meeting held on December 11, 2009 appeared in the Desert Sun local newspaper on November 24, 2009. Notification was also published on the BLM website on November 23, 2009.

C. Public Scoping Meeting

A public Scoping Meeting was held on December 11, 2009 at the University of Riverside Palm Desert Graduate Center located at 75-080 Frank Sinatra Drive in Palm Desert, California. A presentation describing the Project was made by NextEra, LLC with presentations describing the environmental review process presented by members of the BLM and CEC. Eighty-four attendees were documented by signing in on a voluntary sign-in sheet.

D. Written Comments

Twenty-four comment letters were received within the comment period ending on December 23, 2009.

III. Comment Summary and Analysis

Issues were identified by reviewing the comment documents received. Many of the comments identified similar issues; all of the public comment documents were reviewed and the following section provides a summary of the issues, concerns, and/or questions raised. For this report, the issues have been grouped into one of the three following categories:

1. Issues or concerns that could be addressed by effects analysis;

2. Issues or concerns that could develop an alternative and/or a better description or qualification of the alternatives;
3. Issues or concerns outside the scope of the EIS.

The comments discussed below are paraphrased from the original comment letters. To a minor degree, some level of interpretation was needed to identify the specific concern to be addressed. Many of the comments identified similar issues; to avoid duplication and redundancy similar comments were grouped together and then summarized. Original comment letters may be reviewed up on request at the BLM Palm Springs-South Coast Field Office at 1201 Bird Center Drive, Palm Springs, California, 92262, during normal business hours, from 8:00 am to 4:30 pm.

A. Effects Analysis

Comments in this category will be addressed in detail in the affected environment section of the EIS and/or in the impact analysis section for each alternative.

Purpose and Need

1. The purpose and need statements should not be narrowly defined to rule out feasible alternatives
2. The project should be discussed in the context of the larger energy market; identify potential purchasers of the power produced; discuss how the Project will assist in meeting its renewable energy portfolio standards and goals
3. The purpose and need statements must address the true nature of the Project without simply adopting the applicant's purpose

Project Description

1. What utility company is partnering with this project?
2. What will the natural gas line be used for?

Air Resources (Air sheds)

1. Greenhouse gas emissions/climate change impacts on plants, wildlife, and habitat
2. Planning for species adaptation due to climate change
3. Discussion of how projected impacts could be exacerbated by climate change
4. Quantify and disclose anticipated climate change benefits of solar energy
5. Discussion of trenching/grading/filling and effects on carbon sequestration of the natural desert
6. Discussion of ambient air conditions, NAAQS, and criteria pollutant nonattaimnent areas in all areas considered for solar development
7. Estimation of emissions of criteria pollutants
8. Description and estimation of emissions from potential construction activities

9. Specify the emission sources by pollutant from mobile sources, stationary sources, and ground disturbance
10. Discuss the need for an Equipment Emissions Mitigation Plan
11. Discuss the need for Fugitive Dust Control Plan

Soils Resources

1. Impacts to desert soils
2. Increased siltation during flooding and dust
3. Impacts to crypto-biotic crust
4. Preparation of a drainage, erosion, and sediment control plan

Water Resources (Surface and Ground water)

1. Discuss the amount of water needed for the proposed Project, where this water will be obtained, and the mount and source of power that would be needed to move the water to the facility
2. Identify impacts to jurisdictional waters of the US and California
3. Effects of additional groundwater pumping in conjunction with other groundwater issues
4. Impacts to groundwater, surface water, and wetlands
5. Effects of diversion of water from ephemeral streams
6. Water supply impacts related to dust control, fire prevention and containment, vegetation management, sanitation, equipment maintenance, construction, and human consumption
7. Description of water conservation measures to reduce water demands
8. Effects of climate change on water supply
9. Discussion of potential effects of Project discharges on surface and groundwater quality
10. Disposal of wastewater or other fluids
11. Determination if Project requires a Section 404 permit under the Clean Water Act (CWA)
12. Description of natural drainage patterns, Project operations, identify whether any component of Project is within 50 or 100-year floodplain
13. Provide information on CWA Section 303(d) impaired waters, if any, and efforts to develop and revise total maximum daily loads
14. Describe of the water right permitting process and the status of water rights within the basin, including an analysis of whether water rights have been over-allocated
15. Describe any water right permits that contain special conditions; measures to mitigate direct, indirect, and cumulative impacts; and provisions for monitoring and adaptive management.
16. Discuss whether it would be feasible to use other sources of water
17. Discuss whether it is possible to recycle the water that would be sent to the evaporation ponds

18. Identify the storm design containment capacity of the evaporation ponds, explain how overflow in larger storm events will be managed, and discuss potential environmental impacts (drainage channels affected, water quality, biological resources) in the event of overflow
19. Discuss whether the evaporation pond lining will adequately prevent leakage into the ground water
20. Discuss how water will be purified on-site
21. Discuss how dissolved solids will be handled
22. Discuss how the Project will recharge ground water
23. Discuss lack of rainfall in the Project area
24. Discuss how soil erosion on low fill slopes and steeply graded areas could result in sedimentation of water bodies
25. Discuss impacts affecting surface springs
26. Analyze potential connectivity between deep, medium and shallow groundwater aquifers
27. Discuss potential adverse affects on residential wells
28. Analyze potential adverse impacts affecting the watershed of the Palen and McCoy Mountains

Biological Resources

1. If there are threatened or endangered species present, recommend BLM consult with USFWS and prepare a Biological Opinion under Section 7 of the ESA
2. Consider adopting a formal adaptive management plan
3. Impacts to all known species, not just special status, should be analyzed to assure ecosystem level protection
4. Maximize options to protect habitat and minimize habitat loss and fragmentation
5. Impacts due to increased shade in the desert environment
6. Seasonal surveys should be performed for sensitive plant and animal species
7. Analyze the effects of ponded water or bioremediation areas on wildlife, particularly migratory waterfowl
8. Acquisition of lands for conservation should be part of mitigation strategy
9. Impacts regarding habitat fragmentation and loss of connectivity
10. Discuss the biological value of brackish groundwater and the Project's associated impacts
11. Analyze potential harm to the Ford Dry Lake ecosystem (vernal pools that provide rare and endemic plants and fairy shrimp populations)
12. Include surveys to account for unidentified plant species that have not yet been discovered
13. Analyze impacts affecting the Palen-McCoy wilderness area and the Multiple Species Wildlife Habitat Management Plan
14. Consider that the linear footprint of the Project poses a greater threat to wildlife movement (wildlife corridors) than would a more compact polygon
15. Consider scientific studies pertaining to wildlife corridors and habitat linkages in the California deserts

16. Identify and quantify critical habitat that might be directly, indirectly, or cumulatively affected by each alternative
17. Analysis of impact and mitigation on covered species should include:
    a. Baseline conditions of habitats and populations of the coved species
    b. A clear description of how avoidance, ,mitigation and conservation measures will protect and encourage the recovery of the cove species and their habitats in the Project area
    c. Monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness
18. Identify potential impacts of construction, installation, operation, and maintenance activities on habitat and threatened and endangered species
19. Describe the condition of the land selected for the proposed Project and disclose whether the land is classified as disturbed or impaired
20. Discuss the impact associated with construction fences around the Project site, and consider whether there are options that could facilitate better protection of covered species
21. Discuss the effects the evaporation ponds will have on birds and wildlife
22. Consider conducting biological surveys for wet years
23. Discuss impacts affecting wilderness areas
24. Provide detailed vegetation and wildlife maps to facilitate public input
25. Discuss impacts affecting the Eastern Colorado and Northern Colorado Recovery Units
26. Analyze the Project's potential to foreclose future conservation options
27. Address impacts to all known species in the Desert Renewable Conservation Plan, so as to assure ecosystem level protection
28. Confidentiality agreements should not be allowed for the surveys in support of the proposed Project
29. Discuss effects of erosion on dune habitats

Vegetation Resources (Vegetative communities, priority and special status species)

1. Identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the Project area
2. Include a full floral inventory of all species encountered on-site
3. Seasonal surveys should be performed for sensitive plant species—lack of fall surveys may under represent onsite plants
4. If transplantation is to be a part of the mitigation strategy, a detailed plan must be included as part of the EIS/SA
5. Discuss impacts affecting Unusual Plant Assemblages (UPA)
6. Vegetation maps should be at scale that is useful for evaluating impacts
7. Impacts due to non-native invasive species
8. Inclusion of an invasive plant management plan
9. Assess Project impacts affecting plant taxa occurring within the Project area that are considered rare within California but more common elsewhere

10. Impacts to existing plant communities

Wildlife Resources (Priority species, special status species)

1. Address impacts to both individual and intergeneration movement
2. Impacts to the following species:
    a. Desert Tortoise
    b. Burrowing owl
    c. Desert bighorn sheep
    d. Mojave fringe-toed lizard
    e. Mule deer
    f. American badger
    g. Northern harrier
    h. Swainson's hawk
    i. Loggerhead shrike
    j. Purple martin
    k. Migratory birds
    l. Golden eagles
    m. Kit Fox
3. Impacts to wildlife movement corridors
4. Preserve large landscape-level migration areas
5. Before passive relocation of burrowing owl is enacted, consider the location of the substitute burrows. If burrows are on site, the owls will move there and will have to be removed again

Cultural Resources

1. Has a 100 percent archaeological inventory been conducted pursuant to Section 106 of the National Historic Preservation Act and BLM Manual 8100?
2. Have archaeological sites been evaluated pursuant to the National Register of Historic Places criteria?
3. Has consultation with Native Americans take place?
4. Evaluate impacts affecting Sacred Sites
5. Describe the process and outcome of government-to-government consultation between BLM and each of the tribal governments within the Project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative
6. Evaluate potential impacts on archeological, cultural, and historical resources in the vicinity of the Project, including, but not limited to: (1) Native American resources, burial sites, and artifacts; and (2) historical mining operations and related artifacts.
7. Assuming the Project site has cultural resources, it is critical to have a "Treatment Plan" or an Historic Preservation plan
8. Analyze impacts affecting the Palen Mountains, which are very sacred to the Uto-Aztecan
9. Evaluate the sacredness and lack of water

Visual Resources

1. Baseline for visual resources has not been categorized
2. Visual impacts to wilderness areas
3. Avoid impacts affecting visually sensitive areas
4. Analyze the Project's aesthetic and visual impacts that could affect tourism in the area
5. The benefits which the Project will provide may well outweigh the costs of visual impacts

Land Use/Special Designations (ACECs, WAs, WSAs, etc.)

1. Discuss impacts affecting Multi-Species Wildlife Habitat Management Area (WHMA)
2. Evaluation of consistency with land use and regulatory plans, including Executive Order 11644, which allows for use of off-road vehicles on public lands
3. Describe reasonably foreseeable future land uses and associated impacts resulting from additional power supply
4. Consider direct and indirect effects of the inter-connecting transmission line
5. Discuss how the Project would support or conflict with existing land use plans

Public Health and Safety

1. Disclose any potentially toxic or hazardous wastes that may be associated with Project construction, operation, and maintenance including pesticides and herbicides
2. Discuss how toxic wastes will be disposed
3. Identify fire prevention BMPs due to use of high temperature liquids
4. Discuss if bioremediation areas are to be used for soil contaminated by heat transfer fluid
5. Discuss the generation of concentrated, dewatered solid waste associated with evaporation ponds and describe whether this waste product will be transported off site for disposal
6. Discuss the effect the evaporation ponds will have on human safety
7. Address potential direct, indirect and cumulative impacts of hazardous waste from construction and operation of the proposed Project
8. Discuss hazards that could occur in the event of an earthquake or explosion
9. Address the effects that each alternative may have on wildfire risks

Noise/Vibration

1. Consider wildlife as sensitive receptors

Recreation (RMAs, facilities, LTVAs, dispersed recreation opportunities, etc.)

1. Evaluation should include impacts regarding off-highway vehicle use (OHV), camping, photography, hiking, wildlife viewing, and rockhounding
2. Evaluation should include number of users, value of affected land for recreational purposes, and need to locate and acquire replacement venues for lands lost
3. Evaluate indirect impacts caused by displacing recreational users

Social and Economic Setting

1. Evaluation of economic impacts due to construction, implementation, and operation
2. Economic impacts regarding loss of commerce due to recreational use losses

Environmental Justice (minority and low-income communities)

1. Evaluate whether diminished recreational access would be placed disproportionately on minorities and low-income communities
2. Include an evaluation of environmental justice populations within the geographic scope of the Project

Cumulative Impacts

1. Identify impacts from other projects occurring in the vicinity, including solar, wind, geothermal, roads, transit, housing, ORV use, military maneuvers, and other development
2. The cumulative analysis area should encompass the Sonoran/transition desert areas of the California desert at a minimum
3. Some reasonably foreseeable Projects in the vicinity include all the solar and wind applications along I-10
4. Identify cumulative impacts affecting wildlife and vegetation
5. Include discussion of cumulative impacts to ground water supply
6. In the introduction to the Cumulative Impacts Section, identify which resources are analyzed, which ones are not, and why
7. Analyze the potential for development and population growth to occur in those areas that receive the generated electricity
8. describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply
9. Examine the potential for ecosystem fragmentation associated with the cumulative effects of large-scale industrial development occurring in the California Desert areas
10. Analyze the Project's cumulative impacts affecting biological resources
11. The cumulative impacts analysis should address species migration needs and other ecological processes that maybe caused by global climate change

B. Alternative Development and/or Alternative Design Criteria

Comments in this category will be considered in the development of alternatives or can be addressed through design criteria in the alternative descriptions.

1. Project description should not be narrowly defined to rule out feasible alternatives
2. Describe how each alternative was developed, how it addresses each Project objective, and how it would be implemented
3. The preferred alternative should consider conjunctive use of disturbed private land in combination with adjacent lower value federal land
4. Consider reduced Project size
5. Alternatives should include: sites not under BLM jurisdiction; Project extent and electrical power generation that differ from proposal; use of different technology; benefits associated with the proposed technology
6. Alternatives should describe rationale used to determine whether impacts of an alternative are significant or not
7. Consider reconfiguration alternatives proposed by CEC in their Dec. 7, 2009 data request—to minimize impacts to wildlife movement and sensitive biological resources
8. Discuss feasibility of using residential and wholesale distributed generation, in conjunction with increased energy efficiency, as an alternative
9. Consider cost of energy for different technologies
10. Consider large-scale rooftop photovoltaic
11. Established power purchase agreements should not affect decisions made on alternatives
12. Consider alternative technologies that require significantly less water
13. Consider the no-action alternative
14. Consider Dry Cooling as an alternative
15. Consider moving the project off of all sand areas

C. Issues or Concerns Outside the Scope of the EIS

Comments in this category are outside the scope of analysis and will not be addressed in the EIS. Rationale for considering these comments out-of-scope is included.

1. Agencies must require adequate end of project life planning, including reuse of abandoned sites for future renewable energy projects in lieu of allowing development on other undisturbed lands; and/or returning to public use in original condition
2. What mix of distributed PV, wind energy, and transmission dependent “Big Solar” best fits with forecast demand in 2020
3. Consider development wherein solar and wind is focused first on lands which have lower resource value due to fragmentation, type conversion, edge effects, and other factors

4. Include independent analysis of resource values of various renewable energy zones under consideration
5. Consider abandoning the “fast track” approach because it does not allow enough time for an adequate analysis of impacts affecting natural, historical and cultural resource on and around the Project site
6. It is essential that the Department of Conservation immediately update its maps of farmland in desert areas to reflect current conditions and inform this alternative
7. Consider the cost of lawsuits against the Project

APPENDIX D
Cultural Resources

TABLE D-1
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS IN THE RECORDS SEARCH AREA

IC Report Number	Author	Date	Report Title	Survey Type, Acreage	Distance From APE
RI-00002	M.J. Rogers	1953	Miscellaneous Field Notes, Riverside County, California. Series of handwritten archaeological field notes of various areas within Riverside County.	Several areas in region.	Within region
RI-00010	D.F. McCarthy	1986	A Cultural Resources Assessment of a Proposed Prison Site Near Blythe in Riverside County, California	960 acres	Adjacent
RI-00011	P.J. Wilke	1986	Letter Report: Addendum to "A Cultural Resources Assessment of a Proposed Prison Site Near Blythe in Riverside County, California"	15.15 acres	0.1
RI-00092	T.F. King; G.T. Jefferson; M. Gardner	1973	Archaeological and Paleontological Impact Evaluation: American Telephone and Telegraph Company's Oklahoma City/Los Angeles "A" Cable Route, Between the Colorado River and Corona, California	N/A	0.05
RI-0160	R. Greenwood	1977	Archaeological Resource Survey-West Coast-Mid-Continent Pipeline Project, Long Beach to the Colorado River, Addendum.	11 miles linear survey, 30-meter survey corridor.	Within 2.5 miles
RI-0161	R. Greenwood	1975	Paleontological, Archaeological, Historical, and Cultural Resources-West Coast-Midwest Pipeline Project, Long Beach to the Colorado River.	No survey. Literature review for 235 linear miles, 5-mile-wide corridor.	Within 3 miles
RI-0190	S.R. Haymond	1981	Archaeological Survey Report for the Proposed Safety Project on Interstate Route 10 Between Chiriaco Summit and Wiley's Well Overcrossing, Riverside County, CA.	Intensive Pedestrian Survey, linear survey of over 56 kilometers	Within 1 mile
RI-0220	R. Cowan & K. Wallof	1977	Interim Report—Fieldwork and Data Analysis: Cultural Resource Survey of the Proposed SCE Palo Verde-Devers 500kV Power Transmission Line.	Intensive linear pedestrian survey, 322 kilometers, 123-meter corridor	Within 1 mile
RI-00221	Westec Services, Inc.	1982	Cultural Resource Inventory and National Register Assessment of the Southern California Edison Palo Verde to Devers Transmission Line Corridor (California Portion)	6120 acres	Adjacent and Intersects
RI-00222	K. Wallof; R.A. Cowan	1977	Final Report: Cultural Resource Survey of the Proposed Southern California Edison Palo Verde-Devers 500kv Power Transmission Line	N/A	Adjacent and Intersects
RI-0982	H.L. Crew, J.E. Fitting	1980	An Archaeological Survey of Geothermal Drilling Sites in Riverside County. Science Applications, La Jolla, California.	101 well sites, 30-meter-diameter around each site, intensive pedestrian survey	Within 1 mile

TABLE D-1 (Continued)
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS IN THE RECORDS SEARCH AREA

IC Report Number	Author	Date	Report Title	Survey Type, Acreage	Distance From APE
RI-1211	R.H. Crabtree et al.	1980	A Cultural Resources Overview of the Colorado Desert Planning Units	N/A	Regional overview
RI-1249	Various BLM Staff	1978	California Desert Program: Archaeological Sample Unit Records for the Big Maria Planning Unit, BLM. No report, series of BLM California Desert Program Archaeological Sample Unit Record field forms.	Pedestrian intensive survey, sample survey units, sample units 1.6 kilometers linear.	Portions within APE
RI-1279	J.R. Cook and D.S. Cardenas (Principal Investigators)	1981	A Cultural Resource Inventory of the Ford Dry Lake Known Geothermal Resource Area. American Pacific Environmental Consultants, Inc.	Pedestrian sample survey, ~1,600 acres.	Portions within APE
RI-1280	P. Elliott	1981	Draft: Ford Dry Lake Known Geothermal Resource Area Environmental Assessment. BLM.	No survey. Literature review.	Portions within APE
RI-1341	E.W. Ritter	1981	Archaeological Appraisal of the Palen Dry Lake, Area of Critical Concern Environmental Concern, Riverside County, California.	Pedestrian and vehicle survey.	Regional overview, northwest of project area
RI-01664	Westec Services, Inc.	1982	Cultural Resource Inventory of Seisdata Services Chuckwalla Geophysical Test Corridor, Riverside County, California	85.3	Intersects
RI-1973	J.M. Mack	1985	Archaeological Assessment of Six Parcels (Northern, Rocky, Metro, Palen, Ironwood, and Cockrell) Near Palen Dry Lake, Desert Center, California.	Pedestrian survey of approximately 5 square miles.	Within 12 miles
RI-02210	J. Underwood; J. Cleland; C.M. Wood; R. Apple	1986	Preliminary Cultural Resources Survey Report for the US Telecom Fiber Optic Cable Project, From San Timoteo Canyon to Socorro, Texas: The California Segment		Intersects
RI-02897	M. Mitchell	1990	Cultural Resource Assessment of 219 Acres of Public Lands Proposed for Exchange to Newport Harbor Development Corp. Letter Report	219	Partial overlap
RI-3029	J. Rosenthal, R. Conard et al.	1990	Cultural Resources Assessment Southern California Gas Company Proposed Line 5000, Riverside County, California. LSA Associates, Inc.	Linear pedestrian survey, 54 kilometers, 90-meter corridor.	Within 2 miles
RI-03227	C.R. Demcak	1991	An Archaeological Assessment of Tracts 19734 and 19735, Lot #8 in the La Sierra Area of the City of Riverside, California	42	Intersects
RI-3674	D. F. McCarthy	1993	Prehistoric Land Use at McCoy Spring: An Arid-Land Oasis in Eastern Riverside County, California. Thesis paper.	Systematic and intuitive intensive pedestrian survey, approximately 300 acres	Within 9 miles

TABLE D-1 (Continued)
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS IN THE RECORDS SEARCH AREA

IC Report Number	Author	Date	Report Title	Survey Type, Acreage	Distance From APE
RI-04082	B.F. Mooney	1990	Wiley Well Road Land Exchange, Cultural Resource Survey	470	0.35
RI-04347	J.A. Keller	1999	A Phase I Cultural Resources Assessment of General Plan Amendment 500, Change of Zone 6468, +/- 50.0 Acres of Land Near Blythe, Riverside County, California	50	Partial overlap
RI-5245	J. Schmidt	2005	Southern California Edison Company Blythe-Eagle Mountain 161 kV Deteriorated Pole Replacement Project, BLM State Permit CA#-04-23 Field Authorization #CA-690-05-FA04.	Pedestrian survey, 40-meter radius around each pole location.	Within 2 miles
RI-5828	W. Raschkow	2001	Project Review and Statistical Summary: Primitive Skills Team-Rehab of Wilderness Area Intrusions, BLM, Palm Springs South Coast Field Office. No report, summary.	Intensive Class III pedestrian survey, 7 acres	Within 2 miles
RI-07192	C. Duke	2002	Cultural Resource Assessment: AT&T Wireless Services, Facility No.06003, Riverside County, California	~0.25	Intersects
RI-07315	W. Bonnery; M. Aislin-Kay	2006	Cultural Resource Records Search and Site Visit Results for T-Mobile Telecommunications Facility Candidate IE24133A (ATC Colo at Wiley Well Rd.) Wiley Well Road and Interstate 10, Desert Center, Riverside County, California	0.25	0.03
N/A	Mooney, Jones & Stokes	2006	Cultural Resource Inventory of the Proposed Blythe Energy Transmission Line Project.	4,072 acres	0.1 to 5+ miles south and east
N/A	Farmer et al. 2009	2009	Class II and Class III Cultural Resources Inventories for the Proposed Genesis Solar Energy Project, Riverside County, California, Final Draft	Class II & III pedestrian survey, 4597.5 acres, 520 in APE	Overlaps with APE

TABLE D-2
SUMMARY OF PREVIOUSLY KNOWN CULTURAL RESOURCES IDENTIFIED IN GSEP VICINITY

	Pre-historic Sites	Historic Sites	Multi-Component Sites	Unknown Sites	Built Environ-ment	Pre-historic Isolates	Historic Isolates	Total
McCarthy 1990s Survey	224	0	0	0	0	0	0	224
Previously Known Tetra Tech	22	9	1	2	0	35	1	70
Tetra Tech Class II	46	5	3	0	0	34	9	97
Total	292	14	4	2	0	69	10	391

TABLE D-3
DATES OF INQUIRIES MADE TO NATIVE AMERICAN GROUPS AND THEIR REPLIES

Native American Group	Contact Person	Dates of Contact with BLM
Agua Caliente Band of Cahuilla Indians	Richard Milanovitch, Chairman Richard Begay and Patty Tuck, Tribal Historic Preservation Officers	11/26/07 NAHC letter from BLM 01/29/08 Reply from Ms. Tuck 05/20/09 Meeting with BLM 06/05/09 Meeting with BLM 11/23/09 NOI letter from BLM
Ak-Chin Indian Community	Terry Enos, Chairman	11/23/09 Copy of NOI letter
Anza Cahuilla	Contact person unknown	05/20/09 Meeting with BLM 11/05/09 Meeting with BLM
Augustine Band of Cahuilla Mission Indians	Mary Ann Green, Chairperson	11/26/07 NAHC letter from BLM 11/23/09 Copy of NOI letter
Cabazon Band of Mission Indians	John A. James, Chairperson Judy Sapp, Cultural Resources Coordinator	11/26/07 NAHC letter from BLM 12/21/07 Reply from Ms. Sapp 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Cahuilla Band of Indians	Anthony Madrigal, Jr., Chairperson	11/26/07 NAHC letter from BLM 11/23/09 Copy of NOI letter
Chemehuevi Reservation	Charles Wood, Chairperson	11/26/07 NAHC letter from BLM 11/23/09 Copy of NOI letter 12/09/09 Reply
Cocopah Tribal Council	Sherry Cordova, Chairwoman	11/23/09 Copy of NOI letter
Colorado River Indian Reservation	Daniel Eddy, Jr., Chairman Michael Tsosie, Cultural Contact	11/26/07 NAHC letter from BLM 11/23/09 Copy of NOI letter
Fort McDowell Yavapai Nation	Raphael Bear, President	11/23/09 Copy of NOI letter
Fort Mojave Indian Tribe	Timothy Williams, Chairperson Linda Otero, Director, AhaMakav Cultural Soc.	11/23/09 Copy of NOI letter
Gila River Indian Community Council	Richard Narcia, Governor	11/23/09 Copy of NOI letter
Havasupai Tribe	Rex Tilousi, Chairman	11/23/09 Copy of NOI letter
Hualapai Indian Tribe	Charles Vaughn, Chairman	11/23/09 Copy of NOI letter
Kaibab-Paiute Tribe	Carmen Bradley, Chairwoman	11/23/09 Copy of NOI letter
Los Coyotes Band of Indians	Katherine Staubel, Spokesperson	11/23/09 Copy of NOI letter
Morongo Band of Mission Indians	Richard Martin, Chairperson Brit W. Wilson, Cultural Resources	11/26/07 NAHC letter from BLM 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Pechanga Band of Luiseno Indians	Contact person unknown	05/20/09 Meeting with BLM 11/05/09 Meeting with BLM
Quechan Indian Tribe	Michael Jackson, Sr. President Bridget Nash, Cultural Resources	12/18/07 Contact from Ms. Nash 06/23/08 Contact from Ms. Nash 04/29/09 Contact from Ms. Nash 05/21/09 Reports from BLM 05/29/09 Reports from BLM 06/09/09 Contact from Ms. Nash 09/03/09 Letter from Mr. Jackson 11/23/09 Copy of NOI letter 02/16/10 Letter from Mr. Jackson

TABLE D-3 (Continued)
DATES OF INQUIRIES MADE TO NATIVE AMERICAN GROUPS AND THEIR REPLIES

Native American Group	Contact Person	Dates of Contact with BLM
Ramona Band of Mission Indians	Manuel Hamilton, Chairperson Joseph Hamilton, Vice Chairperson John Gomez, Environmental Coordinator	11/26/07 NAHC letter from BLM 05/21/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Salt River Pima-Maricopa Indian Community Council	Joni Ramos, President	11/23/09 Copy of NOI letter
San Manuel Band of Mission Indians	Ann Brierty, Environmental Department	11/26/07 NAHC letter from BLM 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Santa Rosa Band of Mission Indians	John Marcus, Chairman Terry Hughes, Tribal Administrator	11/23/09 Copy of NOI letter
Soboba Band of Mission Indians	Robert Salgado, Chairperson Bennae Calac, Cultural Resources Coordinator	11/23/09 Copy of NOI letter
The Hopi Tribe	Wayne Taylor Jr., Chairman	11/23/09 Copy of NOI letter
Tohono O'oodham Nation	Vivian Saunders, Chairwoman	11/23/09 Copy of NOI letter
Torres-Martinez Desert Cahuilla Indians	Raymond Torres, Tribal Administrator William J. Contreras, Cultural Resources Coordinator	11/26/07 NAHC letter from BLM 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Twenty-nine Palms Band of Mission Indians	Mike Darrell, Chairperson	11/26/07 NAHC letter from BLM 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Yavapai-Apache Nation	Jamie Fuller, Chairman	11/23/09 Copy of NOI letter
Yavapai-Prescott Indian Tribe	Ernie Jones, Sr., President	11/23/09 Copy of NOI letter

TABLE D-4
DETAILS OF COMMUNICATION BETWEEN BLM AND NATIVE AMERICAN GROUPS

Date	Group	Communication Details
12/18/07	Quechan Tribe	Bridget Nash replied: Expressed concerns for the potential impacts affiliated with the Tribe. Requests a copy of the cultural report once it is completed.
12/21/07	Cabazon Band of Mission Indians	Judy Sapp replied: If there are substantial impacts, the Tribe will request an in-person meeting with Morongo Tribal Historian and BLM staff. She requested additional cultural resource information and for the BLM to provide a report when it becomes available.
01/29/08	Agua Caliente Band of Cahuilla Indians	Patty Tuck replied: The project is beyond both the Reservation lands and traditional use areas of the Tribe. Suggests contacting the Augustine Band of Cahuilla Indians, the Cabazon Band of Mission Indians, the Twentynine Palms Band of Mission Indians, and the Torres-Martinez Desert Cahuilla Indians.
06/23/08	Quechan Tribe	Bridget Nash requests archaeological reports.
04/29/09	Quechan Tribe	A telephone and e-mail conversation between Bridget Nash (Quechan Tribe) and Wanda Raschkow (BLM); Ms. Nash sends requested reports and Ms. Raschkow sends e-mail regarding project status.
05/20/09	Multiple Tribes	A meeting was held to discuss various solar energy projects and transmission lines in the Chuckwalla and Coachella Valleys. Attendees included BLM staff C. Dalu, R. Queen, and J. Kalish and representatives from the Agua Caliente Band of Cahuilla Indians, Morongo Band of Mission Indians, Cabazon Band of Mission Indians, Torres-Martinez Desert Cahuilla Indians, Pechanga Band of Luiseno Indians, Anza Cahuilla, Ramona Band of Mission Indians, Twentynine Palms Band of Mission Indians, and San Manuel Band of Mission Indians.
05/21/09	Quechan Tribe	A letter was posted to Ms. Nash (Quechan Tribe) from BLM Palm Springs Field Office providing requested reports. C. Dalu sent Tetra Tech's archaeology reports.
05/29/09	Quechan Tribe	A package was posted to Ms. Nash (Quechan Tribe) from BLM Palm Springs Field Office providing requested reports.
06/05/09	Agua Caliente Band of Cahuilla Indians	Meeting with BLM and representatives of the Agua Caliente Band of Cahuilla Indians to discuss various solar projects.
06/09/09	Quechan Tribe	A telephone conversation between Bridget Nash (Quechan Tribe) and Wanda Raschkow (BLM); Ms. Raschkow reports status of project. Ms. Nash requests report. Ms. Raschkow indicates that a data sharing agreement will be necessary before providing archaeological reports and other sensitive data.
11/05/09	Multiple Tribes	Meeting with BLM to discuss various solar projects. Attendees included BLM staff and representatives from the Agua Caliente Band of Cahuilla Indians, Morongo Band of Mission Indians, Cabazon Band of Mission Indians, Torres-Martinez Desert Cahuilla Indians, Pechanga Band of Luiseno Indians, Anza Cahuilla, Ramona Band of Mission Indians, Twentynine Palms Band of Mission Indians, and San Manuel Band of Mission Indians. Tribes request a monthly report regarding all projects. The Agua Caliente Band of Cahuilla Indians requests a site visit.
09/03/09	Quechan Tribe	BLM receives a letter from President Mike Jackson, Sr. commenting on the Programmatic Environmental Impact Statement regarding solar development being developed for the six southwestern states. Concerns expressed over cultural resources and traditional cultural properties.
12/09/09	Chemehuevi Reservation	A telephone conversation between C. Dalu and a representative of the Chemehuevi Reservation expressing concern about the effect of Genesis, Palen, and Blythe solar projects on cultural resources and traditional cultural properties.
12/23/09	La Cuna de Aztlan Sacred Sites Protection Circle	This is a group composed of members from multiple tribes dedicated to the protection of sacred sites in traditional territories in the Colorado and Mojave Deserts. Their comments were included in a formal letter from the CAlifornians for Renewable Energy (CARE) in response to the BLM/CEC request for comments on the GSEP NOI. Concerned about damage to cultural resources such as trails and springs, in particular McCoy Spring.

TABLE D-4 (Continued)
DETAILS OF COMMUNICATION BETWEEN BLM AND NATIVE AMERICAN GROUPS

Date	Group	Communication Details
02/16/10	Quechan Tribe	BLM receives a letter from President Mike Jackson, Sr. commenting on the regulatory approval schedule for the solar "fast-track" projects including Genesis. Concerns expressed about the ability of BLM to consult appropriately with the Tribe in the time frame envisioned. Also suggests that a Section 106 PA is inappropriate for these projects.
04/23/10	Multiple Tribes	Meeting with BLM and CEC to discuss cultural resources impacts for the I-10 Corridor solar projects (Genesis, Blythe, Palen). Attendees included BLM and CEC cultural resources staff, CA SHPO, cultural resources specialists for the applicants, and representatives from the Agua Caliente Band of Cahuilla Indians, Cahuilla Band of Indians, and the Twentynine Palms Band of Mission Indians.

TABLE D-5
CULTURAL RESOURCES IDENTIFIED BY TETRA TECH LOCATED IN THE GSEP APE AND VICINITY

Resource	Description	When Found	Period/Era	Location	Info Source
Prehistoric					
CA-Riv-0053T	Trail: 22+ km segment, leads from Colorado River to McCoy Spring around south and west side of McCoy Mountains, multiple associated sites and features.	Previously known	Prehistoric	In Ethno-graphic APE	McCarthy 1993
CA-Riv-0132 (P33-00132)	Temporary Camp: McCoy Spring National Historic District, 40 acres, at spring, 18 trails, 3000+ rock art images, 1000+ artifacts, midden, rock rings, cleared circles.	Previously known	Prehistoric	In Ethno-graphic APE	McCarthy 1986, 1993
CA-Riv-0260 (P33-00260)	Temporary Camp: 62 acres near lake edge, 1000+ artifacts, ceramics, lithics, ground stone, FAR. 5 concentrations, buried deposits, pot drops.	Previously known	Prehistoric	Linear Corridor	Ramirez 2008 (update)
CA-Riv-0663 (P33-00663)	Temporary Camp: 186 acres, 1000+ artifacts, lithics (jasper, quartzite, rhyolite, chert, and chalcedony) 1 Corner Notched projectile point fragment, 1 biface fragment, ceramics (Parker buffware and Tizon brownware, and greyware), mano and metate fragments some of green shale, FAR, and 1 rock alignment. May include CA-Riv-6900.	Previously known	Prehistoric	Linear Corridor	Pallette et al., 1989 Farmer et al., 2010
P33-01216	Lithic Scatter: Widely dispersed, along maximal lake shoreline on gravel terrace, debitage 7 flakes of chert/jasper, 1 hammerstone/core.	Previously known	Prehistoric	Vicinity	McCarthy 1977
P33-01222	Temporary Camp: located near dry lake shore (n=100+), 7 loci of metates and manos, debitage of quartz and chalcedony cores and flakes. Site disturbed by ORV.	Previously known	Prehistoric	In Ethno-graphic APE	Cook 1976
P33-01517	Lithic Scatter: Debitage of jasper and quartz.	Previously known	Prehistoric	Vicinity	Ritter 1975
P33-01543	Artifact Scatter: 3 metate fragments, 2 flakes.	Previously known	Prehistoric	Vicinity	Morim 1976
P33-01818	Ceramic Scatter: 53 sherds, Tumco Buff, pot drop	Previously known	Prehistoric	In Ethno-graphic APE	Carrico 1980
P33-01840	Artifact Scatter: just south of I-10, 2 pot drops (n=71), 2 lithics, 1 ground stone fragment.	Previously known	Prehistoric	In Ethno-graphic APE	Musser & Boyer 1976
P33-02157	Temporary Camp: along lake edge, near I-10, artifacts (n=30+), ceramic (buff/ Tizon brown ware), ground stone fragments (metates/manos), lithic flakes (quartz/green andesitic meta-volcanic).	Previously known	Prehistoric	In Ethno-graphic APE	Cardenas 1981
CA-Riv-2159 (P33-02159)	Temporary Camp: (n=100s) with 5 loci, and 1 pot drop (n=7), along lake edge, lithics (flakes: rhyolite, basalt, chalcedony, agate, jasper, chert, granite, andesite) and ground stone (manos, metates, hammerstones).	Previously known	Prehistoric	In Ethno-graphic APE	Cardenas 1981
P33-02206	Lithic Scatter: 6 flakes (chalcedony, quartz, opal), 1 quartzite cobble core.	Previously known	Prehistoric	Vicinity	Hammond 1981
P33-03129	Trail: 3.5 km long, leads to the southwestern side of the McCoy Mountains.	Previously known	Prehistoric	In Ethno-graphic APE	McCarthy 1991

TABLE D-5 (Continued)
CULTURAL RESOURCES IDENTIFIED BY TETRA TECH LOCATED IN THE GSEP APE AND VICINITY

Resource	Description	When Found	Period/Era	Location	Info Source
Prehistoric (cont.)					
P33-03801	Ceramic Scatter: (n=5) Parker buffware sherds, pot drop	Previously known	Prehistoric	In Ethno-graphic APE	Pallette et al. 1989
P33-03802	Artifact Scatter: near lake shore, 1 metate fragment, 2 chalcedony flakes, 1 quartzite hammerstone, fractured cobbles, and possible green shale hearth feature.	Previously known	Prehistoric	Vicinity	Pallette et al. 1989
P33-03808	Ceramic Scatter: (n=7) Tumco Red-on-buff sherds, pot drop	Previously known	Prehistoric	In Ethno-graphic APE	Mooney & Associates 1990
P33-03809	Ceramic Scatter: (n=7+) Tumco buff sherds, pot drop	Previously known	Prehistoric	In Ethno-graphic APE	Mooney & Associates 1990
CA-Riv-6170 (P33-08655)	Lithic Scatter: along dry lake shore, lithic debitage (quartzite, agate, chalcedony, chert, jasper), 1 chert Rose Spring projectile point (A.D. 200 to 1100), 1 point and drill fragment.	Previously known	Prehistoric	Vicinity	Mitchell 1998
CA-Riv-6900	Temporary Camp:(100+), lithics, ground stone. Possibly part of CA-Riv-0663.	Previously known	Prehistoric	Avoided	BLM 1977
CA-Riv-9032 (P33-17416)	Lithic Scatter: Debitage (n=14); two cores.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9033 (P33-17417)	Lithic Scatter: Debitage (n=39); two cores.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9036 (P33-17420)	Artifact Scatter: Debitage (n=3), mano, fire-affected rock (FAR).	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9037 (P33-17421)	Temporary Camp: near lake shore, artifacts (n=17), lithics, ground stone, 1 brownware sherd, 5 concentrations of FAR.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9038 (P33-17422)	Artifact Scatter: Debitage (n=7), FAR.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9039 (P33-17423)	Artifact Scatter: Debitage (n=3), and mano fragment.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9040 (P33-17424)	Lithic Scatter: Debitage (n=22), and flake tool.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9041 (P33-17425)	Lithic Scatter: Debitage (n=11), and core.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9042 (P33-17426)	Lithic Scatter: Debitage (n=2), core.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9043 (P33-17427)	Artifact Scatter: Debitage (n=7), core, ground stone.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9044 (P33-17428)	Artifact Scatter: Debitage (n=20+), and mano.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9045 (P33-17429)	Lithic Scatter: Debitage (n=4), and cores.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9046 (P33-17430)	Artifact Scatter: near lake shore (n=22), 2 ground stone, 2 FAR, 18 lithics	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9047 (P33-17431)	Lithic Scatter: Debitage (n=5)	GSEP Class II	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9048 (P33-17432)	Lithic Scatter: Debitage (n=10).	GSEP Class II	Prehistoric	In Facility Footprint	Farmer et al. 2009

TABLE D-5 (Continued)
CULTURAL RESOURCES IDENTIFIED BY TETRA TECH LOCATED IN THE GSEP APE AND VICINITY

Resource	Description	When Found	Period/Era	Location	Info Source
Prehistoric (cont.)					
CA-Riv-9049 (P33-17433)	Artifact Scatter: Debitage (n=2), core, ground stone.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9050 (P33-17434)	Lithic Scatter: (n=3) Debitage.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9051 P33-17435	Lithic Scatter: (n=5), debitage and 1 core.	GSEP Class II	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9052 (P33-17436)	Artifact Scatter: Debitage (n=2), core, and ground stone.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9053 (P33-17437)	Lithic Scatter: Debitage (n=3), and cores.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9054 (P33-17438)	Lithic Scatter: Debitage (n=5).	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9055 (P33-17439)	Temporary Camp: near lake shore, artifacts (n=53) including debitage, ground stone, ceramic fragments, FAR[1] concentration.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9056 (P33-17440)	Lithic Scatter: (n=5) Debitage, biface, and hammerstone.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9057 (P33-17441)	Artifact Scatter: Debitage (n=6), core, and metate fragment.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9060 (P33-17444)	Artifact Scatter: (n=6) 4 flakes, 1 metate fragment and 1 sherd.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9061 (P33-17445)	Lithic Scatter: Debitage (n=6).	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9062 (P33-17446)	Artifact Scatter: (n=16) Debitage and mano fragments.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9064 (P33-17448)	Temporary Camp: near lake edge, artifacts (n=120+), 2 concentrations, 3 projectile points, 2 bifaces, 2 ground stone. Possibly Archaic period.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9065 (P33-17449)	Artifact Scatter: possible hearth with 20+ FAR, 2 metate fragments, and 2 chert flakes.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9066 (P33-17450)	Lithic Scatter: (n=8) lithic debitage.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9067 (P33-17451)	Lithic Scatter: (n=38) lithics, 1 possible Desert side notch projectile point, 1 biface. Probably part of CA-Riv-9068.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9069 (P33-17453)	Lithic Scatter: Debitage (n=10+).	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9070 (P33-17454)	Lithic Scatter: (n=3) Debitage, 1 core.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9071 (P33-17455)	Temporary Camp: 78 acres, 4 concentrations (n=250+), lithics, ceramics, ground stone, FAR.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9072 (P33-17456)	Temporary Camp: 350 acres, artifacts (n=1000+), debitage, Rose Spring projectile point (AD 200 to 1100), brownware sherds, FAR, ground stone. May be part of CA-Riv-9078.	GSEP Class II	Prehistoric	In Facility Footprint	Farmer et al. 2009

[1] FAR is fire-affected rock—rock that shows evidence of having been in prolonged contact with fire.

TABLE D-5 (Continued)
CULTURAL RESOURCES IDENTIFIED BY TETRA TECH LOCATED IN THE GSEP APE AND VICINITY

Resource	Description	When Found	Period/Era	Location	Info Source
Prehistoric (cont.)					
CA-Riv-9073 (P33-17457)	Lithic scatter: (n=4), debitage and 1 tool.	GSEP Class II	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9075 (P33-17459)	Artifact Scatter: (n=7) debitage, 1 flake tool, 1 metate.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9076 (P33-17460)	Lithic Scatter: Debitage (n=5).	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9078 (P33-17462)	Temporary Camp: (n=3000+) artifacts, 2000 ground stone, lithics, FAR. Milling tool manufacturing? May be part of CA-Riv-9072.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9079 (P33-17463)	Temporary Camp: artifacts (n=500+), lithics, 5 ground stone, 1 marine clam shell fragment.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9080 (P33-17464)	Lithic Scatter: (n=4) Debitage.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9081 (P33-17465)	Lithic Scatter: (n=7) Debitage.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9083 (P33-17467)	Lithic Scatter: (n=6+) Debitage.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9084 (P33-17468)	Artifact Scatter: 17 acres, (n=96), 2 concentrations, lithic debitage and tools, 8 ground stone, 1 Olivella shell bead (1100 cal AD to Contact), 1 marine shell.	GSEP Class II	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9206 (P33-17775)	Artifact Scatter: (n=5) Debitage, 1 mano	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9207 (P33-17776)	Lithic Scatter: Debitage (n=5), core.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9208 (P33-17777)	Lithic Scatter: (n=8) Debitage, 1 core	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9209 (P33-17778)	Artifact Scatter: (n=24) lithics, and ground stone.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9210 (P33-17779)	Artifact Scatter: (n=13) lithics and ground stone.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9212 (P33-17781)	Lithic Scatter: (n=6) lithics, 1 Desert side-notched projectile point (AD 1100 to Contact).	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9215 (P33-17784)	Lithic Scatter: (n=25) lithics, 1 unidentified projectile point.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9216 (P33-17785)	Artifact Scatter: near lake shore, (n=7), 2 concentrations, lithics, 1 mano, 1 biface.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9217 (P33-17786)	Artifact Scatter: (n=3) 2 lithic debitage, 1 brownware sherd.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9218 (P33-17787)	Lithic Scatter: (n=3) 2 flakes, 1 scraper.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9219 (P33-17788)	Lithic Scatter: (n=3) flakes	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9220 (P33-17789)	Artifact Scatter: (n=94) lithics, ground stone, Cottonwood leaf-shaped projectile point	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9221 (P33-17770)	Lithic Scatter: (n=8) Debitage.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009

TABLE D-5 (Continued)
CULTURAL RESOURCES IDENTIFIED BY TETRA TECH LOCATED IN THE GSEP APE AND VICINITY

Resource	Description	When Found	Period/Era	Location	Info Source
Prehistoric (cont.)					
CA-Riv-9222 (P33-17771)	Lithic Scatter: (n=4) Debitage.	GSEP Class III	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9223 (P33-17772)	Lithic Scatter: (n=20) Debitage.	GSEP Class III	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9226 (P33-17795)	Temporary Camp: near lake shore (n=100+), lithics, 3 brownware sherds, 70 FAR, ground stone.	GSEP Class III	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9227 (P33-17796)	Artifact Scatter: (n=18), lithics, brownware sherds (n=14) pot drop, 1 marine shell fragment	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9229 (P33-17798)	Artifact Scatter: Debitage (n=6); mano, metate fragment, cobble choppers	GSEP Class III	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9249 (P33-18003)	Ceramic Scatter: Brownware sherds (n=20) pot drop.	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9250 (P33-18004)	Artifact Scatter: (n=75) 1 concentration with 2 pot drops (33 and 29 sherds) Brownware sherds, 9 lithics, 3 FAR.	GSEP Class III	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9255 (P33-18009)	Artifact Scatter: (n=40+) artifacts, 10 Brownware “pot drop” sherds, 4 Brownware sherds, 3 Redware sherds, lithics, 3 FAR, 1 ground stone.	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9256 (P33-18010)	Lithic Scatter: Debitage (n=6), 1 biface fragment	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9257 (P33-18011)	Lithic Scatter: (n=4) debitage.	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9260 (P33-18014)	Artifact Scatter: (n=108+) artifacts, 100 Brownware “pot drop” sherds, 7 other Brownware sherds, 1 chert uniface.	GSEP Class III	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
P33-13599	Lithic Scatter: (n=2) tertiary jasper flakes	Previously known	Prehistoric	Vicinity	Mooney & Associates 2004
P33-17977	Ceramic Scatter: (n=11) Brownware sherds pot drop	GSEP Class III	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
P33-17998	Artifact Scatter: (n=4) 2 flakes, 2 FAR	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9034 (P33-17418)	Artifact Scatter: (n=7) lithics, 1 mano fragment.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
CA-Riv-9068 (P33-17452)	Artifact Scatter: artifacts (n=60), debitage, 2 ground stone, 8 lithic tools. Probably part of CA-Riv-9067.	GSEP Class II	Prehistoric	Avoided	Farmer et al. 2009
P33-01131	Artifact Scatter: Widely dispersed low density pot drop: 50 Tizon brownware sherds, 1 mano, 1 core fragment.	Previously known	Prehistoric	In Ethno-graphic APE	Dittman 1981
Historic-Period					
P33-01132	Hopkins Well Site, constructed in 1910.	Previously known	Historic	Vicinity	Metcalf 1982, Cowan 1976
P33-01483	Historic Feature: Military mound, horseshoe-shaped, low earth mound. (1940s)	Previously known	Historic	Vicinity	Crowley 1978
P33-13597	Refuse Scatter	Previously known	Historic	Vicinity	Mooney & Associates 2004

TABLE D-5 (Continued)
CULTURAL RESOURCES IDENTIFIED BY TETRA TECH LOCATED IN THE GSEP APE AND VICINITY

Resource	Description	When Found	Period/Era	Location	Info Source
Historic-Period (cont.)					
P33-13598	Refuse Scatter: (n=8+) WW II era cans.	Previously known	Historic	Linear Corridor	Mooney & Associates 2004
P33-13655	Historic Feature and Refuse Scatter: Possible WW II foxholes and cans (1940s)	Previously known	Historic	Avoided	Mooney & Associates 2004
P33-14146	Refuse Scatter	Previously known	Historic	Vicinity	Mooney & Associates 2005
P33-14170	Refuse Scatter	Previously known	Historic	Vicinity	Mooney & Associates 2005
P33-14171	Two-Track Road	Previously known	Historic	Vicinity	Mooney & Associates 2005
P33-17326	Refuse Scatter	Previously known	Historic	Vicinity	ICF Jones & Stokes 2008
CA-Riv-9035H (P33-17419)	Refuse Scatter: Cans, bottle glass, misc.	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9059H (P33-17443)	Refuse Scatter: Can scatter. Prehistoric FDLA-Iso-10 recorded within site boundaries.	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9063H (P33-17447)	Refuse Scatter: Cans, spoon (military), pliers.	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9074H (P33-17458)	Refuse Scatter: WW II era cans and bottles.	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9077H (P33-17461)	Refuse Scatter: Cans and bottles (1940s).	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9203H (P33-17772)	Refuse Scatter: Pull-tab aluminum cans, food cans, bottle (1954–pres)	GSEP Class III	Historic	In Facility Footprint and Linear Corridor	Farmer et al. 2009
CA-Riv-9204H (P33-17773)	Refuse Scatter: Can scatter, bottles (1932-1953)	GSEP Class III	Historic	In Facility Footprint	Farmer et al. 2009
CA-Riv-9211H (P33-17780)	Refuse Scatter: Cans, bottle glass, 1934 penny	GSEP Class III	Historic	In Facility Footprint	Farmer et al. 2009
CA-Riv-9213H (P33-17782)	Refuse Scatter: Approximately 60 cans.	GSEP Class III	Historic	In Facility Footprint	Farmer et al. 2009
CA-Riv-9214H (P33-17783)	Refuse Scatter: Approximately 10 cans.	GSEP Class III	Historic	In Facility Footprint	Farmer et al. 2009
CA-Riv-9225H (P33-17794)	Refuse Scatter: 7 cans, mess-kit fork (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9228H (P33-17797)	Refuse Scatter: 10 cans, bottle base (1938-1951), bottle base (1916-1931), razor blade, glass fragments (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9230H (P33-17799)	Historic Feature and Refuse Scatter: stake alignment and 30+ C-ration cans, 13 other cans (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9245H (P33-17999)	Refuse Scatter: 8 cans, “New Texaco Motor Oil” can (c. 1937), 1 “Dietz All Weather” kerosene construction flare, Aladdin Industries “Aladdins Economy Thermos Bottle”	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009

TABLE D-5 (Continued)
CULTURAL RESOURCES IDENTIFIED BY TETRA TECH LOCATED IN THE GSEP APE AND VICINITY

Resource	Description	When Found	Period/Era	Location	Info Source
Historic-Period (cont.)					
CA-Riv-9246H (P33-18000)	Refuse Scatter: 1 metal shoe last, 2 small donkey/pony shoes, 1 brass compass w/plastic lens, 5 C-ration cans, 1 Prince Albert style tobacco tin, 1 white milk glass jar w/metal lid embossed Mentholatum/ Reg/ Trade/ Mark (c.1960-post)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9248H (P33-18002)	Refuse Scatter: 8 .30 caliber machine gun cartridges (stamped base 1938 and 1940), 12 gauge shotgun shell brass, 1 coffee can "Nescafe" (c. 1940s-1960s), 13 cans, automobile leaf spring, razor blade, metal fragments (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9251H (P33-18005)	Refuse Scatter: 2 .30 caliber machine gun cartridges (stamped base 1940),1 threaded lid coffee can, 2 C-ration cans, 1 pocket knife, 3 cans, bailing wire (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9252H (P33-18006)	Refuse Scatter: 1 amber glass beer bottle (Anchor Hocking post 1937), 4 C-ration cans, 7 sanitary cans (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9253H (P33-18007)	Refuse Scatter: 1 C-ration can, 6 sanitary cans, 1 large beverage can, glass fragment (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9254H (P33-18008)	Refuse Scatter: cans (N=12)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9258H (P33-18012)	Refuse Scatter: 61 C-ration cans, 7 soluble coffee cans, 72 cans, 1 .30 caliber machine gun cartridge (stamped base 1940), glass bottle fragments (Owens Illinois c. 1929-1957), 7 coffee cans external thread lid (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9259H (P33-18013)	Historic Feature: Stake Alignments: (n=2) (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9261H (P33-18015)	Refuse Scatter: 6 C-ration cans, 1 soluble coffee can, 1 tobacco tin (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9262H (P33-18016)	Refuse Scatter: 80 C-ration cans, 4 soluble coffee cans, 1 military mess fork stamped "US", 1 tobacco tin (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9263H (P33-18017)	Refuse Scatter:17 C-ration cans, 1 cone-top can, 6 tobacco tins, 1 boot sole, 1 gas tank cap, 1 clear glass bottle (Owens Illinois c. 1929-1959), 1 large bolt, 1 D-size battery (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
Dual-Component					
P33-01516	Temporary Camp/Refuse Scatter: (n=1000+) along dry lake shoreline, ground stone, lithic scatter, thermal fractured rock. WW II military artifacts.	Previously known	Prehistoric/Historic	In Ethno-graphic APE	Ritter 1975
CA-Riv-9205H (P33-17774)	Artifact Scatter/ Refuse Scatter: Debitage (n=4); mano, 2 metate fragments. Glass bottles (post 1945), auto parts (1930-1940), condensed milk cans.	GSEP Class II	Prehistoric/Historic	In Facility Footprint	Farmer et al. 2009

TABLE D-5 (Continued)
CULTURAL RESOURCES IDENTIFIED BY TETRA TECH LOCATED IN THE GSEP APE AND VICINITY

Resource	Description	When Found	Period/Era	Location	Info Source
Dual-Component (cont.)					
CA-Riv-9058H (P33-17442)	Artifact Scatter/Refuse Scatter: near lake shore, (n=33) prehistoric artifacts, lithics, 11 ground stone, 4 buffware sherds. Historic-period cans and bottles (n=3+).	GSEP Class II	Prehistoric/Historic	Avoided	Farmer et al. 2009
CA-Riv-9082H (P33-17466)	Lithic Scatter/Refuse Scatter: Debitage (n=3). Cans (n=6)	GSEP Class II	Prehistoric/Historic	Avoided	Farmer et al. 2009
CA-Riv-9224 (P33-17793)	Temporary Camp/Refuse Scatter: Prehistoric (n=60+), 2 concentrations, FAR in 2 possible hearths, brownware pot drop (n=28+), 1 Desert Side-notched projectile point (AD 1100 to Contact), historic-period (n=6) .45 caliber bullets, mess-kit spoon stamped "US", C-ration coffee can, pocket knife. Possibly part of CA-Riv-260.	GSEP Class III	Prehistoric/Historic	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9247 (P33-18001)	Ceramic Scatter/Refuse Scatter: Brownware sherds (n=3), 4 C-ration cans, 13 sanitary cans, 1 nut and bolt, 1 clear glass jar – Armstrong Cork Company (c.1938 -1969)	GSEP Class III	Prehistoric/Historic	Avoided	Farmer et al. 2009
Built Environment					
No number	Blythe-Eagle Mountain Transmission Line	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009, app. F
No number	Wiley's Well Road	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009, app. F
Unknown					
P33-00144	No details on site record. Note: F.R. Johnson on map in Walker's possession.	Previously known	Unknown	Vicinity	Eberhart 1951
CA-Riv-0259 (P33-00259) or (P33-13656)	Prehistoric Rock Rings or WWII era foxholes with refuse scatter?	Previously known	Unknown	Linear Corridor	Gester 1965 Mooney & Associates 2004

TABLE D-6
CULTURAL RESOURCES LOCATED BY MCCARTHY IN THE VICINITY OF GSEP

Resource	Description
CA-Riv-0071	Ceramic Scatter: 33 ceramics along Halchidhoma Trail, CA-Riv-0053T, diagnostic ceramics and lithics collected.
CA-Riv-0132	Temporary Camp: Diagnostic ceramics, slate pendant and obsidian collected.
CA-Riv-0258	Trail
CA-Riv-0503	Petroglyphs: 48 images, heavily patinated possibly old. Near Destination Area C.
CA-Riv-0523	Petroglyphs: 13 images, Destination Area B, water tank, Trails 4680, 4685, 4686 lead here. Near smaller water tank 4699.
CA-Riv-0661	Geoglyph: horseshoe shaped, 20m N/S by 39m E/W, south of Halchidhoma Trail CA-Riv-0053T, south end of McCoy Mountains, near transmission line corridor.
CA-Riv-0662	Geoglyph: 2 half circles, 40 m N/s by 60 m E/W, south of Halchidhoma Trail CA-Riv-0053T, south end of McCoy Mountains, near transmission line corridor. Partially disturbed.
CA-Riv-0792	Petroglyphs: Near Destination Area D. Unknown number of petroglyphs. Couldn't relocate. Near the Halchidhoma Trail CA-Riv-0053T and trails 4704, and 4705.
CA-Riv-0896	Trail
CA-Riv-0980	Activity Area: 2 trails, petroglyphs, inscription "Watter in left hand gulch about 200 yds J B 1873." Alternate name "Palen Tank"?
CA-Riv-1127	Ceramic Scatter: 30 ceramics, along unknown trail.
CA-Riv-1128	Artifact Scatter: lithics, 3 metates, 21 ceramics, along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-1129	Ceramic Scatter: 200 ceramics, along Halchidhoma Trail CA-Riv-0053T. Diagnostic ceramics collected.
CA-Riv-1130	Ceramic Scatter: 6 ceramics, along unknown trail.
CA-Riv-3095	Artifact Scatter: 9 metates, 5 ceramics, along unknown trail.
CA-Riv-3110	Trail: 2.6 km long segment, leads directly to McCoy Spring. Sites 3115, 3116, 4601 along it. Within 3km of McCoy Spring.
CA-Riv-3111	Trail: 3.4 km long segment, leads directly to McCoy Spring, sites 3118, 3119, 3120, 3122 along it. Within 3km of McCoy Spring.
CA-Riv-3112	Trail: 2.5 km long segment, leads directly to McCoy Spring, sites 3117, 3121, 4604 along it. Within 3km of McCoy Spring.
CA-Riv-3113	Trail: leads directly to McCoy Spring. Sites 3123, 3124, 3125, 3126, 3127, 3921, 3922, 3825, 4609 along it.
CA-Riv-3114	Trail: 4.2 km long segment, leads directly to McCoy Spring. Sites 3923 and 3924, along it. Within 3km of McCoy Spring.
CA-Riv-3115	Petroglyph: 1 image, along trail 3110 leading directly to McCoy Spring. Within 3km of McCoy Spring.
CA-Riv-3116	Petroglyph: 1 image, along trail 3110 leading directly to McCoy Spring. Within 3km of McCoy Spring.
CA-Riv-3117	Temporary Camp: lithics, 4 metates, 3 petroglyphs, 5 rock cairns, 14 cleared circles, along trail 3112 leading directly to McCoy Spring. Other sites on same trail are 3121 and 4604. Within 3km of McCoy Spring.
CA-Riv-3118	Isolate:1 metate, along trail 3111 leading directly to McCoy Spring. Other sites along same trail are 3119, 3120, 3122. Within 3km of McCoy Spring.
CA-Riv-3119	Activity Area: 1 petroglyph, along trail 3111. Other sites along same trail are 3118, 3120, 3122. Within 3km of McCoy Spring.
CA-Riv-3120	Petroglyph:1 image, along trail 3111 leading directly to McCoy Spring. Other sites along same trail are 3118, 3119, 3122. Within 3km of McCoy Spring.
CA-Riv-3121	Ceramic Scatter: 25 ceramics, along trail 3112 leading directly to McCoy Spring. Other sites on same trail are 3117 and 4604. Within 3km of McCoy Spring.
CA-Riv-3122	Ceramic Scatter: 140 ceramics, along trail 3111 leading directly to McCoy Spring. Other sites along same trail are 3118, 3119, 3120. Within 3km of McCoy Spring.

TABLE D-6 (Continued)
CULTURAL RESOURCES LOCATED BY MCCARTHY IN THE VICINITY OF GSEP

Resource	Description
CA-Riv-3123	Ceramic Scatter: 4 ceramics, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3124, 3125, 3126, 3127, 3921, 3922, 3925, 4609. Within 3km of McCoy Spring.
CA-Riv-3124	Ceramic Scatter: 9 ceramics, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3123, 3125, 3126, 3127, 3921, 3922, 3925, 4609. Within 3km of McCoy Spring.
CA-Riv-3125	Rock Cluster: 1 cluster, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3123, 3124, 3126, 3127, 3921, 3922, 3925, 4609. Within 3km of McCoy Spring.
CA-Riv-3126	Isolate: 2 metates, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3123, 3124, 3125, 3127, 3921, 3922, 3925, 4609. Within 3km of McCoy Spring.
CA-Riv-3127	Ceramic Scatter: 36 ceramics, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3123, 3124, 3125, 3126, 3921, 3922, 3925, 4609. Within 3km of McCoy Spring.
CA-Riv-3128	Activity Area: 7 metates, 12 cleared circles, along unknown trail. Within 3km of McCoy Spring.
CA-Riv-3129	Trail: West of Halchidhoma Trail CA-Riv-0053T, intersects with trails 3130 and 4688. Near Destination Area B.
CA-Riv-3130	Trail: Intersects with Halchidhoma Trail CA-Riv-0053T from the west. Also with 3129 and 4691. Near Destination Area B.
CA-Riv-3145	Petroglyphs: 3 petroglyph images.
CA-Riv-3146	Petroglyphs: 8 petroglyph images.
CA-Riv-3147	Petroglyphs: 8 petroglyph images, unusual rectilinear or mazelike image.
CA-Riv-3148	Petroglyphs: 5 petroglyph images.
CA-Riv-3149	Activity Area: 1 metate, 2 petroglyph images. Tank, water source, west side of McCoy Mountains.
CA-Riv-3803	Trail: Parallels Halchidhoma Trail CA-Riv-0053T, to the south. On south end of McCoy Mountains near transmission line corridor.
CA-Riv-3890	Ceramic Scatter: 5 ceramics, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3891	Isolate: 1 metate, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3892	Isolate: 1 metate, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3893	Isolate: 2 metates, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3894	Isolate: 1 metate, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3895	Isolate: 1 metate, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3896	Isolate:1 metate, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3897	Petroglyph: 1 image, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3898	Activity Area: 1 metate, 4 petroglyphs, 1 rock cluster, 12 ceramics, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3899	Isolate:1 metate, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3900	Isolate:1 metate, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3901	Activity Area: 1 petroglyph, 20 ceramics, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3902	Activity Area: 1 metate, 1 petroglyph, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3903	Activity Area: 2 metates, 5 petroglyphs, 2 rock clusters, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3904	Activity Area: 7 metates, 2 petroglyphs, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3905	Artifact Scatter: 1 metate, 2 ceramics, along Halchidhoma Trail CA-Riv-0053T. Within 3km of McCoy Spring.
CA-Riv-3906	Temporary Camp: 8 metates, 41 petroglyph images including one rare mountain sheep, 6 ceramics. At intersection of trails 53 and 4572, near Destination Area A.
CA-Riv-3907	Isolate: 1 metate, along unknown trail.
CA-Riv-3908	Isolate: 1 metate, along unknown trail.

TABLE D-6 (Continued)
CULTURAL RESOURCES LOCATED BY MCCARTHY IN THE VICINITY OF GSEP

Resource	Description
CA-Riv-3909	Isolate: 2 metates, along unknown trail.
CA-Riv-3910	Isolate: 1 metate, along unknown trail.
CA-Riv-3911	Isolate: 1 ceramic, along unknown trail.
CA-Riv-3912	Rock Cluster: 1 cluster, along unknown trail.
CA-Riv-3913	Ceramic Scatter: 3 ceramics, along unknown trail.
CA-Riv-3914	Ceramic Scatter: 64 ceramics, along unknown trail.
CA-Riv-3915	Artifact Scatter: 1 metate, 38 ceramics, along unknown trail.
CA-Riv-3916	Artifact Scatter: 1 metate, 15 ceramics, along unknown trail.
CA-Riv-3917	Activity Area: 6 rock rings. Near intersection of trails 4686 Halchidhoma Trail CA-Riv-0053T.
CA-Riv-3918	Artifact Scatter: 3 metates, 90 ceramics, along unknown trail.
CA-Riv-3919	Artifact Scatter: 1 metate, 10 ceramics, along unknown trail.
CA-Riv-3920	Ceramic Scatter: 60 ceramics, along unknown trail.
CA-Riv-3921	Ceramic Scatter: 3 ceramics, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3123, 3124, 3125, 3126, 3127, 3922, 3925, 4609. Within 3km of McCoy Spring.
CA-Riv-3922	Ceramic Scatter: 13 ceramics, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3123, 3124, 3125, 3126, 3127, 3921, 3925, 4609. Within 3km of McCoy Spring.
CA-Riv-3923	Isolate: 1 metate, along trail 3114 leading directly to McCoy Spring. Site 3924 also along this trail. Within 3km of McCoy Spring.
CA-Riv-3924	Artifact Scatter: lithics, 14 ceramics, along trail 3114 leading directly to McCoy Spring. Site 3923 also along this trail. Within 3km of McCoy Spring.
CA-Riv-3925	Ceramic Scatter: 23 ceramics, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3123, 3124, 3125, 3126, 3127, 3921, 3922, 4609. Within 3km of McCoy Spring.
CA-Riv-3926	Ceramic Scatter: 75 ceramics, along unknown trail.
CA-Riv-3927	Military Camp and Refuse Scatter: WW II era, 120 cleared areas on desert pavement, cans, tent equipment, and bottles, DTC contributor.
CA-Riv-4501	Artifact Scatter: 3 metates, 5 ceramics, along unknown trail.
CA-Riv-4502	Artifact Scatter: lithics, 1 metate
CA-Riv-4503	Ceramic Scatter: 9 ceramics. along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-4504	Ceramic Scatter: 66 ceramics, along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-4505	Ceramic Scatter: 53 ceramics, along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-4506	Artifact Scatter: 3 metates, 13 ceramics, along Halchidhoma Trail CA-Riv-0053T, Diagnostic ceramics collected.
CA-Riv-4507	Artifact Scatter: 1 metate, 13 ceramics, along Halchidhoma Trail CA-Riv-0053T,
CA-Riv-4508	Ceramic Scatter: 150 ceramics, along Halchidhoma Trail CA-Riv-0053T. Diagnostic ceramics collected.
CA-Riv-4509	Ceramic Scatter: 90 ceramics, along Halchidhoma Trail CA-Riv-0053T. Diagnostic ceramics collected.
CA-Riv-4510	Artifact Scatter: 1 metate, 100 ceramics, along Halchidhoma Trail CA-Riv-0053T. Diagnostic ceramics collected.
CA-Riv-4511	Ceramic Scatter: 77 ceramics, along Halchidhoma Trail CA-Riv-0053T. Diagnostic ceramics and lithics collected.
CA-Riv-4512	Artifact Scatter: 2 metates, 47 ceramics, along Halchidhoma Trail CA-Riv-0053T. Diagnostic ceramics collected.
CA-Riv-4513	Ceramic Scatter: 100 ceramics, along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-4514	Ceramic Scatter: 60 ceramics, along Halchidhoma Trail CA-Riv-0053T. Diagnostic ceramics collected.
CA-Riv-4515	Artifact Scatter: 1 metate, 65 ceramics, along Halchidhoma Trail CA-Riv-0053T Diagnostic ceramics collected.

TABLE D-6 (Continued)
CULTURAL RESOURCES LOCATED BY MCCARTHY IN THE VICINITY OF GSEP

Resource	Description
CA-Riv-4516	Artifact Scatter: 1 metate, 41 ceramics, along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-4517	Artifact Scatter: lithics, 50 ceramics, along Halchidhoma Trail CA-Riv-0053T. Diagnostic ceramics collected.
CA-Riv-4518	Trail: Short segment branching north off of Halchidhoma Trail CA-Riv-0053T in the direction of Destination Area C.
CA-Riv-4519	Trail: Leads to Destination Area C, water tank, 49 ceramics. Diagnostic ceramics collected. Also associated with trail 4703.
CA-Riv-4520	Artifact Scatter: lithics, 21 ceramics, along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-4521	Artifact Scatter: 1 metate, 60 ceramics along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-4522	Ceramic Scatter: 35 ceramics, along Halchidhoma Trail CA-Riv-0053T.
CA-Riv-4523	Artifact Scatter: 2 metates, 1 ceramic, along unknown trail.
CA-Riv-4524	Activity Area: 2 metates, 3 petroglyph images, 90 ceramics, along unknown trail.
CA-Riv-4525	Artifact Scatter: 3 metates, 80 ceramics, along unknown trail.
CA-Riv-4526	Ceramic Scatter: 26 ceramics, along unknown trail.
CA-Riv-4527	Artifact Scatter: lithics, 74 ceramics, along unknown trail.
CA-Riv-4528	Artifact Scatter: lithics, 65 ceramics, along unknown trail.
CA-Riv-4529	Isolate: 1 metate, along unknown trail.
CA-Riv-4530	Ceramic Scatter: 32 ceramics, along unknown trail.
CA-Riv-4531	Ceramic Scatter: 10 ceramics, along unknown trail.
CA-Riv-4532	Artifact Scatter: lithics, 3 ceramics, along unknown trail.
CA-Riv-4533	Artifact Scatter: lithics, 29 ceramics, along unknown trail.
CA-Riv-4534	Artifact Scatter: 1 metate, 55 ceramics, along unknown trail.
CA-Riv-4535	Artifact Scatter: lithics, 49 ceramics, along unknown trail.
CA-Riv-4536	Isolate: 1 metate, along unknown trail.
CA-Riv-4537	Ceramic Scatter: 34 ceramics, along unknown trail.
CA-Riv-4538	Isolate: 2 ceramics, along unknown trail.
CA-Riv-4539	Ceramic Scatter: 12 ceramics, along unknown trail.
CA-Riv-4540	Ceramic Scatter: 147 ceramics, along unknown trail.
CA-Riv-4541	Ceramic Scatter: 5 ceramics, along unknown trail.
CA-Riv-4542	Ceramic Scatter: 7 ceramics, along unknown trail.
CA-Riv-4543	Ceramic Scatter: 5 ceramics, along unknown trail.
CA-Riv-4544	Ceramic Scatter: 58 ceramics, along unknown trail.
CA-Riv-4545	Ceramic Scatter: 21 ceramics, along unknown trail.
CA-Riv-4546	Isolate: 1 metate, along unknown trail.
CA-Riv-4547	Artifact Scatter: lithics, 1 metate, 2 ceramics, along unknown trail.
CA-Riv-4548	Artifact Scatter: 4 metates, 47 ceramics, along unknown trail.
CA-Riv-4549	Ceramic Scatter: 21 ceramics. Diagnostic ceramics collected, along unknown trail.
CA-Riv-4550	Ceramic Scatter: 37 ceramics, along unknown trail.
CA-Riv-4551	Ceramic Scatter: 11 ceramics, along unknown trail.
CA-Riv-4552	Ceramic Scatter: 3 ceramics, along unknown trail.
CA-Riv-4553	Ceramic Scatter: 21 ceramics, along unknown trail.
CA-Riv-4554	Ceramic Scatter: 31 ceramics, along unknown trail.
CA-Riv-4555	Ceramic Scatter: 3 ceramics, along unknown trail.
CA-Riv-4556	Ceramic Scatter: 7 ceramics, along unknown trail.

TABLE D-6 (Continued)
CULTURAL RESOURCES LOCATED BY MCCARTHY IN THE VICINITY OF GSEP

Resource	Description
CA-Riv-4557	Ceramic Scatter: 3 ceramics, along unknown trail.
CA-Riv-4558	Ceramic Scatter: 11 ceramics, along unknown trail.
CA-Riv-4559	Ceramic Scatter: 69 ceramics, along unknown trail.
CA-Riv-4560	Ceramic Scatter: 14 ceramics, along unknown trail.
CA-Riv-4561	Ceramic Scatter: 3 ceramics, along unknown trail.
CA-Riv-4562	Ceramic Scatter: 61 ceramics, along unknown trail.
CA-Riv-4563	Ceramic Scatter: 4 ceramics, along unknown trail.
CA-Riv-4564	Ceramic Scatter: 11 ceramics, along unknown trail.
CA-Riv-4565	Ceramic Scatter: 60 ceramics, along unknown trail.
CA-Riv-4566	Ceramic Scatter: 23 ceramics, along unknown trail.
CA-Riv-4568	Trail: Short trail segment on the south end of McCoy Mountains, just southwest of geoglyph 661, and south of trails 3803 and the Halchidhoma Trail CA-Riv-0053T. Portions possibly disturbed by transmission line.
CA-Riv-4569	Temporary Camp: Destination Area A, water tank, west side of McCoy Mountains, trail segment, lithics, 2 metates, 7 petroglyph images, 1 cleared circle. Near other Area A site 3906. Trails 53, 4570, 4571, and 4572 lead to Area A.
CA-Riv-4570	Trail: leads to Destination Area A, temporary camp 4569, with trails 53, 4571, 4572.
CA-Riv-4571	Trail: leads to Destination Area A, temporary camp 4569, with trails 53, 4570, 4572.
CA-Riv-4572	Trail: leads to Destination Area A, temporary camp 4569, with trails 53, 4570, 4571. Adjacent to 4573.
CA-Riv-4573	Rock Ring: 1 ring, adjacent to trail 4572.
CA-Riv-4574	Cairn: 5 rock cairns, along unknown trail.
CA-Riv-4575	Cleared Circle: 1 circle, along unknown trail. Within 3km of McCoy Spring.
CA-Riv-4576	Cleared Circle: 1 circle, along unknown trail. Within 3km of McCoy Spring.
CA-Riv-4577	Activity Area: spring/seep, water tank, rock shelter, 40 petroglyphs, 7 metates, 5 ceramics. Within 3km of McCoy Spring.
CA-Riv-4578	Petroglyphs: 5 images. Within 3km of McCoy Spring.
CA-Riv-4579	Petroglyphs: 2 images. Within 3km of McCoy Spring.
CA-Riv-4580	Activity Area: 4 cleared circles, 5 metates. Within 3km of McCoy Spring.
CA-Riv-4581	Trail: 2.7 km segment, leading directly to McCoy Spring. Associated with sites 4583, 4584, 4585, 4599, 4600. Within 3km of McCoy Spring.
CA-Riv-4582	Trail: 1.7 km segment leading directly to McCoy Spring. Within 3km of McCoy Spring.
CA-Riv-4583	Ceramic Scatter: 9 ceramics, along trail 4581 leading directly to McCoy Spring. Associated with sites 4584, 4585, 4599, 4600. Within 3km of McCoy Spring.
CA-Riv-4584	Ceramic Scatter: 9 ceramics, along trail 4581 leading directly to McCoy Spring. Associated with sites 4583, 4585, 4599, 4600. Within 3km of McCoy Spring.
CA-Riv-4585	Ceramic Scatter: 4 ceramics, along trail 4581 leading directly to McCoy Spring. Associated with sites 4583, 4584, 4599, 4600. Within 3km of McCoy Spring.
CA-Riv-4586	Rock Ring: 1 ring. Within 3km of McCoy Spring.
CA-Riv-4587	Trail: 1.1 km segment leading directly to McCoy Spring. Within 3km of McCoy Spring.
CA-Riv-4588	Ceramic Scatter: 6 ceramics, along trail 4592 leading directly to McCoy Spring. Site 4593 also on trail. Within 3km of McCoy Spring.
CA-Riv-4589	Unknown: associated with trail 4612 leading to Quartz Hill Tank. Sites recorded along the trail 4606, 4608, 4610, and 4615. Within 3km of McCoy Spring.
CA-Riv-4590	Trail: leading to Quartz Hill Tank. Associated with sites 4601, 4606, 4607. Within 3km of McCoy Spring.
CA-Riv-4591	Trail: 2.0 km segment, leading directly to McCoy Spring. Intersects with 4596. Within 3km of McCoy Spring.

TABLE D-6 (Continued)
CULTURAL RESOURCES LOCATED BY MCCARTHY IN THE VICINITY OF GSEP

Resource	Description
CA-Riv-4592	Trail: 3.1 km segment, leading directly to McCoy Spring. Sites 4588 and 4593 are along it. Within 3km of McCoy Spring.
CA-Riv-4593	Ceramic Scatter: unknown number at south end of trail 4593, which leads directly to McCoy Spring. Within 3km of McCoy Spring.
CA-Riv-4594	Trail: 1.2 km segment, trail leading directly to McCoy Spring. Associated with site 4595. Within 3km of McCoy Spring.
CA-Riv-4595	Ceramic Scatter: 9 ceramics, at south end of trail 4594 leading directly to McCoy Spring. Within 3km of McCoy Spring.
CA-Riv-4596	Trail: 2.0 km segment, leading directly to McCoy Spring. Intersects with trail 4591. Associated with sites 4615 and 4616. Within 3km of McCoy Spring.
CA-Riv-4597	Activity Area: lithics, 5 metates, 4 petroglyphs, 1 rock ring. Within 3km of McCoy Spring.
CA-Riv-4598	Activity Area: lithics, 7 metates, 29 petroglyphs. Within 3km of McCoy Spring.
CA-Riv-4599	Activity Area: 6 metates, 34 petroglyphs, 1 ceramic, along trail 4581 leading directly to McCoy Spring. Associated with sites 4583, 4584, 4585, 4599, 4600. Within 3km of McCoy Spring.
CA-Riv-4600	Activity Area: 3 metates, 20 petroglyphs, along trail 4581 leading directly to McCoy Spring. Associated with sites 4583, 4584, 4585, 4599, 4600. Within 3km of McCoy Spring.
CA-Riv-4601	Temporary Camp: along trail 3110 leading directly to McCoy Spring. 16 metates, 17 petroglyphs, 1 rock ring, 1 cleared circle. Also along trail 4611, and 4590, leading to Quartz Hill Tank. Within 3km of McCoy Spring.
CA-Riv-4602	Activity Area: metate, 9 petroglyphs, along trail leading directly to McCoy Spring. Sites 4601, 4603, and 4604 also recorded along it. Within 3km of McCoy Spring.
CA-Riv-4603	Activity Area: 3 metates, 1 petroglyph, along trail 4611 leading directly to McCoy Spring. Sites 4601, 4602, and 4604 recorded along it. Within 3km of McCoy Spring.
CA-Riv-4604	Petroglyphs: 27 petroglyphs, along trail 3112 leading directly to McCoy Spring. Also along trail 4611. Within 3km of McCoy Spring.
CA-Riv-4605	Activity Area: 1 metate, 3 rock rings. Within 3km of McCoy Spring.
CA-Riv-4606	Activity Area: 1 rock ring, 12 cleared circles, along trails 4590 and 4612 leading to Quartz Hill Tank. Within 3km of McCoy Spring.
CA-Riv-4607	Activity Area: lithics, 3 metates, 1 petroglyph, along trail 4590 leading to Quartz Hill Tank. Associated with sites 4601, 4606. Within 3km of McCoy Spring.
CA-Riv-4608	Artifact Scatter: 9 metates, along trail 4612 leading to Quartz Hill Tank. Sites recorded along the trail 4589, 4606, 4610, and 4615.Within 3km of McCoy Spring.
CA-Riv-4609	Activity Area: 1 rock cairn, 2 ceramics, along trail 3113 leading directly to McCoy Spring. Other sites along this trail are 3123, 3124, 3125, 3126, 3127, 3921, 3922, 3925. Within 3km of McCoy Spring.
CA-Riv-4610	Activity Area: 8 metates, 2 petroglyphs, 20 ceramics, along trail 4612 leading to Quartz Hill Tank and trail 4614 leading to McCoy Spring. Within 3km of McCoy Spring.
CA-Riv-4611	Trail: 0.2 km long segment, leading directly to McCoy Spring. Sites 4601, 4602, 4603, 4604 recorded along it. Within 3km of McCoy Spring.
CA-Riv-4612	Trail: 0.2 km long segment, leading to Quartz Hill Tank. Sites recorded along the trail 4589, 4606, 4608, 4610, and 4615. Within 3km of McCoy Spring.
CA-Riv-4613	Trail: 0.1 km long segment leading directly to McCoy Spring. Site 4616 recorded along it. Within 3km of McCoy Spring.
CA-Riv-4614	Trail: 0.3 km long segment leading directly to McCoy Spring. Site 4610 recorded along it. Within 3km of McCoy Spring.
CA-Riv-4615	Artifact Scatter: 2 metates, 12 ceramics, along trail 4596 leading directly to McCoy Spring and trail 4612 leading to Quartz Hill Tank. Within 3km of McCoy Spring.
CA-Riv-4616	Activity Area: 1 metate, 1 petroglyph, along trails 4596 and 4613 leading directly to McCoy Spring. Within 3km of McCoy Spring.
CA-Riv-4617	Artifact Scatter: 7 metates. Within 3km of McCoy Spring.
CA-Riv-4618	Ceramic Scatter: 18 ceramics, along unknown trail. Within 3km of McCoy Spring.

TABLE D-6 (Continued)
CULTURAL RESOURCES LOCATED BY MCCARTHY IN THE VICINITY OF GSEP

Resource	Description
CA-Riv-4680	Trail: leads to Destination Area B including water sources at 523 and 4699. Other trails leading to B are 4685, 4686.
CA-Riv-4681	Ceramic Scatter: 130 ceramics, along unknown trail.
CA-Riv-4682	Ceramic Scatter: 21 ceramics, along unknown trail.
CA-Riv-4683	Ceramic Scatter: 60 ceramics, along unknown trail.
CA-Riv-4684	Trail: small branch trail off 4680, near Destination Area B.
CA-Riv-4685	Trail: leads to Destination Area B including water sources at 523 and 4699. Other trails leading to B are 4680, 4686.
CA-Riv-4686	Trail leads to Destination Area B including water sources at 523 and 4699. Other trails leading to B are 4680, 4685.
CA-Riv-4687	Rock Ring: 1 ring, along unknown trail.
CA-Riv-4688	Trail: near Destination Area B. Intersects with trails 3129. Just south of 3130.
CA-Riv-4689	Rock Cluster: 2 clusters, along unknown trail.
CA-Riv-4690	Ceramic Scatter: 32 ceramics, along unknown trail.
CA-Riv-4691	Trail: Very short, short-cut trail connecting trail 3130 with the Halchidhoma Trail, CA-Riv-0053T.
CA-Riv-4692	Ceramic Scatter: 7 ceramics, along unknown trail.
CA-Riv-4693	Ceramic Scatter: 35 ceramics, along unknown trail.
CA-Riv-4694	Activity Area: 2 petroglyph images, 1 rock cluster, along unknown trail.
CA-Riv-4695	Temporary Camp: trail segment, 2 metates, 120 petroglyph images, 1 rock ring.
CA-Riv-4696	Isolate: 1 metate, along unknown trail.
CA-Riv-4697	Trail: near Destination Area B.
CA-Riv-4698	Trail: near Destination Area B.
CA-Riv-4699	Activity Area: Destination Area B, water tank, western side of McCoy Mountains, trail segment, 2 metates, 19 petroglyph images, 150 ceramics. Near other Area B sites, 523 and 4700.
CA-Riv-4700	Activity Area: Destination Area B, trail segment, 7 petroglyph images. Near other Area B sites 523 and 4699.
CA-Riv-4701	Trail: Small trail segment east of but paralleling the Halchidhoma Trail, CA-Riv-0053T, at the south end of McCoy Mountains.
CA-Riv-4702	Trail: Small trail segment branching north off the Halchidhoma Trail CA-Riv-0053T at the south end of McCoy Mountains.
CA-Riv-4703	Trail: leads to Destination Area C, water tank. Associated with trail 4519.
CA-Riv-4704	Trail: leads to Destination Area D, water tanks. Associated with the Halchidhoma Trail CA-Riv-0053T and trail 4705.
CA-Riv-4705	Trail: leads to Destination Area D, water tanks. Associated with the Halchidhoma Trail CA-Riv-0053T and trail 4704.
CA-Riv-4706	Isolate: 1 metate, along unknown trail.

TABLE D-7
POTENTIAL CONTRIBUTORS TO THE PREHISTORIC TRAILS NETWORK CULTURAL LANDSCAPE IN THE VICINITY OF THE GSEP

Resource	Description	When Found	Period/Era	Location	Info Source
Prehistoric					
CA-Riv-0053T	Trail: 22+ km, leads from Colorado River to McCoy Spring around south and west side of McCoy Mountains, multiple associated sites and features.	Previously known	Prehistoric	In Ethno-graphic APE	McCarthy 1993
CA-Riv-0132 (P33-00132)	Temporary Camp: McCoy Spring National Historic District, 40 acres, at spring, 18 trails, 3000+ rock art images, 1000+ artifacts, midden, rock rings, cleared circles.	Previously known	Prehistoric	In Ethno-graphic APE	McCarthy 1986, 1993
CA-Riv-0260 (P33-00260)	Temporary Camp: 62 acres near lake edge, 1000+ artifacts, ceramics, lithics, ground stone, FAR. 5 concentrations, buried deposits, pot drops.	Previously known	Prehistoric	Linear Corridor	Ramirez 2008 (update)
CA-Riv-0663 (P33-00663)	Temporary Camp: 186 acres, 1000+ artifacts, lithics (jasper, quartzite, rhyolite, chert, and chalcedony) 1 Corner Notched projectile point fragment, 1 biface fragment, ceramics (Parker buffware and Tizon brownware, and greyware), mano and metate fragments some of green shale, FAR, and 1 rock alignment. May include CA-Riv-6900.	Previously known	Prehistoric	Linear Corridor	Pallette et al., 1989 Farmer et al., 2010
P33-01222	Temporary Camp: located near dry lake shore (n=100+), 7 loci of metates and manos, debitage of quartz and chalcedony cores and flakes. Site disturbed by ORV.	Previously known	Prehistoric	In Ethno-graphic APE	Cook 1976
P33-01818	Ceramic Scatter: 53 sherds, Tumco Buff, pot drop	Previously known	Prehistoric	In Ethno-graphic APE	Carrico 1980
P33-01840	Artifact Scatter: just south of I-10, 2 pot drops (n=71), 2 lithics, 1 ground stone fragment.	Previously known	Prehistoric	In Ethno-graphic APE	Musser & Boyer 1976
P33-02157	Temporary Camp: along lake edge, near I-10, artifacts (n=30+), ceramic (buff/ Tizon brown ware), ground stone fragments (metates/manos), lithic flakes (quartz/green andesitic meta-volcanic).	Previously known	Prehistoric	In Ethno-graphic APE	Cardenas 1981
CA-Riv-2159 (P33-02159)	Temporary Camp: (n=100s) with 5 loci, and 1 pot drop (n=7), along lake edge, lithics (flakes: rhyolite, basalt, chalcedony, agate, jasper, chert, granite, andesite) and ground stone (manos, metates, hammerstones).	Previously known	Prehistoric	In Ethno-graphic APE	Cardenas 1981
P33-03129	Trail: 3.5 km long, leads to the southwestern side of the McCoy Mountains.	Previously known	Prehistoric	In Ethno-graphic APE	McCarthy 1991
P33-03801	Ceramic Scatter: (n=5) Parker buffware sherds, pot drop	Previously known	Prehistoric	In Ethno-graphic APE	Pallette et al. 1989
P33-03808	Ceramic Scatter: (n=7) Tumco Red-on-buff sherds, pot drop	Previously known	Prehistoric	In Ethno-graphic APE	Mooney & Associates 1990

TABLE D-7 (Continued)
POTENTIAL CONTRIBUTORS TO THE PREHISTORIC TRAILS NETWORK CULTURAL LANDSCAPE IN THE VICINITY OF THE GSEP

Resource	Description	When Found	Period/Era	Location	Info Source
Prehistoric (cont.)					
P33-03809	Ceramic Scatter: (n=7+) Tumco buff sherds, pot drop	Previously known	Prehistoric	In Ethno-graphic APE	Mooney & Associates 1990
CA-Riv-6900	Temporary Camp: (100+), lithics, ground stone. Possibly part of CA-Riv-0663.	Previously known	Prehistoric	In Ethno-graphic APE	BLM 1977
CA-Riv-9037 (P33-17421)	Temporary Camp: near lake shore, artifacts (n=17), lithics, ground stone, 1 brownware sherd, 5 concentrations of FAR.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9055 (P33-17439)	Temporary Camp: near lake shore, artifacts (n=53) including debitage, ground stone, ceramic fragments, FAR concentration.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9064 (P33-17448)	Temporary Camp: near lake edge, artifacts (n=120+), 2 concentrations, 3 projectile points, 2 bifaces, 2 ground stone. Possibly Archaic period.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9071 (P33-17455)	Temporary Camp: 78 acres, 4 concentrations (n=250+), lithics, ceramics, ground stone, FAR.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9072 (P33-17456)	Temporary Camp: 350 acres, artifacts (n=1000+), debitage, Rose Spring projectile point (AD 200 to 1100), brownware sherds, FAR, ground stone. May be part of CA-Riv-9078.	GSEP Class II	Prehistoric	In Facility Footprint	Farmer et al. 2009
CA-Riv-9078 (P33-17462)	Temporary Camp: (n=3000+) artifacts, 2000 ground stone, lithics, FAR. Milling tool manufacturing? May be part of CA-Riv-9072.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9079 (P33-17463)	Temporary Camp: artifacts (n=500+), lithics, 5 ground stone, 1 marine clam shell fragment.	GSEP Class II	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9226 (P33-17795)	Temporary Camp: near lake shore (n=100+), lithics, 3 brownware sherds, 70 FAR, ground stone.	GSEP Class III	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9227 (P33-17796)	Artifact Scatter: (n=18), lithics, brownware sherds (n=14) pot drop, 1 marine shell fragment	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9249 (P33-18003)	Ceramic Scatter: Brownware sherds (n=20) pot drop.	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009
CA-Riv-9250 (P33-18004)	Artifact Scatter: (n=75) 1 concentration with 2 pot drops (33 and 29 sherds) Brownware sherds, 9 lithics, 3 FAR.	GSEP Class III	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
CA-Riv-9255 (P33-18009)	Artifact Scatter: (n=40+) artifacts, 10 Brownware “pot drop” sherds, 4 Brownware sherds, 3 Redware sherds, lithics, 3 FAR, 1 ground stone.	GSEP Class III	Prehistoric	Linear Corridor	Farmer et al. 2009

TABLE D-7 (Continued)
POTENTIAL CONTRIBUTORS TO THE PREHISTORIC TRAILS NETWORK CULTURAL LANDSCAPE IN THE VICINITY OF THE GSEP

Resource	Description	When Found	Period/Era	Location	Info Source
Prehistoric (cont.)					
CA-Riv-9260 (P33-18014)	Artifact Scatter: (n=108+) artifacts, 100 Brownware "pot drop" sherds, 7 other Brownware sherds, 1 chert uniface.	GSEP Class III	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
P33-17977	Ceramic Scatter: (n=11) Brownware sherds pot drop	GSEP Class III	Prehistoric	In Ethno-graphic APE	Farmer et al. 2009
P33-01131	Artifact Scatter: Widely dispersed low density pot drop: 50 Tizon brownware sherds, 1 mano, 1 core fragment.	Previously known	Prehistoric	In Ethno-graphic APE	Dittman 1981
Dual-Component					
P33-01516	Temporary Camp/Refuse Scatter: (n=1000+) along dry lake shoreline, ground stone, lithic scatter, thermal fractured rock. WW II military artifacts.	Previously known	Prehistoric/Historic	In Ethno-graphic APE	Ritter 1975
CA-Riv-9224 (P33-17793)	Temporary Camp/Refuse Scatter: Prehistoric (n=60+), 2 concentrations, FAR in 2 possible hearths, brownware pot drop (n=28+), 1 Desert Side-notched projectile point (AD 1100 to Contact), Historic (n=6) .45 caliber bullets, mess-kit spoon stamped "US", C-ration coffee can, pocket knife. Possibly part of CA-Riv-260.	GSEP Class III	Prehistoric/Historic	In Ethno-graphic APE	Farmer et al. 2009

TABLE D-8
POTENTIAL CONTRIBUTORS TO THE DTC/C-AMA CULTURAL LANDSCAPE IN THE GSEP APES

Resource	Description	When Found	Period/Era	Location	Info Source
Historical					
P33-01483	Historic Feature: Military mound, horseshoe-shaped, low earth mound. (1940s)	Previously known	Historic	Vicinity	Crowley 1978
P33-13598	Refuse Scatter: (n=8+) WW II era cans.	Previously known	Historic	Linear Corridor	Mooney & Associates 2004
P33-13655	Historic Feature and Refuse Scatter: Possible WW II foxholes and cans (1940s)	Previously known	Historic	Avoided	Mooney & Associates 2004
CA-Riv-9035H (P33-17419)	Refuse Scatter: Cans, bottle glass, misc.	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9059H (P33-17443)	Refuse Scatter: Can scatter. Prehistoric FDLA-Iso-10 recorded within site boundaries.	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9063H (P33-17447)	Refuse Scatter: Cans, spoon (military), pliers.	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9074H (P33-17458)	Refuse Scatter: WW II era cans and bottles.	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9077H (P33-17461)	Refuse Scatter: Cans and bottles (1940s).	GSEP Class II	Historic	Avoided	Farmer et al. 2009
CA-Riv-9203H (P33-17772)	Refuse Scatter: Pull-tab aluminum cans, food cans, bottle (1954–pres)	GSEP Class III	Historic	In Facility Footprint and Linear Corridor	Farmer et al. 2009
CA-Riv-9204H (P33-17773)	Refuse Scatter: Can scatter, bottles (1932-1953)	GSEP Class III	Historic	In Facility Footprint	Farmer et al. 2009
CA-Riv-9211H (P33-17780)	Refuse Scatter: Cans, bottle glass, 1934 penny	GSEP Class III	Historic	In Facility Footprint	Farmer et al. 2009
CA-Riv-9213H (P33-17782)	Refuse Scatter: Approximately 60 cans.	GSEP Class III	Historic	In Facility Footprint	Farmer et al. 2009
CA-Riv-9214H (P33-17783)	Refuse Scatter: Approximately 10 cans.	GSEP Class III	Historic	In Facility Footprint	Farmer et al. 2009
CA-Riv-9225H (P33-17794)	Refuse Scatter: 7 cans, mess-kit fork (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9228H (P33-17797)	Refuse Scatter: 10 cans, bottle base (1938-1951), bottle base (1916-1931), razor blade, glass fragments (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9230H (P33-17799)	Historic Feature and Refuse Scatter: stake alignment and 30+ C-ration cans, 13 other cans (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9245H (P33-17999)	Refuse Scatter: 8 cans, “New Texaco Motor Oil” can (c. 1937), 1 “Dietz All Weather” kerosene construction flare, Aladdin Industries “Aladdins Economy Thermos Bottle”	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9246H (P33-18000)	Refuse Scatter: 1 metal shoe last, 2 small donkey/pony shoes, 1 brass compass w/plastic lens, 5 C-ration cans, 1 Prince Albert style tobacco tin, 1 white milk glass jar w/metal lid embossed Mentholatum/ Reg/ Trade/ Mark (c.1960-post)	GSEP Class III	Historic	Avoided	Farmer et al. 2009

TABLE D-8 (Continued)
POTENTIAL CONTRIBUTORS TO THE DTC/C-AMA CULTURAL LANDSCAPE IN THE GSEP APES

Resource	Description	When Found	Period/Era	Location	Info Source
Historical (cont.)					
CA-Riv-9248H (P33-18002)	Refuse Scatter: 8 .30 caliber machine gun cartridges (stamped base 1938 and 1940), 12 gauge shotgun shell brass, 1 coffee can "Nescafe" (c. 1940s-1960s), 13 cans, automobile leaf spring, razor blade, metal fragments (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9251H (P33-18005)	Refuse Scatter: 2 .30 caliber machine gun cartridges (stamped base 1940),1 threaded lid coffee can, 2 C-ration cans, 1 pocket knife, 3 cans, bailing wire (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9252H (P33-18006)	Refuse Scatter: 1 amber glass beer bottle (Anchor Hocking post 1937), 4 C-ration cans, 7 sanitary cans (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9253H (P33-18007)	Refuse Scatter: 1 C-ration can, 6 sanitary cans, 1 large beverage can, glass fragment (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9254H (P33-18008)	Refuse Scatter: cans (N=12)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9258H (P33-18012)	Refuse Scatter: 61 C-ration cans, 7 soluble coffee cans, 72 cans, 1 .30 caliber machine gun cartridge (stamped base 1940), glass bottle fragments (Owens Illinois c. 1929-1957), 7 coffee cans external thread lid (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9259H (P33-18013)	Historic Feature: Stake Alignments: (n=2) (1940s military?)	GSEP Class III	Historic	Linear Corridor	Farmer et al. 2009
CA-Riv-9261H (P33-18015)	Refuse Scatter: 6 C-ration cans, 1 soluble coffee can, 1 tobacco tin (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9262H (P33-18016)	Refuse Scatter: 80 C-ration cans, 4 soluble coffee cans, 1 military mess fork stamped "US", 1 tobacco tin (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
CA-Riv-9263H (P33-18017)	Refuse Scatter:17 C-ration cans, 1 cone-top can, 6 tobacco tins, 1 boot sole, 1 gas tank cap, 1 clear glass bottle (Owens Illinois c. 1929-1959), 1 large bolt, 1 D-size battery (1940s military?)	GSEP Class III	Historic	Avoided	Farmer et al. 2009
Dual-Component					
P33-01516	Temporary Camp/Refuse Scatter: (n=1000+) along dry lake shoreline, ground stone, lithic scatter, thermal fractured rock. WW II military artifacts.	Previously known	Prehistoric/Historic	In Ethnographic PAA	Ritter 1975
CA-Riv-9205H (P33-17774)	Artifact Scatter/ Refuse Scatter: Debitage (n=4); mano, 2 metate fragments. Glass bottles (post 1945), auto parts (1930-1940), condensed milk cans.	GSEP Class II	Prehistoric/Historic	In Facility Footprint	Farmer et al. 2009

TABLE D-8 (Continued)
POTENTIAL CONTRIBUTORS TO THE DTC/C-AMA CULTURAL LANDSCAPE IN THE GSEP APES

Resource	Description	When Found	Period/Era	Location	Info Source
Dual-Component (cont.)					
CA-Riv-9082H (P33-17466)	Lithic Scatter/Refuse Scatter: Debitage (n=3). Cans (n=6)	GSEP Class II	Prehistoric/Historic	Avoided	Farmer et al. 2009
CA-Riv-9224 (P33-17793)	Temporary Camp/Refuse Scatter: Prehistoric (n=60+), 2 concentrations, FAR in 2 possible hearths, brownware pot drop (n=28+), 1 Desert Side-notched projectile point (AD 1100 to Contact), Historic (n=6) .45 caliber bullets, mess-kit spoon stamped "US", C-ration coffee can, pocket knife. Possibly part of CA-Riv-260.	GSEP Class III	Prehistoric/Historic	Avoided	Farmer et al. 2009
CA-Riv-9247 (P33-18001)	Ceramic Scatter/Refuse Scatter: Brownware sherds (n=3), 4 C-ration cans, 13 sanitary cans, 1 nut and bolt, 1 clear glass jar – Armstrong Cork Company (c.1938 -1969)	GSEP Class III	Prehistoric/Historic	Avoided	Farmer et al. 2009
Unknown					
CA-Riv-0259 (P33-00259) or (P33-13656)	Prehistoric Rock Rings or WWII era foxholes with refuse scatter?	Previously known	Unknown	Linear Corridor	Gester 1965 Mooney & Associates 2004

TABLE D-9
SIGNIFICANT CULTURAL RESOURCES SUBJECT TO DIRECT PROJECT IMPACTS
(based on preliminary NRHP eligibility determinations)

Resource	Resource Description
Cultural Landscapes	
DTC/C-AMA Cultural Landscape	World War II era Refuse Scatters and Features: includes 14 historic-period sites, 1 dual component site, and 1 unknown site listed below. Other contributors are outside of GSEP APEs
Prehistoric Trails Network Cultural Landscape	Prehistoric Trails and associated sites: Includes 248 sites in the GSEP ethnographic APE including McCoy Spring National Register District (CA-Riv-0132), and 6 sites listed below. Other contributors outside of GSEP APEs.
Prehistoric Archaeological Resources	
CA-Riv-0260	Temporary Camp: 62 acres, artifacts (n=1000+), features. PTNCL contributor.
CA-Riv-0663	Temporary Camp: 186 acres, artifacts (n=1000+), features. PTNCL contributor.
CA-Riv-9072	Temporary Camp: 350 acres, artifacts (n=1000+), features. Rose Spring projectile point (AD 200 to 1100). PTNCL contributor.
CA-Riv-9084	Artifact Scatter: 17 acres, artifacts (n=96), lithics, ground stone, 1 marine shell, and 1 Olivella shell bead (1100 cal AD to Contact).
CA-Riv-9209	Artifact Scatter: 2 acres, artifacts (n=24), 7 debitage, 4 ground stone fragments, 1 core.
CA-Riv-9215	Artifact Scatter: 3.6 acres, artifacts (n=25), 10 debitage, 1 projectile point (no ID).
CA-Riv-9216	Artifact Scatter: 4 acres, near lake shore, 2 concentrations, artifacts (n=45), lithics, groundstone.
CA-Riv-9220	Artifact Scatter: 9.4 acres, artifacts (n=94), lithics, 1 projectile point tip, 1 Cottonwood leaf-shaped projectile point, 1 metate fragment.
CA-Riv-9223	Lithic Scatter: 1 acre, debitage (n=20).
CA-Riv-9227	Artifact Scatter: 3 acres, artifacts (n=18), pot drop brownware sherds (n=14), 1 marine shell fragment. Possible PTNCL contributor.
CA-Riv-9249	Ceramic Scatter: 1 acre, brownware sherds (n=21), pot drop. Possible PTNCL contributor.
CA-Riv-9255	Artifact Scatter: 1.7 acres, artifacts (n=40), 1 concentration, brownware pot drop (n=10), FAR, groundstone. Possible PTNCL contributor.
Historical Archaeological Resources	
P33-13598	Refuse Scatter: 0.04 acres, cans (n=8). Possible contributor to DTCCL.
CA-Riv-9063H	Refuse Scatter: 1.22 acres, artifacts (n=15). Possible contributor to DTCCL.
CA-Riv-9203H	Refuse Scatter: 5.2 acres, artifacts (n=84), food and beverage cans, can fragments, glass bottles, and plastic. Dual component? Post 1950? Possible contributor to DTCCL.
CA-Riv-9204H	Refuse Scatter: 1 acre, cans and bottles (1932-1953). Possible contributor to DTCCL.
CA-Riv-9211H	Refuse Scatter: 0.2 acres, cans and glass bottles, 1934 penny. Possible contributor to DTCCL.
CA-Riv-9213H	Refuse Scatter: 2 acres, (n=60) cans. Possible contributor to DTCCL.
CA-Riv-9214H	Refuse Scatter: 0.7 acres, (n=10) cans. Possible contributor to DTCCL.
CA-Riv-9228H	Refuse Scatter: 0.06 acres, 10 cans, bottle base (1938-1951), bottle base (1916-1931), razor blade, glass fragments. Possible contributor to DTCCL.
CA-Riv-9245H	Refuse Scatter: 3.3 acres, (n=14), cans, thermos, flare. Possible contributor to DTCCL.
CA-Riv-9251H	Refuse Scatter: 0.2 acres, (n=9) cans, machine gun cartridges, pocket knife, bailing wire. Possible contributor to DTCCL.
CA-Riv-9254H	Refuse Scatter: 0.6 acres, (n=21) cans. Possible contributor to DTCCL.
CA-Riv-9258H	Refuse Scatter: 2.3 acres, (n=150+) cans, glass bottles, machine gun cartridges, 5 artifact concentrations. Possible contributor to DTCCL.
CA-Riv-9259H	Feature: 0.3 acres, 2 stake alignments. Possible contributor to DTCCL.

TABLE D-9 (Continued)
SIGNIFICANT CULTURAL RESOURCES SUBJECT TO DIRECT PROJECT IMPACTS
(based on preliminary NRHP eligibility determinations)

Resource	Resource Description
Dual-Component Resources	
CA-Riv-9205H	Refuse Scatter/Lithic Scatter: 1 acre, Prehistoric (n=8) lithics and groundstone. Historic (n=100+) cans, glass (post 1945), auto parts (1930-1940). Possible contributor to DTCCL.
Unknown	
CA-Riv-0259 (P33-00259) Or (P33-13656)	Features: 1 acre, Prehistoric rock rings or WWII era foxholes with refuse scatter? 2004 visit suggests this site is a possible contributor to DTCCL.

TABLE D-10
KNOWN CULTURAL RESOURCES LOCATED WITHIN THE REDUCED ACREAGE ALTERNATIVE

Resource Type and Designation	Resource Description [type, size, age, data absences]	When Found	Period/Era	Information Source
Prehistoric Archaeological Resources				
CA-Riv-9047 (P33-17431)	Lithic Scatter: Debitage (n=5)	New	Prehistoric	Farmer et al. 2009
CA-Riv-9048 (P33-17432)	Lithic Scatter: Debitage (n=10).	New	Prehistoric	Farmer et al. 2009
CA-Riv-9051 (P33-17435)	Lithic Scatter: Debitage (n=4), core.	New	Prehistoric	Farmer et al. 2009
CA-Riv-9072 (P33-17456)	Temporary Camp: Debitage (n=hundreds), FAR, Rose Spring projectile point, brownware sherds (n=hundreds) hundreds of ground stone fragments, scatter covers several hundred acres.	New	Prehistoric	Farmer et al. 2009
CA-Riv-9084 (P33-17468)	Temporary Camp: Debitage (n=21), ground stone, and an olivella shell bead.	New	Prehistoric	Farmer et al. 2009
CA-Riv-9215 (P33-17784)	Lithic Scatter: Debitage (n=10), concave-base projectile point.	New	Prehistoric	Farmer et al. 2009
CA-Riv-9217 (P33-17786)	Lithic Scatter: Debitage (n=3),	New	Prehistoric	Farmer et al. 2009
CA-Riv-9218 P33-17787)	Lithic Scatter: Debitage (n=2), scraper	New	Prehistoric	Farmer et al. 2009
CA-Riv-9219 (P33-17788)	Lithic Scatter: Debitage (n=3)	New	Prehistoric	Farmer et al. 2009
CA-Riv-9220 (P33-17789)	Lithic Scatter: Debitage (n=92), metate fragment, projectile point tip, Cottonwood projectile point	New	Prehistoric	Farmer et al. 2009
CA-Riv-9221 (P33-17770)	Lithic Scatter: Debitage (n=7).	New	Prehistoric	Farmer et al. 2009
CA-Riv-9223 (P33-17772)	Lithic Scatter: Debitage (n=16).	New	Prehistoric	Farmer et al. 2009
CA-Riv-9227 (P33-17796)	Lithic and ceramic Scatter: Debitage (n=3); brownware sherds (n=14), marine shell fragment	New	Prehistoric	Farmer et al. 2009
Ethnographic Resources				
(CA-Riv-0132)	McCoy Spring National Historic District	Previously known	Prehistoric	McCarthy 1986
Historical Archaeological Resources				
CA-Riv-9214H (P33-17783)	Refuse Scatter: Approximately 10 cans.	New	Historic	Farmer et al. 2009
CA-Riv-9228H (P33-17797)	Refuse Scatter: 10 cans, bottle base (1938-1951), bottle base (1916-1931), razor blade, glass fragments	New	Historic	Farmer et al. 2009
Built-Environment Resources				
No number	Blythe-Eagle Mountain Transmission Line	New	Historic	Farmer et al. 2009, app. F
No number	Wiley's Well Road	New	Historic	Farmer et al. 2009, app. F

TABLE D-11
CUMULATIVE ANALYSIS RESULTS: ESTIMATED NUMBER OF CULTURAL RESOURCES PER ACRE

Location	Acres	Number of Known Cultural Resources
Genesis APEs Blythe APEs Palen APEs	19,184	329 = Average Density of 0.017 sites per acre
		Estimated Number of Cultural Resources (acres x 0.017)
I-10 Corridor	122,440	2,081
Southern California Desert Region	11,000,000	187,000
Existing Projects I-10 Corridor		
Chuckwalla Valley Prison and Ironwood Prison	1,720	29
I-10 Freeway	2,328	40
Devers-Palo Verde 1 Transmission Line	350	6
Kaiser Eagle Mountain Mine	3,500	59
Subtotal	***7,898***	***133***
Reasonably Foreseeable Future Projects I-10 Corridor		
13 Solar Projects and Chuckwalla Raceway	47,591	809
4 New Transmission Lines	465	17
Subtotal	***48,056***	***816***
Reasonably Foreseeable Future Projects Southern California Desert Region		
Solar Projects	567,882	9,654
Wind Projects	433,721	7,373
Subtotal	***1,001,606***	***17,027***

PROGRAMMATIC AGREEMENT
AMONG THE
BUREAU OF LAND MANAGEMENT-CALIFORNIA,
THE CALIFORNIA ENERGY COMMISSION,
NEXT ERA GENESIS SOLAR LLC, AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER,
REGARDING THE NEXT ERA GENESIS FORD DRY LAKE SOLAR PROJECT, RIVERSIDE COUNTY, CALIFORNIA

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INTRODUCTION

The purpose of this Programmatic Agreement (Agreement) is to provide processes whereby the Bureau of Land Management (BLM) and the California Energy Commission (Energy Commission), in consultation with the California State Historic Preservation Officer (SHPO), Indian Tribes and other consulting parties, shall determine the steps the agencies shall follow to take into account effects on historic properties as required by Section 106 of the National Historic Preservation Act and satisfy the requirements of the California Environmental Quality Act.

The BLM and the Energy Commission, in consultation with the consulting parties to this Agreement, will consider and incorporate within the Section 106 consultation process the performance standards (desired future condition), the range of mitigation measures and commitment to mitigate, and monitoring requirements of the Energy Commission's Staff Assessment for the Next Era Genesis Ford Dry Lake Solar Project (Application for Certification 09-AFC-8) as adopted by the Energy Commission and the BLM in any decision to permit the Genesis Solar Energy Project. The BLM and the Energy Commission will endeavor to make the historic properties treatment and management provisions of this Agreement as consistent as possible with the objectives and terms of the Revised Staff Assessment and Final Environmental Impact Statement (FEIS) within the context of the consultation process required by Section 106 of the NHPA.

Government agencies, consulting parties, and the public identified in the scoping and public notification process for the Staff Assessment and Environmental Impact Statement will be advised in the Revised Staff Assessment and (FEIS) that historic properties associated with the undertaking would be treated consistent with the mitigation measures or performance standards identified in the Revised Staff Assessment and adopted by the Energy Commission, and consistent with the stipulations of this Agreement. A proposed final draft of this Agreement will be circulated for public comment as an attachment to the FEIS. The Signatories have consulted with the Invited Signatories, Concurring Parties and Tribes on this Agreement, and have taken into consideration the views and comments received regarding the draft Agreement in preparing this final Agreement.

PROGRAMMATIC AGREEMENT
AMONG THE
BUREAU OF LAND MANAGEMENT-CALIFORNIA,
THE CALIFORNIA ENERGY COMMISSION,
NEXT ERA GENESIS SOLAR LLC, AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER,
REGARDING THE NEXT ERA GENESIS FORD DRY LAKE SOLAR PROJECT,
RIVERSIDE COUNTY, CALIFORNIA

WHEREAS, Next Era Genesis Solar LLC (Applicant) has applied for a right of way (ROW) grant on approximately 4,640 acres of public lands managed by the Bureau of Land Management (BLM) and has submitted a Plan of Development (POD) to construct, operate and maintain a solar energy electrical generating plant (hereinafter referred to as the Next Era Genesis Ford Dry Lake Solar Project), including construction of two single-unit parabolic trough solar fields 125-megawatts (MW) each with power plant, a 230 kilovolt (kV) transmission line and on-site switchyard, raw water storage tank, treated water storage tank, wastewater storage tank, water pipelines, paved arterial roads, unpaved perimeter access and maintenance roads, laydown and staging areas, and support facilities and infrastructure (Appendix D: Project Description; Appendix E: Project Maps and Illustrations); and

WHEREAS, the BLM has determined that issuing a right-of-way grant (ROW) to Next Era Genesis Solar LLC in accordance with the Federal Land Policy and Management Act (FLPMA) (Public Law 940-579; 43 USC 1701) is an undertaking as defined at 36 CFR 800.16(y)(Protection of Historic Properties, August 5, 2004) of the regulations implementing Section 106 of the National Historic Preservation Act (16 USC 470(f))(NHPA); and

WHEREAS, the BLM is the lead Federal agency for the undertaking for the purpose of complying with Section 106 of the NHPA and its implementing regulations found at 36 CFR Part 800, and the BLM shall be responsible for managing historic properties within the Area of Potential Effects (APE) for the undertaking pursuant to the NHPA; and

WHEREAS, in August 2005, the United States Congress enacted the Energy Policy Act of 2005 (Public Law 109-58). In section 211 of this Act, Congress directed that the Secretary of the Interior (the "Secretary") should, before the end of the 10-year period beginning on the date of enactment of the Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity; and

WHEREAS, by Secretarial Order No. 3285 issued March 11, 2009, the Secretary stated as policy that encouraging the production, development, and delivery of renewable energy is one of the Department of Interior's (DOI) highest priorities and that agencies and bureaus within the DOI will work collaboratively with each other, and with other Federal agencies, departments, states, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the Nation's water, wildlife, and other natural resources; and

WHEREAS, BLM has consulted with the California State Historic Preservation Officer (SHPO) pursuant to 36 CFR 800.14(b)(3) and following the procedures outlined at 36 CFR 800.6, and is in the process of considering alternatives for the undertaking that have the potential to adversely affect historic properties and may reach a decision regarding approval of the undertaking before the effects of the undertaking's implementation on historic properties have been fully determined, the BLM chooses to continue its assessment of the undertaking's potential adverse effect and resolve any such effect through the implementation of this Programmatic Agreement (Agreement); and

WHEREAS, the BLM, in consultation with the SHPO pursuant to 36 CFR 800.4(b)(2), where alternatives under consideration consist of large land areas, has determined that a phased (tiered) process for compliance with Section 106 of the (NHPA) may be appropriate for the undertaking; and

WHEREAS, in accordance with regulations at 36 CFR 800.14(b)(3) BLM has notified and invited the Advisory Council on Historic Preservation (ACHP) per 36 CFR 800.6(a)(1)(C) to participate in consultation to resolve the potential effects of the Undertaking on Historic Properties, and as per their letter dated March 10, 2010, the ACHP has elected not to participate in this PA; and

WHEREAS, the California Energy Commission (Energy Commission), may certify the Next Era Genesis Ford Dry Lake Solar Project located on public lands pursuant to Section 25519, subsection (c) of the Warren-Alquist Act of 1974 and for the purposes of consistency proposes to manage all historical resources in accordance with the stipulations of this Agreement; and

WHEREAS, the BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this undertaking including a review of the existing literature and records, cultural resources surveys, ethnographic studies, and geo-morphological studies to identify historic properties that might be located within the Area of Potential Effect (APE); and

WHEREAS, the Applicant has retained an archaeological consultant to complete all of the investigations necessary to identify and evaluate cultural resources located within the Area of Potential Effect (APE) for both direct and indirect effects. A review of the existing historic, archaeological and ethnographic literature and records has been completed to ascertain the presence of known and recorded cultural resources in the APE and buffered study area, has conducted an intensive field survey for 5,188 acres of land, including all of the lands identified in APE for direct effects for all project alternatives, and has completed intensive field surveys for alternatives on lands that are no longer part of the project. A cultural resources inventory report (*Class II and Class III Cultural Resources Inventories for the Proposed Genesis Solar Energy Project, Riverside County, California,* prepared by Tetra Tech, May 2010) that presents the results of identification efforts to the BLM and the Energy Commission. The BLM has provided the report to the consulting parties and Indian Tribes for review and comment; and

WHEREAS, the BLM and the Energy Commission have prepared the *Staff Assessment and Environmental Impact Statement, Genesis Solar Energy Project, Application for Certification (09-AFC-8) Riverside County (2010)* to identify the project alternatives for purposes of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), and have comparatively examined the relative effects of the alternatives on known historic properties; and

WHEREAS, the Applicant, as grantee of the proposed ROW, has participated in consultation per 36 CFR 800.2(c)(4), and shall provide all cultural resources documentation required by the BLM in support of the stipulations to this agreement and is willing to carry out the stipulations of this Agreement under the oversight of BLM, and is an Invited Signatory to this Agreement; and

WHEREAS, pursuant to section 101(d)(6)(B) of the NHPA, 36 CFR 800.2(c)(2)(ii), the American Indian Religious Freedom Act (AIRFA), Executive Order 13175, and section 3(c) of the Native American Graves Protection and Repatriation Act (NAGPRA), the BLM is responsible for government-to-government consultation with Federally recognized Indian Tribes and is the lead agency for all Native American consultation and coordination; and

WHEREAS, the BLM has formally notified and invited the Agua Caliente Band of Cahuilla Indians, Augustine Band of Mission Indians, Cabazon Band of Mission Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribes, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Morongo Band of Mission Indians, Ramona Band of Mission Indians, San Manuel Band of Mission Indians, Soboba Band of Luiseno Indians, Torres-Martinez Desert Cahuilla Indians and Twenty-Nine Palms Band of Mission Indians (Tribes), to consult on this undertaking and participate in this Agreement as a Concurring Party. BLM has documented its efforts to consult with the Tribes and a summary is provided in Appendix I to this Agreement; and

WHEREAS, the BLM shall continue to consult with the Tribes throughout the implementation of this Agreement regarding the adverse effects to historic properties to which they attach religious and cultural significance. BLM will carry out its responsibilities to consult with Tribes that request such consultation with the further understanding that, notwithstanding any decision by these tribes to decline concurrence, BLM shall continue to consult with these Tribes throughout the implementation of this Agreement; and

WHEREAS, through consultation, Tribes have expressed their views and concerns about the importance and sensitivity of specific cultural resources that hold religious snd cultural significance. Tribes have expressed the connection of these resources - to the broader cultural landscape within and near the project area; and

WHEREAS, the California Unions for Reliable Energy, as an organization, has been invited to consult on this undertaking and this Agreement, have been afforded consulting party status pursuant to 36 CFR 800.4, and have been invited to be Concurring Parties to this Agreement;

NOW, THEREFORE, the BLM and the SHPO (hereinafter "Signatories) and the Energy Commission and the Applicant (hereinafter "Invited Signatories"), agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The BLM shall ensure that the following measures are implemented:

I. DEFINITIONS

The definitions found at 36 CFR 800.16 and in this section apply throughout this agreement except where another definition is offered in this Agreement.

a) ***Concurring Parties***. Collectively refers to consulting parties with a demonstrated interest in the Undertaking, who concur, through their signature, in this Agreement. Concurring Parties may propose amendments to this Agreement. Amendments proposed by Concurring Parties may be considered at the discretion of the Signatories.

b) ***Cultural Resource.*** A cultural resource is an object or definite location of human activity, occupation, or use identifiable through field inventory, historical documentation, or oral evidence. Cultural resources are prehistoric, historic, archaeological, or architectural sites, structures, buildings, places, or objects and definite locations of traditional cultural or religious importance to specified social and/or culture groups. Cultural resources include the entire spectrum of resources, from artifacts to cultural landscapes, without regard to eligibility for inclusion on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR).

c) ***Consulting Parties.*** Collectively refers to the Signatory, Invited Signatory and Concurring Parties to this Agreement.

d) ***Day.*** Singular or plural, refers to a calendar, rather than a business, day.

e) ***Historic Properties.*** Historic Properties are included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior and per the NRHP eligibility criteria at 36 CFR § 60.4 and may include any prehistoric or historic district, site, building, structure, traditional cultural property or object. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the NRHP criteria. The term eligible for inclusion in the NRHP includes both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the NRHP criteria.

f) ***Historic Resources.*** Historic resources meet the criteria for listing on the CRHR as provided at California Code of Regulations Title 14, Chapter 11.5 Section 4850 and may include, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the

architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

g) ***Invited Signatories.*** Invited Signatories to this Agreement are the Energy Commission and Applicant. Invited Signatories have specific responsibilities as defined in this Agreement and have the same rights as the Signatory Parties to propose amendments and termination of this Agreement, but their signatures are not required for execution of the Agreement..

h) ***Lands Administered by the U.S. Department of Interior, Bureau of Land Management*** (BLM) means any Federal lands under the administrative authority of the BLM.

i) ***Literature Review.*** A literature review is one component of a BLM class 1 inventory, as defined in BLM Manual Guidance 8100..21(A)(1), and is a professionally prepared study that includes a compilation and analysis of all reasonably available cultural resource data and literature, and a management-focused, interpretive, narrative overview, and synthesis of the data. The overview may also define regional research questions and treatment options.

j) ***Records Search.*** A records search is one component of a BLM class I inventory and an important element of a literature review. A records search involves obtaining existing cultural resource data from published and unpublished documents, BLM cultural resource inventory records, institutional site files, State and national registers, interviews, and other information sources.

k) ***Signatories.*** Signatories to this Agreement are the BLM and SHPO. Signatories have the sole authority to execute, amend or terminate this Agreement.

l) ***Traditional Cultural Property.*** A traditional cultural property is defined generally as property that is important to a living group or community because of its association with cultural practices or beliefs that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. It is a place that may figure in important community traditions or in culturally important activities, such as traditional gathering areas, prayer sites, or sacred/ceremonial locations. These sites may or may not contain features, artifacts, or physical evidence, and are usually identified through consultation. A traditional cultural property may be eligible for inclusion in the NRHP and the CRHR.

m) ***Tribes.*** The federally recognized and non-federally recognized Indian Tribes that BLM is consulting with on this undertaking.

n) ***Undertaking.*** Issuing any ROW/permit(s) individually or collectively by the BLM allowing or facilitating construction, operation or maintenance activities related to the Project on BLM administered lands constitutes an "undertaking" as defined at 36 CFR 800.16(y) and is the undertaking addressed by this Agreement.

o) ***Windshield Survey.*** A windshield survey is a common method utilized in reconnaissance surveys to identify built-environment cultural resources, such as buildings, objects, and structures. Windshield surveys involve surveyors driving or walking streets and roads of a community and observing and recording the buildings, structures, and landscape characteristics they see.

II. AREA OF POTENTIAL EFFECTS

a) The APE is defined as the geographic area or areas within which the undertaking may directly or indirectly cause alterations in the character or use of historic properties per 36 CFR 800.16(d). The APE is influenced by the scale and nature of an undertaking and includes those areas which could be affected by the project prior to, during and after construction. For the Genesis Solar Energy Project the APE has been defined to include a 15 mile radius around the project location. Specific APE's for the project are discussed below and include the methodology used to identify historic properties. See Appendix E for APE map and project illustrations.

i) Historic properties could sustain direct physical effects as a result of the undertaking and is defined to include:

ii)

(1) All areas subject to the BLM's ROW decision for the 250MW solar energy facility and transmission line corridor, which includes approximately 4,640 acres of public lands. The area is located approximately 25 miles west of the city of Blythe, California, south of the Palen/McCoy Wilderness Area and north of Ford Dry Lake and Interstate 10.

(2) The APE for linear elements of the undertaking includes:

(a) The ROW for a new 230 kV transmission line is defined as an approximately 100 foot wide and 6.5 mile long corridor that extends to the Blythe Energy Project Transmission Line. A survey corridor for cultural resources for this linear element was established as a 150-foot buffer on either side of the center line (300 foot corridor) to allow for changes in the ROW to avoid cultural resources.

(b) The ROW for the transmission line will also contain a natural gas pipeline that will tie into an existing Southern California Edison natural gas pipeline south of and adjacent to Interstate 10.

iii) Historic properties not located within the areas described in Stipulation II(a)(i) that could sustain direct or indirect effects, including visual, auditory, and atmospheric, as a result of the undertaking and is defined to include:

(1) Cultural resources identified through a review of existing literature and records search, information or records on file with the BLM or at the EIC, interviews or discussions with local professional or historical societies and local experts in history or archaeology. Specific areas of concern or cultural resources that were identified include:

(a) McCoy Spring Archaeological Site CA-RIV-132.
(a) The Bradshaw Trail and numerous, wide-spread, previously recorded, prehistoric trail segments.

(2) Any cultural resource or location which has been included in the Native American Heritage Commission Sacred Lands Files, identified through a literature review or records search, or identified by a Tribe, through consultation as having religious or cultural significance.

(3) Any cultural resource or location which has been identified by a consulting party, organization, governmental entity, or individual through consultation or the public commenting processes as having significance or being a resource of concern. Areas identified through consultation to date include:

(a) Desert Training Center (DTC) Archeological Sites and Landscape
(b) McCoy Spring Archaeological District

(4) Built-environment resources

(a) The APE is expanded to include a half-mile buffer from the project site and above-ground linear facilities to encompass historic properties whose historic setting could be adversely affected.

(b) Cultural resources identified through surveys where access was granted and windshield surveys where there was no allowed access within a half mile of the APE for direct effects.

(5) Cultural resources identified through a review of the existing literature, information and records search at the BLM Palm Springs/South Coast Field Office and at the EIC, for cultural resources that are located within a one mile buffer of the project area and ¼-mile from each linear project feature.

(a) Prehistoric Districts and Prehistoric Landscapes
(i) Prehistoric Trails Network

(b) Historic Districts and Historic Landscapes
(i) Desert Training Center (DTC) Archaeological Sites and Landscape

(6) Cultural resources identified through archaeological or other field investigations for this undertaking that, as a result of project redesign to avoid direct effects to cultural resources, are no longer within the APE project area but could still sustain effects.

b) Amending the APE: The APE encompasses an area sufficient to accommodate all of the proposed and alternative project components under consideration as of the date of the execution of this Agreement. If BLM determines in the future that unforeseen changes to the undertaking may cause alterations in the character or use of historic properties, if any such properties exist, in a geographic area or areas beyond the extent of the APE above,

then the BLM, in consultation with the Signatories and Invited Signatories shall modify the APE using the following process.

i) Any consulting party to this Agreement may propose that the APE established herein be modified. The BLM shall notify the Signatories and Invited Signatories of the proposal and consult for no more than 15 days to reach agreement on the proposal.

ii) If the Signatories agree to the proposal, then the BLM will prepare a description and a map of the modification to which the Signatories agree. The BLM will keep copies of the description and the map on file for its administrative record and distribute copies of each to the other Signatories and Invited Signatories within 30 days of the day upon which agreement was reached.

iii) Upon agreement to a modification to the APE that adds a new geographic area, the BLM shall follow the processes set forth in Stipulation III to identify and evaluate historic properties in the new APE, assess the effects of the undertaking on any historic properties in the APE, and provide for the resolution of any adverse effects to such properties, known or subsequently discovered.

iv) If the Signatories cannot agree to a proposal for the modification of the APE, then they will resolve the dispute in accordance with Stipulation X.

III. IDENTIFICATION AND EVALUATION

c) The BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this undertaking including, but not limited to, a literature review, records search, cultural resources surveys, ethnographic studies, and geo-morphological studies to identify historic properties that might be located within the APE.

i) A cultural resources report (Tetra Tech 2010) has been submitted by the Applicant that presents the results of identification efforts to the BLM and the Energy Commission and was approved on June 3rd, 2010.

ii) The BLM, in consultation with the Energy Commission, may require additional field investigations to ensure the accuracy of site recordation and to provide additional information to support site evaluations and the assessment of effects. The BLM and the Energy Commission, have the right and the discretion, under this Agreement, to request additional field studies.

iii) The BLM has consulted and shall respond to any request to consult with Tribes, Tribal organizations or tribal individuals regarding the identification of historic properties within the APE to which they attach religious or cultural significance.

d) The BLM shall make determinations of eligibility for sites within the APE of Stipulation II (a) (i) consistent with 800.4(b)(2) and findings of effect consistent with 800.5(a)(1) prior to the Record of Decision to the extent practicable on those cultural resources within the area of direct impact, and make the agency's determinations and findings available to the consulting parties, Tribes, and the public for a 45 day review and comment period.

i) The BLM will respond to any request for consultation on its determinations from a consulting party to this Agreement or a Tribe.

ii) A consulting party may provide its comments directly to the SHPO with a copy to the BLM within the 45 day comment period.

iii) Absent comment within 45 days, the BLM may submit its determinations to SHPO for final review and comment.

iv) Where a consulting party or Tribe objects to the BLM's determination for a specific cultural resource within the 45 day review period, the BLM shall consult with the objecting party and the SHPO regarding the nature of the objection and reconsider its determinations.

(1) If the objection is not resolved, the BLM shall further consult with the SHPO and follow the processes provided at 36 CFR 800.4(c)(2).
(2) The BLM may proceed with determinations for all cultural resources not subject to objection.

v) The BLM and the Energy Commission shall coordinate to the extent feasible and practicable on determinations of eligibility for the NRHP and the CRHR.

(1) Historic Properties formally determined eligible for inclusion in the NRHP are listed on the CRHR per California Code of Regulations 4851(a)(1).
(2) If BLM and the Energy Commission do not agree on the eligibility of historic properties for the NRHP and CRHR respectively, the BLM and the Energy Commission shall consult with the SHPO for 15 days to resolve disagreements with regard to eligibility.

(a) The SHPO shall have the final authority to resolve disagreements regarding eligibility for the CRHR.
(i) If the SHPO determines that the cultural resource is eligible for the CRHR, the SHPO shall notify the Energy Commission and BLM and may request that BLM reconsider its determination.

vi) BLM will submit its determinations of eligibility to the SHPO for final review and comment.

(1) SHPO will have 30 days in which to review and comment.
(2) Absent comments within this time frame, BLM may assume, and formally document for the record, that the SHPO has elected not to comment and concurs with BLM's determinations.
(3) If the BLM and SHPO dis-agree on the determination, BLM shall follow the processes provided at 36 CFR 800.4(c)(2) and seek a determination from the Keeper of the National Register.

e) The BLM may defer the formal and final evaluation of cultral resources whose values are limited to the potential to yield information about history or prehistory and where testing or limited excavation is recommended to determine whether the site would be eligible under Criterion D for inclusion on the NRHP.

i) If adverse effects to a cultural resource which is being treated as a historic property cannot be avoided, the BLM must either evaluate the resource and make a determination of eligibility or resolve the adverse effect by implementing the prescriptions of the Historic Properties Treatment Plan (HPTP).

ii) The Applicant shall submit to the BLM an analysis of the cultural resources that the Undertaking appears likely to affect. The analysis shall also detail which cultural resources that the undertaking appears to have no potential to affect, which cultural resources the Applicant commits to avoiding through the implementation of formal avoidance measures, and which cultural resources cannot be avoided and will need to be treated by implementing the prescriptions of the (HPTP) required in Section IV of the Agreement. This analysis will be included in table format in Appendix H prior to the Record of Decision.

iii) Where additional evaluation efforts are required to assess the informational values of cultural resources, the BLM and the Energy Commission shall ensure that cultural resources located within the APE are evaluated for the NRHP and the CRHR pursuant to the guidelines provided in Appendix A of this Agreement.

f) Where additional identification and evaluation efforts are required due to changes in the project and the APE, the BLM and the Energy Commission shall ensure that cultural resources located within the APE are identified and evaluated for the NRHP and the CRHR pursuant to Appendix A of this Agreement.

g) Amendment of the identification and evaluation process as set forth hereunder will not require amendment of this Agreement if all Signatories do so agree.

IV. TREATMENT AND MANAGEMENT OF HISTORIC PROPERTIES

a) The resolution or mitigation of effects to historic properties shall be described in one or more HPTP(s) that shall be an attachment to Appendix B of this Agreement.

i) The BLM and the Applicant, in consultation with the consulting parties and Tribes, shall seek to develop a draft HPTP prior to the ROD if feasible, or to otherwise develop a framework and consensus on the general treatment measures for affected historic properties that would be finalized in the HPTP.

(1) Prior to the issuance of any Notice to Proceed by BLM to initiate the undertaking or any component of the undertaking which may affect historic properties the Applicant shall develop and submit to BLM one or more HPTPs.
(2) The HPTP will be initiated after the ROW is granted by the BLM but prior to the issuance of a Notice to Proceed for construction in those portions of the undertaking addressed by the HPTP.
(3) The BLM may authorize the phased implementation of the HPTP (per stipulation IX), or if appropriate, the development of HPTPs for individual cultural resources, or HPTPs that are issue oriented or geographically focused.

ii) The BLM and the Energy Commission, to extent possible and consistent with the guidelines provided in Appendix B(2), shall coordinate on the development of the treatment or mitigation measures proposed in the Energy Commission's Conditions of Certifications and the treatment measures developed through the Section 106 consultation process.

b) The BLM shall submit the HPTP to the consulting parties and Tribes for a 30 day review period. Absent comments within this time frame, BLM may finalize the HPTP. BLM will provide the parties with written documentation indicating whether and how the draft HPTP will be modified in response to any timely comments received. If the HPTP is revised in response to comments, BLM shall submit the revised HPTP to all parties for a 15 day review period. Absent comments within this time frame, BLM will finalize the HPTP. BLM will provide the consulting parties and Tribes with a copy of the final HPTP.

c) Where an HPTP specifically addresses treatment for adverse effects to historic properties to which Tribes attach religious or cultural significance, the BLM shall submit the HPTP to the Tribes and seek their views and comments through consultation, regardless of the status of a Tribe as a consulting party to this Agreement.

i) BLM shall submit an HPTP which addresses treatment for adverse effects to historic properties to which a Tribe(s) attaches religious and cultural significance to the SHPO. BLM shall consult with involved Tribe(s) on distribution of the HPTP to other consulting parties.

d) BLM shall ensure that any HPTP, developed in accordance with Appendix B of this Agreement, is completed and implemented.

e) BLM shall ensure that a Historic Property Management Plan (HPMP), which provides for the protection and management of historic properties during the operational life and decommissioning of the solar energy power plant, is developed and implemented in accordance with Appendix C of this Agreement.

f) Amendment of an HPTP or HPMP as set forth hereunder will not require amendment of this Agreement if all Signatories do so agree. If the Signatories do not agree to the amendment of the HPTP or HPMP, the disagreement will be resolved pursuant to the procedures in Section XI of this Agreement.

V. DISCOVERIES AND UNANTICIPATED EFFECTS

a. If the BLM determines during implementation of the HPTP that either the HPTP or the undertaking will affect a previously unidentified property that may be eligible for the NRHP, or affect a known historic property in an unanticipated manner, the BLM will address the discovery or unanticipated effect in accordance with those provisions of the HPTP that relate to the treatment of discoveries and unanticipated effects. BLM at its discretion may hereunder assume any discovered property to be eligible for inclusion in the NRHP. BLM compliance with this stipulation shall satisfy the requirements of 36 CFR 800.13(a)(1).

VI. TREATMENT OF HUMAN REMAINS OF NATIVE AMERICAN ORIGIN

a. The parties to this Agreement agree that Native American burials and related items discovered on BLM administered lands during implementation of the terms of the Agreement will be treated in accordance with the requirements of the NAGPRA. The BLM will consult with concerned Indian Tribes, Tribal Organizations, or individuals in accordance with the requirements of §§ 3(c) and 3(d) of the NAGPRA and implementing regulations found at 43 CFR Part 10 to address the treatment of Native American burials and related cultural items that may be discovered during implementation of this Agreement.

b. In consultation with the Tribes, the BLM shall seek to develop a written plan of action pursuant to 43 CFR 10.5(e) to manage the inadvertent discovery or intentional excavation of human remains, funerary objects, sacred objects, or objects of cultural patrimony. The plan of action shall be included in the Appendices to this Agreement.

c. The BLM shall ensure that Native American burials and related cultural items on private lands are treated in accordance with the requirements of §§ 5097.98 and 5097.991 of the California Public Resources Code, and § 7050.5(c) of the California Health and Human Safety Code.

VII. STANDARDS AND QUALIFICATIONS

a. PROFESSIONAL QUALIFICATIONS. All actions prescribed by this Agreement that involve the identification, evaluation, analysis, recordation, treatment, monitoring, and disposition of historic properties and that involve the reporting and documentation of such actions in the form of reports, forms or other records, shall be carried out by or under the direct supervision of a person or persons meeting, at a minimum, the Secretary of the Interior's Professional Qualifications Standards (PQS), as appropriate (48 FR. 44739). However, nothing in this stipulation may be interpreted to preclude any party qualified under the terms of this paragraph from using the services of properly supervised persons who do not meet the PQS. Tribal consultants who are available to perform monitoring duties are assigned and approved of by each Tribe.

b. DOCUMENTATION STANDARDS. Reporting on and documenting the actions cited in this Agreement shall conform to every reasonable extent with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR. 44716-44740), as well as, the BLM 8100 Manual, the California Office of Historic Preservation's Preservation Planning Bulletin Number 4(a) December 1989, Archaeological Resource Management Reports (ARMR): Recommended Contents and Format (ARMR Guidelines) for the Preparation and Review of Archaeological Reports, and any specific county or local requirements or report formats as necessary.

c. CURATION STANDARDS. On BLM-administered land, all records and materials resulting from the actions cited in Stipulation III, IV and V of this Agreement shall be curated in accordance with 36 CFR Part 79, and the provisions of the NAGPRA, 43 CFR Part 10, as applicable. To the extent permitted under §§ 5097.98 and 5097.991 of the California Public Resources Code, the materials and records resulting from the actions cited in Stipulation III and IV of this Agreement for private lands shall be curated in accordance with 36 CFR Part 79. The BLM will seek to have the materials donated through a written donation agreement to be curated with other cultural materials. The BLM will attempt to have all collections curated at one local facility where possible unless otherwise agreed to by the consulting parties

VIII. REPORTING REQUIREMENTS

a. Within twelve (12) months after the BLM, in consultation with the Energy Commission, has determined that all fieldwork required by Stipulations III and IV have been completed, the BLM will ensure preparation, and concurrent distribution to the consulting parties and Tribes a written draft report that documents the results of implementing the requirements of each Stipulation. The consulting parties and Tribes will be afforded 45 days following receipt of each draft report to submit any written comments to the BLM. Failure of these parties to respond within this time frame shall not preclude the BLM from authorizing revisions to the draft report as the BLM may deem appropriate. The BLM will

provide the consulting parties with written documentation indicating whether and how each draft report will be modified in accordance with any reviewing party comments. Unless the reviewing parties object to this documentation in writing to the BLM within 14 days following receipt, the BLM may modify each draft report as the BLM may deem appropriate. All objections shall be resolved pursuant to Stipulation XI. Thereafter, the BLM may issue the reports in final form and distribute these documents in accordance with Stipulation VIII(b).

b. Unless otherwise requested, one paper copy of final reports documenting the results of implementing the requirements of Stipulation III or IV, will be distributed by the BLM to each consulting party, Tribes, and to the California Historical Resources Information Survey (CHRIS) Regional Information Center.

c. The BLM shall ensure that any draft document that communicates, in lay terms, the results of implementing the requirements of Stipulation III or IV, to members of the interested public, is distributed for review and comment concurrently with and in the same manner as that prescribed for the draft technical report prescribed by Stipulation VII(a). If the draft document prescribed hereunder is a publication such as a report or brochure, publication shall upon completion be distributed by the BLM to the consulting parties, and to any other entity that the consulting parties may deem appropriate.

IX. **IMPLEMENTATION OF THE UNDERTAKING**

a. The BLM may authorize construction activities and manage the implementation of HPTP(s) in phases corresponding to the construction phases of the undertaking.

   i. Upon approval of the HPTP and implementation of the components of the HPTP subject to determinations of compliance by the BLM, the BLM may authorize a Notice to Proceed for construction activities.

b. The BLM may authorize construction activities, including but not limited to those listed below, to proceed in specific geographic areas of the undertaking's APE where there are no historic properties, where there will be no effect to historic properties, where a monitoring and discovery plan has been approved, an HPTP has been approved and initiated, and the activity would not preclude preservation or protection of historic properties in an area for which an HPTP has not been approved. Such construction activities may include:

   1. demarcation, set up, and use of staging areas for the project's construction,
   2. conduct of geotechnical boring investigations or other geophysical and engineering activities, and

3. construction activities such as grading, constructing buildings, and installing -Solar Collector Assemblies (SCAs).

c. Initiation of any construction activities on federal lands shall not occur until after the ROD and Notices to Proceed have been issued by the BLM.

X. AMENDMENTS TO THE AGREEMENT

a. This Agreement may be amended only upon written agreement of the Signatories.

b. Any consulting party to this Agreement may at any time propose amendments.

i. Upon receipt of a request to amend this Agreement, the BLM will immediately notify the other consulting parties and initiate a 30 day period to consult on the proposed amendment, whereupon all parties shall consult to consider such amendments.

ii. If agreement to the amendment cannot be reached within the 30 day period, resolution of the issue may proceed by following the dispute resolution process in Stipulation X.

iii. This Agreement may be amended when such an amendment is agreed to in writing by all Signatories.

c. Any consulting party to this Agreement may at any time propose modifications to the Appendices.

i. Each Appendix to the Agreement may be individually modified without requiring amendment of the Agreement, unless the Signatories through such consultation decide otherwise.

ii. Upon receipt of a request to modify an Appendix, BLM will immediately notify the Signatories, Invited Signatories, and Concurring Parties to consult on the proposed modifications and initiate a 30 day consultation period, whereupon all parties shall consult to consider such modification.

iii. If agreement on the modification cannot be reached within the 30 day period, resolution of the issue may proceed by following the dispute resolution process in Stipulation XI(c).

iv. Modifications to an Appendix shall take effect on the date that they are agreed to by the Signatories.

d. Amendments to this Agreement shall take effect on the dates that they are fully executed by the Signatories.

e. If the Agreement is not amended through the above process, any consulting party to this Agreement may terminate its participation in the Agreement in accordance with Stipulation XI.

XI. DISPUTE RESOLUTION

a. Should the Signatories or Invited Signatories object at any time to the manner in which the terms of this Agreement are implemented, the BLM will immediately notify the other Signatories and Invited Signatories and initiate a 30 day period in which to resolve the objection.

b. If the objection can be resolved within the consultation period, the BLM may authorize the disputed action to proceed in accordance with the terms of such resolution.

c. If at the end of the 30 day consultation period, the objection cannot be resolved through such consultation, the BLM will forward all documentation relevant to the objection to the ACHP per 36 CFR 800.2(b)(2). Any comments provided by the ACHP within 30 days after its receipt of all relevant documentation will be taken into account by the BLM in reaching a final decision regarding the objection. The BLM will notify the Signatories, Invited Signatories, and Concurring Parties in writing of its final decision within 14 days after it is rendered.

d. The BLM's responsibility to carry out all other actions under this Agreement that are not the subject of the objection will remain unchanged.

e. At any time during implementation of the terms of this Agreement, should an objection pertaining to the Agreement be raised by a Concurring party or a member of the interested public, the BLM shall immediately notify the Signatories, Invited Signatories, and other Concurring Parties, consult with SHPO about the objection, and take the objection into account. The other consulting parties may comment on the objection to the BLM. The BLM shall consult with the objecting party(ies) for no more than 30 days. Within 14 days following closure of consultation, the BLM will render a decision regarding the objection and notify all parties of its decision in writing. In reaching its final decision, the BLM will take into account all comments from the parties regarding the objection. The BLM shall have the authority to make the final decision resolving the objection. Any dispute pertaining to the NRHP eligibility of historic properties or cultural resources covered by this Agreement will be addressed by the BLM per 36 CFR 800.4(c)(2).

XII. TERMINATION

a. The Signatories and Invited Signatory have the authority to terminate this Agreement. If this Agreement is not amended as provided for in Stipulation IX, or if a Signatory or Invited Signatory proposes termination of this Agreement for other reasons, the party proposing termination shall notify the other Signatories and Invited Signatories in writing, explain the reasons for proposing termination, and consult for no more than 60 days to resolve the objection.

b. If a Concurring Party seeks termination of this Agreement, they may terminate their participation and shall notify the Signatories and Invited Signatories in writing, explain the reasons for proposing termination or terminating their participation, and consult for no more than 60 days to resolve the objection.

c. Should consultation result in an agreement to resolve the objection, the Signatories shall proceed in accordance with that agreement.

d. Should such consultations fail, the Signatory or Invited Signatory proposing termination may terminate this Agreement by notifying the other parties in writing.

e. Should the entire Agreement be terminated, then the BLM shall either consult in accordance with 36 CFR 800.14(b) to develop a new agreement or request the comments of the ACHP pursuant to 36 CFR 800..7(a).

XIII. WITHDRAWAL OR ADDITION OF PARTIES FROM/TO THE AGREEMENT

a. The BLM will respond to any written request for consulting party status pursuant to 36 CFR 800.2 and 800.3(f).

   i. Should a Concurring Party determine that its participation in the undertaking and this Agreement is no longer warranted, the party may withdraw from participation by informing the BLM of its intention to withdraw as soon as is practicable. The BLM shall inform the other consulting parties to this Agreement of the withdrawal.

   ii. Should conditions of the undertaking change such that other state, federal, or tribal entities not already party to this Agreement request to participate, the BLM will notify the other consulting parties and invite the requesting party to participate in the Agreement. The Agreement shall be amended following the procedures in Stipulation IX.

XIV. DURATION OF THIS AGREEMENT

a. This Agreement will expire if the undertaking has not been initiated and the BLM right-of-way grant expires or is withdrawn, or the stipulations of this Agreement have not been initiated within five (5) years from the date of its execution. At such time, the BLM and the COE may consult with the other consulting parties to reconsider the terms of the Agreement and amend it in accordance with Stipulation X. The BLM shall notify the Signatories as to the course of action they will pursue within 30 days.

b. This Agreement expires 30 years from its effective date unless extended by written agreement of the Signatories. The Signatories and Invited Signatories shall consult at year 10 to review this Agreement. Additionally, the Signatories and Invited Signatories shall consult not less than one year prior to the expiration date to reconsider the terms of this Agreement and, if acceptable, direct the Signatories extend the term of this Agreement. Reconsideration may include continuation of the Agreement as originally executed or amended, or termination. Extensions are treated as amendments to the Agreement under Stipulation IX.

c. Unless the Agreement is terminated pursuant to Stipulation XI, another agreement executed for the undertaking supersedes it, or the undertaking itself has been terminated, this Agreement will remain in full force and effect until BLM, in consultation with the other Signatories, determines that implementation of all aspects of the undertaking has been completed and that all terms of this Agreement and any subsequent tiered agreements have been fulfilled in a satisfactory manner. Upon a determination by BLM that implementation of all aspects of the undertaking have been completed and that all terms of this Agreement and any subsequent tiered agreements have been fulfilled in a satisfactory manner, BLM will notify the consulting parties of this PA in writing of the agency's determination. This Agreement will terminate and have no further force or effect on the day that BLM so notifies the Signatories to this Agreement.

XV. EFFECTIVE DATE

a. This Agreement and any amendments shall take effect on the date that it has been fully executed by the Signatories. The Agreement and any amendments thereto shall be executed in the following order: (1) Applicant, (2) Energy Commission, (3) BLM, and (4) SHPO.

Execution and implementation of this Agreement is evidence that the BLM has taken into account the effect of this undertaking on historic properties, afforded the ACHP a reasonable opportunity to comment, and that the BLM has satisfied their responsibilities under Section 106 of the NHPA. The Signatories and Invited Signatories to this PA represent that they have the authority to sign for and bind the entities on behalf of whom they sign

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878 **SIGNATORY PARTIES**
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U.S. BUREAU OF LAND MANAGEMENT

BY: _____ DATE: _____

James Wesley Abbot
State Director

881
882

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY: _____ DATE: _____

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

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INVITED SIGNATORY PARTIES

CALIFORNIA ENERGY COMMISSION

BY: _____ DATE: _____

NEXT ERA GENESIS L.L.C.

BY: _____ DATE: _____

CONCURRING PARTIES:

(This is a potential list only)
AGUA CALIENTE BAND OF CAHUILLA INDIANS
AUGUSTINE BAND OF MISSION INDIANS
CABAZON BAND OF MISSION INDIANS
CHEMEHUEVI INDIAN TRIBE
COCOPAH INDIAN TRIBE
COLORADO RIVER INDIAN TRIBES
FORT MOJAVE INDIAN TRIBE
FORT YUMA QUECHAN TRIBE
MORONGO BAND OF MISSION INDIANS
RAMONA BAND OF MISSION INDIANS
SAN MANUEL BAND OF MISSION INDIANS
SOBOBA BAND OF LUISEÑO INDIANS
TORRES-MARTINEZ DESERT CAHUILLA INDIANS
TWENTY-NINE PALMS BAND OF MISSION INDIANS
CALIFORNIA UNIONS FOR RELIABLE ENERGY

APPENDIX A: IDENTIFICATION AND EVALUATION

I. IDENTIFICATION

a) The BLM will ensure that all cultural resources identified during cultural resources survey are recorded on new or updated California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the "Instructions for Recording Historical Resources" (Office of Historic Preservation, March 1995).

   i) Previously unrecorded cultural resources which have religious or cultural significance to Tribes identified during cultural resources investigations and/or through consultations with Tribes may be recorded on the California DPR Form 523, unless a Tribe, Tribal Organization, or an individual from a Tribe objects. If such objection arises, the properties may be recorded on a form and in a manner that is in accordance with the recommendations of the Tribe, Tribal Organization, or of the individual. If the traditional cultural property is also a historical or archaeological site, those components of site will be recorded on the appropriate DPR form and filed with CHRIS.

b) The cultural resources contractor will obtain permanent site numbers from California Historical Resources Information System (CHRIS) regional information center.

c) The BLM, in consultation with the Energy Commission, and the SHPO, shall review all site records for accuracy, adequacy of information, and completeness and determine whether they are sufficient to support agency determinations and findings. Final approved site records shall be submitted to the CHRIS. Permanent site numbers shall then be used in all final reports and other documents prepared pursuant to the requirements of this Agreement.

d) The BLM, in consultation with the Energy Commission, will ensure that cultural resources survey reports are responsive to Energy Commission Data Requests.

II. EVALUATION

a) The BLM shall authorize field investigations for the purposes of evaluation of the potential site types identified in the APE listed below (but not limited to) for the purpose of evaluating the information potential and significance of the cultural resources in the APE.

Prehistoric Archaeological Resources
Prehistoric Trails Network Landscape
Chipped Stone Deposits
Sparse Lithic Scatters
Chipped and Ground Stone Deposits

Ceramic Deposits
Archaeological Deposits that Include FAR Concentrations
Trail Segments

Historical Archaeological Resources
Desert Training Center (DTC) Archaeological Sites and Landscape
Potential Early Twentieth Century Sand and Gravel Mining Landscape
Pebble and Cobble Concentrations
Transportation and Trail segments
Land Surveying Monuments
Historic Refuse Deposits

Unique Archaeological Resources

b) BLM shall consult with Indian Tribes and seek the views and comments of Tribal Organizations and individual tribal members regarding any unevaluated cultural resource to which they may attach religious or cultural significance in order to ascertain the status of these places relative to NRHP and CRHR eligibility criteria.

APPENDIX B: HISTORIC PROPERTIES TREATMENT PLAN(S) provide for the resolution or mitigation of effects to historic properties as a result of the project.

I. HISTORIC PROPERTIES TREATMENT PLAN(S

a) Any HPTP tiered from the Agreement shall include but is not limited to:

i) A list of the historic properties subject to the HPTP, determined or treated as eligible for project management purposes, in the undertaking's APE that the construction of the Project will unconditionally avoid,

ii) The measures that the Applicant will take to avoid, minimize, or mitigate the adverse effects on historic properties,

iii) Provide a plan for monitoring during construction, which would include the treatment of inadvertent discoveries and the participation of tribal cultural specialists. The following shall be considered during development of these plans:

(a) qualifications archaeological monitors
(b) participation of tribal cultural specialists in monitoring
(c) areas in the APE requiring monitoring
(d) authority of monitors to halt work
(e) protective measures for historic properties
(f) communication protocols
(g) safety and resource training
(h) procedures upon discovery
(i) evaluation of the inadvertent discoveries
(j) implementation of standard treatment measures
(k) field protocol upon discovery of human remains

iv) The proposed disposition of recovered materials and records shall be curated in accordance with Stipulation VI(c).

v) The procedures for treatment and disposition of any human remains, funerary objects, sacred objects, and objects of cultural patrimony in accordance with NAGPRA and the California Health and Safety Code 7050.5 as appropriate.

vi) A research design which addresses significant themes and questions for the types of historic properties to receive treatment.

vii) A schedule for completing treatment measures, including analysis, reporting and disposition of materials and records, as well as a schedule for completing the draft and final data recovery report(s).

viii) A description of alternative treatments for adverse effects that are not data recovery and that may include (but is not limited to):

(1) Placement of construction within portions of historic properties that do not contribute to the qualities that make the resource eligible
(2) Deeding cemetery areas into open-space in perpetuity and providing the necessary long-term protection measures
(3) Public interpretation including the preparation of a public version of the cultural resources studies and/or education materials for local schools
(4) Access by tribes to traditional areas in property after the project has been constructed
(5) Support by Applicant to cultural centers in the preparation of interpretive displays
(6) Consideration of other off-site mitigation

b) Any treatment plan tiered from this Agreement or the HPTP shall reflect the ACHP archaeological guidance at http://www.achp.gov/archguide/, the BLM 8100 Manual, and the Secretary of the Interior's Standards for the Treatment of Historic Properties.

II. COORDINATION WITH ENERGY COMMISSION MEASURES UNDER CEQA

a) Guidelines for implementation codified in the California Code of Regulations (CCR), Title 14, Chapter 3, Sections 15000 et seq., requires state and local public agencies to identify the environmental impacts of proposed discretionary activities or projects, determine if the impacts will be significant, and identify alternatives and mitigation measures that will substantially reduce or eliminate significant impacts to the environment. Pursuant to section 15126.4(a)(1), feasible measures which could minimize adverse impacts must be described in the environmental assessment.

i) Section 15221(b) provides that because NEPA does not require separate discussion of mitigation measures, these points of analysis will need to be added, supplemented, or identified before the EIS can be used as an EIR.

ii) Section 15126.4(a)(1)(B) states that formulation of mitigation measures should not be deferred until some future time, but that measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.

III. PERFORMANCE STANDARDS FOR SECTION 106 AND CEQA MITIGATION

a) Cultural mitigation measures and performance standards considered within the Section 106 consultation and CEQA process include, but are not limited to:

i) Avoidance

ii) For cultural resources, the preferred method of mitigation is avoidance of all cultural resources to the maximum extent practicable. Mitigation measures, which could include avoidance, are normally developed through consultation to reduce impacts to significant cultural resources. The BLM, through the consultation process and development of the HPTP will determine which mitigation measures are applied to specific cultural resources.

iii) Archaeological Data Recovery

(1) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken.

(2) Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource.

iv) Built-Environment Resources

(1) Documenting built-environment resources in accordance with the standards and guidelines provided by the Historic American Building Survey (HABS), Historic American Engineering Record (HAER), Historic American Landscape Survey (HALS).

(2) Relocating or moving historic buildings, objects or structures out of the APE.

v) Properties of Sacred or Cultural Significance to Indian Tribes

(1)Cremation/Burial Sites

(a) Avoidance of cremation or burial sites is the preferred management alternative.

(b) Where avoidance of direct physical effects is not achievable, treatment shall follow the provisions of the NAGRPA Plan of Action as provided in Appendix L.

(2) Trails

(a)Avoidance of direct physical effects to trails is the preferred management alternative.

(b) Where avoidance of direct physical effects is not achievable, treatment shall follow the provisions of the HPTP. A study of trails may be carried out to determine the nature and extent of trails beyond the APE and may be considered within the context of a HALS study.

(3) Geological landforms or other places of religious or cultural significance.

(a) BLM shall continue to seek information from the Tribe(s) or Tribal Organizations to determine the character and use of places of sacred or cultural significance.

(i) Maintenance of existing access to places of sacred and cultural significance is the preferred management alternative.

(b) Engineering solutions to eliminate or minimize direct or indirect non-physical effects will be identified, including but not limited to, orienting the Solar Collector Arrays (SCAs) to minimize glare, or erecting screens to eliminate glare.

vi) Discoveries

(1) Following the discovery of any resource determined by the BLM to be eligible to the NRHP, the Applicant shall ensure that the designated cultural resources contractor prepares a research design and a scope of work for any necessary data recovery or additional mitigation. The Applicant shall submit the proposed research design and scope of work to the BLM and Energy Commission's Compliance Project Manager (CPM) for review and approval.

(2) The proposed research design and scope of work shall include (but not be limited to): a discussion of the methods to be used to recover additional information and any needed analysis to be conducted on recovered materials; a discussion of the research questions that the materials may address or answer by the data recovered from the project, and; discussion of possible results and findings.

vii) Monitoring

(1) Prior to the start of vegetation clearance or earth disturbing activities or project site preparation, the Applicant shall provide the designated cultural resources monitors and the BLM and/or Energy Commission's CPM with maps and/or drawings showing the footprint of the power plant and all linear facilities. Maps provided will include USGS 7.5-minute topographic quadrangle maps. If the designated cultural resource specialist requests enlargements or strip maps for linear facility routes, the Applicant shall provide them. If the footprint of the power plant or linear facilities changes, the Applicant shall provide maps and drawings reflecting these changes, to the cultural resources specialist within five days. Maps shall show the location of all areas where surface disturbance may be associated with project-related access roads, and any other project components.

(2) The designated cultural resource specialist shall be available at all times to respond within 24 hours after pre-construction or construction activities have been halted due to the discovery of a cultural resource(s). The specialist, or

representative of the Applicant shall have the authority to halt or redirect construction activities if previously undiscovered cultural resource materials are encountered during vegetation clearance or earth disturbing activities or project site preparation or construction. If such resources are discovered, the designated cultural resource specialist shall be notified and the Applicant or Applicant's representative shall halt construction in order to protect the discovery from further damage and the BLM will be notified. Project construction may continue elsewhere on the project if the BLM determines that it will not affect the cultural resource in question.

viii) Qualifications

(1) Prior to the start of construction-related vegetation clearance, or earth-disturbing activities or project site preparation; or the movement or parking of heavy equipment onto or over the project surface, the Applicant shall provide the BLM and/or the Energy Commission CPM with the name and statement of qualifications for its designated cultural resource specialist and alternate cultural resource specialist, if an alternate is proposed, who will be responsible for implementation of all BLM cultural resources conditions and Energy Commission cultural resources conditions of certification. The statement of qualifications for the designated cultural resource specialist and alternate shall include all information needed to demonstrate that the specialist meets at least the minimum qualifications specified by the National Park Service, Heritage Preservation Services.

(2)Training

(a) Prior to the start of vegetation clearance or earth disturbing activities or project site preparation, the designated cultural resource specialist shall prepare an employee training program. The Applicant shall submit the cultural resources training program to the BLM, Energy Commission, and SHPO for review and written approval. If a video is used as part of the training program, the owner shall also submit the script for review and written approval.

(b) Prior to the start of vegetation clearance or earth disturbing activities or project site preparation, and throughout the project construction period as needed for all new employees, the Applicant shall ensure that the designated cultural resource trainer(s) provide(s) approved cultural resources training to all project managers, construction supervisors, or anyone coming on the construction site as an employee, contractor, subcontractor, or in any other capacity to complete work for the Applicant. The Applicant shall ensure that the designated trainer provides the workers with the approved a set of procedures for reporting any sensitive resources that may be discovered during project-related ground disturbance. In addition, the Applicant shall communicate the work curtailment procedures that the workers are to follow

if previously undiscovered cultural resources are encountered during construction.

Historic Property Treatment Plans (proposed summary):

1. Prehistoric PeriodHistoric Properties
    a. Avoidance
    b. Minimize
        i. Strategic placement of transmission towers in areas of a site that would not adversely affect the information values
    c. Data recovery for historic properties eligible under Criterion D only
        i. Research Design
2. Historic Period Historic Properties
    a. Avoidance
    b. Minimize
    c. Data recovery for historic properties eligible under Criterion D only
        i. Research Design
            1. Desert Training Center (DTC) Archaeological Sites and Landscape
    d. Historic built-environment Historic Properties with associative values
3. Resources of Native American religious and cultural significance and Traditional Cultural properties
    a. Avoidance
    b. Minimize
    c. Monitor
    d. Access

APPENDIX C: HISTORIC PROPERTIES MANAGEMENT PLAN

I. HISTORIC PROPERTIES MANAGEMENT PLAN

a) A Historic Properties Management Plan (HPMP) will be developed to further manage or prescribe additional treatment to historic properties within the APE during the future operation, long-term maintenance and decommissioning of the Next Era Genesis Ford Dry Lake Solar Project and consider effects to historic properties in relation to those actions. The HPMP will include but is not limited to monitoring requirements for those cultural resources within the APE that were avoided through project redesign.

b) The BLM shall submit the HPMP to the consulting parties to the Agreement and Tribes for a 60 day review period. Absent comments within this time frame, the BLM may finalize the HPMP. If comments are received the BLM will provide the parties with written documentation indicating whether and how the draft HPMP will be modified in response. If the HPMP is revised in response to comments, the BLM shall submit the revised HPMP to all parties for an additional 30 day review period. Absent comments within this time frame, the BLM will finalize the HPMP. The BLM will provide the parties a copy of the final HPMP.

APPENDIX D: PROJECT DESCRIPTION

The Next Era Genesis Ford Dry Lake Solar Project is a proposed 250-megawatt (MW) solar energy power plant. More specifically, this would entail the construction of two 125MW solar collector fields, six 8-acre evaporation ponds, a 10-acre bioremediation land treatment unit, a 230-kV on-site switchyard, a new 6.5 mile, 230-kV transmission line, a natural gas pipeline, access roads, a septic system, an on-site leach field, and two power blocks. Each proposed power block would include: solar steam generator heat exchangers; a steam turbine generator and condensers; two wet-cooling towers; two natural-gas fired auxiliary boilers; surge volume tanks; fire suppression pumps and pump house; diesel generators; and water storage tanks. Foundation excavation for the above project components would reach between 2 and 30 feet below the present ground surface. The project proposal also includes an administrative building, maintenance complex with warehouse, three water storage tanks, evaporation ponds, and other related facilities. The proposed project would be built on approximately 1,800 acres of land within a 4,640 acre ROW administered by the BLM in Riverside County, California, approximately 25 miles west of the city of Blythe.

The proposed Next Era Genesis Ford Dry Lake Solar Project includes the following components:

a) A solar thermal power plant facility

b) The proposed project overall site layout and generalized land uses include a 250 MW facility with solar generation facilities, on-site substation, administration, operations and maintenance facilities, surface water control facilities, and evaporation ponds.

c) The proposed project would require two separate units (125 MW each) consisting of a total of 1,760 Solar Collector Assemblies (SCAs) arrayed in rows, or piping loops, with four assemblies in each loop.

   (1) Each SCA would consist of individually mounted mirror modules approximately 40 feet long, totaling 492 feet in length creating an approximate mirror area of 8,795 square feet.

   (2) Each mirror will have an aperture of 18.9 feet and focal length of 5.6 feet.

   (3) Each SCA is oriented north-south to rotate east-west to track the sun as it moves across the sky during the day, collecting heat by means of linear troughs of parabolic reflectors.

d) The linear facilities would originate within the 250 MW solar plant site and, for the most part, would share the same 100-foot ROW, although each would terminate in a different location. Approximately 2 miles of the linear route would be within the 1,800-acre main plant site. After leaving the plant, the transmission line would be approximately 6.5 miles long, the natural gas pipeline would be 6 miles long, and the main access road would be 6.5 miles long.

(1) The natural gas pipeline would service an auxiliary boiler for the solar plant site, 8-inch diameter, carrying 60 million BTUs annually from the existing Southern California Edison natural gas pipeline just north of Interstate 10. The trench for the pipeline would be approximately 48-inches wide and 4-10 feet in depth; maximum depth of up to 8 feet wide on the surface and up to 3 feet wide at the bottom of the trench.

e) Buildings - The Project will include a common administration building and warehouse between the two 125MW power plants. A control building will be located in each power block. The design and construction of the administration building and warehouse will be consistent with normal building standards. Other plant site "buildings" will include the water treatment building, as well as a number of pre-engineered enclosures for mechanical and electrical equipment. Building columns are supported on reinforced concrete mat foundations or individual spread footings and the structures rest on reinforced concrete slabs. The total square footage of the various Project buildings and pre-engineered enclosures (*e.g.,* control rooms, administration building, warehouse, electrical equipment enclosures, fire pumps, and diesel generators) is approximately 39,000 square feet.

f) Roads - All vehicular traffic approaching the site will use Interstate 10. Only a small portion of the overall plant site will be paved, primarily the site access road and portions of each power block. The site access road will be 24 feet wide and paved with 3,000 tons of asphalt concrete material. Auxiliary roads will also be 24 feet wide but utilize compacted native materials or gravel surface. If required, new spur roads in the Transmission Line corridor would be approximately 14 feet wide and average 70 feet in length to access pole pad sites.

g) Water Treatment - Existing ground water wells would supply project water using approximately 1,644 acre feet of ground water per year for operations. The raw water, circulating water, process water, and mirror washing water all require on-site treatment and this treatment varies according to the quality required for each of these uses. The power plant's design consists of a pre-treatment system upstream of the cooling tower, and a post-treatment system downstream of the cooling tower. Water is cycled in the cooling tower until the concentration of chemical constituents rises to levels where it becomes unusable and it is blown down as a waste stream. The number of cycles undertaken are called cycles of concentration (COC). The number of COCs in the cooling tower is limited by the incoming water chemistry and the behavior of chemistry constituents as the concentration increases. Without any pre-treatment of the raw water ("makeup water") from groundwater on site, the calcium concentration would limit the process to about five COCs due to the potential to form calcium carbonate (CaCO3) scale, and silica would limit the process to 10 COCs due to the formation of silica (SiO2) and magnesium silicate scale. Because of the limitation of these constituents in the process, pre-treatment of the makeup water is desirable to reduce the quantity of makeup water required. The pre-treatment design for the Project takes into account the relatively

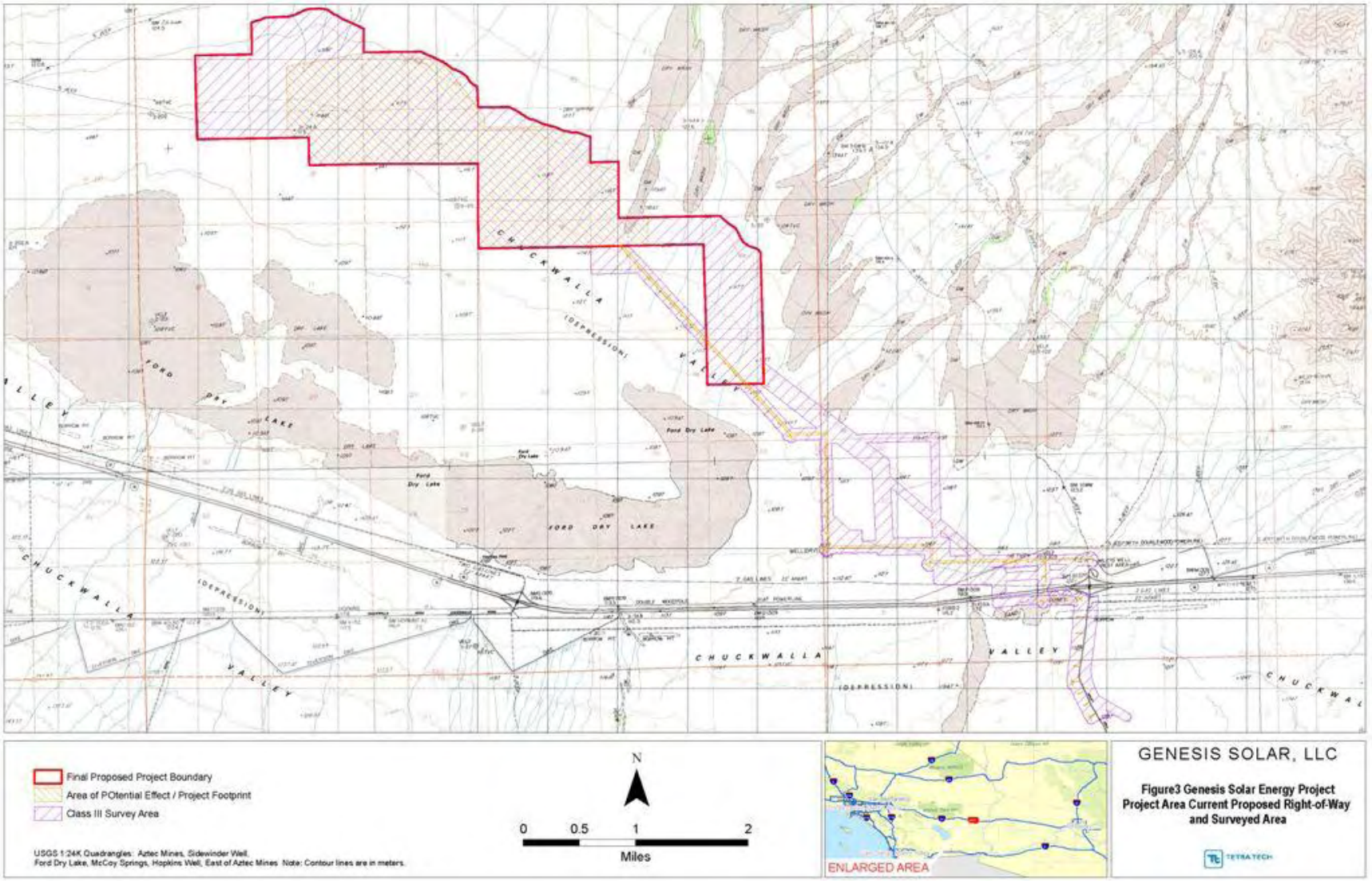
high concentrations of chloride and sodium present in the makeup water to the site. As aforementioned, there are several tanks on site which will contain the raw water, treated water, and wastewater, which will have the following capacity: Raw Water/Fire Water Storage Tank: 500,000 gallons; Treated Water Storage Tank: 1,250,000 gallons; Wastewater Storage Tank: 250,000 gallons. Tanks were sized to provide sufficient water to support operation of the plant during peak operating conditions, as well as provide a 12-hour storage capacity to enable continued operation when a failure interrupts water or wastewater treatment capabilities. The tanks also allow the plant to levelize water supply requirements on a 24-hour basis and eliminate midday demand peaks. The Raw Water/Fire Water Storage Tank provides water for plant operation and fire protection.

h) Evaporation Ponds - It is expected that each 125MW power plant will have three double-lined evaporation ponds. The average pond depth is 8 feet and each pond will have a nominal surface area of eight acres, resulting in a total of 24 acres of evaporation ponds for each unit; or a total of 48 acres of ponds for both 125MW units.

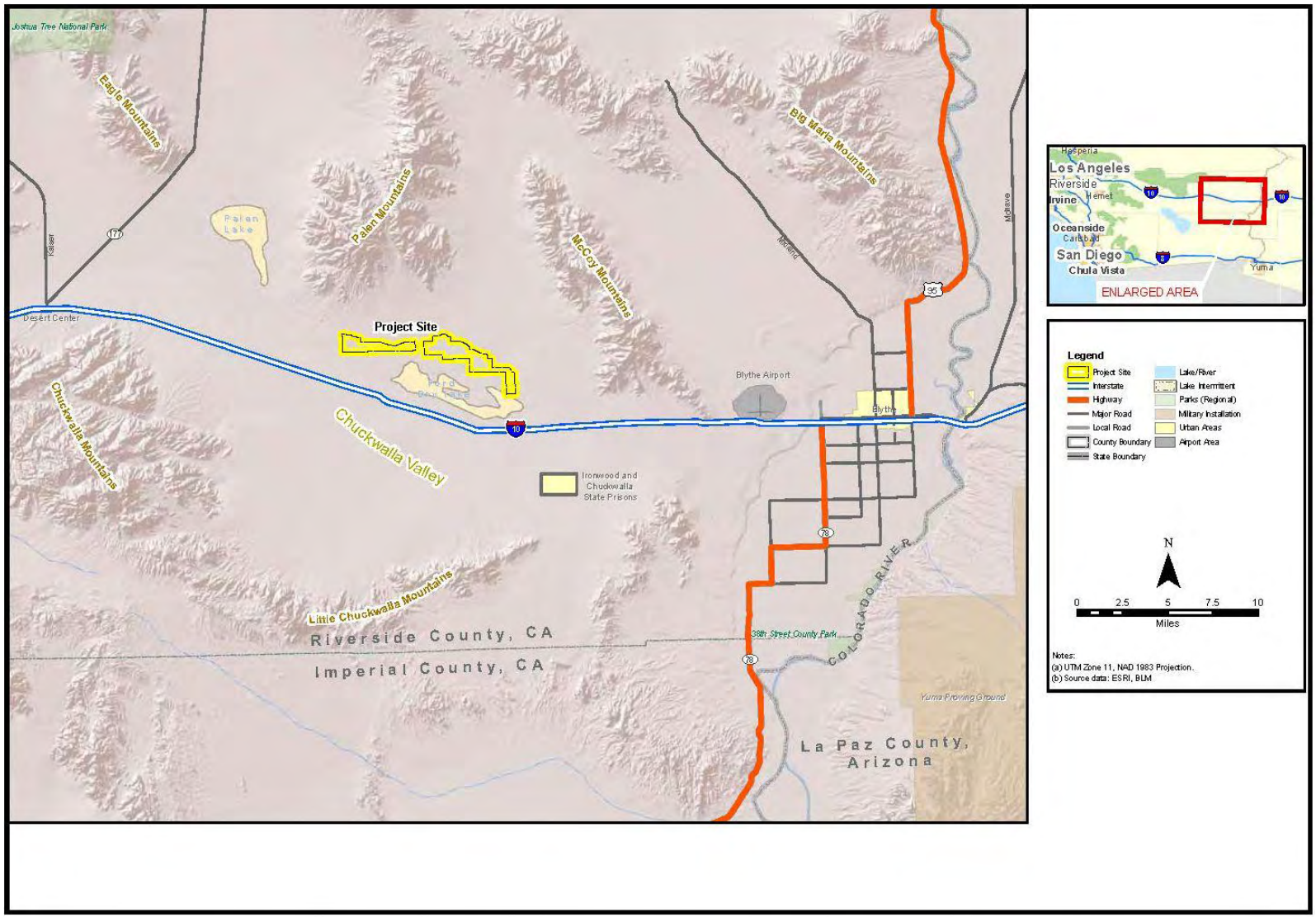
APPENDIX E: PROJECT MAPS AND ILLUSTRATIONS

1. Map of Proposed Project Area and Cultural Resources Survey
2. Project Overview Location Map
3. Photograph of Parabolic Solar Collector Arrays (SCAs)

1. Proposed Project Area and Cultural Resources Survey Map



2. Project Overview Location Map



3. Photograph of Parabolic Solar Collector Arrays (SCAs)

Parabolic trough solar thermal technology

APPENDIX F: SUMMARY OF CULTURAL RESOURCES INVESTIGATIONS

The BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this undertaking including a review of the existing literature and records, cultural resources surveys, ethnographic studies, and geomorphological studies to identify historic properties that might be located within the APE.

The Applicant has retained Tetra Tech to complete all of the investigations necessary to identify and evaluate cultural resources located within the Area of Potential Effect (APE) for both direct and indirect effects. Tetra Tech is authorized to conduct cultural resources investigations on lands managed by the BLM under Cultural Resources Use Permits No. CA-06-24 and CA-09-40 issued by the BLM California State Office. Tetra Tech is authorized to conduct specific field investigations for the Next Era Genesis Ford Dry Lake Solar Project under BLM Fieldwork Authorizations 66-27-07-19, 66-27-09-05, 66-24-09-16, and 66-66-10-09.

Tetra Tech has completed a review of the existing historic, archaeological and ethnographic literature and records to ascertain the presence of known and recorded cultural resources in the APE, has conducted an intensive field survey for all of the lands identified in APE for direct effects for all project alternatives, and has completed intensive field surveys for alternatives on lands that are no longer part of the project. Approximately 5,188 acres of pedestrian survey to identify cultural resources has been completed.

A draft cultural resources report (*Class II and Class III Cultural Resources Inventories for the Proposed Genesis Solar Energy Project, Riverside County, California*, prepared by Tetra Tech, May 2010) has been submitted by the Applicant that presents the results of identification efforts to the BLM and the Energy Commission. The BLM and the Energy Commission are currently reviewing all documentation to determine whether the report conforms with the field methodology and site description template required by BLM and the Energy Commission and is adequate to support to determinations and findings the agency's will render pursuant to Section 106 of the NHPA.

Tetra Tech conducted a records search at the Eastern Information Center (EIC) in Riverside, California. The EIC searched all relevant previously recorded cultural resources site records and previous investigations completed within the project area and a 1-mile search radius around it. Information reviewed included location maps for all previously recorded trinomial and primary prehistoric and historical archaeological sites and isolates; site record forms and updates for all cultural resources previously identified; previous investigation boundaries; and National Archaeological Database citations for associated reports, historical maps, and historical addresses. The literature and records search identified 30 records related to cultural resources investigations conducted within 1 to approximately 3 miles of the Project area. Several of these records were for prior projects which overlap the boundaries of the Next Era Genesis Ford Dry Lake Solar Project APE. The record search also identified approximately 50 previously recorded cultural resources within the APE and extended survey areas (Appendix F: Summary of Cultural Resources Investigations).

Tetra Tech took a multi-phased approach in conducting field inventories to identify new cultural resources for the Project. A Class II inventory was conducted from November 2007 to January 2008 on a sample of a 9,480-acre Project area to identify areas of cultural resource sensitivity. The random sample survey was conducted to assist in the identification, screening, and/or elimination of sensitive cultural resource issues, sites, and/or areas. The information gained allowed Genesis Solar LLC to propose placement of solar facilities in a smaller Area of Potential Effect (APE) and avoid culturally sensitive areas. A Class III inventory of the revised 3,016-acre right-of-way (ROW) was conducted in April 2009. An approximately 4-mile-long transmission line ROW was added to the Project after the completion of the Class III inventory, and an inventory of that was conducted in June 2009.

The Class II investigation conducted from November 27, 2007, through January 10, 2008 (with one week Christmas vacation) was a 20 percent random sample survey of approximately 9,480 acres for the Ford Dry Lake Solar Resource Area with resultant coverage of 1,654 acres of federal land. The work was conducted under Tetra Tech's BLM Cultural Use Permit (CA-66-24) and BLM Fieldwork Authorization 66-27-07-19.

A total of 53 archaeological sites were discovered in the course of the Class II inventory: 46 are prehistoric, 5 are historic (exclusively refuse deposits), and 2 are dual-component (having both prehistoric and historic elements). In addition, 9 historic and 34 prehistoric isolates were recorded.

The Class III investigation in 2009 was an intensive survey of 100 percent of the 3,014-acre ROW (minus 520 acres for the Class II previously surveyed sample blocks). The work was conducted under Tetra Tech's BLM Cultural Use Permit (CA-66-24) and BLM Fieldwork Authorization 66-27-09-05.

The 2,494-acre Class III 2009 survey of the eastern portion of the ROW was conducted from March 30 to April 10, 2009, and resulted in the identification of 35 isolates and 21 archaeological sites. Of the 21 sites identified, 5 are historic, 15 are prehistoric, and 1 is dual component (historic/prehistoric). The isolates include 22 prehistoric and 13 historic finds.

An additional Class III survey (449.5 acres) was conducted from June 24 to 27, 2009, for the proposed interconnection transmission line ROW. The work was conducted under Tetra Tech's BLM Cultural Use Permit (CA-66-24) and BLM Fieldwork Authorization 66-24-09-16

The 2009 transmission line survey resulted in the identification of three isolates (two historic, one prehistoric) and seven archaeological sites. Of the seven sites identified, three are historic, three are prehistoric, and one is dual component (historic/prehistoric).

The historical resources inventory of the historic architecture APE was conducted by an architectural historian in July 2009. Two historical resources were identified and recorded by this inventory: the Blythe-Eagle Mountain Transmission Line and Wiley's Well Road.

Another Class III survey (590.8 acres) was conducted from January 25 to February 2, 2010, for additional alternatives for the proposed interconnection transmission line ROW. The work was

conducted under Tetra Tech's BLM Cultural Use Permit (CA-09-40) and BLM Fieldwork Authorization 66-66-10-09.

The 2010 transmission line survey resulted in the identification of 24 isolates (four historic, 20 prehistoric) and 20 archaeological sites. Of the 20 sites identified, 12 are historic, seven are prehistoric, and one is dual component (historic/prehistoric). In addition, two previously recorded sites, CA-RIV-663 and CA-RIV-9203H, were updated.

A total of 5,188.3 acres were surveyed as a result of the Class II and Class III field inventories. The combined results of the Class II, Class III, and Built Environment survey resulted in the recording of 103 historic properties and 105 isolated finds. Of the 103 historic properties, 71 are prehistoric, 27 are historic, and 5 are dual-component. Of the 105 isolated finds, 78 are prehistoric and 27 are historic.

Of the total sites recorded for the Project, 25 sites are located within the proposed solar facility project footprint APE and 27 sites are located within the proposed transmission line footprint APE.

The BLM will make a determination of whether the construction of the Project will have an adverse effect on significant historic properties sites listed on, or eligible for, nomination to the National Register of Historic Places.

A complete list of cultural resources that are located within the APE for direct effects is provided in Appendix H. A tabular summary of the results of cultural resources investigations follows:

Table 1: Archaeological resources within the APE for direct physical effects

Project Component	Prehistoric	Historic	Multi-Component	Indeterminate	Isolated Finds	Total
250 MW Area	20	5	1	0	0	26
Transmission Line Corridor	3	3	1	0	0	7
Total	23	8	2	0	0	33

In addition, Tetra Tech completed an intensive historic architecture survey to account for the properties that appeared to be older than 45 years within the APE including a 0.5 mile buffer. Only two historic-period properties were identified, which included segments of the Blythe-Eagle Mountain 161-kV transmission line constructed during the 1950s and Wiley's Well Road, constructed of paved asphalt but originally part of the Bradshaw Trail alignment (established in 1862). Neither resource is within the APE for direct physical effects and will not be affected by the proposed action.

Table 2: Historic built-environment resources within 0.5 mile buffer of the APE.

Project Component	Historic Built Environment	Total
250 MW Area	0	0
Transmission Line Corridor	2	2
Total	2	2

Review of the data collected at the 103 archaeological sites recorded in the three inventories has resulted in the recommendation that four of these sites, CA-RIV-663 (P33-000663), CA-RIV-9255 (P33-18009), CA-RIV-9072 (P33-17456) and CA-RIV-9224H (P33-17793), are potentially eligible for the National Register of Historic Places (NRHP) under Criterion D. Prehistoric sites that might be eligible under Criterion D must be datable and exhibit both stratigraphic integrity and have sufficient quantity of archaeological material to allow statistically significant research. For historic sites to be eligible under Criterion D, they must retain their integrity and have the potential to provide information beyond that which is available in written documentation or oral histories.

CA-RIV-663 (P33-000663) is a very large (ca. acres) scatter of prehistoric artifacts and features located on the eastern shore of Ford Dry Lake. Should this site contain areas of buried deposits, it could contribute significant information on the prehistoric occupation and utilization of the area. This property is located outside the APE for direct physical impacts.

CA-RIV-9255 (P33-18009) is a scatter of prehistoric artifacts and features located on the eastern shore of Ford Dry Lake. Should this site contain areas of buried deposits, it could contribute significant information on the prehistoric occupation and utilization of the area. This property is located outside the APE for direct physical impacts.

CA-RIV-9072 (P33-17456) is a very large (ca. 300 acres) scatter of prehistoric artifacts and features located on the north shore of Ford Dry Lake. Should this site contain areas of buried deposits, it could contribute significant information on the prehistoric occupation and utilization of the area. This property is located within the APE for direct physical impacts.

CA-RIV-9224H (P33-17793) is dual component site. The prehistoric component is a scatter of prehistoric artifacts and deflated features. The historic component consists of a refuse scatter that may be associated with military use of the area. This historic component, though possibly associated with WW II training activities, is of such an ephemeral nature that it does not appear to be eligible for the NRHP under any of the criteria. This property is located within the APE for direct physical impacts.

All of the remaining archaeological sites recorded by this Project appear to be of an ephemeral nature and/or have been disturbed by sheet erosion or deflation. None appear to have enough integrity to be eligible for the NRHP under any of the criteria. None of the recorded isolates are eligible for the NRHP.

The geoarchaeological investigations conducted for this Project indicate that there is a high potential for buried cultural resources in portions of the Project APE associated with former shorelines of Ford Dry Lake. These investigations have also shown that in other portions of the APE, there are exposed Pleistocene land surfaces that are too old to have potential for buried deposits. Based upon these findings, a construction monitoring program focused on the areas with a high potential for buried resources is recommended along with a protocol for unanticipated discovery.

The two historic resources recorded by the architectural resources inventory, the Blythe-Eagle Mountain Transmission Line and Wiley's Well Road, will not be affected by this Project even though they are within the historic architecture APE.

The BLM has formally invited 14 Tribes to consult at the government-to-government level throughout the review of this project, and has on-going discussions about this project with Tribal cultural staff (Appendix I: Documentation of Tribal Consultation). Consultation with Indian Tribes, and discussions with Tribal organizations and individuals, has revealed concern about the importance and sensitivity of cultural resources within and near the project area and that they attach significance to the broader cultural landscape. The Fort Yuma Quechan Tribe specifically indicated a concern for both indirect as well as direct effects from the project on places that hold significant value to the Tribe. The Cabazon Band of Mission Indians and the Chemehuevi Indian Tribe expressed general concerns about the potential destruction of cultural resources and traditional cultural properties.

APPENDIX G: AGENCY FINDINGS AND DETERMINATIONS

The BLM has not rendered formal determinations of eligibility or findings of effect for the cultural resources that may be affected by this undertaking. It is the BLM's intent to render preliminary determinations of eligibility on all resources prior to the Record of Decision and prior to the release of the final EIS if feasible, and provide opportunity for consulting parties and the public to comment on the agency's determinations, prior to submitting final determinations to the State Historic Preservation Officer (SHPO) for review and comment. Determinations that the BLM may render are based on cultural resources documentation and recommendations that are currently under review and have not necessarily been accepted or approved by the agency. For a few cultural resources, primarily archaeological sites limited to their potential to yield signification information in prehistory or history, the BLM may treat those sites as eligible for the NRHP for project management purposes and either direct that additional testing be conducted for purposes of evaluation or that adverse effects to the property be resolved pursuant to the prescriptions of the HPTP.

A description of preliminary recommendations on the eligibility of cultural resources is provided in Appendix H: Cultural Resources Identified within the APE.

Effects to historic properties and the treatment of effects within the APE are generally summarized as follows. Specific treatments to resolve effects that are developed by the consulting parties to this Agreement would be stipulated in the Historic Property Treatment Plans that tier from this Agreement.

- Within the APE for direct physical effects for the 250 MW solar energy plant as proposed, there would be an adverse effect on all historic properties for which the significant values are informational and eligibility for the NRHP is limited to Criterion D considerations. Though opportunities to avoid significant values may exist through fencing and project modification, or because of the specific nature of the installation of the Solar Collector Arrays (SCAs), the industrial nature of the project and the intensity of the development would make long term management and protection of resources within the boundaries of the solar energy plant impractical and difficult to implement. The recommended treatment measures would likely involve recovery of the informational values through archaeological excavation and study. Additional mitigation measures, such as educational materials or public interpretation, would also be considered in the HPTP for these historic properties.Avoidance of direct physical effects is the preferred treatment measure for historic properties to which Indian Tribes attach sacred or religious significance or for properties that have cultural significance as a traditional property. The BLM would achieve this preferred treatment by conditioning the ROW grant to exclude those historic properties, or lands, from the project..

- For historic properties located in the APE for direct physical effects in linear corridors, such as the water pipeline, the transmission line, and the main access

road, the preferred treatment measure is avoidance through project redesign. Transmission tower locations may be adjusted to avoid direct effects. If the property cannot be avoided, the BLM would minimize or mitigate the effects through implementation of the HPTP for significant values of the resource.

APPENDIX H: CULTURAL RESOURCES IDENTIFIED WITHIN THE APE

Table 3: Archaeological resources indentified within the APE for direct physical effects.

Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
CA-RIV-9047	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class II Survey)
CA-RIV-9048	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class II Survey)
CA-RIV-9051	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class II Survey)
CA-RIV-9072	Lithic and Ceramic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class II Survey)
CA-RIV-9084	Temporary Camp	Prehistoric	Low to Moderate	APE (Identification in Class II Survey)
CA-RIV-9203H	Refuse Scatter	Historic	Very Low	APE (Identification in Class III Survey)
CA-RIV-9204H	Refuse Scatter	Historic	Very Low	APE (Identification in Class III Survey)
CA-RIV-9205/H	Refuse Scatter/Lithic Scatter	Prehistoric/Historic	Low to Moderate	APE (Identification in Class III Survey)

Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
CA-RIV-9206	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9207	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9208	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9209	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9210	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9211H	Refuse Scatter	Historic	Very Low	APE (Identification in Class III Survey)
CA-RIV-9212	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9213H	Refuse Scatter	Historic	Very Low	APE (Identification in Class III Survey)
CA-RIV-9214H	Refuse Scatter	Historic	Very Low	APE (Identification in Class III Survey)
CA-RIV-9215	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)

Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
CA-RIV-9216	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9217	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9218	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9219	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9220	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9221	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9222	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9223	Lithic Scatter	Prehistoric	Low to Moderate	APE (Identification in Class III Survey)
CA-RIV-9224/H	Lithic and ceramic Scatter/Refuse Scatter	Prehistoric/Historic	Low to Moderate	Transmission Line Corridor
CA-RIV-9225H	Refuse Scatter	Historic	Very Low	Transmission Line Corridor

Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
CA-RIV-9226	Lithic and ceramic Scatter	Prehistoric	Low to Moderate	Transmission Line Corridor
CA-RIV-9227	Lithic and ceramic Scatter	Prehistoric	Low to Moderate	Transmission Line Corridor
CA-RIV-9228H	Refuse Scatter	Historic	Very Low	Transmission Line Corridor
CA-RIV-9229	Lithic Scatter	Prehistoric	Low to Moderate	Transmission Line Corridor
CA-RIV-9230H	Refuse Scatter	Historic	Very Low	Transmission Line Corridor

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APPENDIX I: DOCUMENTATION OF TRIBAL CONSULTATION

Table 3: Major Tribal Consultation Events.

Date	Tribe	Contact Name	Communicated via	Comments/Actions
11/26/2007	Agua Caliente Band of Cahuilla Indians	Chmn. Milanovich	USPS	Initial project consultation
12/3/2007	Morongo Band of Mission Indians	Ms. Britt Wilson	USPS	Tribe is interested and requests to be kept informed of ongoing processes
12/18/2007	Fort Yuma Quechan Tribe	Ms. Bridget Nash	USPS	Request for cultural resources report when complete
1/29/2008	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	USPS	Agua Caliente letter - selecting to not participate
6/18/2008	Fort Yuma Quechan Tribe	Ms. Bridget Nash	USPS	Request for cultural resource report
6/24/2008	Fort Yuma Quechan Tribe	Ms. Bridget Nash	TELEPHONE	Project coordination; inquiry as to availability of cultural resource report
5/21/2009	Fort Yuma Quechan Tribe	Ms. Bridget Nash	USPS	Letter stating that the BLM is providing 3 cultural resource reports
6/1/2009	Morongo Band of Mission Indians	Mr. Michael Contrareas	USPS	Letter stating that the BLM is providing 3 cultural resource reports
11/23/2009	Fort Mojave Indian Tribe	Chmn. Timothy Williams	USPS certified	NOI Published in Federal Register
11/23/2009	Cocopah Indian Tribe	Ms. Sherry Cordova	USPS certified	NOI Published in Federal Register
11/23/2009	Chemehuevi Indian Tribe	Mr. Charles Wood	USPS certified	NOI Published in Federal Register
11/23/2009	Cabazon Band of Mission Indians	Mr. John James	USPS certified	NOI Published in Federal Register
11/23/2009	Augustine Band of Mission Indians	Ms. Maryann Green	USPS certified	NOI Published in Federal Register
11/23/2009	Agua Caliente Band of Cahuilla Indians	Mr. Richard Milanovich	USPS certified	NOI Published in Federal Register
11/23/2009	San Manuel Band of Mission Indians	Mr. James Ramos	USPS certified	NOI Published in Federal Register

Date	Tribe	Contact Name	Communicated via	Comments/Actions
11/23/2009	Morongo Band of Mission Indians	Mr. Robert Martin	USPS certified	NOI Published in Federal Register
11/23/2009	Fort Yuma Quechan Tribe	Mr. Michael Jackson	USPS certified	NOI Published in Federal Register
11/23/2009	Colorado River Indian Tribes	Mr. Eldred Enas	USPS certified	NOI Published in Federal Register
11/23/2009	Twenty-Nine Palms Band of Mission Indians	Mr. Mike Darrell	USPS certified	NOI Published in Federal Register
11/23/2009	Torres-Martinez Desert Cahuilla Indians	Ms. Mary Resvaloso	USPS certified	NOI Published in Federal Register
2/16/2010	Fort Yuma Quechan Tribe	Chmn. Michael Jackson	USPS	Letter expressing timeline concerns and the willingness to participate
3/5/2010	Soboba Band of Luiseno Indians	Mr. Joe Ontiveros	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Twenty-Nine Palms Band of Mission Indians	Chmn. Mike Darrell	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Agua Caliente Band of Cahuilla Indians	Mr. Richard Milanovich	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Augustine Band of Mission Indians	Chair Maryann Green	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Cabazon Band of Mission Indians	Chmn. John James	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Chemehuevi Indian Tribe	Chmn. Charles Wood	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Colorado River Indian Tribes	Chmn. Eldred Enas	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Fort Mojave Indian Tribe	Chmn. Timothy Williams	USPS certified	Invite to participate in PA/Sec 106 Consultation

Date	Tribe	Contact Name	Communicated via	Comments/Actions
3/5/2010	Fort Yuma Quechan Tribe	Pres. Michael Jackson	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Morongo Band of Mission Indians	Chmn. Robert Martin	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Ramona Band of Mission Indians	Chmn. Manuel Hamilton	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	San Manuel Band of Mission Indians	Chmn. James Ramos	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Soboba Band of Luiseno Indians	Act. Chair Rosemary Morillo	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/5/2010	Torres-Martinez Desert Cahuilla Indians	Chair Mary Resvaloso	USPS certified	Invite to participate in PA/Sec 106 Consultation
3/24/2010	San Manuel Band of Mission Indians	Mr. James Ramos	TELEPHONE	No answer/left msg re: PA Kick-off Meeting
3/24/2010	Twenty-Nine Palms Band of Mission Indians	Mr. Darrell Mike	TELEPHONE	No answer/left msg re: PA Kick-off Meeting
3/24/2010	Agua Caliente Band of Cahuilla Indians	Mr. Sean Milanovich	TELEPHONE	No answer/left msg re: PA Kick-off Meeting
3/24/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	TELEPHONE	Preparing a response letter to the PA consultation letter from BLM
3/24/2010	Augustine Band of Mission Indians	Mr. David Saldivar	TELEPHONE	Will inquire with Tribe and return call next week
3/25/2010	Cabazon Band of Mission Indians	Ms. Judy Stapp	TELEPHONE	Do not plan on participating at this time
3/25/2010	Cocopah Indian Tribe	Ms. Sherry Cordova	TELEPHONE	No answer/left msg re: PA Kick-off Meeting
3/25/2010	San Manuel Band of Mission Indians	Ms. Ann Brierty	TELEPHONE	No answer/left msg re: PA Kick-off Meeting
3/25/2010	Twenty-Nine Palms Band of Mission Indians	Mr. Anthony Madrigal Jr.	TELEPHONE	They plan on participating in the PA development; email confirmation to follow

Date	Tribe	Contact Name	Communicated via	Comments/Actions
3/26/2010	San Manuel Band of Mission Indians	Ms. Ann Brierty	EMAIL	Will participate
3/29/2010	Twenty-Nine Palms Band of Mission Indians	Mr. Anthony Madrigal Jr.	EMAIL	Will Participate
4/6/2010	Soboba Band of Luiseno Indians	Mr. Joe Ontiveros	TELEPHONE & EMAIL	Will participate in PA & discussed details for the April 23rd mtg; follow up email
4/6/2010	Twenty-Nine Palms Band of Mission Indians	Chmn. Mike Darrell	EMAIL	PA kick-off meeting details
4/6/2010	Agua Caliente Band of Cahuilla Indians	Mr. Richard Milanovich	EMAIL	PA kick-off meeting details
4/6/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	EMAIL	PA kick-off meeting details
4/6/2010	Augustine Band of Mission Indians	Chair Maryann Green	EMAIL	PA kick-off meeting details
4/6/2010	Cabazon Band of Mission Indians	Chmn John James	EMAIL	PA kick-off meeting details
4/6/2010	Chemehuevi Indian Tribe	Chmn. Charles Wood	EMAIL	PA kick-off meeting details
4/6/2010	Colorado River Indian Tribes	Chmn. Eldred Enas	EMAIL	PA kick-off meeting details
4/6/2010	Fort Mojave Indian Tribe	Chmn. Timothy Williams	EMAIL	PA kick-off meeting details
4/6/2010	Fort Yuma Quechan Tribe	Pres. Michael Jackson	EMAIL	PA kick-off meeting details
4/6/2010	Morongo Band of Mission Indians	Chmn. Robert Martin	EMAIL	PA kick-off meeting details
4/6/2010	Ramona Band of Mission Indians	Chmn. Manuel Hamilton	EMAIL	PA kick-off meeting details

Date	Tribe	Contact Name	Communicated via	Comments/Actions
4/6/2010	San Manuel Band of Mission Indians	Chmn. James Ramos	EMAIL	PA kick-off meeting details
4/6/2010	Soboba Band of Luiseno Indians	Act. Chair Rosemary Morillo	EMAIL	PA kick-off meeting details
4/6/2010	Torres-Martinez Desert Cahuilla Indians	Chair Mary Resvaloso	EMAIL	PA kick-off meeting details
4/9/2010	Soboba Band of Luiseno Indians	Mr. Joe Ontiveros	USPS certified	PA kick-off meeting details
4/9/2010	Twenty-Nine Palms Band of Mission Indians	Chmn. Mike Darrell	USPS certified	PA kick-off meeting details
4/9/2010	Agua Caliente Band of Cahuilla Indians	Mr. Richard Milanovich	USPS certified	PA kick-off meeting details
4/9/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	USPS certified	PA kick-off meeting details
4/9/2010	Augustine Band of Mission Indians	Chair Maryann Green	USPS certified	PA kick-off meeting details
4/9/2010	Cabazon Band of Mission Indians	Chmn. John James	USPS certified	PA kick-off meeting details
4/9/2010	Chemehuevi Indian Tribe	Chmn. Charles Wood	USPS certified	PA kick-off meeting details
4/9/2010	Colorado River Indian Tribes	Chmn. Eldred Enas	USPS certified	PA kick-off meeting details
4/9/2010	Fort Mojave Indian Tribe	Chmn. Timothy Williams	USPS certified	PA kick-off meeting details
4/9/2010	Fort Yuma Quechan Tribe	Pres. Michael Jackson	USPS certified	PA kick-off meeting details
4/9/2010	Morongo Band of Mission Indians	Chmn. Robert Martin	USPS certified	PA kick-off meeting details

Date	Tribe	Contact Name	Communicated via	Comments/Actions
4/9/2010	Ramona Band of Mission Indians	Chmn. Manuel Hamilton	USPS certified	PA kick-off meeting details
4/9/2010	San Manuel Band of Mission Indians	Chmn. James Ramos	USPS certified	PA kick-off meeting details
4/9/2010	Soboba Band of Luiseno Indians	Act. Chair Rosemary Morillo	USPS certified	PA kick-off meeting details
4/9/2010	Torrea-Martinez Desert Cahuilla Indians	Chair Mary Resvaloso	USPS certified	PA kick-off meeting details
4/20/2010	San Manuel Band of Mission Indians	Ms. Ann Brierty	TELEPHONE	No answer/left msg re: PA Kick-off Meeting
4/20/2010	Twenty-Nine Palms Band of Mission Indians	Mr. Anthony Madrigal Jr.	TELEPHONE	Will attend PA Kick-off Meeting
4/20/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	TELEPHONE	Will attend PA Kick-off Meeting
4/20/2010	Augustine Band of Mission Indians	Mr. David Saldivar	TELEPHONE	No answer/left msg re: PA Kick-off Meeting
4/20/2010	Cabazon Band of Mission Indians	Ms. Judy Stapp	TELEPHONE	No answer/left msg re: PA Kick-off Meeting
4/20/2010	Cabazon Band of Mission Indians	Ms. Judy Stapp	TELEPHONE	Returned msg; will not attend PA Kick-off Meeting
4/21/2010	San Manuel Band of Mission Indians	Ms. Ann Brierty	TELEPHONE	Will not be able to attend PA Kick-off Meeting, but requests follow-up info.
4/21/2010	Augustine Band of Mission Indians	Mr. David Saldivar	TELEPHONE	Will not be attending PA Kick-off Meeting
4/21/2010	Chemehuevi Indian Tribe	Mr. Charles Wood (Office of)	TELEPHONE	Will not be attending PA Kick-off Meeting
4/22/2010	San Manuel Band of Mission Indians	Mr. Anthony Madrigal	EMAIL	Plans to attend PA Kick-off Meeting
4/23/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	IN PERSON	PA Kick-off Meeting

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Date	Tribe	Contact Name	Communicated via	Comments/Actions
4/23/2010	Twenty-Nine Palms Band of Mission Indians	Mr. Anthony Madrigal Jr.	IN PERSON	PA Kick-off Meeting
4/23/2010	Soboba Band of Luiseno Indians	Mr. Joe Ontiveros	IN PERSON	PA Kick-off Meeting
4/23/2010	San Manuel Band of Mission Indians	Ms. Ann Brierty	IN PERSON	PA Kick-off Meeting
5/17/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	EMAIL	Send cultural resource reports via FTP
5/24/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	TELEPHONE & EMAIL	Send cultural resource reports via FTP

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1569 **Table 5. "CULTURAL RESOURCES Table 3: Dates of Inquiries Made to Native American Groups and their Replies" (Genesis**
1570 **Staff Assessment and Draft EIS, March 2010; pp.C3-57 and C3-58)**

Native American Group	Contact Person	Dates of Contact with BLM
Agua Caliente Band of Cahuilla Indians	Richard Milanovitch, Chairman Richard Begay and Patty Tuck, Tribal Historic Preservation Officers	11/26/07 NAHC letter from BLM 01/29/08 Reply from Ms. Tuck 05/20/09 Meeting with BLM 06/05/09 Meeting with BLM 11/23/09 NOI letter from BLM
Ak-Chin Indian Community	Terry Enos, Chairman	11/23/09 Copy of NOI letter
Anza Cahuilla	Contact person unknown	05/20/09 Meeting with BLM 11/05/09 Meeting with BLM
Augustine Band of Cahuilla Mission Indians	Mary Ann Green, Chairperson	11/26/07 NAHC letter from BLM 11/23/09 Copy of NOI letter
Cabazon Band of Mission Indians	John A. James, Chairperson Judy Sapp, Cultural Resources Coordinator	11/26/07 NAHC letter from BLM 12/21/07 Reply from Ms. Sapp 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Cahuilla Band of Indians	Anthony Madrigal, Jr., Chairperson	11/26/07 NAHC letter from BLM 11/23/09 Copy of NOI letter
Chemehuevi Reservation	Charles Wood, Chairperson	11/26/07 NAHC letter from BLM 11/23/09 Copy of NOI letter 12/09/09 Reply
Cocopah Tribal Council	Sherry Cordova, Chairwoman	11/23/09 Copy of NOI letter
Colorado River Indian Reservation	Daniel Eddy, Jr., Chairman Michael Tsosie, Cultural Contact	11/26/07 NAHC letter from BLM 11/23/09 Copy of NOI letter
Fort McDowell Yavapai Nation	Raphael Bear, President	11/23/09 Copy of NOI letter
Fort Mojave Indian Tribe	Timothy Williams, Chairperson Linda Otero, Director, AhaMakav Cultural Soc.	11/23/09 Copy of NOI letter
Gila River Indian Community Council	Richard Narcia, Governor	11/23/09 Copy of NOI letter
Havasupai Tribe	Rex Tilousi, Chairman	11/23/09 Copy of NOI letter
Hualapai Indian Tribe	Charles Vaughn, Chairman	11/23/09 Copy of NOI letter
Kaibab-Paiute Tribe	Carmen Bradley, Chairwoman	11/23/09 Copy of NOI letter
Los Coyotes Band of Indians	Katherine Staubel, Spokesperson	11/23/09 Copy of NOI letter
Morongo Band of Mission Indians	Richard Martin, Chairperson Brit W. Wilson, Cultural Resources	11/26/07 NAHC letter from BLM 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Pechanga Band of Luiseno Indians	Contact person unknown	05/20/09 Meeting with BLM 11/05/09 Meeting with BLM

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Quechan Indian Tribe	Michael Jackson, Sr. President Bridget Nash, Cultural Resources	12/18/07 Contact from Ms. Nash 06/23/08 Contact from Ms. Nash 04/29/09 Contact from Ms. Nash 05/21/09 Reports from BLM 05/29/09 Reports from BLM 06/09/09 Contact from Ms. Nash 09/03/09 Letter from Mr. Jackson 11/23/09 Copy of NOI letter 02/16/10 Letter from Mr. Jackson
Ramona Band of Mission Indians	Manuel Hamilton, Chairperson Joseph Hamilton, Vice Chairperson John Gomez, Environmental Coordinator	11/26/07 NAHC letter from BLM 05/21/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Salt River Pima-Maricopa Indian Community Council	Joni Ramos, President	11/23/09 Copy of NOI letter
San Manuel Band of Mission Indians	Ann Brierty, Environmental Department	11/26/07 NAHC letter from BLM 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Santa Rosa Band of Mission Indians	John Marcus, Chairman Terry Hughes, Tribal Administrator	11/23/09 Copy of NOI letter
Soboba Band of Mission Indians	Robert Salgado, Chairperson Bennae Calac, Cultural Resources Coordinator	11/23/09 Copy of NOI letter
The Hopi Tribe	Wayne Taylor Jr., Chairman	11/23/09 Copy of NOI letter
Tohono O'oodham Nation	Vivian Saunders, Chairwoman	11/23/09 Copy of NOI letter
Torres-Martinez Desert Cahuilla Indians	Raymond Torres, Tribal Administrator William J. Contreras, Cultural Resources Coordinator	11/26/07 NAHC letter from BLM 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Twenty-nine Palms Band of Mission Indians	Mike Darrell, Chairperson	11/26/07 NAHC letter from BLM 05/20/09 Meeting with BLM 11/05/09 Meeting with BLM 11/23/09 Copy of NOI letter
Yavapai-Apache Nation	Jamie Fuller, Chairman	11/23/09 Copy of NOI letter
Yavapai-Prescott Indian Tribe	Ernie Jones, Sr., President	11/23/09 Copy of NOI letter

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1578 **Table 6: "CULTURAL RESOURCES Table 4: Details of Communication between BLM and Native American Groups" (Genesis**
1579 **Staff Assessment and Draft EIS, March 2010; pp.C3-60 and C3-61).**

Date	Group	Communication Details
12/18/07	Quechan Tribe	Bridget Nash replied: Expressed concerns for the potential impacts affiliated with the Tribe. Requests a copy of the cultural report once it is completed.
12/21/07	Cabazon Band of Mission Indians	Judy Sapp replied: If there are substantial impacts, the Tribe will request an in-person meeting with Morongo Tribal Historian and BLM staff. She requested additional cultural resource information and for the BLM to provide a report when it becomes available.
01/29/08	Agua Caliente Band of Cahuilla Indians	Patty Tuck replied: The project is beyond both the Reservation lands and traditional use areas of the Tribe. Suggests contacting the Augustine Band of Cahuilla Indians, the Cabazon Band of Mission Indians, the Twentynine Palms Band of Mission Indians, and the Torres-Martinez Desert Cahuilla Indians.
06/23/08	Quechan Tribe	Bridget Nash requests archaeological reports.
04/29/09	Quechan Tribe	A telephone and e-mail conversation between Bridget Nash (Quechan Tribe) and Wanda Raschkow (BLM); Ms. Nash sends requested reports and Ms. Raschkow sends e-mail regarding project status.
05/20/09	Multiple Tribes	A meeting was held to discuss various solar energy projects and transmission lines in the Chuckwalla and Coachella Valleys. Attendees included BLM staff C. Dalu, R. Queen, and J. Kalish and representatives from the Agua Caliente Band of Cahuilla Indians, Morongo Band of Mission Indians, Cabazon Band of Mission Indians, Torres-Martinez Desert Cahuilla Indians, Pechanga Band of Luiseno Indians, Anza Cahuilla, Ramona Band of Mission Indians, Twentynine Palms Band of Mission Indians, and San Manuel Band of Mission Indians.
05/21/09	Quechan Tribe	A letter was posted to Ms. Nash (Quechan Tribe) from BLM Palm Springs Field Office providing requested reports. C. Dalu sent Tetra Tech's archaeology reports.
05/29/09	Quechan Tribe	A package was posted to Ms. Nash (Quechan Tribe) from BLM Palm Springs Field Office providing requested reports.

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06/05/09	Agua Caliente Band of Cahuilla Indians	Meeting with BLM and representatives of the Agua Caliente Band of Cahuilla Indians to discuss various solar projects.
06/09/09	Quechan Tribe	A telephone conversation between Bridget Nash (Quechan Tribe) and Wanda Raschkow (BLM); Ms. Raschkow reports status of project. Ms. Nash requests report. Ms. Raschkow indicates that a data sharing agreement will be necessary before providing archaeological reports and other sensitive data.
11/05/09	Multiple Tribes	Meeting with BLM to discuss various solar projects. Attendees included BLM staff and representatives from the Agua Caliente Band of Cahuilla Indians, Morongo Band of Mission Indians, Cabazon Band of Mission Indians, Torres-Martinez Desert Cahuilla Indians, Pechanga Band of Luiseno Indians, Anza Cahuilla, Ramona Band of Mission Indians, Twentynine Palms Band of Mission Indians, and San Manuel Band of Mission Indians. Tribes request a monthly report regarding all projects. The Agua Caliente Band of Cahuilla Indians requests a site visit.
09/03/09	Quechan Tribe	BLM receives a letter from President Mike Jackson, Sr. commenting on the Programmatic Environmental Impact Statement regarding solar development being developed for the six southwestern states. Concerns expressed over cultural resources and traditional cultural properties.
12/09/09	Chemehuevi Reservation	A telephone conversation between C. Dalu and a representative of the Chemehuevi Reservation expressing concern about the effect of Genesis, Palen, and Blythe solar projects on cultural resources and traditional cultural properties.
12/23/09	La Cuna de Aztlan Sacred Sites Protection Circle	This is a group composed of members from multiple tribes dedicated to the protection of sacred sites in traditional territories in the Colorado and Mojave Deserts. Their comments were included in a formal letter from the CAlifornians for Renewable Energy (CARE) in response to the BLM/CEC request for comments on the GSEP NOI. Concerned about damage to cultural resources such as trails and springs, in particular McCoy Spring.
02/16/10	Quechan Tribe	BLM receives a letter from President Mike Jackson, Sr. commenting on the regulatory approval schedule for the solar "fast-track" projects including Genesis. Concerns expressed about the ability of BLM to consult appropriately with the Tribe in the time frame envisioned. Also suggests that a Section 106 PA is inappropriate for these projects.

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APPENDIX J: MONITORING AND DISCOVERY PLAN

(DRAFT FOR CONSULTATION)
MONITORING AND DISCOVERY PLAN

NEXT ERA GENESIS FORD DRY LAKE SOLAR PROJECT RIVERSIDE COUNTY, CALIFORNIA

MODIFIED FROM THE

IMPERIAL VALLEY SOLAR PROJECT

IMPERIAL COUNTY, CALIFORNIA

Submitted to:
Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

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LSA Project No. SSQ0802

May 26, 2010

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INTRODUCTION

Next Era Genesis Solar LLC is proposing to construct the Next Era Genesis Ford Dry Lake Solar Project in Riverside County on lands under the jurisdiction of the Bureau of Land Management (BLM), and cultural resources have been documented in the project's area of potential effects (APE). Efforts are being made to design the project to avoid all known cultural resources eligible for listing in the National Register of Historic Places (NRHP). The following will be discussed in this Monitoring/Discovery Plan:

- The measures necessary to avoid potential impacts to recorded cultural resources, including Environmentally Sensitive Areas (ESAs)
- Professional standards
- Monitoring plan
- Discovery plan
- Avoidance/protection procedures
- Cultural resources training
- Curation

The entire surface of the APE of the proposed project has been surveyed. Multiple prehistoric and historic resources have been identified.

Project Description

The Next Era Genesis Ford Dry Lake Solar Project would construct a proposed 250-megawatt (MW) solar energy plant on approximately 1,800 acres of public lands in California administered by BLM California Desert District and the Palm Springs/South Coast Field Office. Next Era Genesis Ford Dry Lake Solar Project would utilize existing roads and construct new roads in the project area.

Regulatory Context

The proposed project requires authorization and issuance of a right-of-way grant by the BLM. The proposed project is a federal undertaking. Therefore, compliance with 36 CFR Part 800, regulations implementing the National Historic Preservation Act (as amended), is required. As the project may have an adverse effect on historic properties (resources eligible for or listed in the NRHP), the BLM has prepared a Programmatic Agreement (PA) stipulating treatment measures that will be implemented prior to construction. The preparation of a Monitoring and Discovery Plan are stipulated in the PA.

PROFESSIONAL QUALIFICATIONS

The BLM shall ensure that all work is under the supervision of personnel meeting the *Secretary of the Interior's Standards and Guidelines* (as amended and annotated)*, Professional Qualifications Standards*. The requirements are those used by the National Park Service, and have been previously published in the Code of Federal Regulations (36 CFR Part 61). The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. BLM shall obtain résumés of prospective consultants and verify credentials of supervisory personnel and staff as necessary.

Archaeology

The minimum professional qualifications for supervisory personnel in archaeology shall be a graduate degree in archaeology, anthropology, or closely related field plus the following:

- At least one year of full-time professional experience or equivalent specialized training in archaeological research, administration or management
- At least four months of supervised field and analytic experience in general North American archaeology
- Demonstrated ability to carry research to completion

In addition to these minimum qualifications, a professional in prehistoric archaeology shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resources of the prehistoric period. A professional in historic archaeology shall have at least one year of full-time professional experience at a supervisory level in the study of archaeological resources of the historic period.

DEFINITION OF RESOURCE TYPES

Below are examples of archaeological sites that might be encountered during construction or additional surveys.

Artifact Scatter

This type of site contains a light surface scatter of artifacts such as cores, bifaces, ground stone or milling tools, pottery, and debitage. Artifact scatters may represent short-term resting areas along trails or special-purpose sites. Ecofacts, such as bone and shell, are not present at sites of this type.

Prehistoric Habitation Site

This type of resource is characterized by a variety of ecofacts and artifacts and may contain bedrock milling features, suggesting that many different activities occurred, and perhaps people in the past were living at this location. Occupation may have been for a short period of time, seasonally over hundreds of years, or may represent a village site occupied throughout most of the year. When occupied for short

periods of time, habitation sites are referred to as "short-term habitation sites" or "temporary camps." When occupied by large numbers of individuals over a long period of time, habitation sites are referred to as "long-term habitation sites" or "villages." In addition to well-defined, often deep, cultural deposits (midden), indications of habitation sites are the presence of fire hearths and burned bone, indicating that food was being prepared and cooking occurred.

Isolate

An isolate is defined as the presence of fewer than three artifacts. An isolate does not constitute a site.

Lithic Scatter

A lithic or flake scatter contains a scatter of only flaked stone tools such as cores, stone debitage, or bifaces that may have been created from one or more distinct lithic reduction episodes. If no subsurface distribution is evident, a lithic scatter is often referred to as a "sparse lithic scatter."

Quarry

A quarry is a location where the primary activity consisted of procuring material for stone tools. Quarry sites may be extensive and involve the mining of lithic material, or the site may be an area where cobbles from outcrops were tested for suitability. Quarry sites do not usually contain ceramics, bedrock milling, or faunal material. Occasionally, areas exhibiting limited testing of locally available lithic material are referred to as lithic scatters, when they are more appropriately limited quarry areas.

Archaeosediments

Archaeosediments are sediments created by intentional or unintentional human activity (Waters 1992:33). Other terms employed are anthropogenic and anthropic soils. Archaeosediments include middens, which are a combination of chemically-altered natural sediments, accumulated organic and inorganic refuse, and sediment brought onto the site on the soles of feet and clothing (Waters 1992:33). A shell midden is the accumulation of ecofactual remains of marine shellfish collected and processed for subsistence purposes. Midden deposits can be viewed as refuse deposits that are often associated with habitation sites. In other words, people often produce trash where they camp and live. Since these deposits contain subsistence data, midden studies are important. The researcher must decide whether midden deposits are the result of food processing in preparation for transport, foraging dinner camps, or habitation-related activity.

Native American Heritage Value

It is possible that sites, features, or objects from sites may possess sacred or ceremonial value to local Native Americans. Research into each site and its constituent cultural remains will provide a basis for analysis of its potential heritage value. Interested tribes will be consulted regarding resources located within the project area (APE).

Historic

Historic sites date to after the presence of written records in an area and are greater than 45 years old. Historical archaeology sites may exhibit glass, metal, and ceramic artifacts, to name just a few. The

following types of historical archaeological sites might be expected (this list is not necessarily complete or comprehensive):

- Refuse scatters: often are represented by surface scatters or piles of metal cans, bottles, etc.
- Desert Training Center related activities
- Water conveyance systems
- Railroad camps: they exhibit evidence for the preparation of meals, often obtained from metal cans.

2.0 AVOIDANCE AND PRESERVATION

Avoidance of all cultural resources is preferred and is the goal of the BLM. If cultural resources are discovered during construction and they are eligible for listing in the NRHP, implementation of a data recovery program may be necessary. If avoidance and minimization alternatives are not feasible, then data recovery through archaeological excavation may be warranted. Archaeological sites are most often determined eligible for the NRHP under Criterion 4, "potential for important information." The important information can often be characterized by the physical data, the artifacts, and features in the ground. Archaeological excavations may recover this information. This form of mitigation is called data recovery and includes scientific analyses and the preparation of a technical report. The purpose of conducting a mitigative excavation is to recover, analyze, and document in written form the important information contained within an archaeological site. The report must meet professional standards discussed later in this plan.

As stated above, avoidance of cultural resources during construction is preferred. Whenever practicable, an archaeological site that is determined eligible for listing in the NRHP should be left in place and preserved from damage. Avoidance and minimization alternatives should be also considered as the first option for sites not evaluated. Avoidance measures may include limiting the size of the undertaking to reduce the effect, modification of the undertaking through redesign, and monitoring of ground-disturbance activities to record significant archaeological remains if they are encountered.

2.1 Environmentally Sensitive Areas (ESAs)

Newly discovered and previously known prehistoric and historic archaeological sites located within project's APE shall be designated as Environmentally Sensitive Areas (ESAs). Construction personnel shall be instructed how to avoid ESAs.

All construction personnel shall be trained regarding the recognition of possible buried cultural remains, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. BLM shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials.

2.2 Plan of ESA Establishment and Designation

1. The Archaeologist shall flag and/or fence the cultural resource.
2. The lead construction engineer (resident engineer [RE]) and all supervisory personnel shall be informed by the BLM archaeologist and/or its representative of the presence and location of all ESAs within the project area and the need to maintain integrity of the ESAs.

3. The BLM archaeologist and /or its representative shall convey the archaeological sensitivity of the resource to the construction personnel.
4. Construction personnel shall be informed that ESAs are strictly off-limits to construction, and entrance is not allowed at any time. ESAs shall not be described as archaeological sites. The exact location of cultural resources is confidential.
5. For prehistoric resources, the BLM archaeologist shall consult with interested Native American tribes regarding the sensitivity of the area and any new discoveries. BLM shall make a reasonable and good faith effort to address concerns. The BLM shall consider the role of Native Americans regarding supporting the monitoring of significant Native American resources within and adjacent to project impact areas.
6. Archaeological monitors shall ensure that no ground-disturbing activities take place within the boundaries of any ESA.
7. Archaeological monitors shall immediately report all violations to BLM.
8. BLM and the archaeological monitors shall observe and maintain avoidance of the ESAs. Results of this effort shall be presented in the monitoring report for the project.

If a resource cannot be avoided, then the resource would be evaluated for eligibility for listing in the NRHP.

Training

BLM shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures to treat unexpected discoveries. A Next Era Genesis Ford Dry Lake Solar Project training document has been prepared and shall be provided to construction personnel in support of the on-site training described below. The training document provides prehistoric, historic and regulatory contexts, the roles of BLM and the archaeological monitors, the responsibilities and authority of the monitors, an outline of discovery protocols, and examples of artifacts. The cultural resources training shall include the following:

1. Summary of the archaeological and cultural sensitivity of the area.
2. Regulatory context and BLM protocols.
3. Project roles and responsibilities for the BLM archaeologist and the archaeological monitors.
4. Authority of archaeological monitors to halt work.
5. Basic artifact recognition.
6. The understanding that if construction personnel observe cultural material or what appears to be a cultural resource, the BLM archaeologist and/or representative shall be contacted immediately. Construction personnel shall have the requisite contact information.
7. The explicit understanding that cultural resources and human remains are not to be disturbed.
8. The procedures to follow if cultural material and human burials are observed:
    - Work halts immediately.
    - The location is secured and made off-limits to ground disturbing activities.
    - The construction foreman and BLM archaeologist are called immediately.
    - Work does not re-commence until authorized by the BLM archaeologist.

3.0 MONITORING PLAN

3.1 Monitoring

An archaeological monitor will be present during construction. Additionally, monitoring of ground-disturbing activities within 50 feet of a known cultural resources is required. Monitors are to ensure that ESAs are properly (and adequately) marked and protected. A Native American monitor is required at all sensitive prehistoric resource locations. Safety is paramount, and all monitors shall undergo safety briefings and shall abide by all Occupational Safety & Health Administration (OSHA) and project safety requirements. Monitors have the authority to halt work. BLM shall maintain a record of the safety briefings and require that all monitors participate. The following list outlines the qualifications and responsibilities of the archaeological monitors.

1. The qualifications of monitors shall be confirmed by the BLM. The consultant shall provide résumés and references. The monitors must be familiar with the types of historic and prehistoric resources within the study area.
2. Monitors shall maintain a daily work log. The log shall include:
    a. Date and time of work
    b. Area of work
    c. Type of work and equipment present
    d. Construction activities performed
    e. Monitoring activities performed (e.g., protection of ESA)
    f. Cultural resources present
    g. Name of Native American monitor (if present)
3. Color digital photographs shall be taken, as appropriate, to document monitoring activities. All ESAs, at a minimum, shall be photographically documented prior to, during, and after construction in their vicinity. If previously unknown or inadequately documented cultural resources are encountered during monitoring, BLM and the monitors shall follow the procedures presented in the section titled *Discovery Treatment Plan*.
4. Written memo updates shall be provided weekly. The weekly memos shall identify the monitors present, dates worked, and their locations for that week. The memo shall present the results of monitoring for that week. Once monitoring has been completed, a monitoring report shall be drafted for review and approval by the BLM archaeologist. The monitoring report shall present the following:
    a. All monitoring activities
    b. Location of monitoring
    c. Dates of monitoring
    d. Personnel participating and their qualifications

e. Resources (ESAs) satisfactorily protected

f. Damaged resources, including the effects and the significance

g. Discovered resources and their significance (if any)

h. Management and treatment measures implemented

The report will be reviewed and approved by the BLM archaeologist and will be prepared per *ARMR* (OHP 1989) format guidelines.

5. Monitors shall ensure that all ESAs are avoided and protected. This includes verification that the current conditions of known significant resources do not change as part of this project. If protected sites exhibit physical changes, the protection measures are inadequate and need to be immediately changed and improved under direction from the BLM archaeologist. Earthmoving within 50 feet of a significant resource may be halted.

6. If individual artifacts are exposed during monitoring, they will be mapped in situ, collected, analyzed in the consultant's laboratory, cataloged, and curated. A curation agreement will be established with a curation facility that meets federal standards).

7. If a feature (cluster of in situ artifacts, intact hearth, foundation, etc.) is exposed during monitoring, construction activities will be diverted briefly until the project archaeologist has had the opportunity to assess the find and make appropriate recommendations. Consultant recommendations shall be provided to the BLM and in accordance with the *Discovery Treatment Plan* provided later in this document. Avoidance is preferred and, if a resource cannot be avoided, then first it must be evaluated. If the resource is significant, then avoidance must be reconsidered. If the significant resource cannot be avoided, then treatment measures (including possibly data recovery) must be implemented prior to recommencing construction. The details of this process are also discussed in the *Discovery Treatment Plan* provided later in this document. During the field implementation of archaeological studies, earthmoving within 50 feet may be halted.

   After mitigation of site impacts has been completed, and if additional cultural material is exposed by grading in the same site, additional hand-excavation will not be required unless the additional material represents a new kind of data not recovered during previous data recovery at that site. Such new data would consist of artifact classes and features not recovered during previous mitigation. Features may include hearths, refuse pits, and burials. Even if no additional hand-excavation is required, the newly exposed material will be mapped and collected.

8. If human remains are encountered, a course of action following the requirements set forth in 43 CFR 10 and the BLM Native American Graves Protection and Repatriation Act (NAGPRA) Protocols. This would include stopping work in the exclusion area for a period of no more than 30 days while the consultation requirements of NAGPRA are completed. Work on the undertaking can proceed outside of the exclusion area. Should these BLM NAGPRA protocols not be followed, a violation of NAGPRA and the Archaeological Resources Protection Act (ARPA) may take place. ARPA allows the government to assess civil fines and to proceed with criminal prosecution depending on the nature of the violation.

4.0 DISCOVERY PLAN

4.1 Plan of Treatment of Discoveries

This Discovery Plan addresses the actions to be taken should discoveries occur during project implementation. Potential discoveries in the Imperial Valley Solar project area are divided into two categories, each requiring distinct management procedures: treatment of previously unknown artifacts, features, site components, or sites; and treatment of human remains discoveries. The procedures to be followed, should such discoveries be made during the treatment program or during project implementation, are reviewed below.

If human remains are encountered, the course of action will follow the requirements set forth in 43 CFR 10 and the BLM Native American Graves Protection and Repatriation Act (NAGPRA) Protocols. This would include stopping work in the exclusion area for a period of no more than 30 days while the consultation requirements of NAGPRA are completed. Work on the undertaking can proceed outside of the exclusion area. Should these BLM NAGPRA protocols not be followed, a violation of NAGPRA and the Archaeological Resources Protection Act (ARPA) may take place. ARPA allows the government to assess civil fines and to proceed with criminal prosecution depending on the nature of the violation.

Whereas the protocols below apply to all discoveries, specific management and treatment measures may vary according to the resource type discovered, the discovery location within the project area, and anticipated project effects. Specific field and laboratory methods are presented in Appendix A.

Management of Previously Unknown Sites, Site Components, or Features

Previously unknown artifacts, features, site components, or even sites may be encountered during archaeological monitoring. The spatial distribution of features and their functional types are important aspects of the research design, both in terms of intra-site structure and spatial organization and in the distribution of features associated with the ridgeline cultural landscape. Some potential for buried remains occurs within depositional environments present within the APE.

Recovery and documentation of cultural materials will, at minimum, include mapping the discovery location and may also include one or more of the following: photographs; illustrations of artifacts, features, or soil profiles; surface artifact collection; and test or data recovery excavations. The procedures outlined below will be adhered to should there be archaeological discoveries during construction monitoring for the project. A discussion of the disposition and curation of recovered artifacts is presented later in this in the section titled *Data Management and Curation*.

Guidelines for the treatment of new discoveries within the project area are as follows:

- The archaeological monitor shall have the authority to halt work in discovery vicinities and redirect heavy equipment away from the discovery site.
- All ground-disturbing activities that would adversely impact a newly discovered cultural resource will be halted. The horizontal and vertical limits of the resource within the impact area shall be determined. The resource shall be protected by physical barriers and the presence of monitors to ensure that further disturbance to the resource is avoided and to minimize impacts.
- The BLM shall apply the criteria for listing in the NRHP including the following:

  (A) It is associated with events that have made a significant contribution to the broad patterns of history and cultural heritage;

  (B) It is associated with the lives of persons important in our past;

  (C) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or

  (D) It has yielded, or may be likely to yield, information important in prehistory or history.
- If the cultural resource is determined by the BLM to be a historic property (eligible for the NRHP), consultation will take place to determine the appropriate treatment measures.
- BLM shall consult with Native American groups or other interested parties regarding the treatment of the find.
- As needed, a data recovery plan shall be developed by the consultant under direction and in coordination with the BLM and to recover the significant values contained by newly discovered resources. Recovered data shall be processed, analyzed, and reported concurrent with other sites addressed during the treatment program. Please refer to the specific field and laboratory methods in Appendix A.
- If individual non-diagnostic artifacts are exposed during monitoring or construction, they shall be mapped in situ. If diagnostic artifacts are exposed, they shall be mapped, collected, analyzed in our laboratory, catalogued, and curated.
- If a feature (e.g., cluster of in situ artifacts, intact hearth, or foundation) is exposed during monitoring, construction activities shall be diverted until the find can be assessed and appropriate recommendations made. If excavation is required, it shall be accomplished expediently. Features will be exposed and recovered using standard excavation techniques, with care taken to maintain the provenance of the feature as a distinct unit. The feature shall be photographed and mapped in place prior to recovery. Samples shall be recovered for special analyses (e.g., radiocarbon, macrobotanical, palynological, or faunal) as appropriate to the character of the feature. Artifacts collected will be analyzed in the consultant's laboratory, cataloged, and temporarily curated.
- A determination shall be made as to whether a new discovery is part of an existing site or a previously unknown cultural resource. Based on that determination, existing DPR forms shall be updated to include the discovery. The potential significance of newly discovered sites or site components shall be evaluated relative to the research design.
- If a new site or significant component of a previously recorded site is discovered, construction activities will be halted in the area until an assessment of the find can be made. If it is determined that the site has the potential to yield important data that can address research questions, a sample of the

site area will be hand-excavated using the standard archaeological procedures described in the Appendix A. BLM will be informed by the consultant as to the estimated time necessary for NRHP eligibility. The assessment will include mapping the locations and elevations of new discoveries. To the extent possible, boundary definition, assessment of content and integrity, and assessment of eligibility shall be accomplished with STP excavations. At minimum, such mitigation of site impacts will include recording, excavation, and reporting of major features or artifact concentrations uncovered and recovery/curation of a sample of uncovered artifacts where practicable.

- Construction activities in the discovery area shall not resume until the site treatment is completed. The consultant shall prepare a very brief report of the findings, eligibility evaluation, and propose avoidance measures and provisions to minimize impacts specific to that discovery that shall be submitted to BLM for review and concurrence. If further disturbance cannot be minimized, then it's the cultural resources contractor would provide justification and recommendations for data recovery to the BLM. If the BLM determines that disturbance is justified, then recommendations for data recovery would be reviewed by the BLM for adequacy and to evaluate the cost of treatment versus the cost of project redesign. Interested Native American community members would be consulted if the resource is contains a Native American context. Only after BLM review and approval of a site specific data recovery plan, would such excavation be performed. Data recovery would collect a representative sample of the deposits that would be destroyed.
- The discovery of human remains during project implementation requires special procedures, as discussed below.
- If additional cultural material is exposed by construction after mitigation of site impacts has been performed per the Discovery Treatment Plan, additional hand-excavation will not be required unless the material represents a new type of data. Such new data would consist of artifact classes and features not recovered in previous excavations. However, even if no additional excavation is required, the newly exposed material shall be mapped and collected.
- Discoveries and their treatment relative to the research shall be reported in the final monitoring report for the project. A separate report of findings and interpretation relative to a research design will be prepared if data recovery excavations are employed for mitigative site treatment.

MANAGEMENT AND TREATMENT OF HUMAN REMAINS

Human remains may be discovered in situ during the field excavation program, which includes the test unit excavations. Additionally, human remains may be discovered during the laboratory processing and analysis phases of the treatment program, since recovered cultural residues will be washed through the wet screening station and cultural constituents are not often visible to the excavators or screeners. Archaeological monitoring both within and outside site areas is also planned, during which isolated or disarticulated human remains may be uncovered. One of the objectives of archaeological monitoring is to identify such remains while they are still in place so they and their context can be managed in a manner that is sensitive to the Native American community or other ancestors and addresses existing regulations.

If human remains are encountered, course of action will follow the requirements set forth in 43 CFR 10 and the BLM Native American Graves Protection and Repatriation Act (NAGPRA) Protocols. This would include stopping work in the exclusion area for a period of no more than 30 days while the consultation requirements of NAGPRA are completed. Work on the undertaking can proceed outside of

the exclusion area. Should these BLM NAGPRA protocols not be followed, a violation of NAGPRA and the Archaeological Resources Protection Act (ARPA) may take place. ARPA allows the government to assess civil fines and to proceed with criminal prosecution depending on the nature of the violation.

While it is hoped that human remains will not be encountered during the treatment program, the possibility exists that such a discovery can occur, and procedures are included herein to address such an event. When skeletal remains that may be human are encountered, the following steps will be taken:

- For field situations, archaeological investigations or project construction activities in the discovery area will cease, and the archaeological monitor or field archaeologist will notify the Principal Investigator and BLM.
- Human remains will be treated with respect and dignity, with care taken to limit disturbance and maintain the association of the remains with any accompanying funerary items and their physical setting. Archaeological investigations or project development work will not resume in the discovery area until the appropriate recovery and management actions have been completed.
- The specific location of the discovery will be withheld from public disclosure, as will the location of any reburial site.
- No excavation of human remains will be put on public display in any manner, nor photographed, except for the purpose of scientific documentation. No photographs of human remains will be distributed to the public or published.

For laboratory situations, where small bone or fragments may be identified as sensitive, similar notification and management procedures will be followed, and strict provenance controls will be maintained. The initial step is expert identification. The next steps include consultation with tribes, and preparation of a written plan for management of the remains.

5.0 DATA MANAGEMENT and CURATION

5.1 TECHNICAL REPORT PREPARATION AND DISSEMINATION

Reports regarding training, monitoring, consultation, evaluation, and data recovery (if necessary), will be responsive to contemporary professional standards. This will include the *Secretary of Interior's Standards for Archaeological Documentation* (OHP 1989).

A comprehensive technical report may be required that will present the results of monitoring, evaluation, and treatment programs completed in relation to the Genesis Solar Energy Project. The production and dissemination of the technical report is the final step in treatment. The consultant is responsible for technical report preparation, with BLM oversight and final document approval. The technical report and ancillary studies will also be responsive to contemporary professional standards and to the *ARMR* (OHP1989). Precise locational data may be provided in a separate appendix if it appears that its release could jeopardize archaeological sites.

The draft report(s) will contain cultural background, the results of Native American consultation, a description of the physical environment, a research design, methods and results sections, and a discussion of meaning (interpretation). Results of lab and specialized analyses will be given as well as a discussion of spatial and temporal distributions, as appropriate to the individual report. At a minimum, final technical report(s) resulting from actions pursuant to this treatment plan will be provided by BLM to the Eastern Information Center.

5.2 CURATION IN PERPETUITY

Following completion of laboratory and analytical procedures, project collections will be prepared for permanent curation according to Smithsonian Institution guidelines and the requirements of the permanent curatorial facility. Materials to be curated include archaeological specimens and samples, site catalogs, field notes, field and analysis forms, feature and burial records, maps, plans, profile drawings, photo logs, photographic negatives, consultants' reports or special studies, and two copies of the final technical report. These materials will be curated at a facility that meets federal standards as promulgated at 36 CFR Part 79, *Curation of Federally Owned and Administered Archaeological Collections*.

Appendix A

Specific Field and Laboratory Methods

Standard archaeological field, laboratory, and analysis methods that are consistent with current scientific and regional procedures will be used for the Genesis Solar Energy Project. This appendix addresses newly discovered sites that cannot be avoided by project construction. Upon unanticipated discovery of intact cultural deposits, including features, the BLM will evaluate the resource for listing in the NRHP.

Strategies will include controlled excavations, which consist primarily of Shovel Test Pits (STPs) and 1 × 1 m Test Excavation Units (TEUs) and/or larger block exposures that are hand-excavated with strict provenance controls using shovels, trowels, picks, and other tools. Supervised mechanical excavations may also be used where appropriate as well as remote sensing surveys.

Archaeological resources are normally determined eligible under Criterion D, potential for important information. The resource must clearly demonstrate the potential and must exhibit the requisite physical integrity. The presence of diagnostic (datable) material and/or artifacts allowing the opportunity to date the site is imperative. Resources in disturbed contexts with no opportunity to be dated are often ineligible for the NRHP. If a resource is eligible and cannot be avoided by construction, BLM may decide to conduct data recovery and excavate a representative sample of the site employing the excavation strategies below.

FIELD METHODS

Surface Scrapes

Surface scrapes are employed in areas of dense vegetation and simply involve scraping the ground with a shovel in large units to expose the surface for examination.

Shovel Test Pits

STPs are preliminary tests for the presence of subsurface cultural deposits. It is expected that they will be used to delineate the boundaries of previously unknown sites, site components, or large, diffuse features, should they be discovered during archaeological fieldwork or monitoring. STPs normally measure approximately 35−40 centimeters in diameter and are excavated in incremental 20-centimeter levels. The number and distribution of STPs depend upon the size and geomorphic setting of each site. Each STP is excavated to 1 meter or to bedrock, whichever is encountered first, with the ground surface serving as reference for depth measurements. Excavated fill is reduced through 1/4 -inch mesh hardware cloth, and recovered artifacts are collected and bagged by level, with reference numbers assigned and typical labeling information provided. Stockpiled dirt is returned to the STP upon completion; shovel test forms are completed for each unit. Due to the small volume of STP excavations, caution must be exercised in

interpreting results. While positive findings clearly indicate the presence of subsurface remains, negative results cannot be assumed to indicate the absence of a subsurface component.

Auger Excavation

Auger excavations are used to define soil stratigraphy, to locate bedrock, or to test for the presence of cultural remains at greater depth, including potentially buried deposits. With extension handles, this procedure can accurately locate and trace soil strata at depths of several meters. Augers can be placed in the bottom of STPs or other excavation units to further test for depth of deposit when additional excavation is otherwise impossible. However, the small volume of most auger borings limits the usefulness of this procedure for mapping the absence of subsurface cultural deposits with certainty. On each site, auger tests are sequentially numbered, and recovered materials are bagged, labeled, transported, and processed in the same manner as other excavated materials. Reference log numbers are assigned to each provenance unit, and an auger form is completed. Auger test locations are plotted on the site plan views, and auger holes are covered upon completion with the dirt available from the initial screening reduction.

Test Excavation Units

Manually excavated TEUs afford larger subsurface exposures than STPs and are used to recover representative samples of subsurface artifacts with controlled depth information. In general, TEUs measure 1 square meter (1 × 1 m) to 4 square meters (2 × 2 m); however, dimensions may vary according to circumstances, and adjacent units may be excavated in various configurations to develop block exposures. For example, site depth is a determinant for defining unit size. Unit depths greater than 1.5 meters require the opening of an adjacent unit for health and safety issues as well as for facility of excavation and recording. Also, additional exploration and exposure of a feature that extends beyond the boundaries of a TEU may be necessary. Excavation proceeds by 10-centimeter arbitrary levels unless natural or cultural strata are present; then, levels are subdivided to maintain these distinctions. Contour levels are maintained by measuring depth from the existing surface. An excavation level record is completed for each level. As appropriate, other records are completed, including plan views, profiles of test units, and descriptions of features. In addition, test units are selectively photographed during excavation to show artifact and/or stratigraphic associations, profiles, features, or other data.

Test units will be numbered by a sequential designation. The highest corner of each test pit is designated the unit's datum for elevation control. This corner will be marked with a pin flag labeled with the test unit's number. Depths of units are determined by empirical site stratigraphy. In alluvial or aeolian deposits, units can range up to several meters below the surface of the site. Whenever possible, units will be excavated to bedrock, to two consecutive culturally sterile levels (20 cm), or to sediments that are clearly not of a culturally relevant age.

Hand-excavation of test units will normally be accomplished using shovels, trowels, rock bars, and picks, depending on the composition of the sediments and the nature of the cultural deposits. In feature contexts,

trowels, brushes, and other small implements may be appropriate. Special methods are used in the excavation of features, including sample collections suitable for special study. Charcoal (for radiocarbon assay) is collected when present. Depending upon excavation context and research design issues, other samples that may be collected include bulk sediment for humate analysis and/or chemical analysis, pollen and/or phytolith, and flotation. Excavated soils are typically screened through ⅛-inch mesh to reduce sediment volume and bagged and tagged as previously described.

Water Screening

Water screening is a technique for screening excavated sediments if it is determined that dry screening is not productive for observing and recovering cultural material. This may be the case, for example, if the site soils contain a high clay content, are very wet, or are otherwise resistant to dry-screening reduction. It will be determined on a site-by-site basis whether water screening is necessary.

If water screening is employed, ⅛-inch mesh screen will still be used. The screen residues are first reduced as much as possible by dry screening and then placed in buckets and appropriately labeled with provenance information and a unique reference number. This reference number (bucket/bag log number, special sample number) is used to track cultural residues through the wet-screening station, where residues are washed, bagged, and organized for transfer to the archaeological laboratory. The use of the reference number system provides quality assurance of provenance controls. A log is kept so that each sample is accounted for and can be tracked.

Trenching

Where trenching is conducted, an archaeologist and/or geoarchaeologist will direct backhoe operation. The duties of this person include selecting trench locations and their dimensions, monitoring the backhoe while in operation, and examining profiles. Depths of trenches are determined by the site context. For safety, trenches deeper than 1.5 meters should be double width or shored. This is an OSHA requirement. Trench walls are photographed and profiled, and stratigraphic units are described. To facilitate accurate sketching, elevation-control stakes are placed at 20-meter intervals along the excavated portions of the trench. Trench profiles will be cleaned and examined at least every 5 meters. The depth of stratigraphic boundaries is measured from the surface, with strata boundaries extrapolated between mapping points. Standard sedimentary and soil variables are recorded for each stratum, utilizing the terminology of the "Description of Horizons" supplement of *Agricultural Handbook 18* (U.S. Department of Agriculture 1951). Such recorded variables include (1) description of contacts; (2) soil color; (3) textures; (4) boulder and gravel content; (5) large clast angularity (gravel size and larger); (6) large clast lithology; (7) soil structure, consistency, and plasticity; (8) root content and form; (9) sedimentary structure; (10) disturbance; and (11) organic content. Standard data on soils and sediments are recorded on the Soil Worksheet. As warranted, diagnostic artifacts and special samples may be collected from trench profiles. These collections will be point provenanced and assigned individual numbers.

Back dirt from the trenches will be sample screened at no less than 5-meter intervals through ⅛-inch mesh. Water screening will be conducted, if necessary. All features encountered will be exposed by hand. Features will be recorded and mapped on feature forms and photographically documented.

Each trench is marked with a wooden stake labeled with the trench designation. A master list of trenches with their locations, dimensions, and general observations is maintained, and trench locations are included on the site map. Backfilling of trenches is done by backhoe after manual excavations on a site are complete. The wooden stakes marking trench locations should be left in place for mapping.

Feature Excavation

Features will be exposed in plan view. If necessary, additional excavation units will be opened as a block. All feature components will be mapped and photographed. If appropriate, the feature will be bisected and profiled. Soil samples will be collected to allow the studies discussed below.

Geomorphology

The use of geomorphology in archaeological excavations has increased substantially over the last decade. A trained geomorphologist/geoarchaeologist will determine and discuss landform context and site formation processes, including the issue of disturbance, and will profile select trenches and excavation units. The geomorphologist will also help determine where trenches should be placed to obtain the best cross-section of the site stratigraphy.

Remote Sensing

There are several types of remote sensing techniques that are useful to locate buried features and other anomalies on archaeological sites. These techniques are noninvasive and, when used in combination with hand-excavation, can greatly increase the efficiency of the latter by indicating areas worthy of investigation.

Ground Penetrating Radar (GPR). GPR is a geophysical method that has been developed over the past 30 years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high-frequency pulsed electromagnetic waves to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations (Vendl 2003).

Resistivity Surveys. Another method, soil-resistivity survey, uses an electrical current introduced into the soil to locate anomalies. The ease or difficulty with which this current flows within the soil is then measured, and resistant areas are mapped (Grenda et al. 1998). Results are useful using this technique when the resistivity contrasts between the archaeological record and the surrounding soil matrix.

Magnetic-Field Gradient Survey. Magnetic-field gradient survey consists of mapping deviations from the uniformity of the earth's magnetic field (Grenda et al. 1998). This technique is based upon the magnetic field gradient being consistently zero, with deviations from this uniformity indicating archaeological features. Magnetic-field gradient surveys are particularly useful in detecting remnant magnetization that originates from heating the iron oxides found in most soils in features such as hearths, fire pits, and ceramic concentrations.

Mapping Methods

Point Provenance Method. The point provenance method is employed to map the locations of diagnostic artifacts, tools, and other items or significant features prior to collection or excavation, or to collect the surface of low-density sites. Collected materials are assigned sequential reference numbers by site, and the location of each is documented relative to the primary site datum. The reference number is used in preparation of the site map and in presentation of tabled data and artifact illustrations provided in the technical report.

Electronic Distance Measurer Method. The electronic distance measurer (EDM) method is typically used during testing and data-recovery programs where provenance accuracy is critical for meaningful interpretation of cultural resources. The EDM method provides precise locational data in three dimensions. Because each mapping shot records the vertical azimuth as well as distance and bearing, site topography can also be easily documented. To make maximum use of the precision afforded by this mapping technique, data are linked to AutoCAD and geographic information system (GIS) software data and downloaded or entered into an electronic mapping program for output. When the mapping data are plotted, the result is a precise scaled map.

An electronic total station is used for the EDM method, and a single primary mapping station is located in a central area of each property. Sub-data are established as needed, especially on large sites or those with diverse topography. Stations are established with a well-embedded nine-inch nail, and demarked with black-and-pink striped surveyor's flagging. Station labeling includes the station number, site number (permanent designation if available, field number if not), research organization, and date. At large properties, secondary mapping data can be established, keyed to the primary datum, and properly labeled to facilitate recordation of cultural, topographic, and other data.

A data receiver is used with the total station, and preprogramming the upload data receiver eliminates the need for extensive paper data records. Even with use of a data receiver, detailed mapping notes are maintained, and electronic data are backed up and/or downloaded on a daily basis. When the data receiver is not used or functions improperly, the horizontal azimuth, vertical azimuth, horizontal distance, UTM

coordinates (if data are tied into system), and brief description (e.g., metate, biface, contour, projectile point) of each mapping shot are recorded on forms designed for this purpose.

The EDM will be used to map the locations of diagnostic artifacts, tools, features, artifact or rock clusters, site loci, disturbances to the resource's contextual integrity, important natural features, and other data appropriate to the resource or research design. During the evaluation program in the project area, the EDM method will be used to document the locations and relative elevations of trenches, controlled demolition blocks, excavation units, collection units (point provenance or grid collections), cultural and natural features, paleosurfaces, and other data as appropriate.

More than one prism can be utilized in conjunction with the EDM. For mapping large properties or landscape features, the use of two or more prisms may be preferred to maximize productive use of the EDM by limiting delays between shots. Radio communication will be maintained when the EDM mapping method is employed due to the extensive distances between the mapping station and the shot locations, which can be up to 1.6 kilometers.

Photographs and Illustrations

Photographic documentation will include color digital photographs taken throughout all phases of site treatment. Photographs can include site overviews to show the site's physiographic and environmental setting, hand and mechanical excavations in action, and features and unit wall profiles. Black-and-white 35 mm photographs will also be used to document features and wall profiles when appropriate. Photographs will be recorded on standard photographic logs identifying the frame, day, month, year, time, subject, and direction of view. Illustrative photographs will be included in the draft technical report.

Sketches or illustrations of unique features and artifacts are also beneficial in depicting details that are sometimes not evident in photographs. These techniques will be utilized as determined necessary and also included in the draft technical report.

LABORATORY METHODS

Collected artifacts will be inventoried and organized during and following fieldwork and prior to sorting and detailed attribute recording. The Reference Number Log (bucket/bag log) that is completed in the field is submitted to the laboratory with the bagged and labeled residues. The Reference Number Log is the primary inventory document and serves as the list against which artifacts and forms are crosschecked when transferred to the laboratory. Checking assures that (1) collections and data forms are present; (2) the provenance designations (e.g., site, test unit, depth) on each collection bag match those on the data forms and in the Reference Number Log; and (3) other required data sheets (e.g., feature records or special sample forms) are present, accurate, and complete. Data sheets with incomplete or unclear

information and those that contradict other data sheets for the same property are returned to the crew chief for correction.

Cleaning

Prior to cataloging and analysis tasks, most artifacts and specimens will be cleaned and stabilized, either at the wet-screening station or in the laboratory. Specimens that will *not* be cleaned include (1) wood or fiber; (2) fragile/friable bone, antler, or shell; (3) selected ground stone (for possible pollen wash or immunological analysis); (4) selected lithic tools (for blood residue analysis); and (5) possible baked clay or ceramic items.

For other artifacts, adhering dirt will be removed by washing or dry brushing. Flaked stone, ground stone, and shell are typically cleaned using water. Depending upon its condition, bone may be either dry brushed or quickly immersed in water, gently brushed, and then quickly rinsed. To prevent accidental contamination between provenances, artifacts from a single provenance will be cleaned and/or stabilized at the same time, and washing should proceed one unit at a time. Once dry, individual artifacts from each provenance will be placed in clean polyethylene bags along with identification tags produced on archivally stable cardstock. Radiocarbon samples will be placed in either aluminum foil pouches or in glass vials, which will then be placed in clean polyethylene bags. Flotation, pollen, sediment, and other bulk samples will be left in double polyethylene bags until they are processed.

Sorting and Cataloging

Sorting and cataloging methods follow the requirements of the curation standards for a facility that will meet minimum federal requirements, as published at 36 CFR Part 79. The cataloging structure has been modeled on the University of California, Santa Barbara system without the code.

Recovered data are separated hierarchically into class, material, treatment, and item. Class separates artifacts and other data into such major categories as stone, ceramic, bone, shell, glass, metal, and others. The second order (material) deals only with items that are classed as stone. These are further sorted by toolstone (e.g., chalcedony, obsidian, volcanic, quartzite, or granite). Treatment indicates how the artifacts were modified and includes descriptions such as flaked, burned, cut, pecked, ground, polished, and others. The final ordering variable (item) places the artifact into a category such as debitage, biface, mano, or awl.

This information is recorded on the catalog form with the following additional data: count, weight, locus, unit coordinates, depth/level, item coordinates (if appropriate), unit size, type of collection, date collected, and the initials of the collection team. Special samples and ecological data (ecofacts) are recorded on the same catalog form, with the same information required for artifacts. Where appropriate, feature number, sampling stratum designation, soil stratum (stratigraphic) designation, and screening mesh size are also included for each catalog entry.

After the information has been recorded, an artifact is given a two-part catalog number, with each part separated by a dash. The first part of the catalog number is the site accession number; the second part is the artifact number, assigned consecutively in the order of entry. This catalog number will be inked directly onto artifacts, except for debitage and bone detritus. After assigning catalog numbers, the artifacts will be given identification tags (produced on archivally stable paper) and placed in clean polyethylene bags. Each tag will show the catalog number along with other pertinent information, such as site number and selected provenance information. Bagged artifacts are stored in six-inch square boxes, which are incorporated into the temporary boxing system. The catalog will be entered into the computerized data-management system for ease in sorting and manipulating data within and between sites.

Temporary Curation Methods

Processed artifacts will be physically organized and stored in a temporary boxing system until they can be analyzed and transferred to the designated curation facility. The temporary boxing system is set up by site, class, catalog number, and project number. After cataloging, the artifacts are placed in appropriately sized boxes. These boxes will be labeled with the box number, the catalog number of the first and last artifacts included in the box, and the item type (e.g., debitage, ground stone, bone, soil samples). Smaller boxes or plastic film canisters may be used for small or unusual artifacts that need further protection. The boxed artifacts are then placed in a 12 × 15 × 10 inch banker's box. The contents of the box are recorded on the box log, and the box receives a unique box identification number beginning with T (e.g., T-1, T-2) to denote the temporary boxing system. This system allows quick and organized access to specific items from a given site and provenance. Individual artifacts or assemblages can be retrieved using the site number, catalog, and the box log.

For a discussion of long-term curation and artifact disposition, refer to the sections titled *Data Management and Curation*.

Artifact and Ecofact Analyses Methods

Following initial processing and interim curation, artifact and sample analyses will proceed. The recovered chipped and ground stone assemblages, bone and shell artifacts, shell and faunal assemblages, and other items will be subject to a variety of morphological, functional, technological, and typological analyses as appropriate to the data class and research goals. Brief overviews of standard analysis methods are provided in the following sections.

Chipped Stone. The analysis of chipped stone items is directed toward developing classes (and types) of artifacts that are based on morphological, functional, and technological attributes.

Bifaces. Finished bifacial tools include such formal items as points, knives, and drills. The trajectory of biface reduction yields progressively smaller flakes and an objective piece that becomes thinner and takes on a planned form. The objective piece can include the original cobble/core or any detached

flake modified using the bifacial strategy. At any point in the production sequence, an incomplete or broken biface can be used as a tool. Bifaces are classified according to the stage of manufacture represented. Biface reduction/production is recognized as a continuum, and the stages reflect arbitrary divisions within this continuum. Biface reduction can be performed on flakes, cobbles, or split cobbles and can result in cores, tools, and rejected items.

The following data will be recorded for analyzed bifaces: manufacturing stage; lithic material; color, condition, and portion present; overall shape; base shape; transverse cross-section; longitudinal cross-section; and maximum dimensions (length, width, and thickness). The stages of biface manufacture include the following:

- *Stage 1: Edging.* Deep and wide cortical removals originate from natural lateral surfaces. Twenty percent or more of the cortex is retained. The cross-section is irregular or blocky. The width-to-thickness ratio is greater than 3:1.
- *Stage 2: Primary Thinning.* Primary thinning includes second-row and some third-row flaking, loss of natural surface platform angles, prepared platforms, straightened edges , and the most prominent masses and ridges removed. Minimal cortex is retained by the end of Stage 2. The biface begins to form an ovate shape, but the cross-section is rectangular, trapezoidal, or very thick lenticular. The width-to-thickness ratio is less than 3:1.
- *Stage 3: Secondary Thinning.* Overlapping flake scars form opposing lateral margins, no cortex remains, and the biface assumes the desired shape. The cross-section is becoming more lenticular, and the width-to-thickness ratio is about 4:1. Often, change to soft hammer percussion techniques takes place during this stage.
- *Stage 4: Shaping to Preform Tool.* Shaping results in regular flake removals and uniform lateral edges. The cross-section is very lenticular, and optimal width-to-thickness ratios are reached (between 4:1 and 5:1). Optionally, a change to pressure flaking may be made for tool shaping.
- *Stage 5: Finishing.* The preform is finished by notching or fluting, basal grinding, or minor retouch and shaping, if necessary, accomplished through pressure flaking. Stage 5 bifaces can be further subdivided into morphological types.
- *Stage 6: Tool Maintenance and Resharpening.* Continued use of the tool results in dulled edges. Resharpening by pressure flaking reduces the size of the tool and produces a characteristic S-shaped edge cross-section.

Projectile Points. Projectile points are finished bifaces and are a morphologic variation of this chipped stone category. Points exhibit a wide range of styles that are chronologically and culturally diagnostic and are, therefore, treated in greater detail. Typological analysis of projectile points provides diagnostic artifact characteristics to the items and increases their importance for chronological, settlement, subsistence, and technological research.

Projectile points are well-shaped (although not always symmetrical) thin bifaces with uniform cross-sections, regular and non-sinuous edges, little to no cortex, and minute edge alteration and retouch. They often have a deliberately prepared haft element oriented near the center of one end. From the distal to proximal ends, attributes of points include the tip, blade, and stem, but reflect considerable morphological variability in tip form, blade edges, shoulder/barb configurations, notch location and orientation, stem shape, tang morphology, and base configuration.

The attribute stage of analysis recognizes three subclasses: "dart" points/shafted knives, "arrow" points, and indeterminate points. Points are further classified into named types (where possible). The attributes recorded for projectile points include lithic material, color, condition and portion present, blade edge form, blade shape, base shape, shoulder form, stem form, presence of serration, presence of basal notching, presence of side notching, cross-section, actual maximum dimensions (length, width, and thickness), reconstructed dimensions (length, width), length at longitudinal axis, actual width, position of maximum width, maximum blade width, basal width, maximum stem width, position of maximum stem width, shoulder height, proximal shoulder angle, distal shoulder angle, notch opening, side notch width, basal notch width, side notch depth, and basal notch depth.

Cores. This class of artifacts refers to bulky objective pieces used in the preparation of chipped stone tools. Most of these items are pieces representing a wide range of lithic reduction strategies, with the main goal oriented toward testing the quality of material or producing large serviceable flakes suitable for use or for modification into formal tools. Cores can be minimally described by core type, maximum dimensions (length, width, and thickness), lithic material, total observable flake removals, and percentage of cortex.

Cores can be separated into the following categories:

- Test blocks largely reflect the morphology of the original cobble and have a high percentage of cortex. They are characterized by a minimum amount of flaking (usually fewer than five flake scars), which was used to assess the texture and knapping quality of the stone and to determine whether vugs or impurities are present. Test blocks tend to represent rejected materials (i.e., those excluded from tool production trajectories).
- Split cobble/pebbles are the result of splitting cobbles or pebbles into half sections for further reduction. A minimum number of flake scars may be present. The specimens are not shaped and have thick, irregular cross-sections approaching plano-convex. Cortex covers over 50 percent of the dorsal surface. Some secondary flaking may occur around the perimeter of the split edge, but the modification has not substantially changed the morphology of the split sections. The edges may or may not be sinuous.
- Biface cores are virtually indistinguishable from Stage 1 and 2 bifaces, described previously.

- Unidirectional cores primarily have a single striking platform from which a series of flakes has been detached. The flake removal can reflect direct percussion or bipolar technique, but the vast majority of flakes should originate from the single platform.
- Bipolar cores resemble single platform cores, but differ in the existence of a second platform on the opposite end of the core. The orientation of flake removal is from both ends of the core along a single axis.
- Bidirectional cores are similar to bipolar cores, but differ in the location of the second striking platform. In bidirectional cores, the platforms are not in opposable locations.
- Multidirectional (also labeled amorphous or unpatterned cores) have multiple platforms and flake scar orientation that may either coincide with the ridges on the original cobble or lens geometry or utilize appropriate edge angles from previous flake scar removals. The flake scar removal patterning may appear haphazard and random.

Unifaces. Unifaces are shaped tools or incidentally shaped flakes or blades that have been retouched or display continuous modification along one or more edges of one face. Flakes with modification along different edges on alternate faces are also regarded as unifaces. Edge modification can occur on the dorsal or ventral surfaces. During analysis, unifaces will be typed according to existing morphological categories (e.g., keeled scraper, beaked scraper, or concave scraper). In addition, the following observations may be recorded for each specimen: material, color, shape, cross-section, longitudinal cross-section, condition, location of worked edge(s), maximum dimensions (length, width, and thickness), edge angle, and spine plane angle. Unifaces can be subdivided into the following subclasses:

- Formally shaped unifaces are tools with extensive retouching that has substantially modified the morphology of the tool. The retouching consists of a continuous series of flake scars knapped from the edge and extend from at least one-quarter to the entire face of the tool. The tool morphology may or may not be symmetrical, but the modification is relatively extensive and clearly patterned.
- Informally shaped unifaces are tools with incidental edge modification or retouching not substantially modifying the outline morphology of the flake. These items are regarded as expedient tools selected for their natural morphology or edge characteristics and are believed to have been used for a limited number of tasks. The shape of the original flake is largely evident. Edge modification is restricted to a series of five or more continuous flake scars along the edge. Discontinuous nicks randomly occurring along the edge are not regarded as modified flake tools.

Debitage. This category of artifacts refers to unmodified, discarded knapping residues resulting from the production and maintenance of chipped stone tools. Represented are a wide range of remains, including complete and broken flakes; shatter, chunks, and angular debris; and heat spalls and potlids from errors in heat treatment. The attributes recorded for debitage include lithic material, manufacturing stage, completeness, presence and percentage of cortex, evidence of heat treatment, and size. Debitage generally can be defined within the following six categories:

- Core flakes have definable dorsal–ventral surfaces and predominantly unfaceted platforms with steep platform–dorsal edge angles. The dorsal surface flake scar patterns may have unidirectional or multidirectional orientations. Flake cross-sections may be thick, angular, and irregular. Cortex commonly occurs on platforms and/or dorsal faces of these specimens.
- Biface flakes have definable dorsal-ventral surfaces and predominantly faceted platforms, acute platform-dorsal edge angles, and dorsal surface flake scar patterns with mostly multidirectional orientations. Flake cross-sections tend to be thin and concave-convex. Cortex does not occur on platforms and is rarely present on dorsal faces of these specimens. Biface reduction may have resulted in cores or tools.
- Unidentified flakes are flakes or flake fragments that possess insufficient characteristics to be classified as either core or biface flakes. They have definable dorsal and ventral orientations, but platforms are generally absent. This subclass is a general "catch-all" category for non-diagnostic flakes.
- Blades are a special form of long, relatively thin flakes characterized by unidirectional flake scar patterns on the dorsal face and a length to width ratio in excess of 2:1.
- Shatter, chunk, and angular debris are irregular pieces of knapping debris that do not possess sufficient morphological attributes to permit classification into a specific flake category. Most are angular and blocky without discernible platforms or dorsal/ventral surface orientations.
- Heat spalls and potlid flakes are derived from thermal damage and are morphologically distinct from knapping debitage. Heat spalls are often characterized by crazed exterior surfaces and sometimes thermally discolored lithic materials. Typically, the dorsal surface of heat spalled debris displays cortex or compression rings from previous flake removals. Potlids are plano-convex spalls, where the planar surface is the dorsal side and the convex surface is the ventral. Potlids and heat spalls are formed from different expansion/contraction of stone materials under extreme thermal conditions; they characteristically lack the compression rings of force. This type of debris is usually derived from failed attempts at heat treatment or accidental exposure to fire.

Because debitage is generally the most frequent artifact class on prehistoric sites, and because minimal additional key conclusions can be obtained using size data on numerous individual specimens, size sorting of debitage can be accomplished. Debitage analysis is also useful for determining whether heat treatment was a phase in tool-production strategies. Characteristic heat treatment attributes or damage such as differential luster and crazed surfaces will be recorded during debitage analysis.

Ground Stone. Ground stone is defined as lithic material whose shape is modified by repeated friction of stone against stone, as opposed to chipping. Ground stone is recorded using simple morphological and technological attributes based on size and shape. For ground stone specimens, lithic material, portion, shape, cross-section, number of ground surfaces, and maximum measurements (length, width, thickness, and weight) are recorded. In addition, evidence of formal shaping, rejuvenation, secondary use, and the presence and distribution of peck marks, polish, and striations can be recorded.

Common ground stone artifacts include the following:

- Milling stones or metates are large, tabular pieces of stone that exhibit flat to concave ground surfaces on one or both faces. They served as the surface against which materials were ground. They are separated into slab, block, and amorphous forms based on thickness and cross-section. Those that have rectangular cross-sections and are 6 centimeters or less in thickness are termed slab milling stones. Those with rectangular cross-sections but are greater than 6 centimeters in thickness are termed block metates. Milling stones with irregular, long cross-sections, without consideration of their thickness measurements, are termed amorphous. Surfaces may be classified as Type A (planar) or Type B (concave).
- Handstones or manos are handheld grinding stones used to mill food grains or other items against a metate. Typically, they are slabs or cobbles of a size to fit in one or two hands and exhibit a flattened, ground surface on one or more of their faces. Type 1 manos include amorphous to subrectangular handstones with no indication of intentionally shaping. Type 2 manos are those that have been shaped into a regularized form. This type is further subdivided on the basis of size into one-handed and two-handed varieties, with two-handed manos defined as those greater than 15 centimeters along their longest axis.
- Mortars are deeply concave stones in which material was ground and/or pounded. They may be either bowl or bedrock forms.
- Pestles are handheld grinding stones used to press against and into a mortar. They are typically long, cylindrical, and rounded at one or both ends.
- Discoidals/cogstones are thick circular items that served an unknown function, but are associated with the Milling Stone tradition in California archaeological contexts.
- Abrading stones show parallel striations oriented longitudinally (rather than transversely) on one or more faces. Battering may also be present.
- Pendants/gorgets are extensively ground on both surfaces and may have evidence of a biconically drilled hole.
- Unidentified ground stone are fragments that are too small to distinguish morphology or function. These have one or more ground/faceted surfaces, but the remaining portion is too small to infer artifact type.

Hammerstones. Typically, these artifacts are unmodified cobbles, initially reduced cores, or broken cores that exhibit battering on one or more edges. Three subclasses may be defined, two indicating the state of reduction of the artifact and the third indicating the degree of wear. The first subclass includes cobbles that lack signs of modification except for obvious battering at one or more points on the cobble surface. The second subclass is cores that show battering on one or more previously flaked edges. The third subclass is pecking stones: pebbles or cobbles with lighter and more localized wear, often on a pointed projection of the cobble. For these specimens, lithic material, portion, shape, cross-section, number of modified surfaces, and maximum measurements (length, width, thickness, and weight) can be recorded.

Faunal Analyses

A minimum number of individuals indexed will be developed for the vertebrate sample. The purpose of vertebrate faunal analysis is twofold: (1) to identify the variety of fauna present in the local environment over a long period of time, and (2) to identify the species of animals and birds that were included in the human diet, and their ratios diachronically. Both aspects–environmental change and subsistence base–are integral to understanding prehistoric adaptations and historic uses of the area.

Special Studies

Special studies to be completed for the treatment program, as data facilitate, include the following:

- *Radiometric Analysis.* Selected charcoal and shell samples and other remains containing carbon (e.g., organics and bone) from key contexts will be submitted for radiocarbon assay. Approximately 10 samples will be submitted to establish the chronology of paleolandscapes for the paleoenvironmental reconstruction historic context, and another 10 will be submitted to date the chronology of sites and site components should sufficient data be recovered during the treatment program.
- *Obsidian Sourcing Analyses and Hydration.* Obsidian sourcing analysis is used for providing an idea of the regional exchange system within which prehistoric site occupants operated. Obsidian hydration analysis by source is useful for assigning relative chronological ages to the sites and associated materials.
- *Flotation, Pedological, and Chemical Analyses of Sediments.* Flotation analysis of cultural features, including subsequent macrobotanical identification, as necessary, is an important aspect of the evaluation program. Data can be used to address subsistence, site function, seasonality of occupation, internal site structure, and settlement type. Pedological and chemical analyses are useful for geomorphic studies, paleoenvironmental reconstructions, and postformation processes.
- *Ceramic Analyses.* Ceramic thin sectioning (sourcing).
- *Other Analyses and Assays.* Other types of artifact analyses and sample assays may be performed if sufficient data are recovered during the treatment program. These include but are not limited to (1) blood residue (immunological) analysis of selected lithic tools; (2) microscopic use–wear analysis of the edges of selected lithic tools; and (3) stable carbon isotope assay of bone samples from various taxa.

APPENDIX K: NAGPRA PLAN OF ACTION (DRAFT)

(DRAFT FOR CONSULTATION)
NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT PLAN OF ACTION

A WRITTEN PLAN OF ACTION FOR THE TREATMENT OF INTENTIONALLY EXCAVATED OR INADVERTENTLY DISCOVERED HUMAN REMAINS, FUNERARY OBJECTS, SACRED OBJECTS, OR OBJECTS OF CULTURAL PATRIMONY FOR THE NEXT ERA GENESIS FORD DRY LAKE SOLAR PROJECT IN CALIFORNIA DESERT DISTRICT OF THE BUREAU OF LAND MANAGEMENT CALIFORNIA

Draft Date: June 14, 2010

Introduction

This Plan of Action (POA) describes the procedures for the treatment and disposition of Native American human skeletal remains, funerary objects, sacred objects and objects of cultural patrimony (hereinafter, cultural items) for inadvertent discoveries during construction and of the Next Era Genesis Ford Dry Lake Solar Project located in California Desert District (CDD) of the Bureau of Land Management (BLM), California. This POA complies with the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA), *25 U.S.C. 3001 et seq.*, its implementing regulations as set forth in *43 CFR Part 10 (specifically §10.5[e])*, and the Archaeological Resources Protection Act (ARPA), *16 U.S.C. 470aa-mm.*, with its implementing regulations (*43 CFR Part 7*).

Planned Action

The Next Era Genesis Ford Dry Lake Solar Project will construct a proposed 250-megawatt (MW) solar energy plant on approximately 1,800 acres of public lands in California administered by BLM CDD and the Palm Springs/South Coast Field Office. The Next Era Genesis Ford Dry Lake Solar Project would utilize existing roads and construct new roads in the project area.

Consultations

Based on previous consultation, the Agua Caliente Band of Cahuilla Indians, Augustine Band of Mission Indians, Cabazon Band of Mission Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Morongo Band of Mission Indians, Ramona Band of Mission Indians, San Manuel Band of Mission Indians, Soboba Band of Luiseno Indians, Torres-Martinez Desert Cahuilla Indians, Twenty-Nine Palms Band of Mission Indians (Tribes) have been contacted for the Next Era Genesis Ford Dry Lake Solar Project and have indicated the project is within ancestral territory. Should remains subject to NAGPRA be discovered during the course of construction, the BLM

will continue to consult with the interested tribes. These groups have been consulted with and have received a copy of this plan.

BLM's duty to consult with tribes does not include any obligation, implied or expressed, to fund or pay tribes or tribal members for their participation to consult or confer with BLM.

1) Objects to be considered as cultural items:

For the purpose of this plan, the objects considered as cultural items are defined in 43 CFR10.2 (d) and include:

1. *Human remains* means the physical remains of a human body of a person of Native American ancestry. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets or individual teeth. For the purposes of determining cultural affiliation, human remains incorporated into a funerary object, sacred object, or object of cultural patrimony, as defined below, must be considered as part of that item (43 CFR 10.2(d)(1)).

2. *Funerary objects* means items that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed intentionally at the time of death or later with or near individual human remains. Funerary objects must be identified by a preponderance of the evidence as having been removed from a specific burial site of an individual affiliated with a particular Indian tribe or Native Hawaiian organization or as being related to specific individuals or families or to known human remains. The term burial site means any natural or prepared physical location, whether originally below, on, or above the surface of the earth, into which, as part of the death rite or ceremony of a culture, individual human remains were deposited, and includes rock cairns or pyres which do not fall within the ordinary definition of gravesite. For purposes of completing the summary requirements in §10.8 and the inventory requirements of §10.9 (43 CFR 10.2(d)(2)):

   (i) Associated funerary objects means those funerary objects for which the human remains with which they were placed intentionally are also in the possession or control of a museum or Federal agency. Associated funerary objects also means those funerary objects that were made exclusively for burial purposes or to contain human remains.

   (ii) Unassociated funerary objects means those funerary objects for which the human remains with which they were placed intentionally are not in the possession or control of a museum or Federal agency. Objects that were displayed with individual human remains as part of a death rite or ceremony of a culture and subsequently returned or distributed according to traditional custom to living descendants or other individuals are not considered unassociated funerary objects.

Typical funerary objects in prehistoric burials found in northern Nevada include, but are not limited to, arrowheads, basketry, olivella shell beads, abalone pendants, objects of deer antler or antelope horn, and incised bone objects.

3. *Sacred objects* means items that are specific ceremonial objects needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present-day adherents. While many items, from ancient pottery sherds to arrowheads, might be imbued with sacredness in the eyes of an individual, these regulations are specifically limited to objects that were devoted to a traditional Native American religious ceremony or ritual and which have religious significance or function in the continued observance or renewal of such ceremony. The term traditional religious leader means a person who is recognized by members of an Indian tribe or Native Hawaiian organization as (43 CFR 10.2(d)(3)):

   (i) Being responsible for performing cultural duties relating to the ceremonial or religious traditions of that Indian tribe or Native Hawaiian organization, or

   (ii) Exercising a leadership role in an Indian tribe or Native Hawaiian organization based on the tribe or organization's cultural, ceremonial, or religious practices.

4. *Objects of cultural patrimony* means items having ongoing historical, traditional, or cultural importance central to the Indian tribe itself, rather than property owned by an individual tribal or organization member. Similar to sacred objects, objects of cultural patrimony are rarely found within archaeological sites. These objects are of such central importance that they may not be alienated, appropriated, or conveyed by an individual tribal or organization member. Such objects must have been considered inalienable by the culturally affiliated Indian tribe or Native Hawaiian organization at the time the object was separated from the group. (43 CFR 10.2(d)(4)).

2) Specific information to determine custody:

In the event of the removal of NAGPRA material on federal lands the following specific information will be used to determine custody:

1. Information provided by a lineal descendant(s) that can trace his or her direct relationship, without interruption, between themselves and the deceased by means of the traditional kinship system of the appropriate Indian tribe (43 CFR 10.2(b)) and (43 CFR 10.14(b)).

2. Information provided by a Native American tribe, people or culture that is indigenous to the United States and that can establish cultural affiliation by means of a relationship of shared group identity which can reasonably be traced historically or prehistorically between members of a present day Indian tribe and an identifiable earlier group (25 USC 3001(9); 43 CFR 10.2(e) and 43 CFR 10.14(c)).

3. The federal agency official will determine cultural affiliation between a present-day individual or Indian tribe by a preponderance of evidence based on geographical, kinship, biological, archaeological, anthropological, linguistic, folkloric, oral traditional, historical, or other relevant information or expert opinion (25 USC 3005(7)(a)(4); 43 CFR 10.2(e); and 43 CFR 10.14(e)).

4. Priority order of custody of the cultural materials will be consistent with 43 CFR 10.6 (a) as follows:

    a. For human remains and associated funerary objects, in the lineal descendant of the deceased individual as determined pursuant to Sec. 10.14 (b);

    b. In cases where a lineal descendant cannot be ascertained or no claim is made, and with respect to unassociated funerary objects, sacred objects, and objects of cultural patrimony:

        i. In the Indian tribe on whose tribal land the cultural items were excavated;

        ii. In the Indian tribe that has the closest cultural affiliation with the cultural items as determined pursuant to Sec. 10.14 (c); or

        iii. In circumstances in which the cultural affiliation of the cultural items cannot be ascertained, the BLM is unable to prove a right of possession as defined at 43 CFR 10.10(a)(2), and the materials were excavated or removed from Federal land that is recognized by a final judgment of the Indian Claims Commission or the United States Court of Claims as the aboriginal land of an Indian tribe:

            1. In the Indian tribe aboriginally occupying the Federal land on which the cultural items were excavated, or

            2. If it can be shown by a preponderance of the evidence that a different Indian tribe has a stronger cultural relationship with the cultural items, in the Indian tribe that has the strongest demonstrated relationship with the objects.

The BLM intends to repatriate human remains and associated funerary objects when cultural affiliation can be determined.

3) Planned treatment, care, and handling of human remains:

All discovered remains shall be treated with respect and dignity. The BLM will provide the tribes an opportunity to examine remains prior to removal and to conduct traditional religious activities, if this is feasible without delay that would endanger the remains. While the BLM will

provide the opportunity to view the remains prior to removal, the tribe(s) are responsible for their travel expenses to and from the location of the discovery.

The Next Era Genesis Ford Dry Lake Solar Project will avoid any unnecessary disturbance, physical modification or breakage of remains; or the transport, inventory or storage of human skeletal remains in locations separate from their associated funerary objects. Treatment will proceed according to the following provisions:

1. Representatives of the tribes shall have the opportunity to be present during the exposure and removal of remains whenever possible. If agreed upon by the BLM and the tribes, and if feasible, specific tribes may be designated to take the lead in initially responding to discoveries.

2. Remains will be excavated in accordance with the stipulations of the treatment plan approved under the terms of the project's Programmatic Agreement (PA) for compliance with Section 106 of the National Historic Preservation Act.

3. No destructive analyses of remains shall be permitted without the written permission from the BLM, and only after BLM has consulted with tribes regarding the planned treatment, care and handling of any recovered human remains, funerary objects, sacred objects, or objects of cultural patrimony.

4. Drawings of remains and the locations of associated funerary objects must be made, and may be published with BLM approval unless the claimants determine funerary objects are of a sensitive nature.

5. No pollen or flotation samples may be removed from burial pit fill dirt without the written permission of the BLM, and only after BLM has consulted with tribes regarding such removal.

6. Transportation of cultural items will be minimized under all circumstances and will be carefully packed to avoid disturbance or damage. Human remains may be packed separately from their associated funerary objects, but the containers will be kept together at all times.

7. Representatives of the tribes shall be afforded the opportunity to view all artifact collections and records resulting from the archaeological investigation in order to identify funerary objects, objects of cultural patrimony, or sacred objects. If such objects are identified, the BLM will be notified by the tribes and consultation will be initiated regarding their consistency with NAGPRA criteria for identification of these classes of objects and their treatment and disposition.

8. Next Era Genesis Ford Dry Lake Solar is responsible for ensuring the security of cultural items from vandalism or other disturbance through employment of security personnel, fencing, and other appropriate measures as needed. If human remains are endangered by exposure or other factors, Next Era Genesis Ford Dry Lake Solar's approved cultural

resources/archaeological contractor may be authorized by the BLM to proceed with removal of the cultural items to their laboratory facility in order to protect the cultural items. Written notice of this action must be provided to the claimants and agencies within three (3) days of removal.

9. Next Era Genesis Ford Dry Lake Solar will not resume construction in the buffer area surrounding the discovery until it has received written authorization to proceed based on procedures established in the treatment plans as invoked by the PA. In addition, no news releases, including but not limited to photographs, videotapes, written articles, or other means of information, shall be released by any party unless approved by the BLM and tribes.

4) Planned archaeological recording of the human remains and cultural materials:

All cultural items, as defined in this Plan, will be appropriately recorded and described using current standards and following current archaeological practices and methods. The archaeological documentation of human remains will be limited to visually evident characteristics that indicate such things as age, gender, obvious pathologies, and any obvious visual traits that may help to indicate cultural affiliation. Funerary objects will be recorded at a descriptive non-invasive level including measurements, type, and morphology. If human remains and/or cultural items are removed from the site, a catalogue of these items will be maintained.

5) Analysis planned for the human remains and cultural materials:

Initially, only non-destructive analyses will be carried out on the human remains. These can include anthropometric analyses (measurements/weight) on human remains, mapping, drawing, measuring, weighing, and photo documentation. After consultation with tribes, other tests may be determined appropriate by the BLM.

Likewise, only non-destructive analyses will be carried out initially on the associated funerary objects, unassociated funerary objects, sacred items and objects of cultural patrimony. These can include measuring and weighing, drawing, mapping, photographing, x-raying, and x-ray fluorescence analysis. After consultation with the tribes, other tests may be authorized by the BLM.

6) Steps to be followed to contact Indian tribe officials at the time of intentional excavation:

In the event of a discovery, Next Era Genesis Ford Dry Lake Solar's approved cultural resources contractor/permittee will notify the BLM and the appropriate land managing agency within 24 hours and may be authorized to undertake limited additional excavation and examination to assess whether the materials are within the protected classes of remains covered by the PA.

A. A verbal description of what has been found and the context in which NAGPRA items are located;
B. The location of the NAGPRA items;
C. A preliminary assessment of the type of NAGPRA items;

D. An assessment of the complexity of the burial(s), human remains, and/or other NAGPRA items, and the likelihood of disturbance if left in place;
E. Any other pertinent information.

The BLM shall notify the tribes promptly after the initial discovery of items protected under NAGPRA and provide written confirmation by certified mail, or alternatively Express Mail, of the discovery within three working days (see Attachment A and B). This information to be provided to the Tribes will include:

A. A verbal and written description of what has been found and the context in which NAGPRA items are located;
B. The location of the NAGPRA items;
C. A preliminary assessment of the type of NAGPRA items;
D. An assessment of the complexity of the burial(s), human remains, and/or other NAGPRA items, and the likelihood of disturbance if left in place;
E. A request that the tribe(s) respond within 24 hours if the tribe(s) wish to view the remains or objects in place;
F. Any other pertinent information.

The BLM will additionally afford the tribes the opportunity to conduct field visits, viewings of the items in question, and conduct appropriate and reasonable ceremonies or rituals related to the items in question. The tribes are responsible for any costs to and from the discovery site.

7) Kind of traditional treatment to be afforded the human remains:

Tribes will be afforded the opportunity to examine the remains prior to and during removal unless the remains are in direct danger of further disturbance or destruction. Tribal representatives will be afforded the opportunity to perform traditional treatments as needed to the remains.

8) Nature of reports to be prepared:

A comprehensive report on the results of the archaeological investigation, including the recovery of cultural items, will be prepared and distributed in accordance with the terms of the aforementioned PA, developed in accordance with Section 106 of the National Historic Preservation Act.

9) Planned disposition of human remains pursuant to 43 CFR 10.6:

In the event that discovered NAGPRA items must be removed, then the BLM will determine, pursuant to 43 CFR 10.6, which Native American tribe will receive custody of the items. The BLM intends to repatriate human remains and associated funerary objects when cultural affiliation can be determined. The BLM shall provide notification of intent to transfer possession and subsequently return the items to the appropriate tribe within the limitations of 43 CFR 10.15.

Upon determination of a lineal descendant(s) or culturally affiliated tribe that, under federal regulations appear to be entitled to custody of the human remains, the agency official will transfer custody of the deceased to that lineal descendant or culturally affiliated tribe in accordance with 43 CFR 10.6(c).

Prior to any such disposition, the agency official will publish a general notice of the proposed disposition in three (3) separate newspapers of general circulation in the areas where interested tribes now reside. The notices will be published at least two (2) times at least a week a part, and the transfer will not take place until at least thirty (30) days after publication of the second notice to allow time for any additional claimants to come forward.

If additional claimants do come forward and the agency official cannot clearly determine which claimant is entitled to custody, the agency official will not transfer custody of the deceased until such time as the proper recipient is determined pursuant to regulations found at 43 CFR 10.

In the event the remains are of Native American descent, but are not claimed by any tribe within the geographical area, they will not leave the custody of the federal agency. Should custody of remains be transferred to claimant tribes under 10.6, the tribes may request reburial on BLM land. Reburial of NAGPRA items on lands administered by the BLM is subject to the provisions found in Instructional Memorandum No. 2007-002. The reburial locations will be determined through consultation with the tribes and any locational information will be kept confidential to the extent allowed by law.

10) The Role of Tribal Monitors During Survey and Excavation:

Individuals who are approved tribal monitors on the project may notify the Principal Investigator(s) of items they feel are funerary objects, sacred and/or objects of cultural patrimony. The Principal Investigator will notify the BLM within 24 hours that monitors have identified funerary objects, sacred, and/or objects of cultural patrimony. The report should include a description of the find(s), photograph(s) or drawing(s) were applicable, artifact(s) numbers or identification were applicable, and a description of the tribal monitor's opinion(s).

12) BLM personnel and Tribal representatives involved in this NAGPRA effort

As a result of tribal consultation, the following individuals have been identified that will be involved in this NAGPRA effort:

Agua Caliente Band of Cahuilla Indians, Augustine Band of Mission Indians, Cabazon Band of Mission Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Fort Yuma Quechan Tribe, Morongo Band of Mission Indians, Ramona Band of Mission Indians, San Manuel Band of Mission Indians, Soboba Band of Luiseno Indians, Torres-Martinez Desert Cahuilla Indians, Twenty-Nine Palms Band of Mission Indians.

The names and addresses of the tribal members are in Attachment B.

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Federal Officials

Jim Abbott, California State Director, (acting) Bureau of Land Management Date

Teri Raml, California Desert District Manager, Bureau of Land Management Date

Invited Signatories

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Date

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Date

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Date

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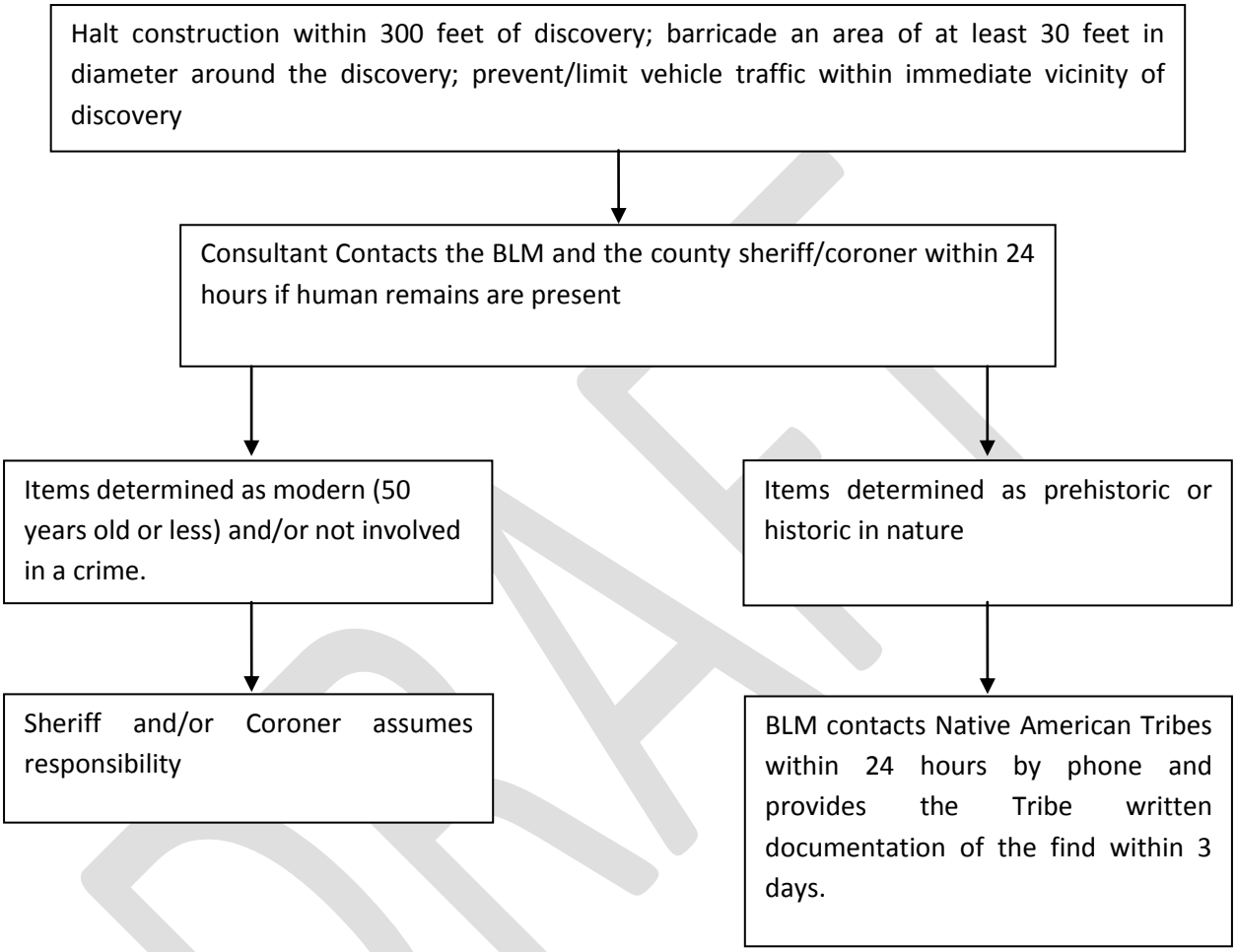
Date

Attachment A

Upon The Discovery of Human Remains, Funerary Objects, Sacred Objects, Object of Cultural Patrimony



Attachment B

3063 List of Native American Tribal Contacts

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Contact	**Tribe**
Ms. Ann Brierty	San Manuel Band of Mission Indians
Mr. Michael Contrareas	Morongo Band of Mission Indians
Ms. Sherry Cordova	Cocopah Indian Tribe
Mr. Mike Darrell, Chairman	Twenty-Nine Palms Band of Mission Indians
Mr. Eldred Enas, Chairman	Colorado River Indian Tribes
Ms. Patricia Garcia-Tuck, THPO	Agua Caliente Band of Cahuilla Indians
Ms. Maryann Green, Chair	Augustine Band of Mission Indians
Mr. Manuel Hamilton, Chairman	Ramona Band of Mission Indians
Mr. Michael Jackson, Chairman	Fort Yuma Quechan Tribe
Mr. John James, Chairman	Cabazon Band of Mission Indians
Mr. Anthony Madrigal	San Manuel Band of Mission Indians
Mr. Anthony Madrigal Jr.	Twenty-Nine Palms Band of Mission Indians
Mr. Robert Martin, Chairman	Morongo Band of Mission Indians
Mr. Richard Milanovich, Chairman	Agua Caliente Band of Cahuilla Indians
Mr. Sean Milanovich	Agua Caliente Band of Cahuilla Indians
Mr. Scott Cozart, Chairman	Soboba Band of Luiseno Indians
Ms. Bridget Nash	Fort Yuma Quechan Tribe
Mr. Joe Ontiveros	Soboba Band of Luiseno Indians
Mr. James Ramos, Chairman	San Manuel Band of Mission Indians
Ms. Mary Resvaloso, Chair	Torres-Martinez Desert Cahuilla Indians
Mr. David Saldivar	Augustine Band of Mission Indians
Ms. Judy Stapp	Cabazon Band of Mission Indians
Mr. Timothy Williams, Chairman	Fort Mojave Indian Tribe
Mr. Charles Wood, Chairman	Chemehuevi Indian Tribe

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APPENDIX E

Detailed Biological Cumulative Impact Analysis

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VEGETATION AND WILDLIFE (BIOLOGICAL RESOURCES) CUMULATIVE IMPACT ANALYSIS EXCERPTED FROM THE CEC RSA JUNE 2010

The section below is from the revised staff assessment by California Energy Commission staff and was used in cumulative impact discussion in sections for vegetation resources and wildlife resources of this PA/FEIS. All figure references refer to the Genesis Revised Staff Assessment or the Genesis Revised Staff Assessment Supplement.

C.2.8 CUMULATIVE IMPACT ANALYSIS

C.2.8.1 CEQA AND NEPA DEFINITIONS

A cumulative impact analysis is required under both CEQA and NEPA. "Cumulative impact" is the impact on the environment which results from the incremental impact of the proposed Project when considered with other past, present, and reasonably foreseeable future actions regardless of which agency (federal or non-federal) or person undertakes such other actions (40 CFR §1508.7).

Under CEQA Guidelines, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" (Title 14 Cal Code Regs §15130(a)(1)). Cumulative impacts must be addressed if the incremental effect of a project, combined with the effects of other projects is "cumulatively considerable" (Title 14 Cal Code Regs §15130(a)). Such incremental effects are to be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (Title 14 Cal Code Regs §15164(b)(1)). Together, these projects comprise the cumulative scenario which forms the basis of the cumulative impact analysis.

NEPA states that cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR §1508.7). Under NEPA, both context and intensity are considered. When considering intensity of an effect, we consider "whether the action is related to other actions with individually minor but cumulatively significant impacts. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." (40 CFR §1508.27(b)(7))

Analysis of Cumulative Effects to Biological Resources

Staff used the following steps to develop the cumulative effects analysis described in this subsection:

- Identified the biological resources to consider in the analysis from a review of the impact analysis;
- Defined the geographic Study area for each resource;
- Described the current health and historical context for each resource;

- Identified direct and indirect impacts of the proposed project that might contribute to a cumulative impact;
- Identified other reasonably foreseeable projects that affect each resource;
- Assessed potential cumulative impacts;
- Reported the results; and
- Assessed the need for mitigation.

C.2.8.2 GEOGRAPHIC SCOPE

This cumulative impact analysis includes a broad, regional evaluation of the impacts of existing and reasonably foreseeable future projects that threaten plant and animal communities within the context or geographic scope of the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) (BLM-CDD 2002). The NECO planning area is located in the southeastern California Desert Conservation Area (CDCA). It occurs primarily in the Sonoran Desert region, but includes a smaller portion of the southern Mojave Desert region. For some resources, a different geographic scope was warranted, such as the use of watershed boundaries to analyze cumulative effects to desert washes, or the Chuckwalla Valley region of the I-10 corridor for populations or dune systems restricted to that geographic area.

C.2.8.3 REGIONAL OVERVIEW

This overview of regional impacts is followed by a more detailed discussion of the effects of past, present, and future projects to biological resources of the Project vicinity, with an emphasis on resources found within the Chuckwalla Valley of eastern Riverside County.

The California Desert remained a desolate area for the first few decades of the 20th century. Disturbance was more or less restricted to highways, railroad, and utility corridors, scattered mining, and sheep grazing. In the 1940s, several large military reservations were created for military training, testing, and staging areas. The deserts of eastern Riverside County comprise 40 percent of the County's land area but less than 1 percent of its population. Outside of the small urban-agricultural center of Blythe, near the Colorado River and Arizona border, there are only a few scattered, small residential and agricultural areas between Indio (to the west) and Blythe; most of the lands are in BLM ownership.

Populations of many of the desert's sensitive plants and animals were considered relatively stable until recently, as the push for renewable energy development has placed many populations at risk. Climate change is inarguably one of the biggest environmental challenges of our time and energy developers have submitted project applications that would collectively cover more than one million acres of the region (BLM 2010). However, renewable energy development has its own ecological consequences and portions of the Sonoran and Mojave deserts of California are bearing the brunt of these effects. Poorly planned development could contribute to habitat loss and fragmentation and barriers to species movement and gene flow. Although project permitting and regional planning evaluate basic environmental impacts of such projects, rarely do they consider impacts on connectivity or conduct thorough cumulative effects analyses.

Some of the many sensitive biological resources at risk in the areas identified for renewable energy development in the NECO planning area include desert washes and desert dry wash woodland, desert tortoise habitat, foraging habitat for golden eagle, Mojave fringe-toed lizard, western burrowing owl, American badger, riparian habitat for Le Conte's thrasher and other desert birds in decline, fragile dune ecosystems, burro deer range, the special-status plants Las Animas colubrina and Harwood's milk-vetch, and groundwater dependent vegetation. The Project also lies within a proposed Wildlife Habitat Management Area (Palen-Ford Wildlife Habitat Management Area). These resources will not only be affected by significant direct and indirect effects from the proposed Project, but will experience similar effects from over 20 reasonably foreseeable future projects within the NECO planning area alone.

The incremental, direct loss of habitat and individuals is more significant when considered with the significant indirect effects of fragmentation, disrupted wildlife movement and connectivity, introduction and spread of non-native plant species, and increases in predators such as ravens. These effects have contributed to population declines and range contractions for many special-status plant and animal species (Boarman 2002a). Combined with the effects of historical grazing and military training, agriculture, and highway and aqueduct construction, the proposed wind and solar energy projects have the potential to further reduce and degrade native plant and animal populations.

C.2.8.4 MAKING CONCLUSIONS ABOUT THE SEVERITY OR SIGNIFICANCE OF THE EFFECT

"No net loss" does not necessarily mean there are no cumulative impacts; the analysis of each resource also describes the indirect and cumulative effects that cannot be quantified through a Geographic Information System (GIS) analysis of habitat impacts. Similarly, even seemingly minor impacts can be important if they affect an extremely rare or limited resource, and the cumulative impact may be substantial.

For each cumulative effect the following factors were considered in making conclusions about the severity or significance of an effect:

- The health, status, or condition of the resource as a result of past, present, and reasonably foreseeable impacts;
- The contribution of the proposed Project to the overall cumulative impact to the resource;
- The Project's mitigated effect, when added to the effects of these planned future projects; and
- Impact avoidance and minimization: any project design changes that were made, or additional opportunities that could be taken, to avoid and minimize potential impacts in light of cumulative impact concerns.

The standard for a cumulative impacts analysis is defined by the use of the term "collectively significant" in the CEQA Guidelines section 15355; the analysis must assess the collective or combined effect of development. The objective is to avoid underestimating the severity of impacts which, when taken in isolation appear insignificant, but when viewed together appear significant. Cumulative impact assessments cannot conclude that contributions to cumulative impacts are not significant merely

because the contributions represent a small percentage of the overall problem. Doing so could improperly omit facts relevant to an analysis of the collective effect that the Project and other related projects would have upon biological resources. The result could be approval of projects based on an analysis that avoided evaluating the severity of impacts which, when taken in isolation appear insignificant, but when viewed together appear significant.

C.2.8.5 ANALYTICAL TOOLS AND STUDY LIMITATIONS

This cumulative effects analysis employed a combination of quantitative and qualitative analyses; a Geographic Information System (GIS)-based quantitative analysis for assessing the direct cumulative effects to habitat loss, and a qualitative analysis of the cumulatively considerable indirect effects, based on consultations with agency biologists and regional experts, as well as a literature review of the threats to species and their habitats.

GIS-Based Quantitative Analysis of Habitat Loss

The GIS-based analysis of direct habitat loss was used for this cumulative effects analysis to:

- Identify the overlap between existing and future projects and various biological data layers (e.g. landforms, soils, species occurrences, hydrographic data, vegetation mapping, wildlife habitat models, ownership and management layers);
- Compile digital map information about each resource for purposes of display and analysis; and
- Create statistical tables to summarize the direct impacts to these resources from existing and anticipated future projects, and the Project's contribution to those effects. Information on the datasets used, the sources of the data, and any limitations of the data, are provided in each biological resource section.

Qualitative Analysis of Indirect Effects

GIS is a widely used and effective tool for analyzing large amounts of spatial data, for documenting and quantifying assumptions about direct habitat loss, and the value of the habitat (where habitat models are available). However, the indirect impacts of projects are not easily captured in GIS and thus were only addressed qualitatively. This is important to note because many of these indirect effects (i.e., effects following construction) have greater significance and greater ecological consequences than the original habitat loss. Of particular concern are the effects of habitat fragmentation and its consequences for population viability and the effects of disrupted wildlife movement and connectivity and its effects on gene flow, subjecting populations of species such as bighorn sheep to isolation and inbreeding depression, and reducing their adaptability to climate change.

Other common themes that arose in this qualitative analysis of indirect cumulative effects include: increased vehicle-related mortality; disturbance from noise, lighting and increased human activity; increase in predators such as ravens; spread of invasive non-native plants; downwind effects of facilities and wind fencing on sand transport corridors; bird collisions and electrocutions; climate change and its

accompanying increased risk of drought, fire the and spread of invasive exotic plants; and the downstream effects of channel diversions on fluvial sediment transport and riparian vegetation.

Limitations of the Cumulative Project Data and Datasets

The large renewable projects proposed on BLM and private land that made up the dataset of future projects in the cumulative analysis for Biological Resources (**Biological Resources Table 9**) represent only those projects that had applications to the BLM, the Energy Commission, or eastern Riverside County as of January 2010 (the time of the analysis). **Biological Resources Figures 1** and **2** include projects for which staff had no GIS-based shapefiles at the time of the analysis; thus, they were not included in the quantitative analysis. The project list changes frequently; updates to the data used are presented below and in Section B.3.2, **Cumulative Scenario**. Further, not all of the projects shown on the table will complete the environmental review, and not all projects will be funded and constructed. Alternatively, it is possible, even likely, that new projects will be proposed in the near future that are not reflected in this analysis. See Section B.3.2 (Cumulative Scenario) for a discussion on the likelihood of development of the renewable projects on BLM and private lands listed in **Biological Resources Table 9** and illustrated in **Biological Resources Figures 1** and **2**.

This analysis does not compare the loss of individuals to the total known metapopulation; population data are incomplete for many or most species or occurrences and for some species can vary widely from year to year in response to drought.

Finally, in the GIS-based analysis, which requires the use of datasets that encompass the entire geographic scope of the analysis, the Project-specific survey data could not be compared to data for the region that was derived from different methodologies. For example, the Project survey data for waters and habitat is generally based on field surveys. Conversely, the NECO datasets for plant communities and habitats are based largely on aerial photo interpretation. Consequently, the GIS analysis of impacts to plant communities, landforms, and habitats is based on region-wide datasets for those resources (primarily NECO datasets), and not on Project survey data. Acreages listed in the analysis below, for example desert wash woodland or sand dunes may not match the Project-specific survey results. Where there are such differences, they are noted in a footnote to the table or in the summary of a specific analysis. Notwithstanding the challenges presented by comparing region-wide and Project-specific datasets, the GIS-based datasets for vegetation and landforms still provide a powerful and efficient tool for conducting large-scale, region-wide analyses.

C.2.8.6 PROJECTS CONTRIBUTING TO CUMULATIVE EFFECTS TO BIOLOGICAL RESOURCES

This analysis evaluates the impacts of the proposed Project in addition to the current baseline of past effects, present (existing) projects, and reasonably foreseeable or probable future projects in the I-10 corridor as well as the greater NECO Planning Area. **Biological Resources Figure 1**, located at the end of this section, illustrates the numerous proposed renewable projects on BLM, State and private land in the I-10 corridor between Desert Center and the Colorado River, near Blythe, in eastern Riverside County.

Biological Resources Figure 2 encompasses the entire NECO planning area, an area that is roughly equivalent to the boundaries of the Northern and Eastern Colorado Desert Recovery Unit for desert tortoise. **Biological Resources Table 9** lists the existing and foreseeable future projects (proposed) that were included in the quantitative analysis of cumulative effects. See Section B.4, **Cumulative Scenario Figures 2** and **3** and **Cumulative Scenario Tables 2** and **3** for descriptions of these existing and future proposed projects.

Biological Resources Table 9
Existing and Proposed Future Projects Considered in Cumulative Effects Analysis

Existing Projects (analyzed quantitatively)	ROW Area* (ac)	Foreseeable Future Projects * [Proposed] (analyzed quantitatively)	ROW Area* (ac)
Chuckwalla State Prison	**1,044**	**Genesis Solar Power Project (GSEP)**	**3,001****
Ironwood State Prison	**681**	**Blythe Solar Power Project**	**7,239****
Eagle Mountain Pumping Plant (MDWSC)	**378**	**NextEra Energy – McCoy (**Solar)	**20,560**
Kaiser Mine	**5,772**	**Palen Solar Power Project**	**2,974***
I-10 Corridor (200ft Freeway buffer from CL)	**6,494**	**Bull Frog Green Energy – Big Maria Vista** (Solar)	**22,663**
State highways (50ft Highway buffer from CL)	**2,640**	**Chuckwalla Solar 1**	**4,091**
DPV1 Transmission Line and Existing Access Roads (100ft[1] T-line Tower Buffer; 20ft road width)	**2,861**	**Rice Solar Energy Project**	**3,859**
Landfills(BLM NECO dataset)		**Desert Quartzite** (Solar)	**7,530**
Blythe Energy Project I***	**148**	**Desert Sunlight** (Solar)	**5,119**
BLM Campgrounds – Wiley's Well, Coon Hollow, Cottonwood Spring, and Midland Long-Term Visitor Area	**8,042**	**EnXco 1** (Solar)	**1,325**
BLM Off-Road Vehicle- authorized/designated routes in Meccacopia SRMS. (BLM NECO Human Use LTVAs dataset)	**3,031**	**Chuckwalla Valley Raceway**	**493**
Blythe area urban and agricultural lands (GAP Analysis vegetation dataset)	**88,317**	**Mule Mountain Solar Project**	**6,618**
Desert Center area urban and agricultural lands (2005 NAIP imagery)	**8,424**	**Eagle Mountain Pumped Storage Project**	**252**
Pipeline (NECO pipelines dataset)	**4,392**	**Red Bluff Substation –** for Genesis Solar Power Project	**90**
Projects Considered Qualitatively	**Area (ac)**	**Colorado Substation –** for Blythe Solar Power Project	**44**
Existing		**EnXco 2 Mule Mountain**	**~2,021**
BLM Grazing – Cattle and sheep allotments (Lazy Daisy, Chemehuevi, Rice Valley, and Ford Dry Lake (recently closed)	**n/a**	**Paradise Valley** (Residential "New Town" development)	**6,724**
BLM Multiple Use – Intensive multiple-use classes	**n/a**	**Blythe Airport Solar I Project**	**639**
Gen. Patton military training areas	**n/a**	**Eagle Mountain Landfill**	**1,633**
Colorado Aqueduct – open portions	**n/a**	**Blythe Energy Project II**	**153**
Chocolate Mountains Aerial Gunnery Range	**n/a**	**DPV2 Proposed Roads** (2-foot width) **and towers** (100 sq ft/tower)	**256**
Four approved commercial and 12 residential developments near Blythe	**n/a**	**Genesis Solar Project Access Road**	**29**
Solar Projects at Arizona border	**n/a**	**Blythe Energy Project Transmission Line Towers**	**148**
BLM Renewable Energy Study Areas (future, proposed)	**n/a**		

BLM Transmission Corridors	**n/a**		
		Genesis Solar Project Gas Line (100 foot width)	**85**
		Total Future Projects* 02/05/2010	**339,704 acres**
		Total Existing Disturbances*	**134,750 acres**

* Includes only renewable energy projects that had submitted a Plan of Development (POD) as of the time of the analysis (02/05/2010) and projects for which area data was available. Acreage shown for existing disturbances reflects only those projects for which area data was available.
** Acreage impacts depicted reflect the project footprint only; not the entire ROW. The unused portions of the ROW will be returned to BLM and not included in the final ROW permit
*** UFWS issued a BO for this project in 2001 and it's currently being constructed.
**** Not all of the projects depicted here will complete the environmental review, not all projects will be funded and constructed, and many will not use the entire ROW area.

Project Information Updates

Since **Biological Resources Table 9** was compiled and the GIS analysis conducted, several project changes have occurred, as follows:

- The Altera Black Hills project included in the impact calculations has been denied by the BLM.
- The LightSource Renewables – Mule Mountain II project, which is an active application in to the BLM, was not included in the impact calculations.
- The Pacific Solar Investments – Ogilby project has refined the project boundaries from those used in the impact calculations.

C.2.8.7 ANALYSIS OF CUMULATIVE EFFECTS TO BIOLOGICAL RESOURCES

Desert Washes/Waters of the State

The geographic scope for the analysis of cumulative impacts to desert washes include: the Chuckwalla-Ford Dry Lake watershed (the watershed encompassing the project) and the entire NECO planning area. The watershed area analysis (**Biological Resources Figure 3**) was based on the USGS National Hydrographic Dataset (2010) within the watershed boundary as defined by the California Interagency Watershed Map of 1999 (California Interagency Watershed Mapping Committee 1999). All figures are provided at the end of the cumulative effects analysis.

The primary hydrologic feature in the watershed is Ford Dry Lake, a depressional sink and dry playa. It is a closed basin, and the receiving basin for 1,504 miles of unnamed desert washes, including the many smaller ephemeral desert washes that pass through the Project site and drain the southeastern flank of the Palen Mountains. The "Palen Wash" is the larger feature that drains the alluvial fan between the Palen and McCoy Mountains. McCoy Spring and an old growth forest of ironwood occur on its upper reaches. The lower reaches of this feature passes through the western portion of the transmission line, natural gas line, and access road alignment.

The Chuckwalla-Ford Dry Lake watershed is relatively unaffected by existing impacts with one notable exception that was not analyzed quantitatively – the construction of I-10 and a series of wing dikes south of I-10. These permanently diverted surface flows from miles of small ephemeral desert washes and desert dry wash woodland north of 1-10, leaving miles of scattered dead ironwood trees and poor creosote bush desert scrub in their wake. Plant cover is very sparse and diversity very low in these affected areas; they are also a testament to the downstream effects that channel diversions, including small channels, can have on both upland and riparian plant communities. For the Project, these effects would be minimized somewhat by the proposed redistribution of flows below the Project into many (not all) of the delineated channels downstream of the Project, but it is unclear to what extent sediment transport in the diverted channels would be affected.

Portions of the I-10 corridor were also disturbed historically for military training exercises during World War II, and later by jojoba farming and various transmission corridors (gas and electric). There are several large infestations of Sahara mustard in this area but the watershed is otherwise little affected by existing impacts. **Biological Resources Table 10** summarizes the direct loss of desert washes that would result from anticipated future projects within the Chuckwalla-Ford Dry Lake watershed. These effects are also illustrated spatially in **Biological Resources Figure 3.** Proposed future projects would affect approximately 63 miles of desert washes (4.2 percent). Based on the USGS National Hydrographic Dataset (2010) that was used to quantify existing and future impacts throughout the watershed, the Project would affect 2.9 miles (4.6 percent of all future impacts). The ground-based and field-verified delineation of state waters (TTEC 2010l) is provided as a footnote to **Biological Resources Table 10**.

The combined loss of desert washes within the watershed is significant (**Biological Resources Table 10**) but reflects only the direct loss of washes and is only part of the bigger picture of cumulative effects to desert washes. The combined indirect effects to these features from all probable future projects that are not reflected in the quantitative analysis include: impacts to sediment transport from the numerous channel diversions; impacts to wind sand transport processes from the loss of sediment input; impacts to water quality from culverts and road crossings; fragmentation of habitat, and the corresponding loss of habitat function and values.

Biological Resources Table 10
Cumulative Effects: Desert Washes in Chuckwalla-Ford Dry Lake Watershed

Total Desert Washes* in Genesis Watershed	Impacts to Habitat from Existing Projects** (Percent of total watershed)	Impacts to Habitat from Foreseeable Future Projects*** (Percent of total watershed)	Contribution of GSEP to future cumulative impacts (Percent of total impacts from Future projects)
1,503 miles	**13 miles (0.9%)**	**63 miles (4.2%)**	**2.9 miles (4.6%)** (based on USGS dataset)

*Based on the USGS National Hydrographic Dataset (2010) and CalWater Version 2.2.1 (California Interagency Watershed Mapping Committee 1999).
** Includes only those existing projects for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**.
***The ground-based, field-verified delineation of state waters concluded that 90 acres of desert washes would be directly affected and 21 acres would be indirectly affected downstream of the Project (TTEC 2010l, TTEC 2009d).

The combined direct and indirect effects to washes adjacent to dune systems may also have unanticipated consequences to dune habitat and the special-status plants and animals that depend on them. The affected washes around Ford Dry Lake may also be an important contributor to the aeolian and fluvial sand transport systems that maintain the dunes in the Ford Dry Lake vicinity, including stabilized and partially stabilized dunes and sand sheets. The indirect effects of channel diversions and redistribution below the various solar project sites are not well understood but could include deprivation of flows and/or sediment to dependent species, or the introduction and spread of weeds. The downstream indirect impacts of the Project would be minimized, at least in part, through the modifications to the drainage plan to discharge diverted flows into existing large and small flow paths between the Project and Ford Dry Lake (See **BIO-19** (Section A) and **Soil and Water** section for a discussion of Channel Maintenance requirements).

The incremental effects of the Project to desert washes, described above, are cumulatively considerable when viewed in connection with the effects of the past, current and probable future projects included in this analysis (See **Biological Resources Table 9**). With the Project design changes described above and implementation of staff's proposed Conditions of Certification (**BIO-22, BIO-7, BIO-8**, **BIO-14** and **BIO-23**), staff has concluded that the Project's contribution to cumulative impacts to desert washes in the Project's watershed area would be less than considerable. Staff's proposed Condition of Certification **BIO-22** requires compensation through acquisition of desert washes within or adjacent to the Chuckwalla-Ford Dry Lake watershed; **BIO-7** specifies mitigation monitoring and reporting requirements; **BIO-8** requires implementing avoidance and minimization measures; **BIO-14** requires finalizing and implementing a detailed Weed Management Plan, and **BIO-23** requires implementing a closure and decommissioning plan for restoring the site topography and hydrology to a more natural condition and revegetating with the locally native species.

Biological Resources Table 11 and **Biological Resources Figure 4** illustrate the potential cumulative impacts to all desert washes within the entire NECO planning area, as depicted in the USGS National Hydrographic Dataset (USGS 2010). Cumulative impacts to desert washes from all foreseeable future projects within the larger NECO planning area are significant. Within NECO, the northern Palo Verde Mesa watershed (near Blythe) and the watersheds immediately north of Highway 62 near Cadiz Valley and Danby Lake are particularly hard-hit by proposed future projects. The cumulative projects' direct effects are compounded by the fact that they also cause impairment of hydrologic, geochemical, geomorphic, and habitat function and values of the remaining reaches downstream of the impact. With the Project design changes described above and implementation of staff's proposed Conditions of Certification (**BIO-22, BIO-7, BIO-8**, **BIO-14** and **BIO-23**) staff concludes that the effects of the Project to desert washes, described above, would be less than cumulatively considerable.

Biological Resources Table 11
Cumulative Effects: Desert Washes in the NECO Planning Area

Total Desert Washes* in NECO	Impacts to Habitat from Existing Projects** (Percent of total washes in NECO)	Impacts to Habitat from Foreseeable Future Projects*** (Percent of total washes in NECO)	Contribution of GSEP to future cumulative impacts (Percent of total impacts from Future projects)
18,596 miles	**190 miles (1.0%)**	**1,122 miles (6.0%)**	**2.9 miles (0.3%) (based on USGS dataset)**

*Based on the USGS National Hydrographic Dataset (USGS 2010).
** Includes only those existing projects for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**.
***The ground-based, field-verified delineation of state waters concluded that 90 acres of desert washes would be directly affected and 21 acres would be indirectly affected downstream of the Project (TTEC 2010l, TTEC 2009d).

Special-Status Wildlife

Desert Tortoise

This analysis addresses cumulative impacts to desert tortoise habitat as defined by the current USGS Desert Tortoise Habitat Model (Nussear et al. 2009). It is a predictive model for mapping the potential distribution of desert tortoise habitat and is useful tool for evaluating different land-use issues that tortoises face at a landscape scale. **Biological Resources Figure 5** is a spatial representation of the predicted habitat potential index values for desert tortoise, based on the 2009 model. The model is not intended to be used, or viewed, as a substitute for ground-based and site-specific field surveys. Model scores reflect a hypothesized habitat potential given the range of environmental conditions where tortoise occurrence was documented. Nussear et al. (2009, p. 15) specifically states:

> "*As such, there are likely areas of potential habitat for which habitat potential was not predicted to be high, and likewise, areas of low potential for which the model predicted higher potential. Finally, the map of desert tortoise potential habitat that we present does not account either for anthropogenic effects, such as urban development, habitat destruction, or fragmentation, or for natural disturbances, such as fire, which might have rendered potential habitat into habitat with much lower potential in recent years*".

GIS-based files for the boundaries of the Eastern and Northern Colorado Recovery Units of the 1994 Desert Tortoise Recovery Plan were not available from the USFWS and the proposed new boundaries as depicted in the USFWS 2008 Draft Revised Recovery Plan had not been adopted as of the time of this analysis. Consequently, the NECO planning area boundary was used for this analysis. The NECO boundary closely approximates the boundaries of the two USFWS recovery units; however, the USFWS boundaries extend slightly to the north and west of the NECO boundary.

The Project's unmitigated effects to desert tortoise habitat (based on the 2009 USGS habitat model) are quantified below in **Biological Resources Table 12** (and **Biological Resources Figure 5**). Most of the proposed projects in the NECO area would impact lower quality desert tortoise habitat, according to the predictive model. Across the NECO planning area, the cumulative effects to moderate quality desert

tortoise habitat from proposed future projects is particularly significant but even seemingly minor effects to higher quality habitat are significant given the species' decline and the present and future direct and indirect threats from habitat fragmentation and its associated impacts on population viability, the effects of increased predation from ravens, and other reasonably foreseeable future threats.

Biological Resources Table 12
Cumulative Effects: Desert Tortoise Habitat*

Habitat Value*	Total Desert Tortoise habitat* in NECO	Impacts to Habitat from Existing** Projects (Percent of total in NECO)	Impacts to Habitat from Foreseeable Future*** Projects (Percent of total in NECO)	Contribution of GSEP to future cumulative impacts (Percent of total impacts from Future projects)
0	243,679 acres	67,028 acres 27.5%	21,774 acres 8.9%	0 acres
0.1	233,260 acres	9,094 acres 3.9%	25,937 acres 11.0%	523 acres 2.0%
0.2	373,170 acres	9,288 acres 2.5%	44,595 acres 12.0%	1,277 acres 2.9%
0.3	628,960 acres	11,987 acres 1.9%	38,163 acres 6.1%	52 acres 0.1%
0.4 – 0.5	787,882 acres	15,885 acres 2.0%	61,163 acres 7.8%	0 acres
0.6 – 0.7	1,381,024 acres	10,279 acres 0.7%	94,944 acres 6.9%	0 acres
0.8 – 0.9	1,868,475 acres	9,233 acres 2.8%	53,074 acres 2.8%	0 acres
1.0	30,883 acres	71 acres 0.2%	55 acres 0.2%	0 acres

*Based on the USGS Desert Tortoise Habitat Model (Nussear et al. 2009).
** Includes only those existing projects for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**.
*** Includes only BLM Renewables that had submitted a Plan of Development at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**.

One of the objectives for desert tortoise recovery in the NECO is to "*mitigate effects on desert tortoise populations and habitat outside DWMAs to provide connectivity between DWMAs*." Maintaining connectivity is particularly important given the threats posed by global climate change, according to the USFWS 2008 Draft Revised Recovery Plan. Probable desert tortoise linkages between the Chuckwalla and Chemehuevi Critical Habitat Units and DWMAs are shown in **Biological Resources Figure 6.** The linkages depicted represent areas of the best habitat quality for tortoises between the DWMAs and critical habitat, and therefore represent the most probable linkages and most important areas to protect to maintain connectivity between the Chemehuevi and Chuckwalla DWMAs. The identified linkages are based on a review of information on existing vegetation and landform data (NECO datasets and Project-specific survey data) and depicted in the USGS habitat model. The location of available lands in "probable" linkages is a useful tool for identifying potential acquisition lands for desert tortoise mitigation, and for evaluating different land-use issues that tortoises face at a landscape scale.

Biological Resources Figure 6 identifies these linkages based on the areas of moderate and high quality habitat between management areas for a qualitative analysis of cumulative effects; however, the impacts to linkages are not quantified here as the areas have not been formalized or created as shape layers suitable for GIS analysis. Along with the linkages depicted in **Biological Resources Figure 6**, additional linkages through areas currently considered lower quality habitat that could be restored may also be important for long-term connectivity between the Chemehuevi and Chuckwalla DWMAs. The Project would not contribute significantly to loss of desert tortoise connectivity between the Chuckwalla and Chemehuevi Desert Wildlife Management Areas (DWMAs) and Critical Habitat Units.

While impacts to higher quality habitat are small (approximately 3 percent) relative to cumulative effects to moderate and low quality habitat, this nevertheless represents over 53,000 acres of habitat and over 150,000 acres of moderate and moderately high quality habitat that would be lost to proposed future projects. Although the Project impacts only lower quality habitats, it nevertheless contributes, at least incrementally, to a cumulatively considerable effect. In situations where the combined impact is most severe, even small incremental impacts may be cumulatively considerable.

The USFWS has expressed significant concerns about the likelihood of renewable energy development resulting in increased raven numbers even with implementation of project-specific raven management plans (USFWS 2010). To mitigate the Genesis Project's contribution to cumulative and indirect impacts on desert tortoise from raven predation, staff proposes that the applicant contribute toward implementation of the Regional Raven Management Program, and Project-specific mitigation measures as described in Condition of Certification **BIO-13** and **BIO-12**. The applicant's payment would support the regional raven management plan activities focused within the Colorado Desert Recovery Unit, which would be adversely affected by increases in raven subsidies attributable to the proposed Project. In addition, BIO-13 requires development of Project-specific raven management actions that would reduce foraging and nesting opportunities for ravens in and near the Project area. With the implementation of staff's proposed Condition of Certification **BIO-12** (acquisition of compensation lands), desert tortoise-specific avoidance and minimization measures **BIO-1** through **BIO-6**, and monitoring and reporting requirements in **BIO-7,** staff believes that the Project's contribution to cumulative impacts to desert tortoise habitat would be less than considerable. Condition of Certification **BIO-12** specifies that compensation habitat acquisitions occur within the Colorado Desert Recovery Unit in areas that have potential to contribute to desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and/or other preserved lands. Indirect effects to desert tortoise from ravens and the degradation of habitat quality from the spread of noxious weeds would be minimized through the detailed raven and weed management plans required under **BIO-13** and **BIO-14**.

Implementation of staff's proposed conditions of certification would reduce the Project's contribution to cumulative impacts to desert tortoise habitat, movement, and connectivity would be less than considerable. There may be cumulative impacts after mitigation is implemented by all projects, but due to the mitigation implemented by the Project, its contribution would not be cumulatively considerable. These residual cumulative effects from all future projects could be addressed through a regional and coordinated

planning effort aimed at preserving and enhancing large, intact expanses of wildlife habitat and linkages, including maintaining connections between wildlife management areas and other movement corridors.

Nelson's bighorn sheep

The distribution and extent of the NECO-designated bighorn sheep WHMAs (occupied and unoccupied range) and connectivity corridors, overlaid with past and foreseeable future projects within the NECO Planning Area, are quantified in **Biological Resources Table 13** and illustrated in **Biological Resources Figure 7-a**. The GIS analysis of the NECO bighorn sheep WHMAs and connectivity corridors indicates that occupied and unoccupied ranges and connectivity corridors are unaffected by the proposed Project. However, large-scale renewable energy development in the region north of Highway 62 could significantly impact gene flow between sheep populations through significant cumulative impacts to connectivity corridors, potentially decreasing the viability of the metapopulation of bighorn sheep. The Genesis Project itself, however, has no direct contribution to the loss of habitat within the identified connectivity corridors or the WHMAs.

Biological Resources Table 13
Cumulative Effects: Bighorn Sheep WHMAs and Connectivity Corridors

Bighorn sheep WHMAs & Connectivity Corridors*	**Total WHMA or Connectivity Corridor* in NECO**	**Impacts to WHMAs & Connectivity Corridors from Existing** Projects** (Percent of all WHMAs or Corridors in NECO)	**Impacts to WHMAs & Connectivity Corridors from Foreseeable Future*** Projects** (Percent of all WHMAs or Corridors in NECO)	**Contribution GSEP to future cumulative impacts** (Percent of total impacts from Future projects)
Total in NECO	2,552,074 acres	9,872 acres 0.4% of total NECO	93,295 acres 3.7% of total NECO	0 acres
Occupied Range	1,718,254 acres	6,008 acres 0.3% of total Occupied range	51,508 acres 2.3% of total Occupied range	0 acres
Unoccupied Range	232,506 acres	1,409 acres 0.6% of total Unoccupied range	8,134 acres 3.5% of total Unoccupied range	0 acres
Connectivity Corridors	601,313 acres	2,455 acres 0.4% of total Connectivity corridor	33,653 acres 5.6% of total Connectivity corridor	0 acres

* Based on the BLM NECO Bighorn Sheep WHMAs dataset (BLM CDD 2002).
** Includes only those existing projects for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**.
*** Includes only BLM Renewables that had submitted a Plan of Development at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**.

The Genesis Project is located within the proposed Palen-Ford multi-species WHMA (BLM CDD 2002; map 2-21); but is mainly located outside the sensitive habitats for which the WHMA was primarily established (i.e., dunes and playas). The Project is not located within a bighorn sheep WHMA or corridor (BLM CDD 2002). The cumulative effects of all other proposed future projects on bighorn sheep connectivity can only be addressed through a regional and coordinated effort aimed at preserving and

enhancing large, intact expanses of wildlife habitat and linkages, including maintaining connections between wildlife management areas and other movement corridors.

Another consideration of this analysis was whether the proposed future projects would cumulatively and significantly affect bighorn sheep through the loss of spring forage on the upper bajadas adjacent to occupied range. Based on recommendations from the Society for Conservation of Bighorn Sheep, staff analyzed the impact of existing and future projects within a one-mile buffer from the base of occupied ranges (or potentially restored populations in unoccupied ranges) on plant communities to assess the potential impacts to bighorn foraging habitat. These impacts are depicted in **Biological Resources Figure 7-b** and summarized in **Biological Resources Table 14**, below. No direct or cumulatively considerable effects to bighorn sheep WHMAs or spring foraging habitat would result from the proposed Project and thus no mitigation measures relating to bighorn sheep are proposed by staff. Impacts to spring foraging habitat in other affected portions of NECO, from other projects, remain significant, however. Approximately 4.5 percent of all spring forage in Sonoran creosote bush scrub and an additional 3.3 percent of Mojave creosote bush scrub within a mile of bighorn sheep WHMAs would be affected from all other foreseeable future projects.

Biological Resources Table 14
Cumulative Effects: Bighorn Sheep Spring Foraging Habitat within 1 Mile of Bighorn Sheep WHMAs and Connectivity Corridors

Foraging Habitat* (by plant community)	**Total Plant Communities* within 1-mile buffer of Bighorn Sheep WHMAs**	**Impacts to Spring Foraging Habitat from Existing** Projects** (Percent of all Community types in 1-mile buffer)	**Impacts to Spring Foraging Habitat from Foreseeable Future*** Projects** (Percent of all Community types in 1-mile buffer)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from Future projects)
Mojave Creosote Scrub	549,123 acres	936 acres 0.2%	18,342 acres 3.3%	0 acres
Sonoran Creosote Scrub	2,526,869 acres	8.768 acres 0.3%	113,434 acres 4.5%	0 acres
Desert Dry Wash Woodland	277,981	1,371 acres 0.5%	8,167 acres 2.9%	0 acres
Playa/Dry Lake	5,264 acres	0 acres	1,810 acres 34.4%	0 acres
Sand Dunes	6,218 acres	49 acres 0.8%	8 acres 0.1%	0 acres
Chenopod Scrub	258 acres	10 acres 3.9%	0 acres	0 acres
Agriculture, Developed	7,253 acres	N/A	576 acres 7.9%	0 acres

Foraging Habitat* (by plant community)	**Total Plant Communities* within 1-mile buffer of Bighorn Sheep WHMAs**	**Impacts to Spring Foraging Habitat from Existing** Projects** (Percent of all Community types in 1-mile buffer)	**Impacts to Spring Foraging Habitat from Foreseeable Future*** Projects** (Percent of all Community types in 1-mile buffer)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from Future projects)
Pinyon-Juniper Woodland	1,928 acres	0 acres	0 acres	0 acres

* Based on the BLM NECO Bighorn Sheep WHMAs dataset (BLM CDD 2002).

** Includes only those existing projects for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**.

*** Includes only BLM Renewables that had submitted a Plan of Development at the time of the analysis and those additional future projects listed in **Biological Resources Table 9**.

Mojave Fringe-toed Lizard

The geographic scope for the first of two cumulative effects analyses for Mojave fringe-toed lizard is the entire NECO planning area; the second analysis looked only at the habitat for the Chuckwalla Valley population. The NECO habitat dataset for Mojave fringe-toed lizard, which included all but the highest portions of the mountain ranges, was refined to reflect the species restriction to sandier substrates. Using the NECO landforms dataset, staff created a habitat model by selecting the following landforms: crescentic dunes, longitudinal dunes, undifferentiated dunes, sandy dissected fans, sandy plains, and dry playas. Dry playas were included because they often have at least a veneer of sand. The selected landforms were overlaid with documented occurrences of Mojave fringe-toed lizard from CNDDB and the detailed field survey data from four renewable energy projects within the NECO boundary. The occurrence data was in considerable agreement with the selected landforms; no corrections were necessary and no attempt was made to rank habitat value. **Biological Resources Figure 8** and **Biological Resources Table 15** present the results of the Mojave fringe-toed lizard habitat mapping overlaid with the existing and future projects within the NECO planning area to quantify the cumulative effects of all projects on habitat loss. **Biological Resources Table 15** also summarizes the cumulative loss of habitat for six additional plant and animal species discussed later in this section (American badger and desert kit fox, burrowing owl, Le Conte's thrasher, burro deer, Couch's spadefoot toad, and Harwood's milk-vetch).

However, there are also cumulatively considerable indirect effects to Mojave fringe-toed lizard that are not reflected in this quantitative analysis of habitat loss. These include impacts to sand transport systems and the maintenance of dunes from renewable energy projects (wind fencing and the obstruction of sand-carrying winds and water-deposited sands); premature stabilization of dunes by the spread of noxious weeds, which also fuel wildfires; increased risk of fire from transmission lines and increased ignition rates and vehicle-related mortalities from the introduction of vehicles into formerly undisturbed habitats; the effects of past and future grazing and off-road vehicle use; fragmentation of the remaining habitat and the accompanying isolation and reduced population viability; and an increase in predation by ravens and other predators from an increase in perching structures. Staff considers these indirect cumulative effects significant. Of particular concern with all proposed projects within the aeolian (wind-deposited) sand

transport corridor is the indirect downwind loss of dune habitat and habitat quality from obstructions (structures and wind fencing). Studies and examples in nearby Coachella Valley suggest that such effects can be acute and occur quickly (Katra et al. 2009; Turner et al. 1984).

Future (proposed) projects alone will cumulatively cause a direct loss of over 103,000 acres (16 percent) of all Mojave fringe-toed lizard habitat. Although the Project's contribution to these NECO-wide effects is relatively minor it nevertheless contributes, at least incrementally, to a significant cumulative effect.

Within Chuckwalla Valley (**Biological Resources Table 15** and **Biological Resources Figures 9**), nearly 13,000 acres (12.9 percent) of the Mojave fringe-toed lizard habitat would be directly impacted by the construction of all proposed projects. The Project's contribution to the direct loss of habitat for the Chuckwalla Valley population of Mojave fringe-toed lizard is somewhat more substantial in the local context (1.7 percent). However since publication of the Draft SA/EIS, the applicant re-designed the facility footprint by removing a 41.4-acre "toe" area which decreased direct impacts to sand dunes from 28 acres to 1 acre (from construction of the transmission line linear facility). Removal of 27 acres of impact to sand dune habitat also substantially decreased the Project's effects to the regional sand migration corridors that occur in the Genesis Project area (TTEC 2010o).

Biological Resources Table 15
Cumulative Effects: Special-status Species Habitat

Special-status Species Habitat	**Total habitat in NECO** (or other study area)	**Impacts to Habitat from Existing+ Projects** (percent of total habitat)	**Impacts to Habitat from Foreseeable Future++ Projects** (percent of total habitat)	**Contribution GSEP to future cumulative impacts**[1] (percent of total future impacts)
Mojave fringe-toed lizard habitat* (all NECO)	630,121 acres	14,541 acres 2.3%	103,604 acres 16.4%	224 acres 0.2%
Mojave fringe-toed lizard habitat* (Chuckwalla Population)	99,657 acres	8,290 acres 8.3%	12,845 acres 12.9%	224 acres 1.7%
American badger and desert kit fox habitat*	4,795,631 acres	134,750 acres 2.8%	339,704 acres 7.1%	1,811 acres 0.5%
Burrowing owl habitat***	4,795,631 acres	134,750 acres 2.8%	339,704 acres 7.1%	1,811 acres 0.5%
LeConte's thrasher habitat******	3,718,357 acres	47,078 acres 1.3%	300,139 acres 8.1%	1,811 acres 0.6%
Burro deer range*******	637,453 acres	10,236 acres 1.6%	47,640 acres 7.5%	151 acres 0.3%
Couch's spadefoot toad range********	1,548,597 acres	88,992 acres 5.7%	115,218 acres 7.4%	1,811 acres 1.6%
Harwood's milk-vetch habitat*********	3,134,303 acres	54,788 acres 1.8%	274,727 acres 8.8%	1,811 acres 0.7%

1 = Acreages adjusted to reflect removal of the 41.4 acre "toe" (TTEC 2010o).
*Total habitat based on the BLM NECO Landforms dataset (BLM CDD 2002), selecting following values: undifferentiated dunes; crescentic dunes, longitudinal dunes; sandy plains; playas, and sandy dissected fans.
**Total habitat based on the BLM NECO Landforms dataset (BLM CDD 2002), excluding mountains playas, badlands, and lava flows

***Total habitat based on the BLM NECO Landforms dataset (BLM CDD 2002), excluding dunes, playas, mountains, badlands, and lava flows
****Total habitat based on the NECO habitat model for LeConte's thrasher
*****Total habitat based on the NECO habitat model for burro deer (mule deer)
******Total habitat based on the NECO range map for Couch's spadefoot toad
*******Total habitat based on Staff's habitat model for Harwood milk-vetch. Using the NECO landforms model and selecting landforms on which occurrences of Harwood's milk-vetch have been documented; landforms do not imply presence of Harwood's milk-vetch
+ Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see Biological Resources Table 9
++ Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in Biological Resources Table 9.

In addition to the minimization of effects created by the re-desgin, the Project's contribution to cumulative effects would also be reduced by proposed compensatory mitigation identified in Condition of Certification **BIO-20**, which requires implementation of impact avoidance and minimization measures and acquisition of habitat to mitigate for the Project-related loss of sand dune and other sandy habitats that support Mojave fringe-toed lizards. Condition of Certification **BIO-20** specifies that the acquisitions would need to be targeted for sand dune or partially stabilized sand dune habitat within the Chuckwalla Valley. Impacts to desert washes in Chuckwalla Valley, some of which contribute sand to the aeolian transport corridor, would be offset through Condition of Certification **BIO-22** by acquiring and preserving private lands in the valley containing desert washes that are not currently protected under a conservation easement and could be developed in the future. Indirect effects from ravens and the spread of Sahara mustard and other noxious weeds would be minimized through **BIO-13** and **BIO-14.** Implementation of all mitigation measures would be assured through Condition of Certification **BIO-7**. Therefore, with the implementation of the aforementioned conditions of certifications, the Project's contribution to the cumulative effects to Mojave fringe-toed lizard would be less than considerable.

Golden Eagle

Staff conducted four different analyses of cumulative effects on golden eagle foraging habitat: 1) the entire NECO planning area (**Biological Resources Figures 10**); 2) foraging habitat within 10 miles of the base of all mountain landforms within NECO (**Biological Resources Figures 11-a**); 3) a 10-mile radius around the Project (**Biological Resources Figures 11-b**), and 4) a 140-mile radius around the Project (**Biological Resources Figures 11-c**).

The model of foraging habitat adjacent to mountain landforms was based on an assumption that the mountainous areas were the most likely sites for golden eagle nests. The 140-mile analysis (**Biological Figure 11-c**) used the California GAP vegetation mapping dataset (Davis et al. 1998), a project of the Biogeography lab at UC Santa Barbara. The vegetation mapping depicted in Arizona and Nevada is based on the National GAP vegetation mapping project. The original GAP mapping of desert dry wash woodlands and dunes was improved for the NECO plant communities dataset used in **Biological Figures 11-a and 11-b** (BLM CDD 2002; Appendix H); however, all datasets are based largely on aerial photo interpretation and would not be considered as accurate as a ground-based and field-verified delineation of habitats. The basis for a 140-mile analysis (which was limited by a lack of compatible vegetation mapping data for Mexico) was based on an analysis of band recovery data provided by the

U.S. Bird Banding Laboratory which showed that 90 percent of mature golden eagles re-encountered during the breeding season were within 140 miles of their natal site (USFWS 2009). Currently, only two nests have been documented within 10 miles of the Project; these two nests were 9.8 miles away and were inactive in 2010. Golden eagle nest surveys were completed in spring 2010 but the results were not available at the time of publication of the RSA. **Biological Resources Table 16** summarizes the impacts to foraging habitat for **Biological Resources Figures 11-a** through **11-c**. Please see **Biological Resources Table 18** and **Figure 19-a** for a summary and map of impacts to plant communities within entire NECO planning area.

All of the golden eagle foraging habitat figures depict the locations of currently known and documented golden eagle nest locations. The source of this information include the "nest card" database, desert-wide helicopter surveys conducted in 1978 and 1979, and locations depicted in a 1984 BLM California Desert Conservation Area (CDCA) map of “Sensitive, Rare, Threatened and Endangered Fish and Wildlife” that were digitized for this analysis (BLM 1999). It is unknown whether these nests are still active and/or present; this analysis assumes that they could be active and, at a minimum, that the site is suitable for nesting. The nest locations depicted are approximate (with a margin of error +/- 1-2 miles) and the map should not be viewed as a substitute for site-specific nest surveys to assess project impacts.

The loss of foraging habitat quantified in the GIS analysis is but one picture of the range-wide cumulative effects that have contributed to a sharp decline in golden eagle populations in recent years. The USFWS and others (USFWS 2009b; Kochert et al. 2002) estimate there are approximately 30,000 golden eagles in the western U.S., down from an estimated 100,000 in the late 1970s. Survey data from 2003 and 2006-2008 indicate a decline of 26 percent since 2003. Climate change is also expected to impact golden eagle by increasing drought severity, and the CO_2 concentrations are expected to exacerbate the spread of invasive weeds, which displace native species and habitats, fuel wild fires, and alter fire regimes. Wind energy development may also be particularly harmful to golden eagles; however, the proposed transmission lines for this and other proposed future projects are also expected to increase raptor collisions and electrocutions. Lead poisoning and the loss of prey species are also important contributors to golden eagle mortality and the overall decline in habitat function and value from human activities.

Proposed future projects within 10 miles of all mountains (**Biological Resources Figure 11-a** and **Biological Resources Table 16**) would cumulatively affect over 325,000 acres of foraging habitat (not including agriculture). The combined effect of all existing and probable future impacts to the loss of foraging habitat within 10 miles of the Project is also significant. Proposed future projects within 10 miles of the Project site (**Biological Resources Figures 11-b**) would cumulatively affect over 31,780 acres of foraging habitat (not including agriculture)—nearly 10 percent of all potential foraging habitat. The Project contributes, at least incrementally, to a significant cumulative loss of foraging habitat, and habitat quality for a species in sharp decline. In situations where the cumulative impact is most severe, even small incremental impacts may be cumulatively considerable.

Biological Resources Table 16
Cumulative Effects: Golden Eagle Foraging Habitat

Cumulative Effects: Golden Eagle Foraging Habitat Within 10 miles of Mountains				
Foraging Habitat* (by plant community)	**Total Plant Communities* within 10-mile buffer of mountains in NECO**	**Impacts to Foraging Habitat from Existing** Projects** (Percent of all Community types in 10-mile buffer)	**Impacts to Foraging Habitat from Foreseeable Future*** Projects** (Percent of all Community types in 10-mile buffer)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from Future projects)[1]
Mojave Creosote Scrub	728,536 acres	1,691 acres 0.2%	33,920 acres 4.7%	0 acres
Sonoran Creosote Scrub	3,571,797acres	22,019 acres 0.6%	228,363 acres 6.4%	1,773 acres 0.8%
Desert Dry Wash Woodland	654,735	8,128 acres 1.2%	48,086 acres 7.3%	16 acres**** 0.03%
Playa/Dry Lake	54,433 acres	961 acres 1.8%	15,713 acres 29%	37 acres 0.2%
Sand Dunes	60,807 acres	1,465 acres 2.4%	175 acres 0.3%	1 acre 0.6%
Chenopod Scrub	982 acres	72 acres 7.3%	0 acres	0 acres
Agriculture, Developed	79,894 acres	N/A	1,011 acres 1.3%	0 acres
Pinyon-Juniper Woodland	1,928 acres	0 acres	0 acres	0 acres

Cumulative Effects: Golden Eagle Foraging Habitat Within 10 miles of Project				
Foraging Habitat* (by plant community)	**Total Plant Communities* within 10-mile buffer of Project**	**Impacts to Foraging Habitat from Existing** Projects** (Percent of all Community types in 10-mile buffer)	**Impacts to Foraging Habitat from Foreseeable Future*** Projects** (Percent of all Community types in 10-mile buffer)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from Future projects)[1]
Mojave Creosote Scrub	0 acres	0 acres	0 acres	0 acres
Sonoran Creosote Scrub	257,135 acres	1,559 acres 0.6%	23,935 acres 9.3%	1,773 acres**** 7.4%
Desert Dry Wash Woodland	62,575 acres	1,255 acres 2.0%	7,677 acres 12.3%	16 acres**** 0.2%
Playa/Dry Lake	5,269 acres	950 acres 18.0%	0 acres	37 acres**** 100%
Sand Dunes	5,613 acres	0 acres	168 acres 3.0%	1 acre**** 0.6%

Chenopod Scrub	216 acres	62 acres 28.7%	0 acres	0 acres
Agriculture, Developed	2,205 acres	N/A	140 acres 6.3%	0 acres
Pinyon-Juniper Woodland	0 acres	0 acres	0 acres	0 acres

*Based on the BLM NECO Plant Communities dataset (BLM CDD 2002) conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996), updated during the NECO planning effort (see Appendix H of the NECO Management Plan (BLM CDD 2002)
** Includes only those existing projects for which GIS-based spatial data was available at the time of the analysis; see Biological Resources Table 9
*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in Biological Resources Table 9
**** Numbers reflect actual ground-based and field verified delineation of habitats (TTEC 2010-l; GSEP 2009a). Dune acreage (1ac.) reflects adjustment for removal of the 41.4 acre "toe" (TTEC 2010o).

Cumulative Effects: Golden Eagle Foraging Habitat+ 140-mile Radius Area

+ Different vegetation mapping dataset than NECO area analyses; used California GAP Analysis dataset and National GAP program data for Arizona

Foraging Habitat+ (by plant community)	**Total Plant Communities+ in 140-mile Radius of Project**	**Impacts to Foraging Habitat from Existing ++Projects** (Percent of all community type in 140-mile radius)	**Impacts to Foraging Habitat from Foreseeable Future+++ Projects** (Percent of all community type in 140-mile radius)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from future projects) [1]
Mojavean & Sonoran Desert Scrubs	19,813,486 acres	n/a	1,106,998 acres 5.6%	1,773 acres++++ 0.2%
Great Basin Desert Scrubs	263,209 acres	n/a	7,419 acres 2.8%	0 acres
Alkali Desert Sink Scrub	374,785 acres	n/a	33,728 acres 9.0%	0 acres+++++
Desert Succulent Scrubs++++ (desert scrubs with cacti/succulents)	3,497,649 acres	n/a	68,671 acres 2.0%	0 acres
Chaparral	2,497,868 acres	n/a	21,940 acres 0.9%	0 acres
Riversidean Sage Scrub	368,827 acres	n/a	0 acres	0 acres
Desert Riparian (woodlands)	234,632 acres	n/a	0 acres	16 acres++++ 100%
Desert Wash (unvegetated and wash scrubs)	858,560 acres	n/a	57,723 acres 6.7%	74 acres++++ 0.1%

Playa/Lacustrine	282,667acres	n/a	0 acres	37 acres 100%
Agriculture	1,604,793 acres	n/a	1,387 acres 0.1%	0 acres
Pinyon-Juniper Woodland	859,050 acres	n/a	164 acres 0.02%	0 acres
Montane Conifer	719,915 acres	n/a	9,663 acres 1.3%	0 acres
Montane Riparian Woodland	8,106 acres	n/a	0 acres	0 acres
Oak Woodland	114,388 acres	n/a	148 acres 0.1%	0 acres
Urban	1,307,902 acres	n/a	48 acres 0.004%	0 acres
Riverine and Lacustrine (open water)	105,806 acres	n/a	561 acres 0.5%	0 acres
Grassland and Mixed Shrub-Grass	584,229 acres	n/a	1,368 acres 0.2%	0 acres
Wet Meadow	26,568 acres	n/a	0 acres	0 acres
Emergent Marsh (Saline and Freshwater)	9,579 acres	n/a	9.8 acres 0.1%	0 acres
Palm Oasis	3,029 acres	n/a	0 acres	0 acres
Barren (Rock outcrop)	219,155 acres	n/a	337 acres 0.1%	0 acres

*Based on the BLM NECO Plant Communities dataset (BLM CDD 2002) conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996), updated during the NECO planning effort (see Appendix H of the NECO Management Plan (BLM CDD 2002)

** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see **Biological Resources Table 9**

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in **Biological Resources Table 9** (February 2010)

**** Includes the indirect effects to dune habitat (33 ac.) from the proposed SCE Colorado Substation, and 4 acres direct impacts from the linear facilities of the Project. Substation impacts will be mitigated under the authority of the CPUC.

+Based on the California GAP Analysis conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996). Arizona vegetation data based on National GAP Program data. Nevada GAP data not included in Table 15

++Existing impacts dataset not compiled for this analysis

+++Based only on future (proposed) renewable energy projects in California and Arizona; ROW obtained from BLM California and BLM Arizona; includes only projects with a Plan of Development (POD) at the time of the analysis (May 2010). BLM Nevada GIS-based data not available at time of analysis (May 2010)

++++Includes Joshua Tree Woodland, Mojave Yucca Woodland, and various mixed shrub and cacti communities

+++++Numbers reflect the ground-based delineation of habitats and state waters; dune acreage (1ac.) reflects adjustment for removal of the 41.4 acre “toe” (TTEC 2010o).

The Project's contribution to the cumulative loss of foraging habitat would be less than cumulatively considerable with the implementation of staff's proposed conditions of certification to address both habitat loss and the indirect effects described above. As specified in staff's proposed Condition of Certification **BIO-12**, the Applicant shall acquire and protect 1,864 acres of Sonoran creosote bush scrub within the Colorado Desert Recovery Unit (for desert tortoise), 190 acres of Mojave fringe-toed lizard habitat (**BIO-20**), and 132 acres of ephemeral desert washes within or adjacent to the Chuckwalla- Ford Dry Lake watershed (**BIO-22**). While acquisition does not address the net loss of foraging habitat in the immediate future, it is expected to prevent future losses of habitat by placing a permanent conservation easement and deed restrictions on private lands that could otherwise be converted for urban or agricultural uses, or energy development. The Project's contribution to the indirect cumulative effects to foraging habitat from the spread of invasive non-native plants would be less than considerable after implementation of Condition of Certification **BIO-14** (Weed Management Plan.

There may be cumulative impacts after mitigation is implemented by this Project, but the mitigation implemented by the proposed Project reduces its contribution to cumulative impacts to a level that is is not cumulatively considerable. These residual cumulative effects from all future projects—after mitigation to less than significant—could be addressed through a regional and coordinated planning effort aimed at preserving and enhancing large, intact expanses of foraging habitat, limiting development near nest sites, developing guidelines for minimizing collisions and electrocutions, and other programmatic efforts.

American Badger and Desert Kit Fox

The geographic scope for the cumulative analysis for these two species encompasses the entire NECO planning area. Using the NECO landforms dataset, the extent of suitable habitat depicted in the NECO plan was refined somewhat by excluding the following landforms: playas, badlands (steep erosional features), lava flows, and mountains. The remaining habitat was then overlaid by existing and foreseeable future projects to quantify cumulative impacts to badger and kit fox habitat (**Biological Resources Table 15** and **Biological Resources Figure 12**).

This quantitative analysis of habitat loss does not address use of the Project site and adjacent habitat for both foraging and movement pathways. Other reasonably anticipated cumulative effects not quantified here include habitat fragmentation and the diminished habitat values of remaining habitat from increased noise; disruption from night lighting; exotic plant invasion (which fuels wildfires and alters fire regimes); dust and air pollution; an increase in predators; agriculture and urban development, and; the consequences of human intrusion into previously undisturbed habitats (such as hunting, use of rodenticides and other poisons, road kills, trapping, and human disturbance).

An estimated 339,704 acres of American badger and desert kit fox habitat would be displaced by the proposed future projects within the NECO planning area, representing approximately 7 percent of the total habitat mapped in NECO (based on the simple habitat model described above). Staff considers this a cumulatively considerable contribution to a significant cumulative effect, particularly when viewed in combination with the anticipated indirect effects of habitat fragmentation and degradation to remaining

habitat and other threats described above. The Project contributes—at least incrementally—to a significant cumulative effect. Staff's proposed Condition of Certification **BIO-12** requiring acquisition of 1,864 acres of Sonoran creosote bush scrub within the Colorado Desert Recovery Unit (for desert tortoise), 190 acres of Mojave fringe-toed lizard habitat **(BIO-20)** within Chuckwalla Valley, and 132 acres of desert washes **(BIO-22)** within the immediate or adjacent watershed, would also benefit American badger and desert kit fox. With the implementation of habitat acquisition (**BIO-12, 20, and 22**), and the avoidance and minimization measures for American badger and desert kit fox contained in **BIO-17**, the Project's contribution to the combined effects of the Project and the past, present, and probable future impacts would be less than cumulatively considerable. While acquisition does not replace the habitat, it prevents future losses of habitat through conservation easements and deed restrictions on private lands that could otherwise be converted for urban or agricultural uses, or energy development. A programmatic and multi-agency approach to address the cumulative effects of all projects, after implementation of the Project-specific mitigation measures, is currently in progress.

Western Burrowing Owl

Using the NECO landforms dataset, the extent of suitable habitat for burrowing owl in the NECO planning area was refined by excluding the following landforms: dunes, mountains, playas, badlands (steep erosional features) and lava flows. The results were then overlaid by existing and foreseeable future projects to quantify cumulative impacts to burrowing owl habitat **(Biological Resources Table 15** and **Biological Resources Figure 13)**.

The GIS-based analysis of habitat loss does not reflect the significant cumulative effects of habitat fragmentation and its impacts on population viability, increased road kills, increased risk of fire from weed invasion and ignition sources, and the degradation of remaining habitat function and values. Staff considers the combined effect of all proposed future projects on habitat loss (339,704 acres or 7.1 percent loss of all habitat in the NECO planning area), and the indirect effects described above, to be a significant cumulative effect to which the Project contributes incrementally. However, the Project's contribution to cumulative effects would be reduced to a level less than considerable through implementation of the following conditions of certification: acquisition of 1,864 acres of Sonoran creosote bush scrub within the Colorado Desert Recovery Unit for desert tortoise (**BIO-12)**, 190 acres of Mojave fringe-toed lizard habitat **(BIO-20)** within Chuckwalla Valley, and 132 acres of desert washes **(BIO-22)** within the immediate or adjacent watershed. This proposed habitat replacement would also be expected to benefit burrowing owl by preventing future losses of habitat that is currently zoned for energy or other development. The Raven Management Plan **(BIO-13)** and Weed Management Plan **(BIO-14)** are also expected to minimize the Project's contribution to the indirect effects of increased avian predators and the spread of invasive plants, and **BIO-18** contains measures specifically for avoiding and minimizing impacts to burrowing owl.

Le Conte's Thrasher

The scope of this analysis includes the entire NECO planning area and utilized the NECO Le Conte's thrasher habitat dataset to quantify cumulative effects of habitat loss from existing and foreseeable

future projects (**Biological Resources Table 15** and **Biological Resources Figure 14)**. The NECO habitat model for this species is applicable to several other special-status bird species that inhabit desert dry wash woodland and adjacent upland habitat, including loggerhead shrike, phainopepla, ash-throated flycatcher, and northern mockingbird. The cumulative impacts to migratory birds not addressed in the quantitative analysis of habitat loss include habitat fragmentation, and degradation, and impacts to riparian and groundwater-dependent vegetation and riparian vegetation from water overdrafts and diversions.

The combined effect of the Project and the existing and probable future impacts are substantial; 300,139 acres of desert scrubs and desert wash woodland would be lost to future renewable energy development within the NECO planning area alone; this represents 8.1 percent of all potential habitat in NECO. Staff believes that the Project's contribution to the cumulative loss of habitat would be less than cumulatively considerable through implementation of proposed Condition of Certification **BIO-22**, which requires acquisition and enhancement of desert dry wash woodland and unvegetated ephemeral washes within the same watershed as the Genesis Project. Condition of Certification **BIO-12** requires compensatory habitat acquisition for desert tortoise habitat, which is also expected to benefit Le Conte's thrasher, and **BIO-15** requires pre-construction nesting bird surveys. Proposed Conditions of Certification **BIO-25** and **BIO-26** would require monitoring for impacts to groundwater-dependent vegetation within 10 miles of the Project pumping well and require remedial action if adverse effects are detected. The Project's contributions to the cumulative effects to Le Conte's thrasher from the indirect effects described above would be less than cumulatively considerable with the implementation of these additional mitigation measures.

Burro Deer

Burro deer is a subspecies of mule deer found in the Colorado Desert of Southern California, primarily along the Colorado River and in desert dry wash woodland communities away from the river. During the hot summers, water is critical, and deer concentrate along the Colorado River where water developments have been installed and where the microphyll woodland is dense and provides good forage and cover. Impacts are most important within 1/4 mile of natural or artificial watering sites; these sites are depicted in the bighorn sheep Wildlife Habitat Management Area map, **Biological Resources Figure 7a,** and are based on the NECO dataset for natural and artificial water sources.

Biological Resources Table 15 summarizes the anticipated cumulative effects to burro deer range; these effects are also illustrated in **Biological Resources Figure 15.** Using the NECO dataset for burro deer range, approximately 151 acres of the total 47,640 acres (0.3 percent) of burro deer range in the NECPO plan area would be displaced by the Genesis Project. Proposed future projects would cumulatively affect 7.5 percent of the burro deer range, as the range is documented in NECO (BLM CDD 2002). Staff's proposed Condition of Certification **BIO-22** for acquisition of 132 acres of desert washes within or adjacent to the Chuckwalla-Ford Dry Lake watershed, and Condition of Certification **BIO-12** for acquisition of 1,864 acres of Sonoran creosote bush scrub would reduce the Project's contributions to the cumulative loss of burro deer range to a level less than cumulatively considerable. The Project's

contribution to indirect cumulative effects would be minimized through **BIO-14** (detailed Weed Management Plan), **BIO-24** (revegetation of temporarily disturbed areas), and **BIO-25** and **26** (monitoring for impacts to groundwater-dependent vegetation within 10 miles of the Project pumping well and remedial action if adverse effects are detected).

Burro deer movement between the eastern portion of Ford Dry Lake and the Palen Wash ironwood forest, which is depicted in **Biological Resources Figure 15** as burro deer range, would be impacted by the proposed Project. This is not expected to be a significant impact because the importance of this linkage is already compromised by OHV and other human disturbance from the Wiley Well Rest Stop, and because the western portion of the ROW will be returned to BLM, thus allowing continued movement upslope into the Palen Wash and Palen Mountain Range from the west.

The cumulative effects of all future projects on wildlife movement and connectivity are discussed below and addressed in part through a proposed coordinated, multi-agency approach to preserving important linkages in the Chuckwalla Valley outlined in **Biological Resources Appendix B**.

Couch's Spadefoot Toad

The NECO Couch's spadefoot toad range dataset was used in this analysis to quantify cumulative impacts to potential habitat (**Biological Resources Table 15** and **Biological Resources Figure 16**). Based on the dataset's depiction of the range the GIS analysis indicates that the cumulative effects of all proposed future projects would affect 115,218 acres of Couch's spadefoot toad range in California, or 7.4 percent of its total range in California. Staff considers this a significant cumulative effect to which the Project would contribute to at least incrementally. The Project's contribution to this significant cumulative effect would be minimized to a level less than cumulatively considerable through implementation of staff's proposed Condition of Certification **BIO-27**, which specifies avoidance and minimizations measures for the known breeding pond south of I-10 along the interconnecting transmission line. The Project's contribution to an increase in invasive non-native plants and avian predators would be minimized through staff's proposed conditions of certification **BIO-13** (Raven Management Plan) and **BIO-14** (Weed Management Plan).

Wildlife Movement and Connectivity

Connectivity refers to the degree to which organisms can move among habitat patches and populations. Individuals must be able to move between patches to meet their resource needs, and in the long term populations must be connected to allow for dispersion, gene flow, and re-colonization. This discussion includes a qualitative discussion of cumulative effects to wildlife movement and connectivity. The probable desert tortoise linkages between the Chuckwalla DWMA and Chemehuevi DWMA are depicted spatially in **Biological Resources Figure 6** "Desert Tortoise DWMAs & Connectivity Corridors", displayed on a base map of USGS desert tortoise habitat modeling (Nussear et al. 2009).

Biological Resources Table 13 and **Figures 7-a** and **7-b** summarize cumulative effects to bighorn sheep WHMAs and connectivity corridors as depicted in the NECO Plan (BLM CDD 2002). **Biological Resources Table 17** and **Biological Resources Figure 17** and **18** look at the cumulative effects to plant communities and landforms within three Multi-Species WHMAs in the Project vicinity: Big Maria Mountains WHMA, Palen-Ford WHMA, and the DWMA Continuity WHMA, which provides connectivity between the Chuckwalla DWMA/ACEC south of I-10 and the Palen-Ford WHMA north of I-10. This analysis utilized the NECO Plant Communities and Landforms datasets to describe the type of habitat affected within each separate WHMA.

Two other solar projects are currently proposed within the Palen-Ford WHMA: Palen Solar Power Project and Chuckwalla Solar One. **Biological Resources Table 17** and **Figures 17** and **18** indicates the Genesis Project is an important contributor to the loss of Sonoran creosote bush scrub (29 percent) and playa (37 acres, including sand drifts at the playa margins) within the Palen-Ford WHMA. The actual ground-delineated and field-verified impact for desert dry wash woodland is 16 acres (see also **Biological Resources Table 5**); the NECO GIS datasets are based on aerial photo interpretation and as such are considered less reliable than verified ground survey results.

The Palen-Ford WHMA, and all other WHMAs within the NECO planning area, was specifically designated to form the NECO Multi-species Conservation Zone, along with the wilderness areas, DWMAs, ACECs, Joshua Tree National Park, and the military bases, to protect the species considered in NECO. The Palen-Ford WHMA was specifically established to protect the dunes and playas (NECO sensitive habitat types) and the Mojave fringe-toed lizard. The Project is responsible for 100% of the future impacts to playa and sand drifts over playa in the Palen-Ford WHMA.

The Genesis solar fields are located largely out of the dune system (after removal of the 41.4 acre “toe” (TTEC 2010o), and the linears moved slightly to avoid dune habitat occupied by Mojave fringe-toed lizard. The Project will not substantially impair the connectivity for those species for which the Palen-Ford WHMA was designated. The contribution of the Project to dune habitat loss does not reflect the indirect downwind effect of the solar field’s obstruction of the wind sand transport corridor. However, re-routing washes from the Palen Mountains around the Genesis site would not represent a significant disruption to wildlife movement as the washes lead only to Ford Dry Lake and I-10; an area that is also disturbed by human and unauthorized vehicle use around the Wiley Well Rest Area.

The combined effect of the Project and all existing and probable future projects in NECO on connectivity within Chuckwalla Valley and the Palen-Ford WHMA is significant and thus the Project will contribute, at least incrementally, to a cumulatively considerable effect. The requirement in **BIO-20** and **BIO-22** to acquire habitat within Chuckwalla Valley and within within the identified connectivity linkages would reduce the Project’s contribution to cumulative effects to connectivity in Chuckwalla Valley and the Palen-Ford WHMA to a level less than cumulatively considerable.

Biological Resources Table 17
Cumulative Effects: Wildlife Habitat Management Areas and Plant Communities

Palen-Ford WHMA				
Plant Community* within WHMA	**Total Plant Communities* in WHMA**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in WHMA)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in WHMA)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts to WHMA from Future projects)[1]
Sonoran Creosote Scrub	39,366 acres	2,087 acres 5.3%	5,488 acres 14%	1,587 acres 29%
Desert Dry Wash Woodland**	13,104 acres	932 acres 7.1%	202 acres 1.5%	123 acres**** 61% (16 acres/7.9%)
Sand Dunes	17,690 acres	0 acres	44 acres 0.25%	17 acres**** 39% (1 acres/63.6%)
Chenopod Scrub	381 acres	62 acres 16.3%	0 acres	0 acres**** (38 acres/100%)
Playas	13,696 acres	950 acres 6.9%	0 acres	0 acres**** (37 acres)
Agriculture, Urban	152 acres	146 acres N/A	0 acres	0 acres

Big Maria Mountains WHMA				
Plant Community* within WHMA	**Total Plant Communities* in WHMA**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in WHMA)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in WHMA)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts to WHMA from Future projects)
Sonoran Creosote Scrub	24,436 acres	317 acres 1.3%	3,105 acres 12.7%	0 acres
Desert Dry Wash Woodland**	9,308 acres	507 acres 5.4%	1,008 acres 10.8%	0 acres
Agriculture, Urban	50 acres	n/a	0 acres	0 acres

DWMA Continuity WHMA				
Plant Community* within WHMA	**Total Plant Communities* in WHMA**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in WHMA)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in WHMA)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts to WHMA from Future projects)
Sonoran Creosote Scrub	12,804 acres	856 acres 6.7%	988 acres 7.7%	0 acres
Desert Dry Wash Woodland	275 acres	2.9 acres 1.1%	1.4 acres 0.5%	0 acres

*Based on the BLM NECO Plant Communities dataset (BLM CDD 2002), updated from the California Gap Analysis Project, conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996).
** Includes only those existing projects for which GIS-based spatial data was available at the time of the analysis; see Biological Resources Table 9

*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in Biological Resources Table 9
**** Acreages shown reflect the ground-based and field-verified delineation of habitats (TTEC 2010-l); dune acreage (1 ac) adjusted to reflect removal of the 41.4 acre "toe" (TTEC 2010o).

Staff believes that the Project's contribution to desert tortoise connectivity is not cumulatively considerable; staff has identified the area west of Desert Center and HWY 177 as being the most valuable area for tortoise connectivity based on existing habitat conditions, tortoise densities, and the USGS habitat modeling for the Project vicinity (see **Biological Resources Figure 6**). Additionally, the dunes and playas form a north-to-south barrier to tortoise movement. The Project is also located outside the DWMA Connectivity WHMA. Although the WHMA was not established to specifically serve desert tortoise, the Project does contribute to the loss of habitat (Sonoran creosote bush scrub) within the WHMA. Proposed Condition of Certification **BIO-12** would require acquisition and protection of 1,864 acres of Sonoran creosote bush scrub within the Chuckwalla Desert Tortoise Critical Habitat Unit. Mitigation for cumulative effects to connectivity could be enhanced if desert tortoise acquisitions were targeted for areas that would enhance wildlife connectivity within the same WHMA and corridor, as described in **Biological Resources Appendix B**. Kit foxes, coyotes, and badgers are not NECO species and were not the reason for the establishment of the WHMAs; however, the acquisition of lands within the connectivity linkages described in **Appendix B** would also benefit kit fox, coyote, badger, and burro deer.

Natural Communities

Two cumulative effects analyses of different geographic scope were conducted for natural communities: 1) the entire NECO planning area (**Biological Resources Figure 19-a),** and 2) Chuckwalla Valley (**Biological Resources Figure 19-b)**. The NECO plant communities dataset was used for both analyses; it is based on the California Gap Analysis Project (Davis et al. 1998) but the accuracy and resolution of the GAP mapping was improved for the NECO plant communities dataset (BLM CDD; Appendix H) using aerial photos and helicopter surveys. However, such analyses are inferior (in accuracy) to ground-based and field-verified delineation of habitats; consequently, the Project's contribution to cumulative effects reflects the actual ground-based results. **Biological Resources Table 18** quantifies the cumulative effects to plant communities stratified by community type. "Mojave creosote scrub" refers to the creosote bush-dominant desert scrubs that occur within the Mojave Desert region of the California Desert geographic subdivision (Hickman 1993). The transition to Sonoran Desert is mapped at the Bristol Mountains near the Twenty-Nine Palms Marine Corps Base and extends east and south through the NECO planning area, and encompasses the Project area.

Significant cumulative effects to plant communities from probable future projects (before mitigation) across the NECO planning area are seen in many community types: 228,363 acres of Sonoran creosote scrub (5.9 percent of the total habitat type in NECO), 43,320 acres of Mojave creosote bush scrub (5.4 percent), 48,167 acres of desert dry wash woodland (7.1 percent), and 18,634 acres of playa (21.1 percent). Project-specific compensatory mitigation measures—similar to those recommended in this Revised Staff assessment—are likely to be imposed for the future renewable energy projects; however, the combined impacts to habitat reflected in **Biological Resources Table 18** do not address the

Biological Resources Table 18
Cumulative Effects: Natural Communities

Natural Communities – NECO				
Plant Community*	**Total Plant Communities* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in NECO)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in NECO)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from Future projects)[1]
Mojave Creosote Scrub	805,832 acres	6,233 acres 0.8%	43,320 acres 5.4%	0 acres
Sonoran Creosote Scrub	3,829,999 acres	22,815 acres 0.6%	228,363 acres 5.9%	1,773 acres**** 0.8%
Desert Dry Wash Woodland/Microphyll Woodland****	682,027 acres	8,457 acres 1.2%	48,167 acres 7.1%	16 acres**** 0.03%
Playa/Dry Lake**** (including sand drifts over playa margins)	88,110 acres	961 acres 1.1%	18,634 acres 21.1%	37 acres**** 0.2%
Sand Dunes****	62,140 acres	14 acres 0.02%	175 acres 0.3%	1 acre**** 0.6%
Chenopod Scrub	2,113 acres	480 acres 22.7%	0 acres	0 acres
Agriculture, Developed	94,187 acres	N/A	1,017 acres 1.1%	0 acres
Pinyon-Juniper Woodland	1,928 acres	0 acres	0 acres	0 acres
Natural Communities – Chuckwalla Valley				
Plant Community*	**Total Plant Communities* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in NECO)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in NECO)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from Future projects)[1]
Sonoran Creosote Scrub	403,760 acres	6,657 acres 1.6%	17,306 acres 4.3%	1,773acres**** 10.2%
Desert Dry Wash Woodland/Microphyll Woodland****	148,856	4,645 acres 3.1%	10,950 acres 7.4%	16 acres**** 0.03%
Playa/Dry Lake****	13,696 acres	950 acres 6.9%	0 acres	37 acres**** 100%
Sand Dunes****	18,705 acres	0 acres	168 acres 0.9%	1 acre**** 0.6%
Chenopod Scrub	474 acres	72 acres 15.2%	0 acres	0 acres
Agriculture, Developed	9,345 acres	N/A	568 acres 6.1%	0 acres

*Based on the BLM NECO Plant Communities dataset (BLM CDD 2002) conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (1996), updated during the NECO planning effort (see Appendix H of the NECO (BLM and CDD 2002)
** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see Biological Resources Table 9
*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in Biological Resources Table 9
****Acreages reflect the ground-based and field-verified delineation of habitats, including the 1acre adjustment for removal of the 41.4 acre "toe" (TTEC 2010o).

significant cumulative indirect effects to remaining habitat that can be expected from the past, present, and future projects: fragmentation and edge effects; alteration of the surface drainage patterns and fluvial and aeolian sand transport systems that maintain dune and dry playa habitats (which in turn support many special-status plant species); groundwater pumping impacts to mesquite groves and other phreatophytes; an increase in the risk of fire, and the introduction and spread of noxious weeds. The potential for spread of Sahara mustard is major concern because it is already infesting many areas on and adjacent to the Project and it has the potential to spread explosively if not carefully managed. Sahara mustard has been reported to be toxic to desert tortoise and other herbivores, and is an immediate threat to several special-status plant occurrences. Climate change is expected to exacerbate the effects of drought and noxious weed spread.

The combined effect of the Project and existing and future probable impacts in NECO and Chuckwalla Valley is cumulatively considerable. The Project contributes substantially to the combined effect from all probable future projects in Chuckwalla Valley to Sonoran creosote bush scrub (10.2%), and 100% of the cumulative impacts to playa and sand drifts over playa (a NECO-sensitive natural community). Sonoran creosote bush scrub is a common and widespread community in the southeastern deserts of California; however, this broad designation does not reflect the uncommon and even rare plant assemblages within the alliance of creosote bush that have been documented by the CDFG Vegetation Committee (CDFG 2003); nor does it reflect the reasonably anticipated indirect effects described above. The Project's contribution to these impacts would be minimized to a level less than cumulatively considerable with implementation of the following conditions of certification: **BIO-12** for acquisition of 1,864 acres of Sonoran creosote bush scrub; **BIO-21** for acquisition and protection of 132 acres of desert washes and desert dry wash woodland within or adjacent to the Chuckwalla-Ford Dry Lake watershed; **BIO-20** for the acquisition and protection of 190 acres of dunes or other sandy landforms within Chuckwalla Valley; **BIO-14** for weed management; **BIO-24** for revegetation of temporarily disturbed areas using locally native seed; and **BIO-25** and **BIO-26** for monitoring of groundwater-dependent vegetation and remedial action in the event of adverse effects.

Landforms

Biological Resources Table 19 reflects the cumulative impacts to landforms within the NECO planning area, stratified by landform and based on the NECO landforms dataset. Like the NECO plant communities mapping dataset, the landforms dataset was also based on aerial photo interpretation with some ground-truthing, but is less accurate than ground-based and field-verified delineations of habitat. However, the landforms dataset was in considerable alignment with the ground-based and verified habitat mapping.

Biological Resources Table 19
Cumulative Effects: Landforms/Wildlife Habitat

NECO Landform*	Total Landform* in NECO	Impacts to Habitat from Existing** Projects (Percent of all landform type in NECO)	Impacts to Habitat from Foreseeable Future*** Projects (Percent of all landform type in NECO)	Contribution of GSEP to future cumulative impacts (Percent of total impacts from Future projects) [1]
Alluvial Fans/Bajadas	2,997,468 acres	42,619 acres 1.4%	217,761 acres 7.3%	1,809 acres 0.8%
Sand Dunes	150,136 acres	3,755 acres 2.5% of total	17,027 acres 11.3% of total	1 acre**** 0.2%
Pediments	139,282 acres	1,715 acres 1.2% of total	1,263 acres 0.9% of total	0 acres
Plains	408,453 acres	75,687 acres 18.5% of total	48,117 acres 11.8% of total	0 acres
Badlands	79,141 acres	40 acres 0.05% of total	1,203 acres 1.5% of total	0 acres
Lava Flows	180 acres	0 acres	0 acres	0 acres
Riverwashes	137,265 acres	1,475 acres 0.1% of total	6,896 acres 5.0% of total	74 acres**** 1.1%
Dry Playas	62,106 acres	1,348 acres 2.2% of total	9,423 acres 15.2% of total	37 acres**** 0.4%
Mesas	6,843 acres	2 acres 0.03%	0 acres	0 acres
Tilted Plateaus	8,979 acres	0.1 acres 0.001%	3,762 acres 42.0% of total	0 acres
Mountains	609,023 acres	1,468 acres 0.2% of total	8,682 acres 1.4% of total	0 acres

*Based on the NECO Landforms dataset (BLM CDD 2002); acreages for dunes and playa from this dataset differ from the acreages based on an analysis using the NECO plant communities dataset, due to differences in methodology, minimum mapping polygons, etc. Actual project-specific field survey data concluded that the project would directly affect 1 acres of stabilized and partially stabilized dunes.
** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see T Biological Resources Table 9
*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in T Biological Resources Table 9
****Acreages reflect the ground-based and field-verified delineation of habitats, including the 1acre adjustment for removal of the 41.4 acre "toe" (TTEC 2010o).

As illustrated below, and illustrated spatially in **Biological Resources Figure 20,** the cumulative effects of all future (proposed) projects to dunes, playas, and plains are significant. Dunes and sandy plains also provide habitat for several rare plants and animals in the Chuckwalla region, most notably Mojave fringe-toed lizards, Harwood's milk-vetch, Harwood's eriastrum, Abram's spurge, jack-ass clover, and a potentially new species of saltbush recently discovered on the margins of Palen Dry Lake (Andre pers.

comm.). The Project contributes—at least incrementally—to these significant cumulative effects. The Project also contributes to cumulatively considerable indirect effects to these NECO- and CNDDB-sensitive habitats, including interrupted aeolian (wind-deposited) and fluvial (water-deposited) sand transport systems, both of which contribute to the maintenance and sustainability of dune habitats; groundwater pumping (lowering groundwater tables has also been demonstrated to influence dune morphology [Langford et al 2009]); habitat fragmentation and degradation from roads and increased vehicle and human disturbance; an increase in avian predators of dune species from the increase in perching sites; and the spread of invasive non-native plants such as Sahara mustard, which is believed to be toxic to desert tortoise and other herbivores and can spread explosively in response to disturbance.

The Project's contribution to significant cumulative effects to sandy plains, sand drifts over playa, and dunes would be minimized to a level less than cumulatively considerable through implementation of staff's proposed Condition of Certification **BIO-20.** This requires acquisition of 190 combined acres of dunes, playa and sandy plains within Chuckwalla Valley. The Project's contribution to the cumulative loss of alluvial fans and bajadas is minimized through **BIO-12**, which requires protection of 1,864 acres of Sonoran creosote bush scrub, which inhabits these landforms that occur between the valley floor and the base of the adjacent mountains. The Project's contribution to the cumulative loss of desert washes will be addressed through **BIO-22**; 132 acres of desert washes and desert dry wash woodland would be protected within the Ford watershed or adjoining watersheds.

The Project's contribution to cumulatively significant indirect effects would be minimized to a level less than cumulatively considerable through implementation of Conditions of Certification **BIO-13** (Raven Management Plan), **BIO-14** (Weed Management Plan), **BIO-24** (revegetation of temporarily disturbed areas using locally native seed), and **BIO-25** and **BIO-26** (monitoring of groundwater-dependent vegetation and remedial action in the event of adverse effects).

Desert Dry Wash Woodland

Biological Resources Table 20 highlights the cumulative effects of existing and future projects to desert dry wash woodland within the immediate watershed encompassing the Project (**Biological Resources Figure 21**). The NECO plant communities dataset was used for this analysis, which is based largely on aerial photo interpretation. The Project's field-verified, ground-based delineation (TTEC 2010l) documented 16 acres of desert dry wash woodland (a microphyll woodland) along jurisdictional state waters features in the project footprint that would be directly impacted and reflects the field-verified, ground-based delineation of waters of the state. The NECO dataset and GIS-based analysis showed a 165-acre area of desert dry wash woodland. The differences are presumably based on different methodologies (remote versus ground-based delineation) and different criteria for 'membership' in the microphyll woodland category; however, a large polygon of desert dry wash woodland that occurs just outside of the Project footprint along the Palen Wash may also account for the difference in acreage between the field-based delineation and the mapping of woodland in the NECO plant communities dataset, assuming the aerial photos were taken at different times and at different angles. Staff relies on the field-verified and ground-based delineation of habitats. The terms 'desert dry wash woodland' and 'microphyll woodland' are used interchangeably by Holland (1986) Barbour & Keeler-Wolf (2007) and in practice by BLM.

Biological Resources Table 20
Cumulative Effects: Desert Dry Wash Woodland

Desert Dry Wash Woodland – Chuckwalla Valley				
Plant Community*	**Total Plant Communities* in Chuckwalla Valley**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in **Chuckwalla Valley**)	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in **Chuckwalla Valley**)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from Future projects)
Desert Dry Wash Woodland/Microphyll Woodland	148,856 acres	4,645 acres 3.1%	10,950 acres 7.4%	16 acres**** 0.15%
Desert Dry Wash Woodland – NECO				
Plant Community*	**Total Plant Communities* in NECO**	**Impacts to Habitat from Existing** Projects** (Percent of all Community type in **NECO)**	**Impacts to Habitat from Foreseeable Future*** Projects** (Percent of all Community type in **NECO**)	**Contribution of GSEP to future cumulative impacts** (Percent of total impacts from Future projects)
Desert Dry Wash Woodland/Microphyll Woodland	682,027 acres	8,457 acres 1.2%	48,167 acres 7.1%	16 acres**** 0.03%

*Based on the BLM NECO Plant Communities dataset (BLM CDD 2002) conducted by the Biogeography Lab at the University of California, Santa Barbara and coordinated through the USGS Biological Resources Division UC Santa Barbara GAP Analysis (Davis et al. 1998), updated during the NECO planning effort (see Appendix H of the NECO (BLM- CDD 2002).
** Includes only those existing projects for which GIS-based spatial data was available at the time of the analysis; see Biological Resources Table 9.
*** Includes only BLM Renewables that had submitted a Plan of Development at the time of the analysis.
****Acreages reflect the ground-based and field-verified delineation of habitats, including the 1acre adjustment for removal of the 41.4 acre "toe" (TTEC 2010o).

According to CEQA guidelines, seemingly minor impacts can be significant if they affect an extremely rare or limited resource, and the cumulative impact may be substantial. Desert dry wash woodland is a sensitive natural community recognized under many LORS and area plans. Because it has a limited distribution (relative to common and widespread communities such as Sonoran creosote bush scrub) and carries an ecological importance that is disproportionate to its limited extent, staff considers the combined loss of approximately 7 percent of desert dry wash woodland from future impacts to be a significant cumulative effect—an effect to which the Project contributes at least incrementally. Desert dry wash woodland and other wash-dependent habitat that occurs within the stream environment is regulated under Section 1600 of the California Fish and Game Code. These habitats are also recognized as sensitive communities in the NECO plan (BLM CDD 2002) and CNDDB (CDFG 2003).

This GIS analysis of direct habitat loss does not reflect the equally significant indirect effects that could be reasonably expected to result from all or most of the proposed future projects, including the Genesis Project: interrupted geomorphic processes downstream of the stream diversions and the loss of sediments critical to many rare plants; diverted stream flows and deprived stream reaches; fragmentation of the remaining habitat and diminished habitat function and value for wildlife; and

invasion by tamarisk (a highly invasive noxious weed that displaces native riparian vegetation and depletes shallow groundwater). Miles of standing dead ironwood trees north of I-10 in the Corn Springs Area are a testament to the effects of channel diversions—even small channels—on desert riparian trees.

The Project's contribution to cumulatively significant desert dry wash woodland impacts would be minimized to a level less than cumulatively considerable through a variety of measures. Condition of Certification **BIO-22** specifies acquisition and enhancement of 48 acres of desert dry wash woodland (16 acres mitigated at a 3:1 ratio) within or adjacent to the Chuckwalla-Ford Dry Lake watershed. The Weed Management Plan (**BIO-14**) would include tamarisk as a target for management, and **BIO-19**, Section A (special-status plant mitigation) specifies the modification of the engineered channel design to ensure that the discharge of the diverted flows is revised to align with the existing natural drainages delineated between the Project and Ford Dry Lake.

Active Dune Habitat in Chuckwalla Valley

This analysis highlights the cumulative effects of existing and proposed future projects on the most active portions of the dune ecosystem in Chuckwalla Valley: landforms mapped in the NECO landforms dataset as crescentic dunes, longitudinal dunes, and undifferentiated dunces. The Chuckwalla Valley dunes is a system that is isolated and distinct from other dune systems in NECO, and, like the Palo Verde mesa and Cadiz Valley areas, it is an area that would be disproportionately affected by proposed renewable energy projects.

Dunes provide essential habitat for a disproportionate number of special-status animals and plants. Locally these species include: Mojave fring-toed lizard; Harwood's eriastrum; Harwood's milk-vetch; jack-ass clover; Abram's spurge; several rare cryptantha species, and a potentially new species of saltbush (*Atriplex* sp. nov. J. Andre) recently discovered around the margins of Palen Dry Lake (documented) and Ford Dry Lake (reported). In nearby Coachella Valley, the dune ecosystems are home to a wide variety of rare and endemic, threatened and endangered plants and animals, including several rare dune endemic invertebrates. Dunes are also BLM NECO sensitive communities and recognized as rare natural communities in the CNDDB (CDFG 2003). As noted above, even seemingly minor impacts may be considered significant if they affect an extremely rare or limited resource.

Biological Resources Table 21 and **Biological Resources Figure 20** quantifies the cumulative effects of the existing and future projects on "active" dune formations in the NECO planning area; the extent of other less active aeolian-deposited and stream-deposited sands within the aeolian sand transport corridor are better reflected in the habitat model for Mojave fringe-toed lizard (**Biological Resources Figure 8** and **9**, and **Biological Resources Table 14**). The habitat model for Mojave fringe-toed lizard includes also sandy plains, and sand-covered alluvial fans; all or portions of these landforms appear to be located within the wind-sand transport corridor but occur in the less active outer portions beyond the more active dunes (Worley-Parsons 2010c, 2010d; Collison 2010).

Biological Resources Table 21
Cumulative Effects: Active Dune Habitat

Total Dune habitat* in Chuckwalla Valley	Impacts to Dune Habitat from Existing** Projects (Percent of all dune habitat in Chuckwalla Valley)	Impacts to Dune Habitat from Foreseeable Future*** Projects (Percent of all dune habitat in Chuckwalla Valley)	Contribution of GSEP to future cumulative impacts (Percent of total impacts from Future projects)[1]
25,463 acres	1,049 acres 4.1% of total	1,607 acres 6.3% of total	0 acres**** (1 acres/1.7%)

1 = Acreages adjusted to reflect removal of the 41.4 acre "toe" (TTEC 2010o).
*Based on the BLM NECO Landforms dataset (BLM CDD 2002) for the following values: crescentic dunes, longitudinal dunes, and undifferentiated dunes. Actual project-specific field survey data concluded that the project would directly affect 28 acres of stabilized and partially stabilized dunes. Additionally, approximately 453 acres of habitat downwind of the solar fields would be indirectly affected (**Soil & Water Appendix A**).
** Includes only those existing projects between Desert Center and the Colorado River for which GIS-based spatial data was available at the time of the analysis; see Biological Resources Table 9
*** Includes only BLM Renewables that had submitted a Plan of Development (POD) at the time of the analysis and those additional future projects listed in Biological Resources Table 9
**** Acreage shown based on NECO landforms dataset (BLM CDD 2002); Applicant's ground-based delineation of habitat shown in parentheses () below (GSEP 2009a).

The direct loss of habitat quantified in **Biological Resources Table 21** is only part of the picture of cumulative effects; staff also considers the Project's likely indirect effects, which, when combined with similar effects from other probable future projects, are severe. These include: the degradation and eventual loss of habitat from obstructions in the wind transport corridor; depriving the dunes downwind of the fine windblown sands that build and maintain the habitat and ensure its suitability for Mojave fringe-toed lizard. In the absence of regular fresh input of fine, windblown sands, the deprived dunes quickly become stabilized, vegetate, compact, and develop a surface lag of coarse sand or gravel that combine to render the habitat unsuitable for the many plants and animals that have evolved to the unique, always shifting, natural disturbance regime of the dunes. The Project contributes at least incrementally to this cumulatively significant effect. Other reasonably foreseeable indirect effects of existing and future impacts to dune habitat not reflected in this quantitative analysis include: fragmentation and degradation of remaining habitat by roads and the resulting loss of gene flow between isolated populations; unauthorized off-road vehicles increased by the construction of new roads into previously inaccessible areas, altered drainage patterns, and the spread of noxious weeds such as Russian thistle and Sahara mustard, which prematurely stabilize the dunes and make the habitat less suitable for dune-dependent rare plants and fringe-toed lizard (Barrows pers. comm; Barrows et al. 2009; Griffiths et al. 2002). Habitat values for dependent wildlife are also affected by increased predation from avian predators, which benefit from the new perching structures that the solar facilities provide. Recent research in New Mexico has confirmed that groundwater is a key feature that contributes to dune morphology; dune fields are shaped by a feedback between aeolian dynamics and groundwater chemistry (Langford et al. 2009). The combined effects of groundwater pumping may also cause a significant cumulative effect on dune habitat, an effect to which the Project contributes at least incrementally.

Biological Resources Table 21 illustrates the significant cumulative effects to active dunes expected to occur in the Chuckwalla Valley; over 1,600 acres of active dunes would be directly affected by habitat

loss alone. Please also see **Biological Resources Figure 8** and **9**, and **Biological Resources Table 15** for a summary of the Mojave fringe-toed lizard habitat model, which includes sandy plains and sand-covered alluvial fans (in addition to more active dune landforms). All or portions of these landforms are located within the wind-sand transport corridor but occur in the less active outer portions beyond the more active dunes (barchan dunes, etc.).

The combined loss of dune habitat from the Project and other probable future projects is a significant. Although the Project's contribution to the loss of habitat is less than cumulatively considerable, it also contributes to a significant-to-severe cumulative effect from all the anticipated indirect effects described above. According to CEQA guidance, in situations where the cumulative impact is severe, even small incremental impacts may be cumulatively considerable. The Project's contribution to these effects would be minimized to a level less than cumulatively considerable through implementation of the following conditions of certification: **BIO-20** for acquisition and protection of 190 acres of dunes and sand drifts over playa in Chuckwalla Valley; **BIO-13** (Raven Management Plan); **BIO-14** (Weed Management Plan); **BIO-24** (revegetation plan for temporary disturbance), and **BIO-25** and **BIO-26** for monitoring groundwater-dependent vegetation and remedial action in the event that adverse effects are detected.

SPECIAL-STATUS PLANTS

Staff's analysis of cumulative impacts to special-status plants relied on three types of analyses: 1) a quantitative GIS-based analysis of impacts to essential habitat using NECO landforms and/or natural community datasets, and the USGS National Hydrographic Dataset; 2) a careful review of the Consortium of California Herbaria (CCH 2010) to determine if there were additional documented occurrences that were not already included in CNDDB (2010) and 3) the occurrence data was loaded into an ESRI GIS-based web application that allowed staff to view all CNDDB and CCH occurrences overlain on various jurisdictional, biological, landform, utility, USGS topographic maps and aerial imagery. This allowed staff to better understand a species' threats and management vulnerabilities relative to probable future renewable energy projects throughout their range, their distance and proximity to projects or features, their peripheral status, their eco-geographic variation or diversity, potential for fragmentation and other indirect effects from nearby development, and ownership and management threats to remaining occurrences. A complete list of datasets that were utilized in this web-application is included in staff's analysis of direct impacts to plants (see Section C.2.4.2).

Many new occurrences of Harwood's milk-vetch have been found at three of the proposed solar projects in the I-10 corridor; in a good rainfall year, it appears to be fairly well distributed in the dune habitats in the Chuckwalla Valley. Of the 46 total occurrences (CNDDB and CCH); 11 are historical occurrences and of the remaining 35, no more than 10 appear to be protected in federal wilderness or state park ownership. Of the 25 occurrences not protected, 10 of these would be affected by renewable energy projects alone. It is important to note, however, that survey data from the proposed projects has not yet been incorporated into CNDDB, and the preliminary data. Staff also expects that many of these new occurrences would also be directly or indirectly affected by the Projects whose surveys resulted in their discovery.

Significant cumulative indirect effects that are likely to occur include: altered drainage patterns, disrupted wind- or fluvial-sand transport processes, fragmentation of the habitat and reduced gene flow between isolated populations, the spread of non-native plants, and an increased risk of fire. Climate change is expected to exacerbate the effects of drought, and CO_2 concentration has already been demonstrated to promote the spread of invasive plants. Global warming is expected to disproportionately affect annual species in the Sonoran Desert region, according to a recent study by the University of Arizona.

Biological Resources Table 15 and **Biological Resources Figure 23** quantifies the cumulative effects of the BLM renewable energy projects and other existing and future projects to the sandy substrates associated with this special-status plant. The NECO landforms dataset was used; landforms selected to create the simple model of potential habitat include sandy dissected fans, sandy plains, fans, dissected fans, undifferentiated plains, and undifferentiated dunes. This was based on a careful review of the landforms dataset overlaid with known occurrences of Harwood's milk-vetch from CNDDB occurrences and the Project-specific survey data. Staff expects that this model somewhat over-represents actual suitable habitat for Harwood's milk-vetch but it cannot be refined until the more detailed soil mapping for the region is available (currently in development by the Natural Resources Conservation Service). However, the mapping of habitat should not be misconstrued to conclude that all the habitat is potentially occupied; rare plants have very specific microhabitat requirements that are often poorly understood. Actual distribution within mapped habitat is often confined to small or scattered and infrequent occurrences within an already restricted range. Rare plants can also sometimes be locally abundant but highly restricted in their range. Harwood's milk-vetch habitat would be disproportionately affected (almost 9 percent of its habitat in NECO) by the push for renewable development in NECO, and the species' range in California is nearly restricted to the NECO planning area. In the Chuckwalla Valley, 12.9% of its habitat is affected by probable future projects and 8.3% has already been lost (see **Biological Resources Table 15** for Mojave fringe-toed lizard, which occupies similar sandy habitat). The loss of habitat quantified in the GIS analysis does not reflect the combined indirect effects of spread of noxious weeds, fragmentation and reduced gene flow among isolated populations from existing and future projects.

The combined loss of Harwood's milk-vetch habitat, the cumulative indirect impacts to documented occurrences, and the ownership and management threats to remaining occurrences are cumulatively significant. Although the Project's contribution to these effects may be small, it contributes, at least incrementally to a significant cumulative effect. According to CEQA guidance, in situations where the cumulative impact is substantial, even small incremental impacts may be cumulatively considerable.

Other species restricted to dune and playa habitats, washes and other sandy habitats have occurrences outside of federal wilderness or state park lands and are threatened by renewable energy development, but the cumulative effects to Harwood's milk-vetch are of particular concern due to the position of many occurrences in the immediate vicinity of probable future projects and the likelihood of significant indirect effects. These include: lobed ground cherry, Las Animas colubrina, Abram's spurge, jack-ass clover, California and glandular ditaxis. Harwood's eriastrum is somewhat more affected than these

aforementioned plant species, and dwarf germander and flat-seeded spurged have very few documented occurrences in California. They also have occurrences that are not protected in federal wilderness designation or in national or state park ownership.

Populations of most special-status plants in this region of California were considered relatively stable until recently, as the push for renewable energy development has placed many plants and occurrences at risk. The Project's contribution to these effects, and to cumulative effects to other special-status plants found in the Project area, would be less than cumulatively considerable through implementation of the following conditions of certification: **BIO-19**, which includes detailed specifications for avoidance and minimization measures, and criteria and performance standards for off-site mitigation through acquisition of rehabilitation of degraded populations; **BIO-20** for acquisition and protection of 190 acres of dunes and sand drifts over playa in the Chuckwalla Valley; **BIO-14** (Weed Management Plan), and **BIO-22** for acquisition of desert washes (at a 3:1 ratio) in the Chuckwalla-Ford Dry lake watershed.

It is likely that implementation of **BIO-19** will require compensatory mitigation, and avoidance and minimization measures for impacts to special-status plants, and the dunes, playas, sand drifts, and desert washes that support the majority of rare plants in the valleys and low-lying areas affected by renewable energy development. There may be cumulative impacts after mitigation is implemented by all projects, but due to the mitigation implemented by the Project, its contribution would be less than cumulatively considerable. The residual cumulative effects from all future projects, after mitigation could be addressed through a regional and coordinated planning effort aimed at preserving and enhancing remaining populations and their essential habitat, and restoring degraded populations.

Groundwater-Dependent Vegetation

The groundwater cumulative impact analysis (see **Soil and Water Resources**, Section C.7.4.2) indicates that groundwater extraction during construction and operation of this and other foreseeable projects would place the basin into an overdraft condition. This impact may be exacerbated by other unidentified renewable energy projects in the I-10 corridor, which has been targeted as a potential area for further renewable energy development. However, staff concluded that the amount of water that is stored in the basin greatly exceeds the amount of cumulative overdraft, even taking into account other reasonably foreseeable future projects, rendering the project's contribution to this cumulative impact less than cumulatively considerable.

Nevertheless, the proposed Project would have an impact on the deep aquifer groundwater levels within the area immediately surrounding the proposed Project pumping well. The area of potential affect surrounding the well is estimated to extend approximately 10 miles out from the Project pumping well by the end of Project operation. The Applicant has stated that pumping from the deeper aquifer would not affect the shallow alluvial-fill aquifer that supports groundwater-dependent vegetation within this zone of potential effect based on the presence of low permeability clay layers between the shallow and deep aquifers observed at the test well onsite, and that characteristically occur around lakebeds. However, the calculations and assumptions used to evaluate potential groundwater level impacts are

imprecise and have limitations and uncertainties associated with them such that the magnitude of potential impacts that could occur cannot be determined precisely.

Although the Project's contribution to the cumulative effects of probable future projects to drawdown of the spring baseline water tables is minor—due in part to its position at the far east end of the valley—it contributes, at least incrementally to a significant, and potentially severe, cumulative effect. According to CEQA guidance, in situations where the cumulative impact is substantial, even small incremental impacts may be cumulatively considerable. Implementation of Conditions of Certification **BIO-25, BIO-26**, and **SOIL& WATER-3**, **-4**, and **-5** would ensure that the Project's proposed use of groundwater and effect on groundwater dependent vegetation would be less than cumulatively considerable, **BIO-25** provides detailed specifications, minimum standards, and reporting requirements for monitoring the groundwater-dependent vegetation and spring groundwater levels within the 10-mile area of effect around the Project pumping well. **BIO-26** outlines the thresholds for remedial action and performance standards for the mitigation in the event that adverse effects are detected.

Overview: Cumulative Impacts to Biological Resources of the Chuckwalla Valley

The indirect effects of past, present, and foreseeable future development of the Chuckwalla Valley will contribute cumulatively to the overall loss of dune habitat, desert washes, and the fragmentation and degradation of the remaining habitat for Mojave fringe-toed lizard and several dune-dependent rare plant species. The indirect cumulative effects of development on dune ecosystems are not represented in the GIS analysis of direct habitat loss, but such effects are well documented in Coachella Valley--a comparable and suitable reference site from which conclusions may be reasonably drawn about the environmental stressors and their effects. The Chuckwalla Valley system, although not nearly as fragmented as Coachella Valley, has already been adversely affected in many ways. Proposed renewable energy development in Chuckwalla Valley could threaten what remains of the habitat and places several populations at risk—most notably, the local Chuckwalla Valley population of the Mojave fringe-toed lizard. Past and present impacts in Chuckwalla Valley that have already contributed to a decline in the quality and extent of aeolian dune habitat, habitat for Mojave fringe-toed lizard and dune-dependent rare plant species, desert washes and wash-dependent vegetation, include:

- Compaction and habitat degradation from historic military training operations during World War II;
- Past off-road vehicle use and present/future unauthorized use around Ford Dry Lake;
- Past sheep grazing around Ford Dry Lake;
- Electric and Natural Gas Transmission line construction;
- Road construction associated with the transmission construction;
- Construction and operation of the Wiley Wells Rest Stop;
- Construction of Interstate 10 and the network of diversion dikes south of I-10;
- State Highway 177 and a network of both paved roads and unimproved roads;
- Urban and agricultural conversion around Desert Center (8,424 acres);

- Blythe Energy and DPV 1 transmission lines and access roads; and
- Construction of the Colorado Aqueduct; and
- Chuckwalla Valley State Prison

Dikes associated with I-10 limit the depositional area of the Chuckwalla Mountains bajada to the south (upstream) of I-10 and concentrate the flows into three discrete channels, where historically numerous small channels fanned out over large areas contributing to fluvial sediment to the aeolian system. The downstream effects of these diversions are striking, severe, and very apparent throughout the I-10 corridor to the north, and in comparisons of current and historical photos. The perimeter stormwater conveyance channels proposed with nearly every solar project would closely mimic these downstream effects to fluvial transport systems. Russian thistle, a noxious weed, has replaced native plant diversity in some dune habitats. More recently, Sahara mustard has invaded the valley and spread explosively since it was introduced some decades ago. Invasive plants increase fire frequency and are correlated with population declines of milk-vetch and fringe-toed lizard in Coachella Valley (Barrows and Allen 2007).

A list of the existing and probable future projects considered in the NECO-wide analysis of cumulative effects is provided in **Biological Resources Table 9**. A subset of probable future renewable energy projects that occur in Chuckwalla Valley are listed below, including those that occur in the portion of the valley and dune system south of I-10.

Reasonably foreseeable future actions that will further contribute to the loss of habitat, desert washes and wash-dependent vegetation, and to the fragmentation and degradation of dunes and adjacent habitat for fringe-toed lizard and dune-dependent rare plant species in Chuckwalla Valley include:

- Palen Solar Power Project (3,001 acres)
- Genesis Solar Energy Project (1,797 acres)
- Chuckwalla Solar 1 (4,091 acres)
- EnXco 2 (Solar Energy Project, 1,325 acres)
- First Solar – Desert Sunlight (5,119 acres)

On the dunes south of I-10:

- Colorado Substation (approximately 80 acres)
- DPV 2 and Desert Southwest transmission lines and access roads
- LightSource Renewables – Mule Mountain II
- Altera - Mule Mountain (6,618 acres).

In the Coachella Valley, blocked sand/wind corridors have been shown to lead to sand compaction and premature stabilization of the dunes, increased mean grain size (which reduces habitat suitability for fringe-toed lizards), and aeolian habitat loss. Stabilization of the dunes is also aggravated by an increase in invasive exotic plants, introduced through soil disturbance and an increase in vectors (vehicles).

Invasive plants are correlated with decreases in the rare dune-endemic species of milk-vetch, fringe-toed lizard, and endemic sand-treader crickets in Coachella Valley.

Road construction associated with new solar projects and their related transmission corridors further degrade and fragment the habitat, and lead to an increase in vehicle traffic and encroachment in previously undisturbed areas. Unpaved roads into the valley interior and historical grazing have led to a dramatic increase in noxious weed invasion over large areas of dunes and surrounding habitat. New roads into otherwise undisturbed portions of the valley also lead to an increase in vehicle-related mortality, and habitat destruction from unauthorized off-road vehicle use. Human encroachment, agriculture, and development around Desert Center are also accompanied by an increase in predators, such as ravens. These indirect cumulative effects on dune-dependent species are particularly acute in isolated, fragmented habitats that lack the buffering effects of connectivity to larger populations. All of these stressor and effects are documented to have led to the decline of dune ecosystems in Coachella Valley and can reasonably be expected to occur in Chuckwalla Valley with future development.

C.2.8.8 CONCLUSION

Construction and operation of the Genesis Project will contribute, at least incrementally, to a significant cumulative effect in nearly every resource area analyzed. Cumulative impacts in some areas—impacts to dunes and playa habitat, desert washes, Harwood's milk-vetch—are substantial. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Cumulative impact assessments cannot conclude that contributions to cumulative impacts are not significant merely because the contributions represent a small percentage of the overall problem.

The biological resources cumulative effects analysis employed a quantitative, GIS-based analysis of direct impacts to habitat and a qualitative analysis of indirect effects (e.g., increases in predators, noxious weeds, etc.). In many cases, the anticipated indirect impacts are more significant, or adverse, than the direct loss of habitat, but are more difficult to quantify. In preparing the qualitative assessment of indirect cumulative effects, staff relied on consultations with regional experts and agency biologists, a literature review of the threats to species and their habitats, and documented observations and studies from Coachella Valley, a dune system west of Chuckwalla Valley that supports many related species and similar habitats (Barrows 1996; Barrows & Allen 2007; CVAG 2007; Griffiths et al. 2002; Katra et al. 2009; Turner et al. 1984; Weaver 1981; Barrows pers. comm.).

The geographic scope of the cumulative effects analysis varied between the biological resources. Many of the analyses used the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) boundaries (BLM-CDD 2002). The NECO boundary closely approximates the boundaries of the Eastern and Northern Colorado Desert Tortoise Recovery Units; however, the recovery unit boundaries extend slightly to the north and west of the NECO boundary. For some resources, a different geographic scope was warranted, such as the use of watershed boundaries to analyze cumulative effects to desert

washes, or the Chuckwalla Valley region of the I-10 corridor for populations or dune systems restricted to that geographic area.

Significant cumulative effects (including indirect effects) were identified in a number of biological resource areas where the Project contributes—at least incrementally—to the cumulative effect. These include:

- Desert washes – Chuckwalla - Ford Dry Lake Watershed and the broader NECO planning area;
- Desert tortoise habitat;
- Golden eagle foraging habitat;
- Mojave fringe-toed lizard and their habitat;
- Habitat for American badger, desert kit fox, and burrowing owl;
- LeConte's thrasher habitat;
- Couch's spadefoot toad range;
- Habitat for Harwood's milk-vetch and other dune/playa-dependent special-status plants;
- Wildlife habitat and connectivity within the Palen-Ford WHMA (for Mojave fringe toed lizard, dunes, and playa);
- Mojave and Sonoran creosote bush scrub; desert dry wash woodland (microphyll woodland); playa and sand drifts over playa, and dunes (active and stabilized)

Of particular concern are the cumulative effects of renewable energy projects within the geographic scope of the Chuckwalla Valley, which contains an isolated system of dunes and population of Mojave fringe-toed lizard. The direct loss of dune habitat and Mojave fringe-toed lizard is minor relative to the indirect downwind effects from obstructions within the active aeolian sand transport corridor, and the disruption of the fluvial processes that contribute sand to the system from the diversion of washes – approximately 63 miles of washes within the Chuckwalla-Ford Dry Lake watershed alone. Lessons learned from decades of study at nearby Coachella Valley (a comparable and suitable reference site from which conclusions may be reasonably drawn about Chuckwalla Valley) suggest that these indirect effects are significant and adverse. In addition to the disruption of geomorphic processes, significant indirect effects that can be reasonably expected to occur in the Chuckwalla system from future projects include fragmentation and its effects on connectivity and gene flow; spread of invasive non-native plants; increase in avian predators, and; an increase in vehicle-related wildlife mortality.

In a recent study "Climate Change and the Future of California's Endemic Flora" (Loarie et al 2009), anticipated climate change is projected to cause greater than 80 percent reductions in range size for up to 66% of California's endemic species within a century. These results are comparable to other studies, but projected reductions depend on the magnitude of future emissions and on the ability of species to disperse from their current locations. California's varied terrain could cause species to move in very different directions, breaking up present-day floras. However, these projections also identify regions where species undergoing severe range reductions may persist. Protecting these potential future refugia

and facilitating species dispersal will be essential to maintain biodiversity in the face of climate change (Loarie et al 2009). These include the cooler, more mesic microclimates of the mountainous areas, which may protect significant components of biodiversity into the next century. Many of these areas are already in some degree of federal wilderness protection. However, the value of these refugia depends critically on the ability to of species to disperse, underscoring the importance of landscape connectivity and potential restoration in the face of increasing urbanization, land use change, and disturbance.

The proposed Project is expected to contribute to a cumulative reduction in greenhouse gases. However, the benefits gained by the Project's reduction in greenhouse gases must also be weighed against the potential loss of carbon sequestration benefits from the desert vegetation and biological soil crusts.

A recent study conducted in the Mojave Desert found that the desert soil ecosystems could represent a significant carbon sink (Campbell et al. 2009). Whether a result of biotic crusts, vegetation, alkaline soils, or an increase in average precipitation, the rate of carbon absorption in the soil has scientists considering whether desert ecosystems play a more critical role in the carbon cycle than previously believed (Stone 2008; Campbell et al. 2009). Some scientists, however, dispute these findings and attribute them to an anomaly caused by increased rain for the study period reported (Campbell et al. 2009). A study is currently underway by the University of Oregon "to determine whether the installation and operation of solar thermal plants will impact carbon sequestration capabilities of the Mojave Desert ecosystem and ecosystem services (assessment endpoint) to the extent that more carbon is released or inhibited from being stored than saved while utilizing solar technology." (Campbell et al. 2009). Until the dispute is resolved, staff expects that the answer may vary somewhat on a case-by-case basis. For example, project sites that are very sparsely vegetated with only a minor component of soil crusts may confer less sequestration capabilities than sites with a rich cover of biological soils crusts and succulent desert scrubs.

Nevertheless, there is little dispute that the loss of desert vegetation and biological soil crusts on a solar thermal plant site permanently eliminates the carbon sequestration benefits, and the soil disturbance during grading and construction releases the stored carbon back into the atmosphere. Staff believes that the cumulative loss of sequestration benefits and release of stored carbon from all past, present, and probable future projects is likely to be significant. With implementation of the avoidance and minimization measures (**BIO-8**), revegetion plan for temporarily disturbed area (**BIO-24**), compensating for habitat loss by preventing the future development of desert lands through acquisition and permanent protection under conservation easements (**BIO-12, BIO-19, BIO-20** and **BIO-22**), restoring degraded portions of acquired lands (**BIO-12** and **BIO-19**), minimizing the size of the disturbance area along the linears (**BIO-8 and BIO-19**), and revegetating after closure and decommissioning (**BIO-23**), the Project's contribution to the cumulative effects described above would be less than cumulatively considerable.

Compliance with the mitigation measures identified by staff would reduce the Project's contribution to cumulative effects to a level that is less than cumulatively considerable. There may be cumulative effects

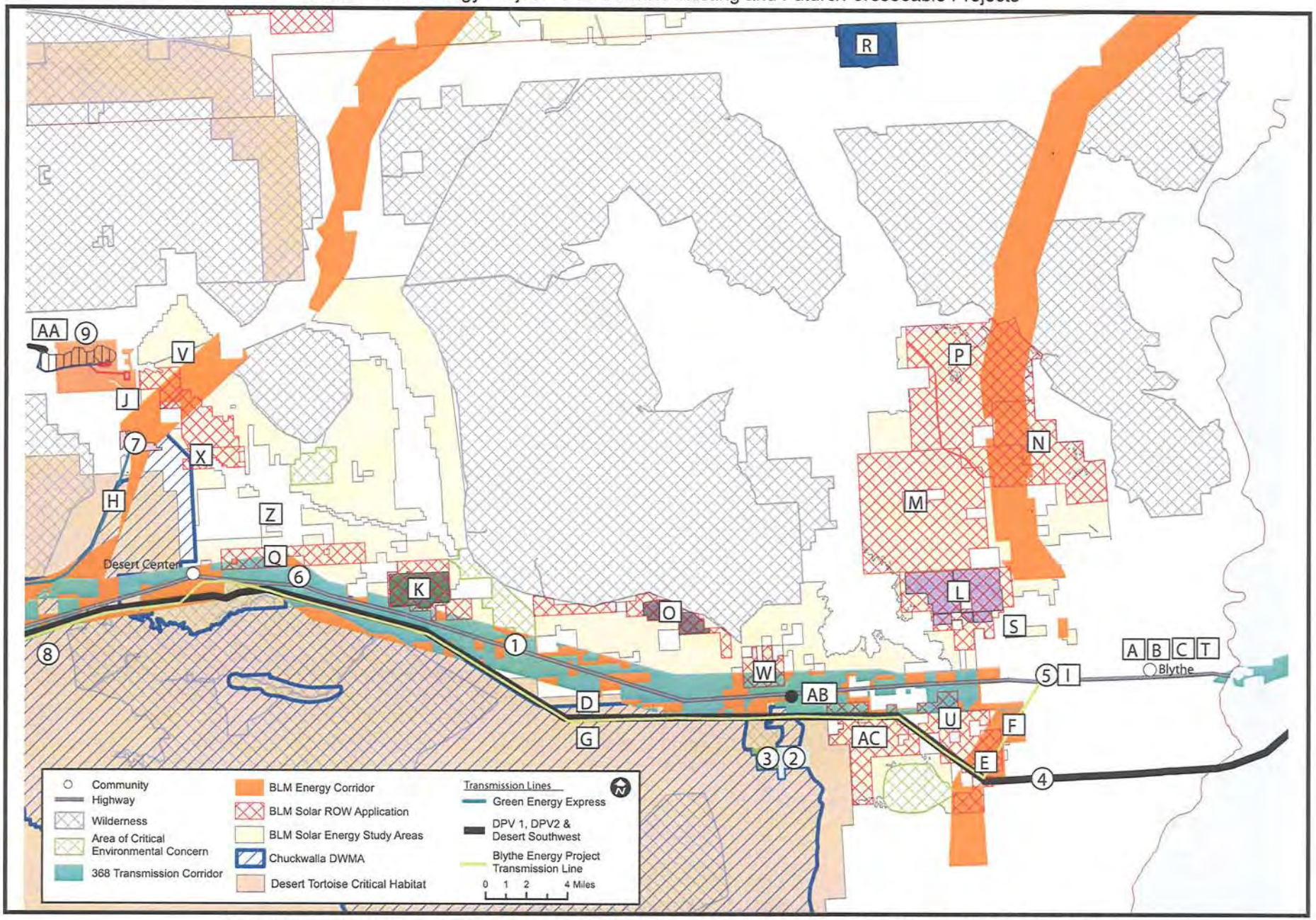
after mitigation is implemented by this project, but mitigation would reduce this project's contribution to a level that is not cumulatively considerable. These residual cumulative effects from all past, current, and future projects could be addressed through a regional and coordinated planning effort aimed at: preserving and enhancing large, intact expanses of wildlife habitat and linkages, including maintaining connections between wildlife management areas and other movement corridors, and identifying and preserving important refugia to facilitate species dispersal and maintain biodiversity in the face of climate change.

In addition to addressing the residual ecological impacts, after mitigation to less than significant levels, these coordinated planning efforts by state and federal agencies must also address the cumulative loss of carbon sequestration benefits from the loss of desert vegetation and biological soil crusts, and the concurrent release of stored carbon back into the atmosphere during grading and construction is significant. These could be addressed through coordinated planning efforts aimed at: creating incentive programs for energy efficiency and conservation; funding research that analyzes alternative energy options that are less land intensive; reducing the number of permitted projects and creating solar exclusion zones in areas of high ecological values and carbon sequestration potential; restoring or better utilizing degraded desert lands; and restoring the carbon sequestration benefits of damaged desert (and especially) forest ecosystems elsewhere (Campbell et al. 2009).

Ongoing collaborative efforts by federal and state agencies to develop a Desert Renewable Energy Conservation Plan and BLM's Solar Energy Development Programmatic EIS offer an appropriate forum for such planning. **Appendix B** describes the Desert Wildlife Management Area management strategies that could achieve the goals of preservation and enhancement of wildlife connectivity in the NECO planning area. Staff supports these programmatic efforts and believes they represent an excellent means of integrating the State's and BLM's renewable resources goals and environmental protection goals.

BIOLOGICAL RESOURCES - FIGURE 1

Genesis Solar Energy Project - I-10 Corridor Existing and Future/Foreseeable Projects

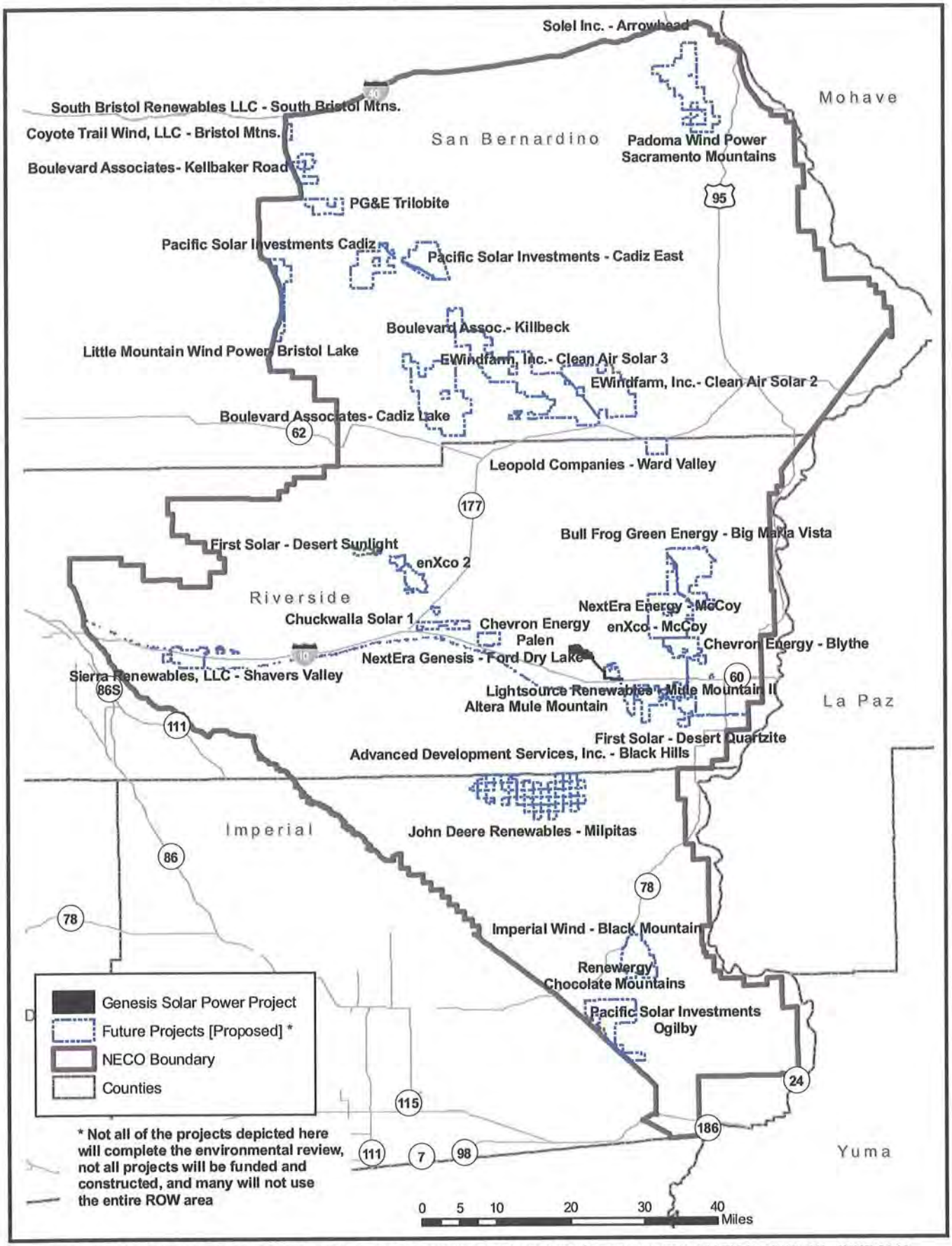


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 2

Genesis Solar Energy Project - Foreseeable Future Projects (Proposed)

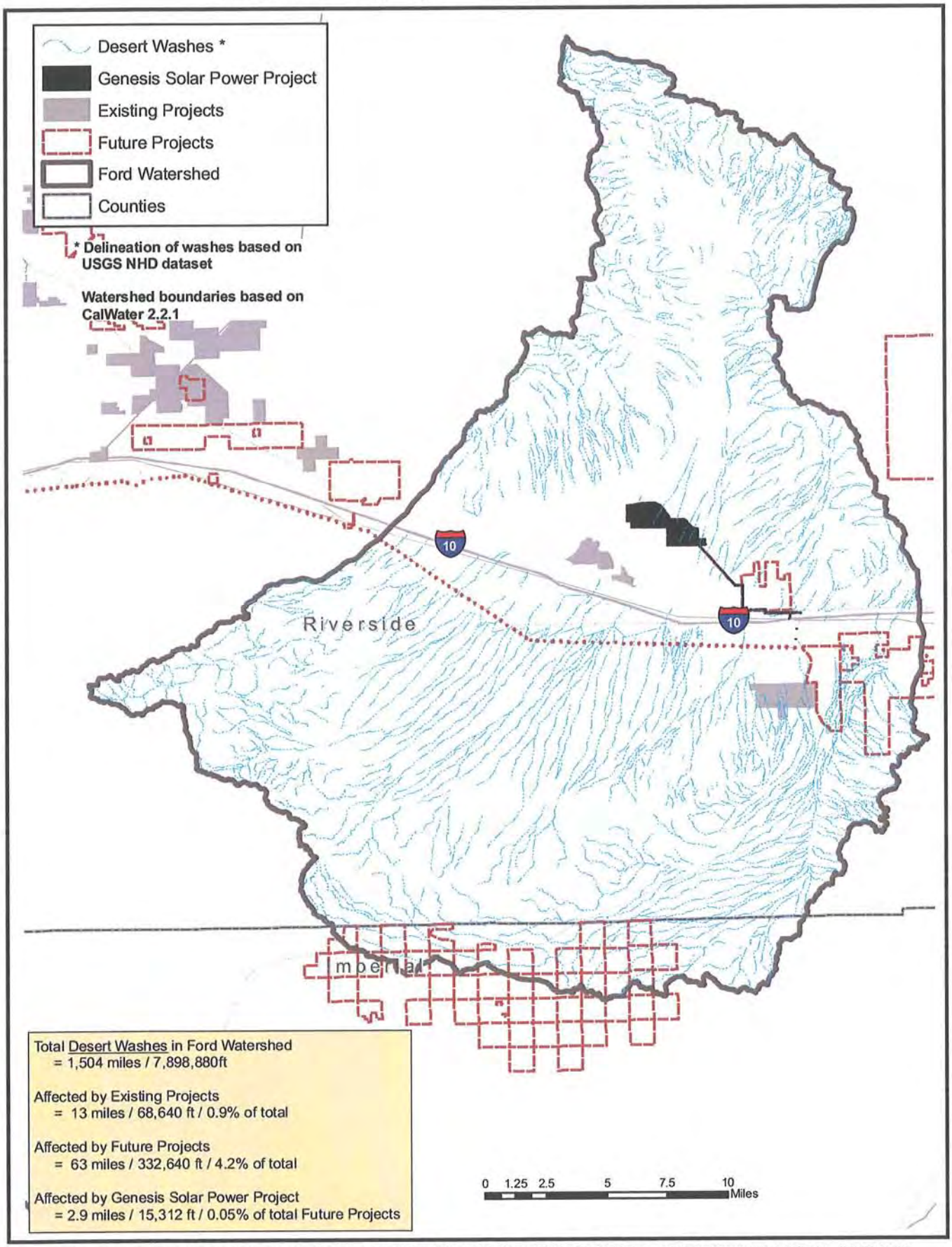


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 3

Genesis Solar Energy Project - Desert Washes - Ford Watershed

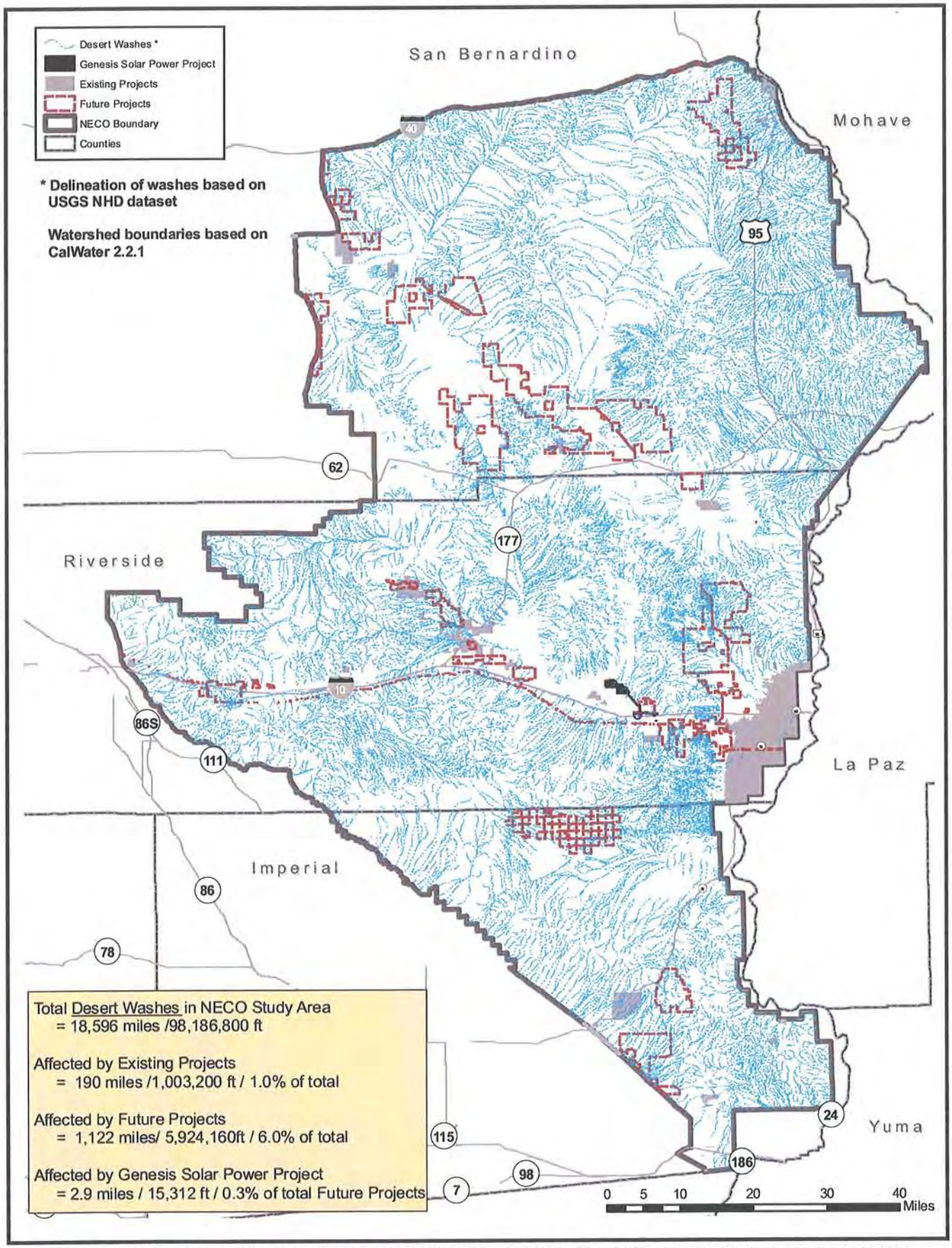


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 4

Genesis Solar Energy Project - Desert Washes

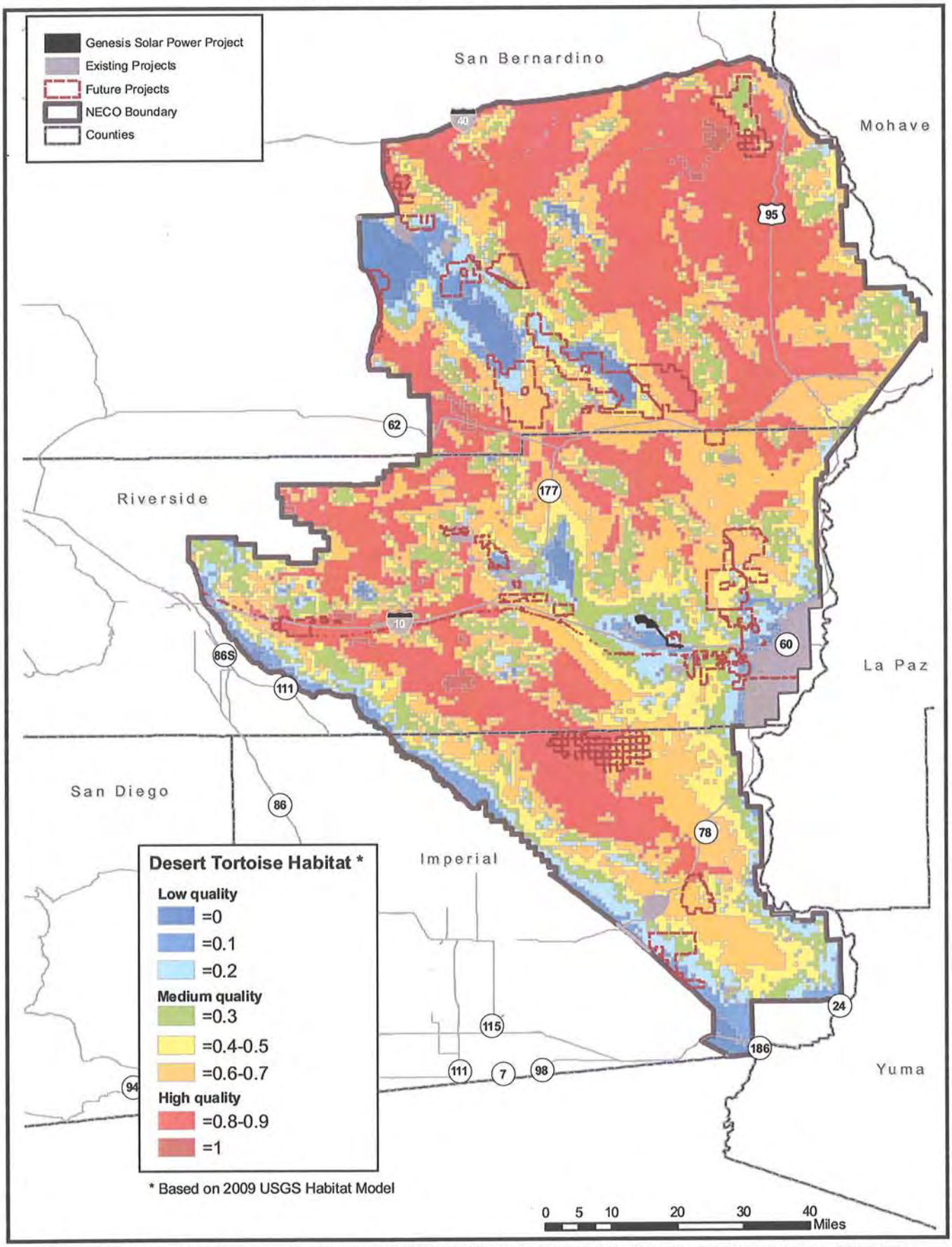


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 5

Genesis Solar Energy Project - Desert Tortoise Habitat

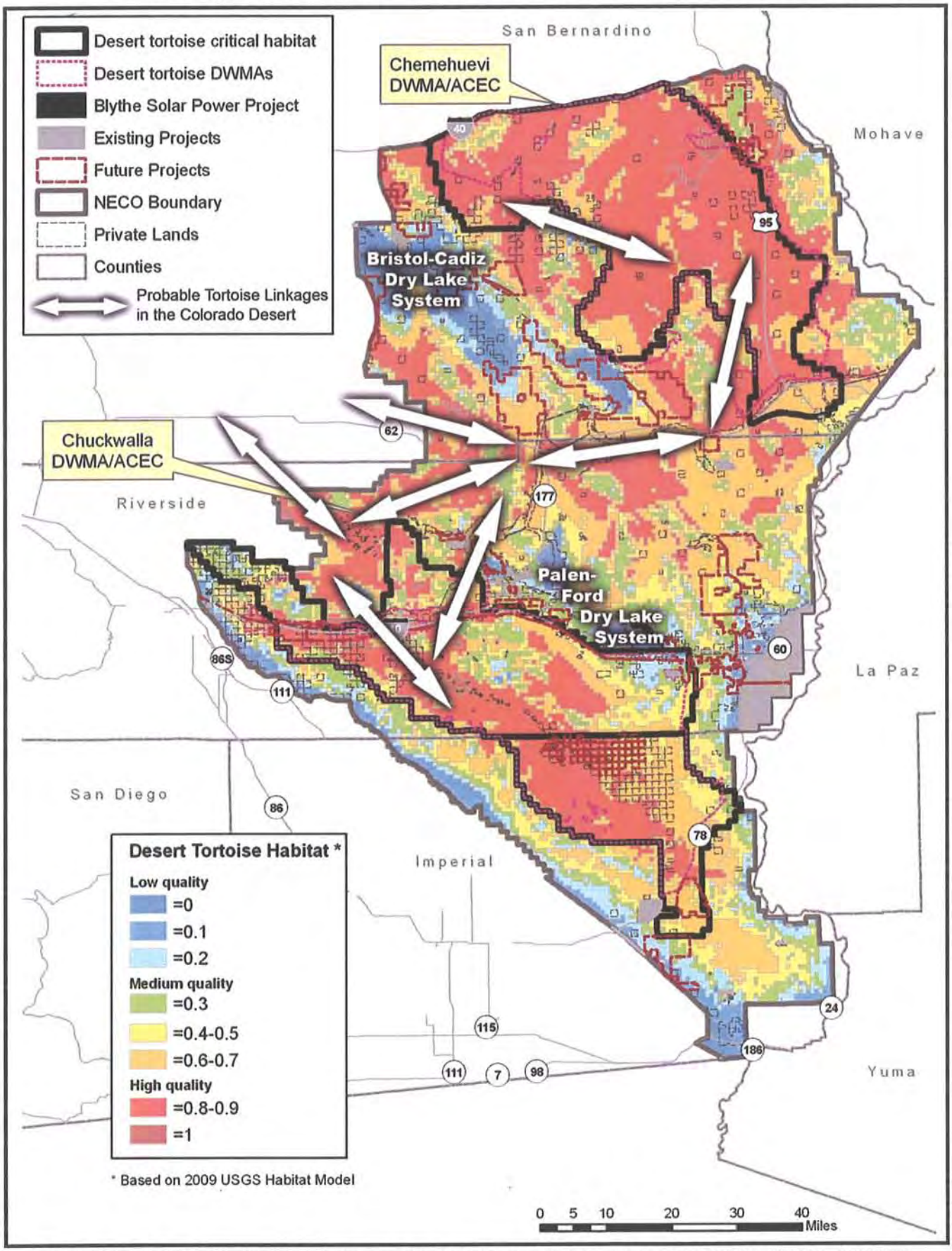


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 6

Genesis Solar Energy Project - Desert Tortoise - Chuckwalla to Chemehuevi DWMAs and Critical Habitat

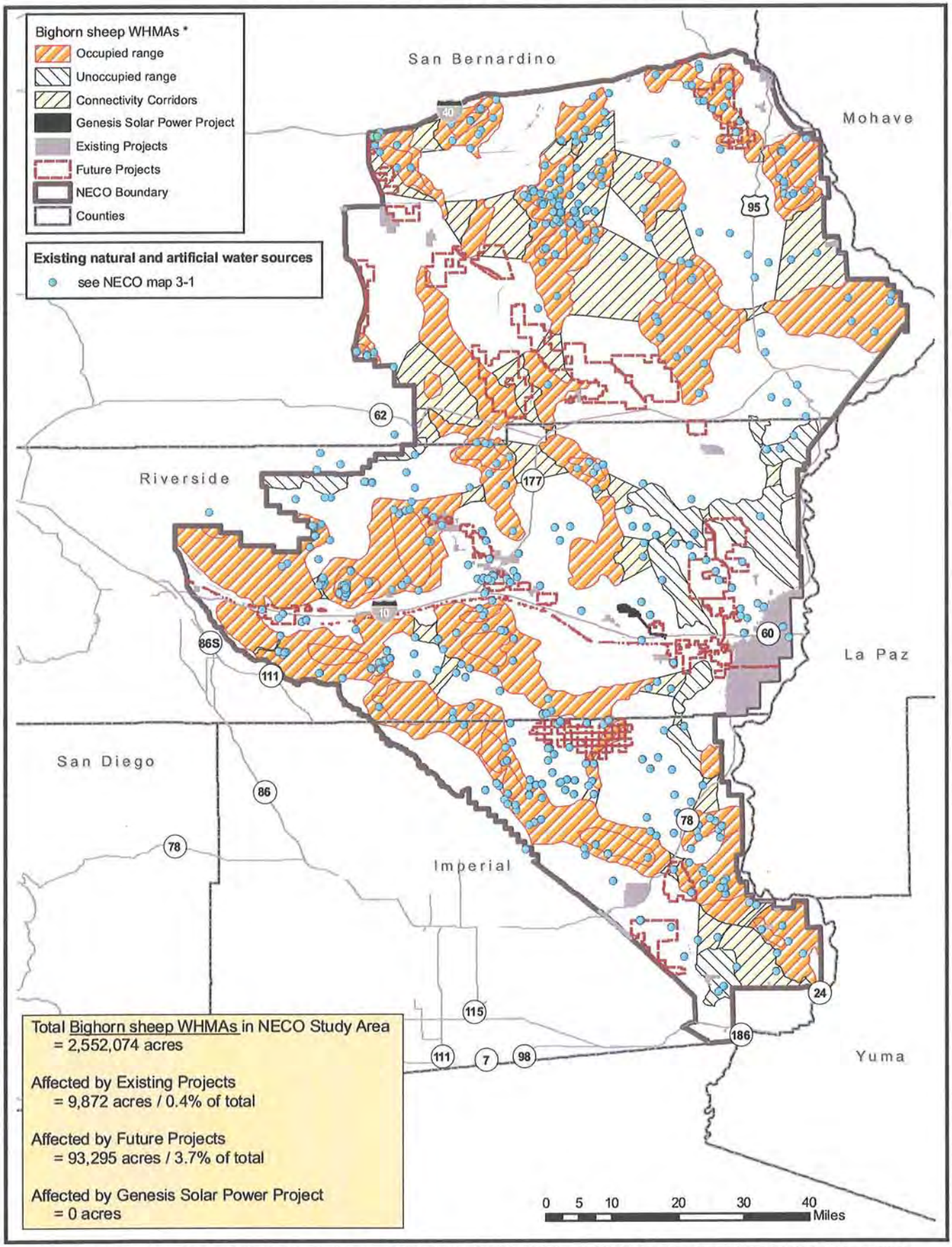


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 7A

Genesis Solar Energy Project - Bighorn Sheep WHMAs

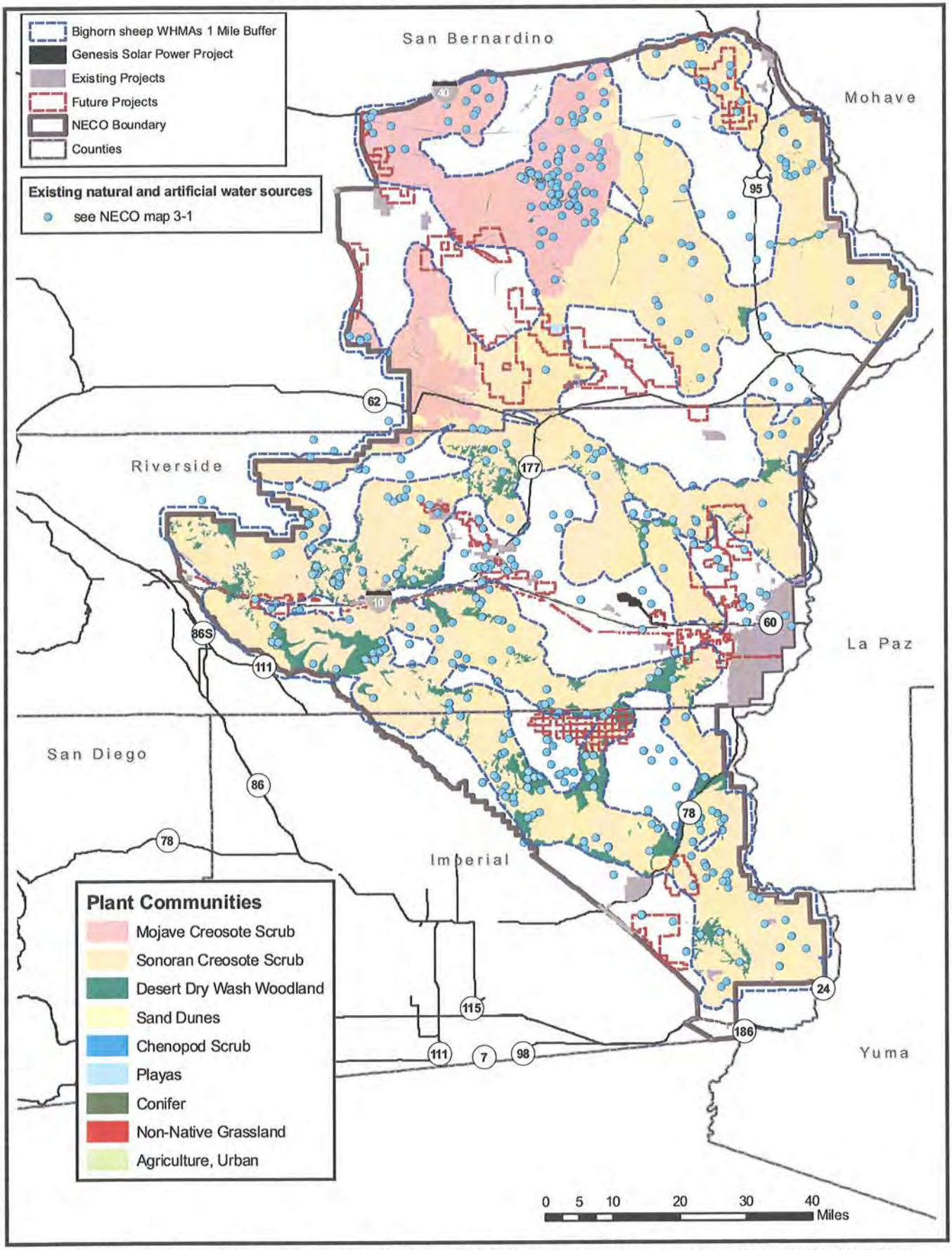


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 7B

Genesis Solar Energy Project - Bighorn Sheep - Spring Forage

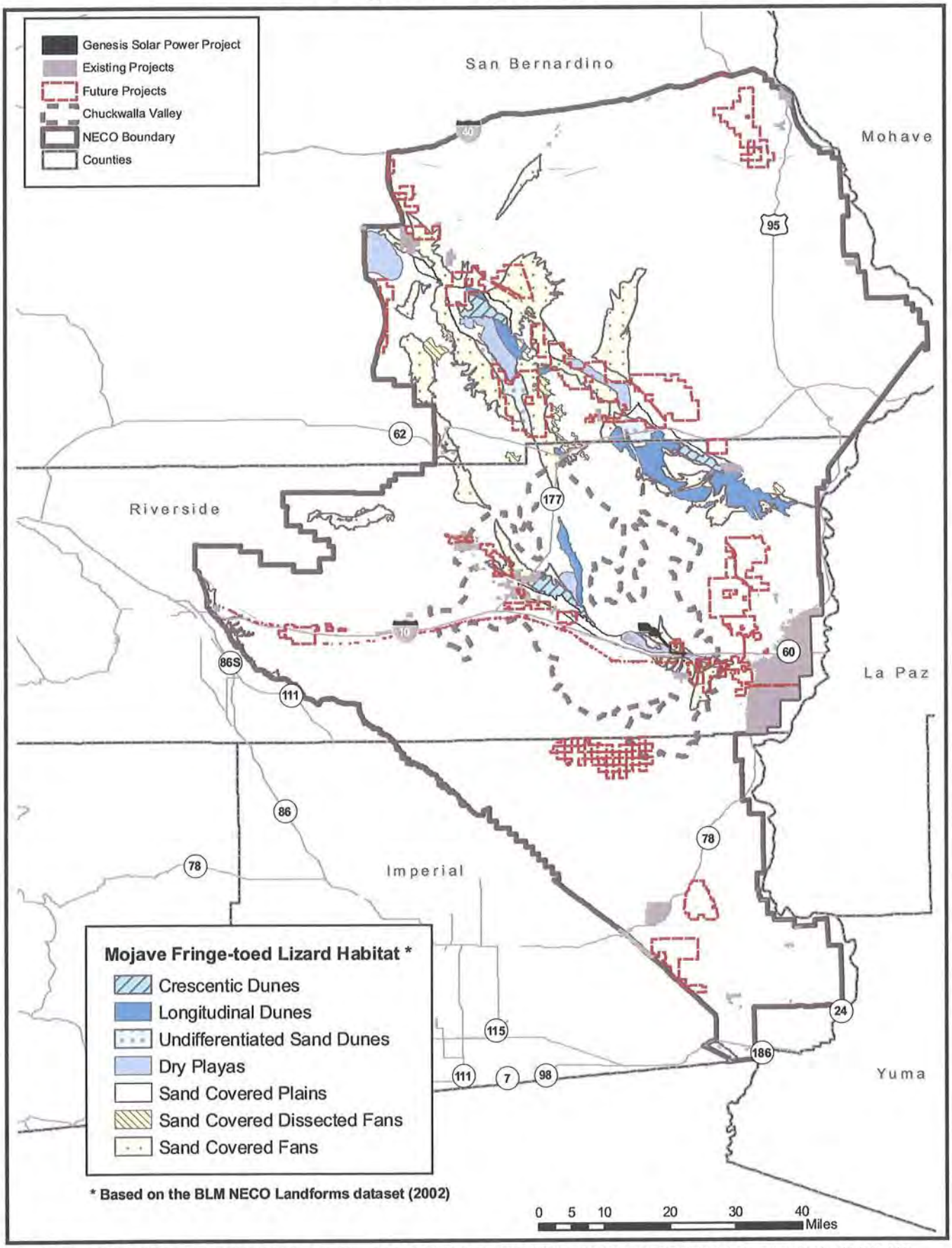


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 8

Genesis Solar Energy Project - Mojave Fringe-Toed Lizard Habitat

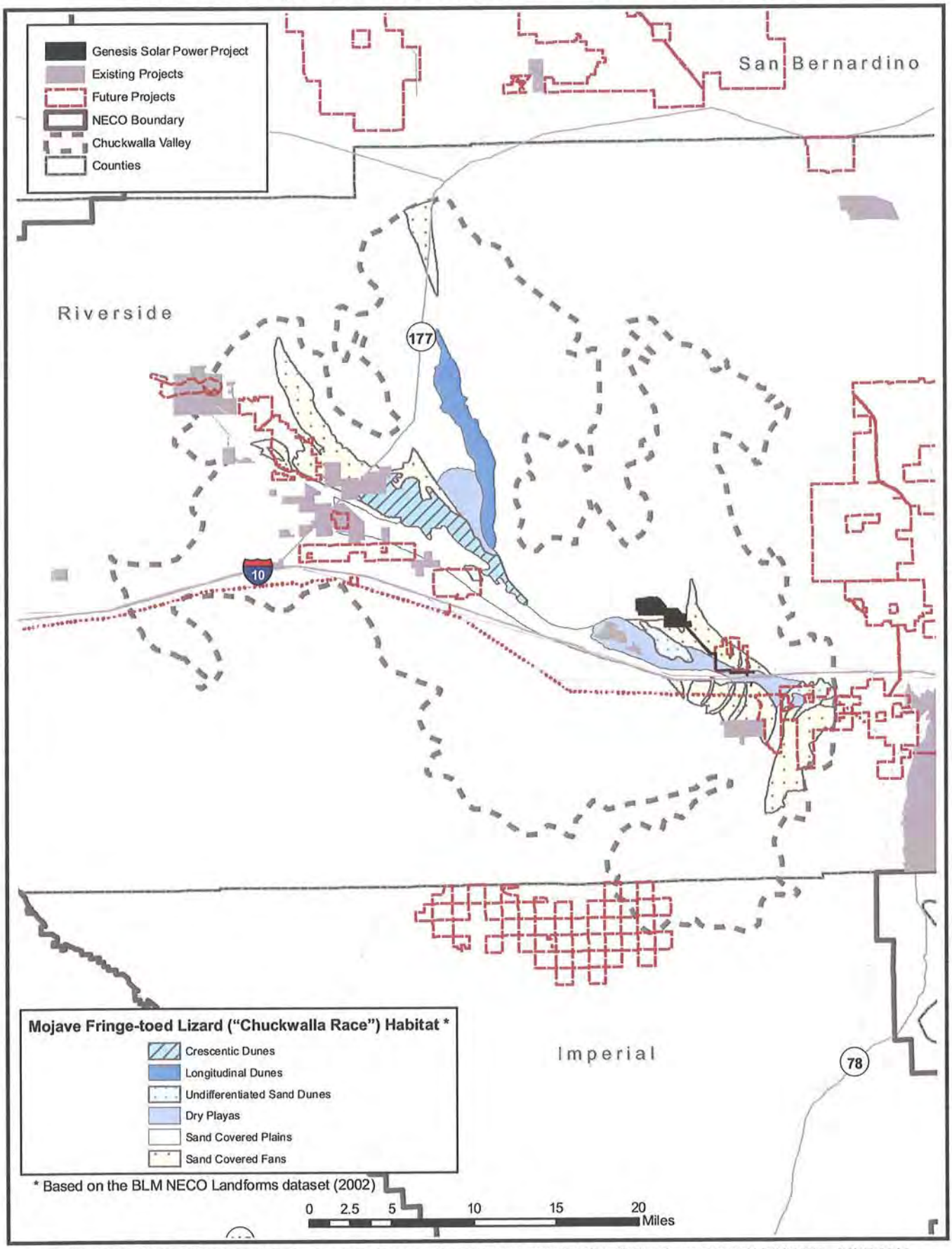


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 9

Genesis Solar Energy Project - Mojave Fringe-Toed Lizard ("Chuckwalla Race") Habitat

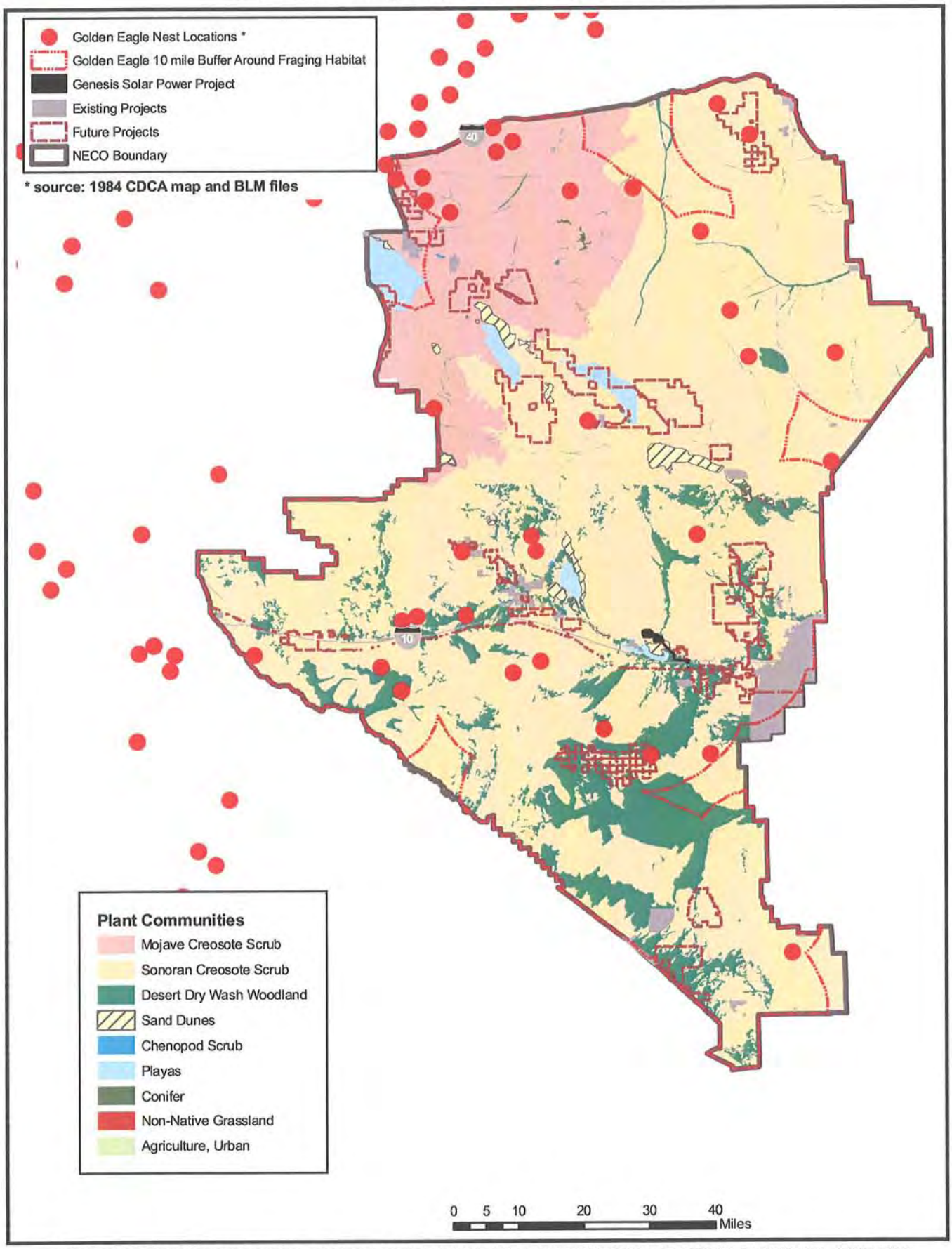


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 10

Genesis Solar Energy Project - Golden Eagle Nest Locations

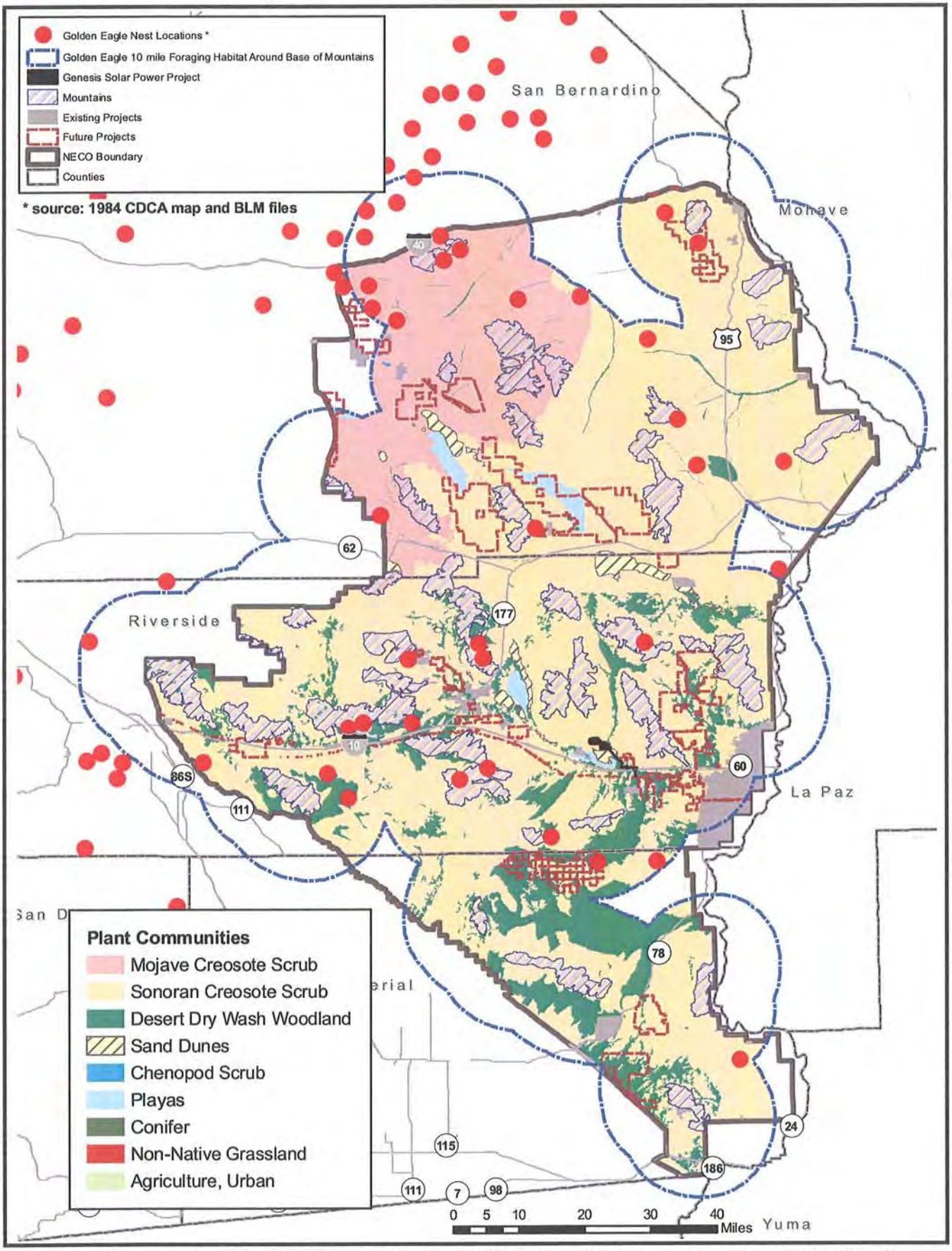


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 11A

Genesis Solar Energy Project - Golden Eagle Foraging Habitat Within 10 Miles Of Mountains

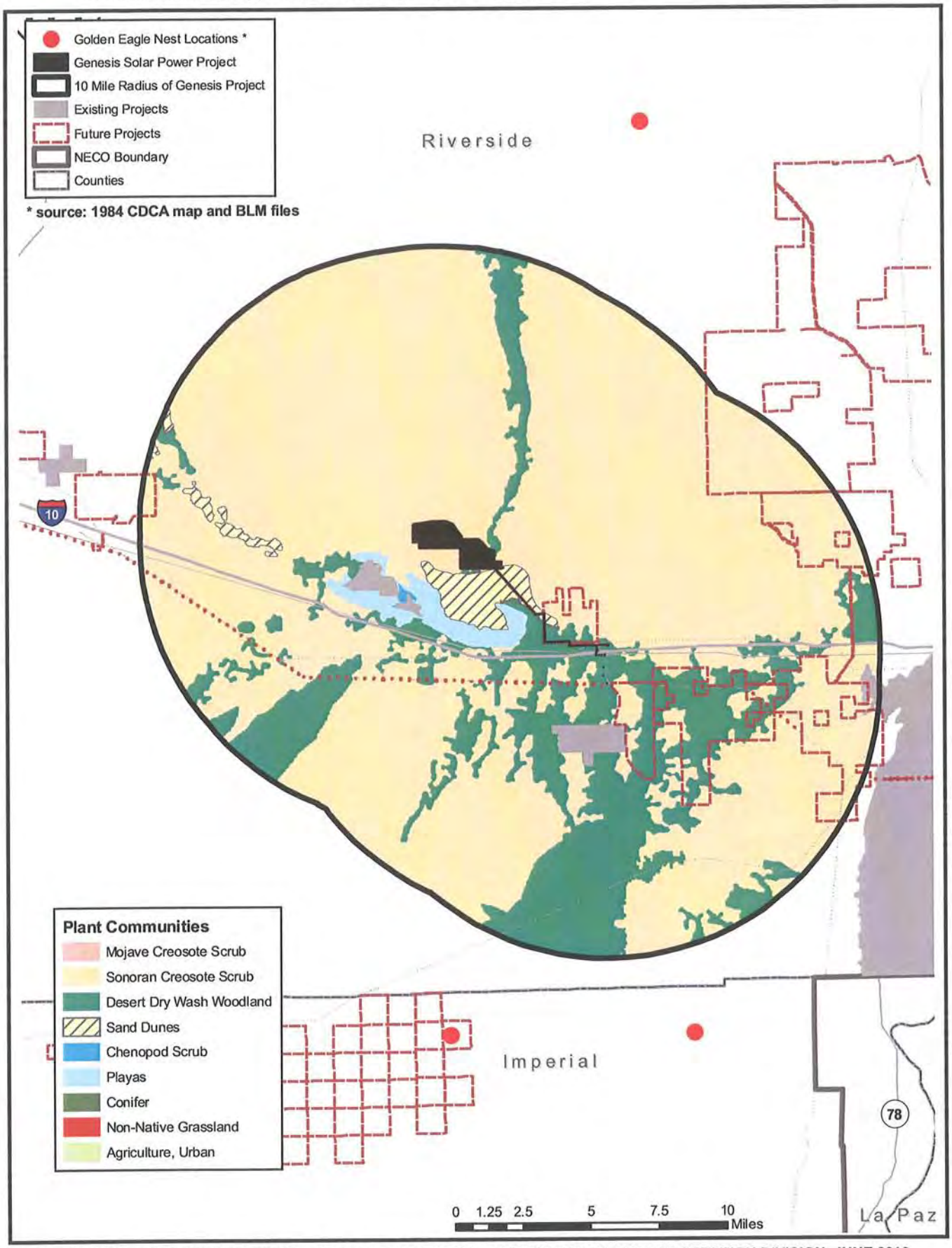


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 11B

Genesis Solar Energy Project - Golden Eagle Foraging Habitat Within 10 Mile Radius of Project

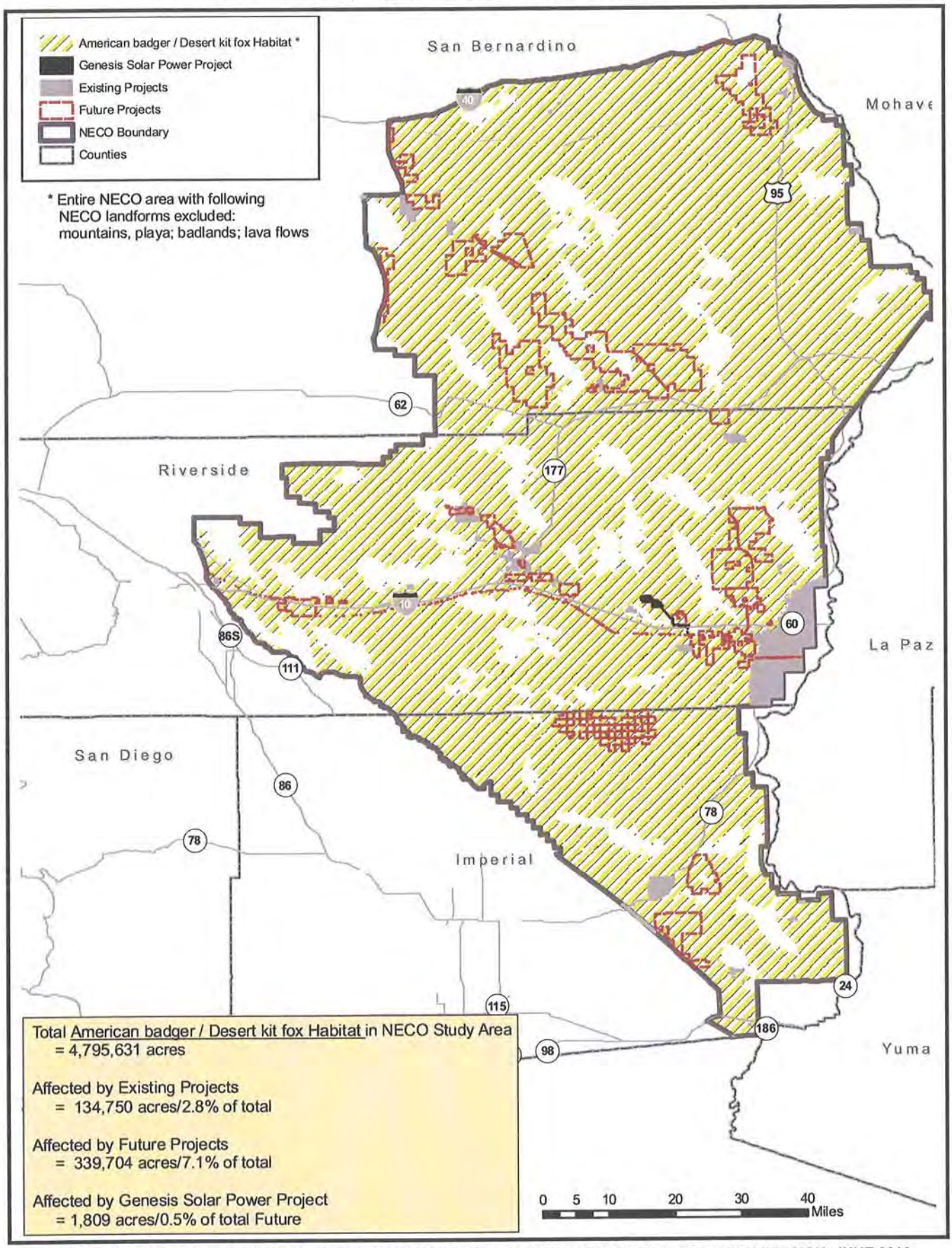


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 12

Genesis Solar Energy Project - American Badger / Desert Kit Fox Habitat

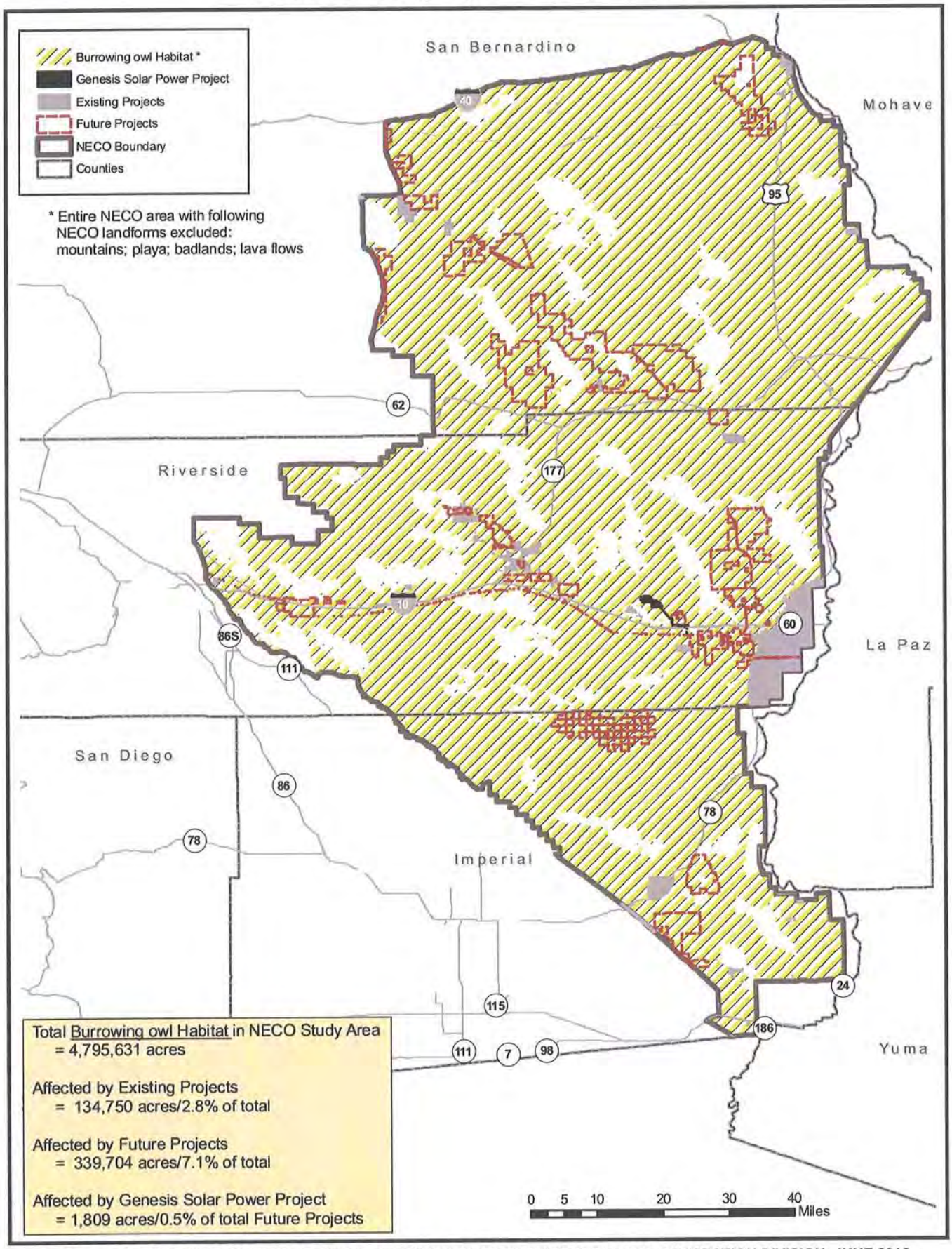


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 13

Genesis Solar Energy Project - Burrowing Owl Habitat

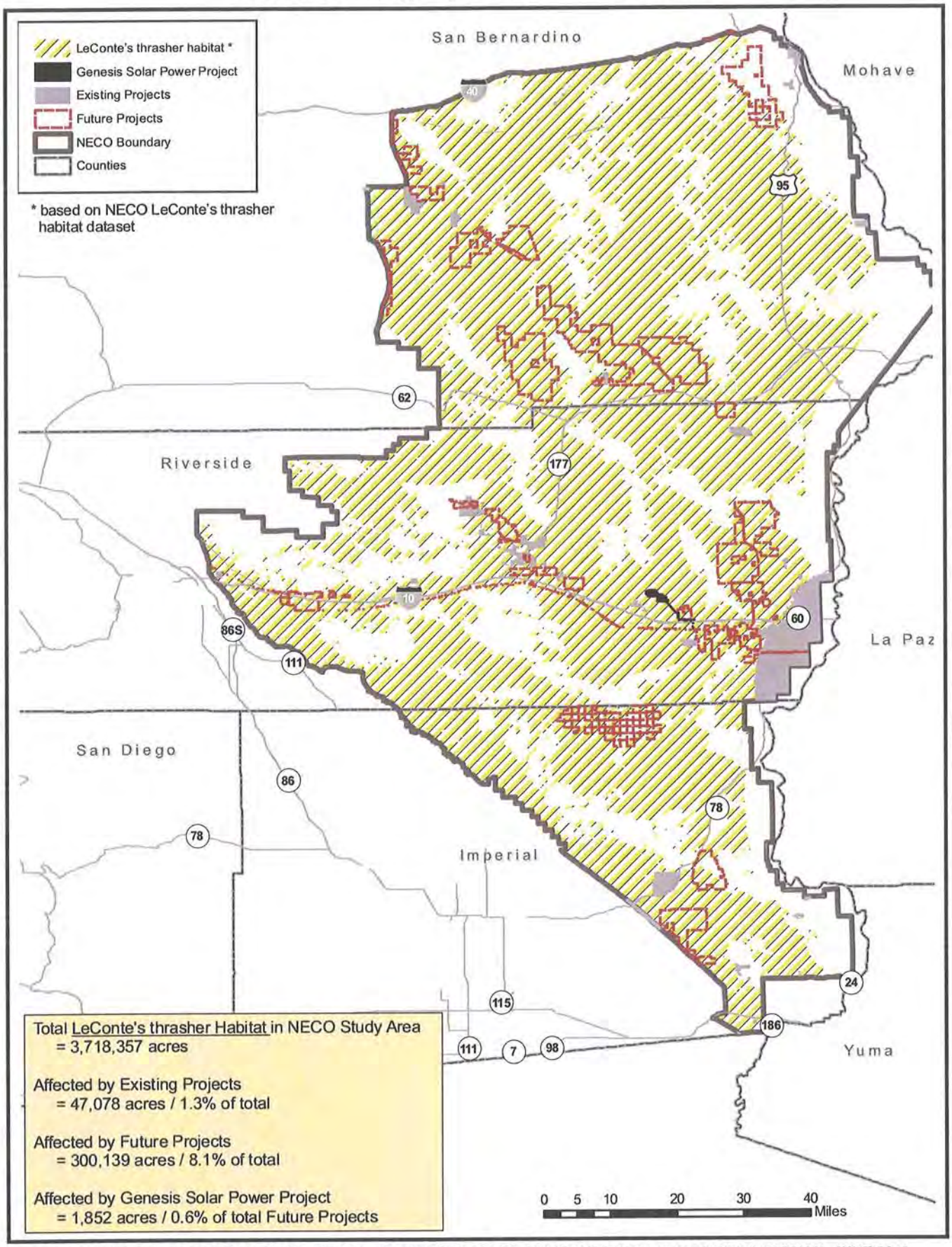


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 14

Genesis Solar Energy Project - Leconte's Thrasher Habitat

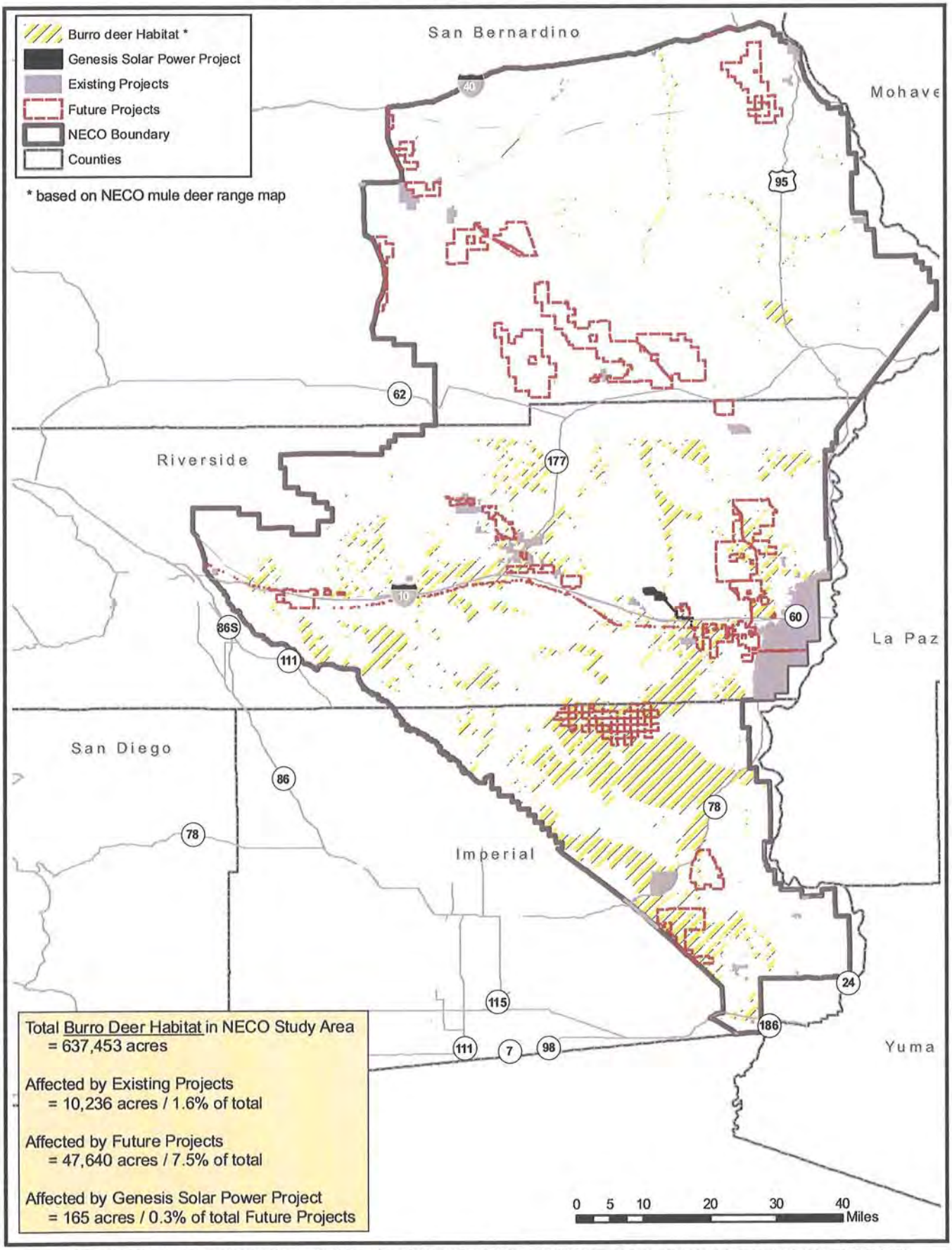


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 15

Genesis Solar Energy Project - Burro Deer Habitat

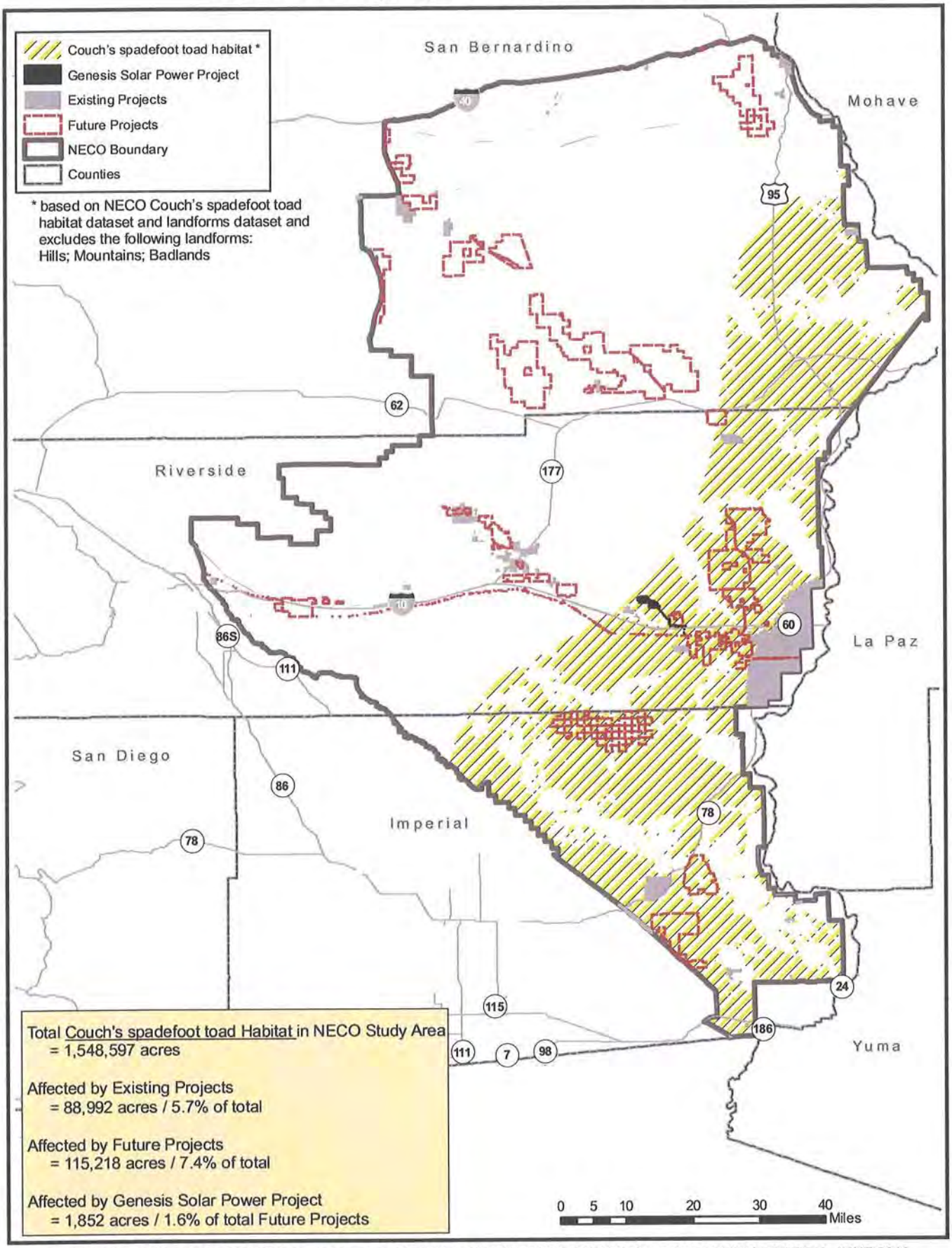


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 16

Genesis Solar Energy Project - Couch's Spadefoot Toad Habitat

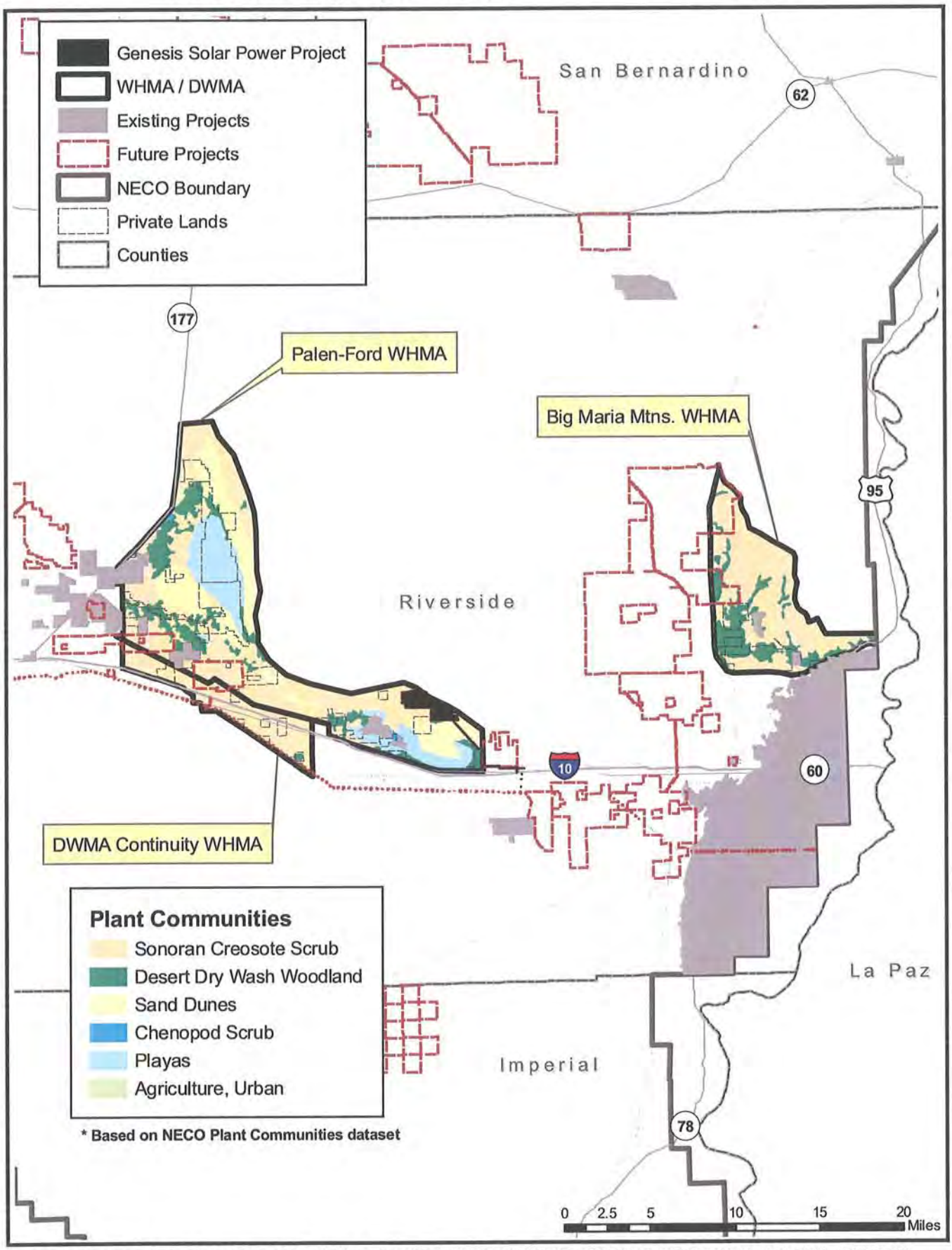


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 17

Genesis Solar Energy Project - Multi-Species WHMAs - Plant Communities

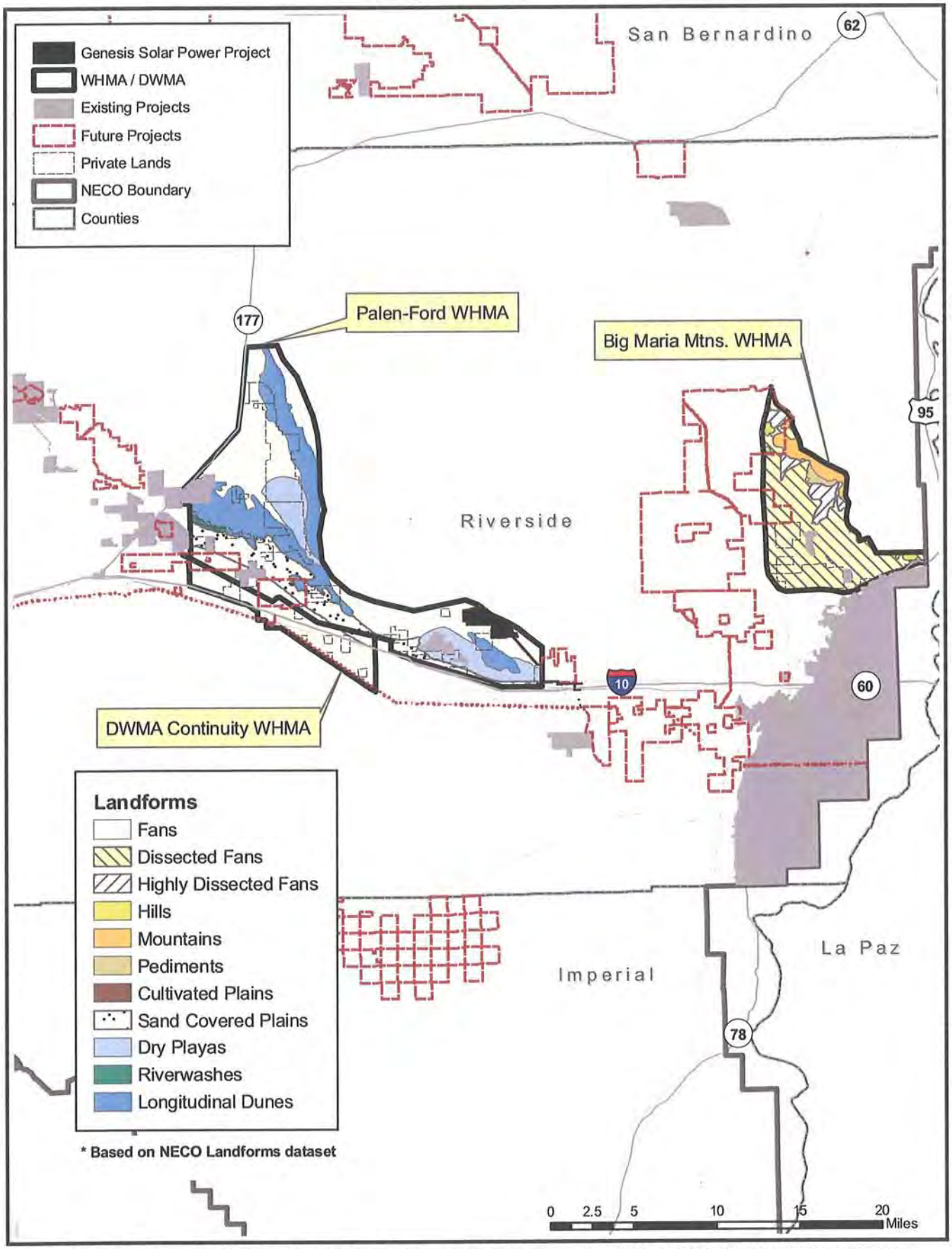


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 18

Genesis Solar Energy Project - Multi-Species WHMAs - Landforms

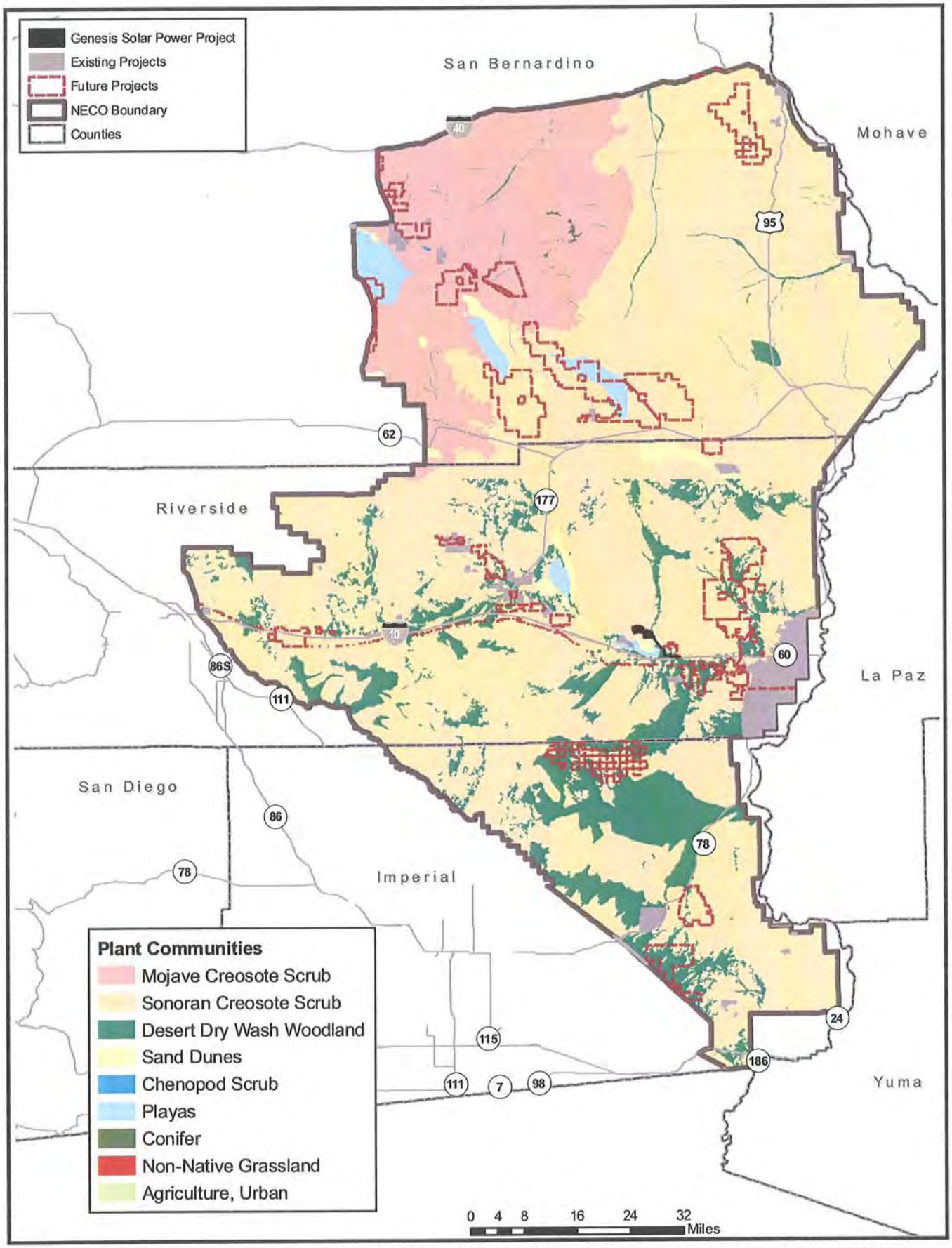


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 19A

Genesis Solar Energy Project - Plant Communities

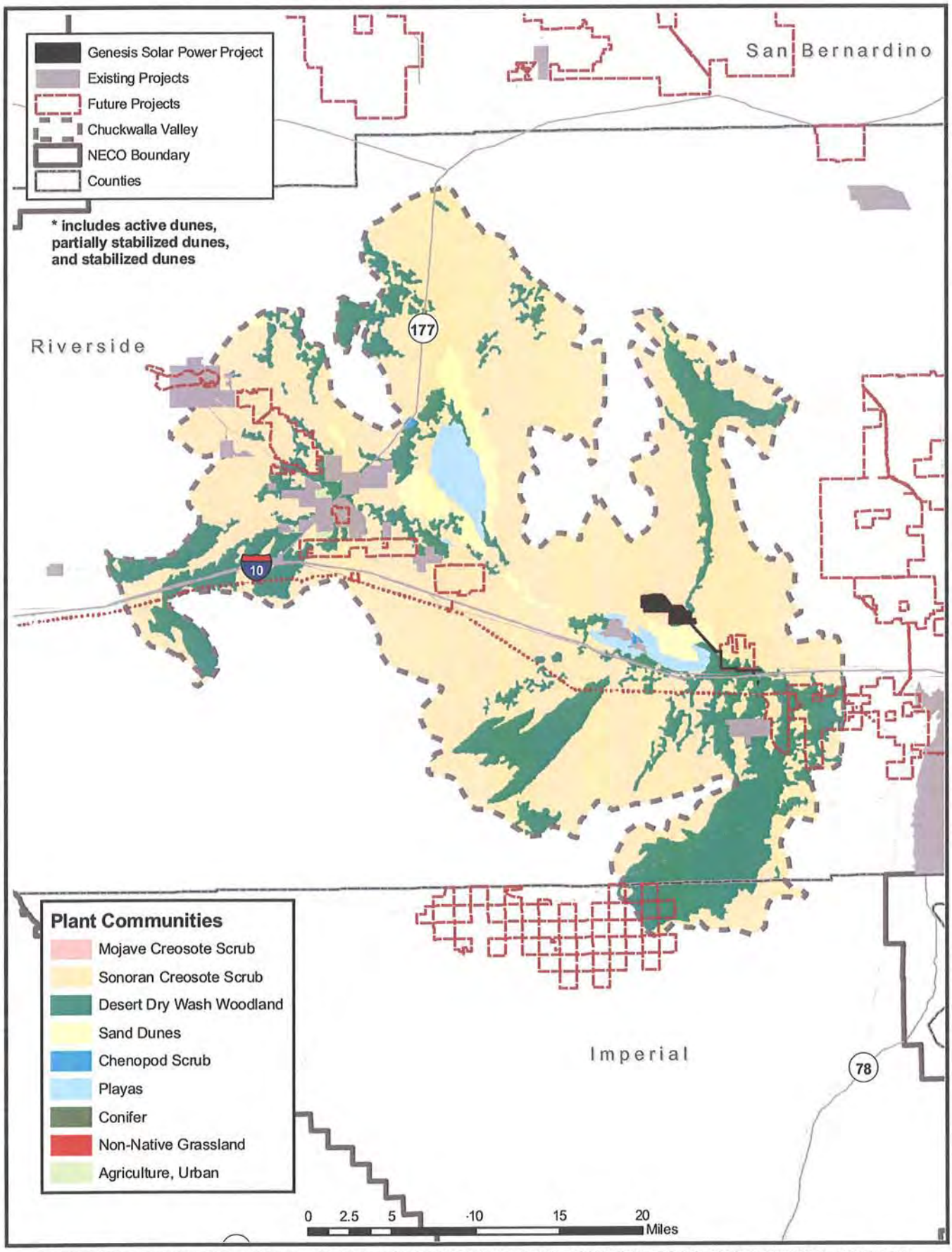


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 19B

Genesis Solar Energy Project - Plant Communities - Chuckwalla Valley

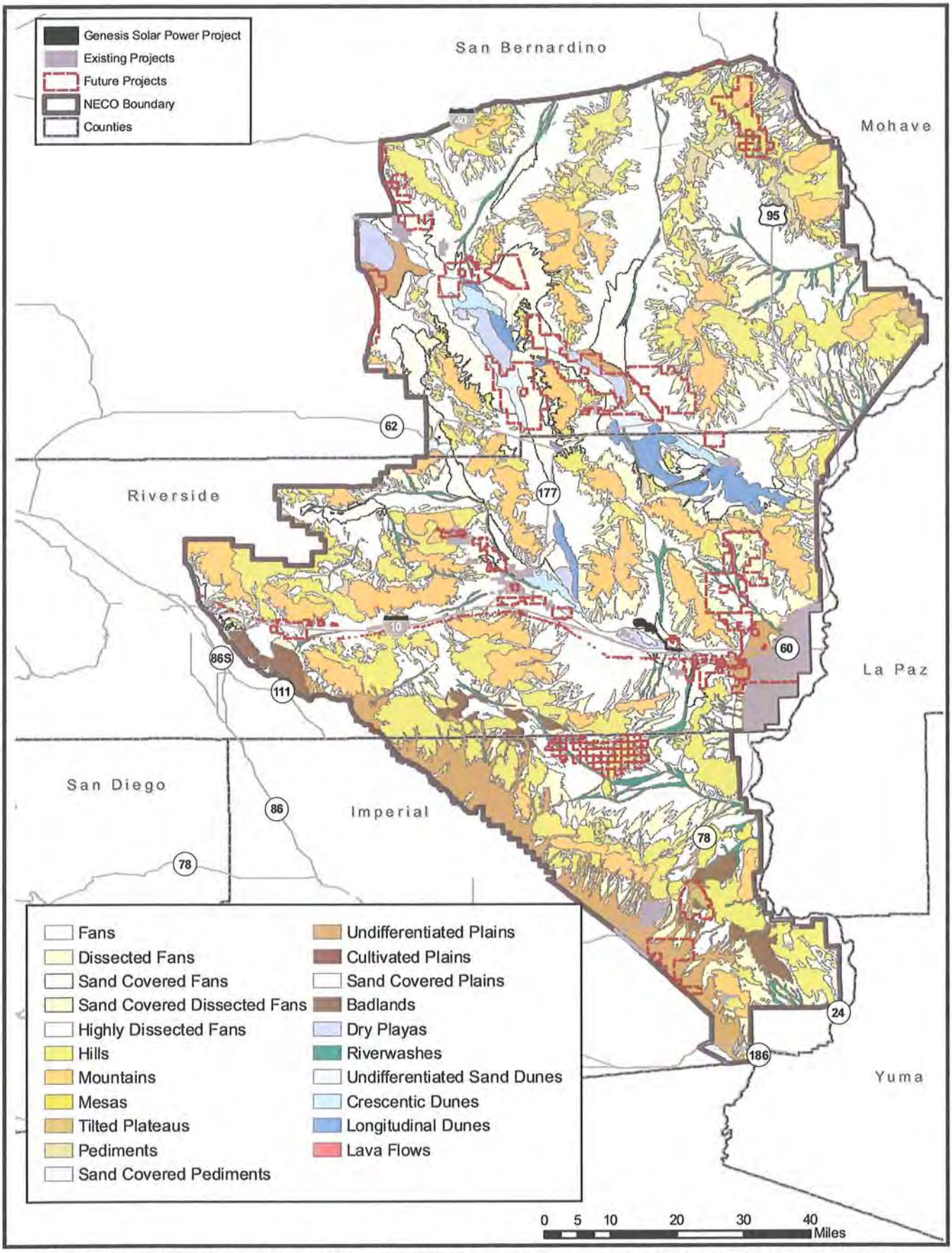


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 20

Genesis Solar Energy Project - Landforms

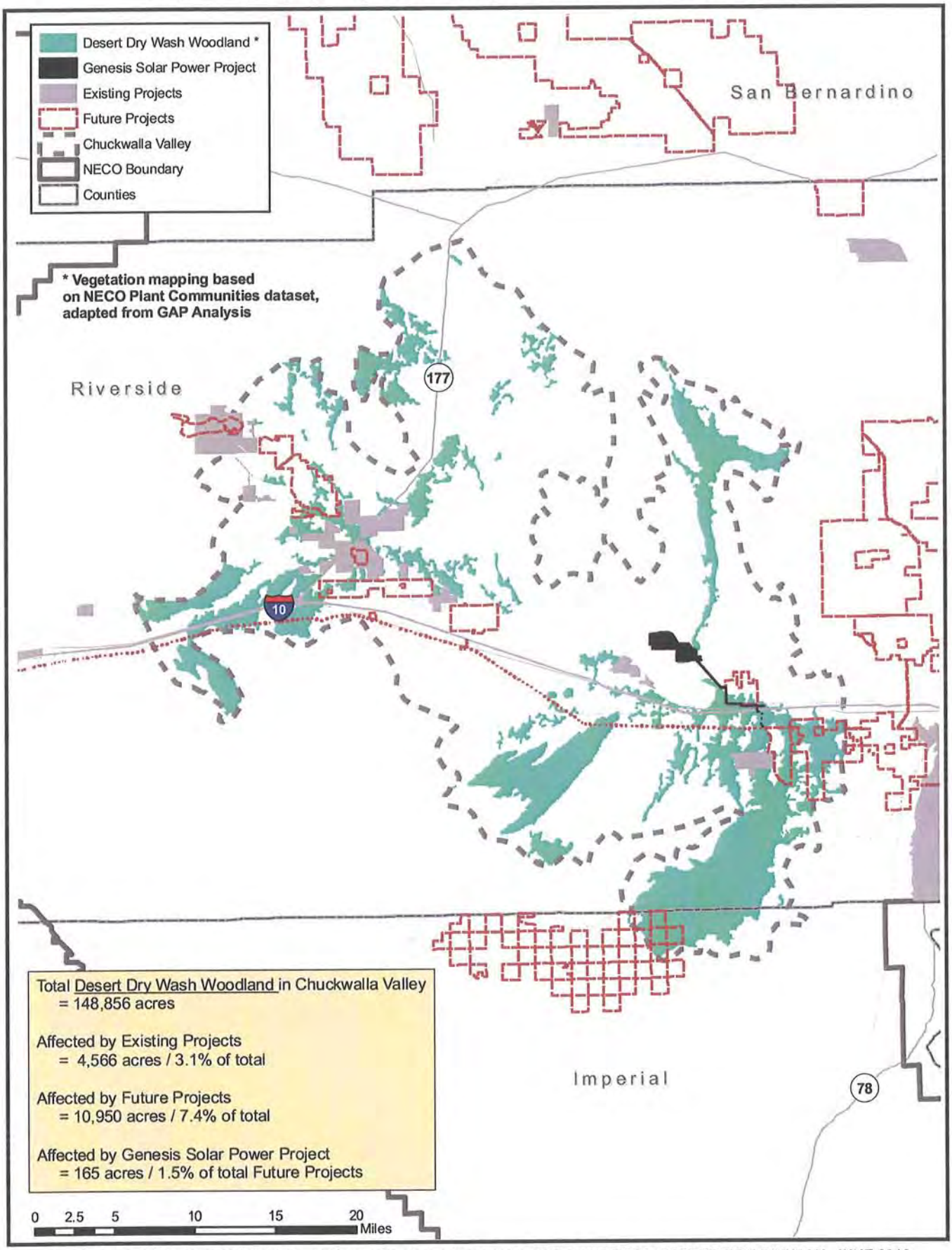


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 21

Genesis Solar Energy Project - Desert Dry Wash Woodland - Chuckwalla Valley

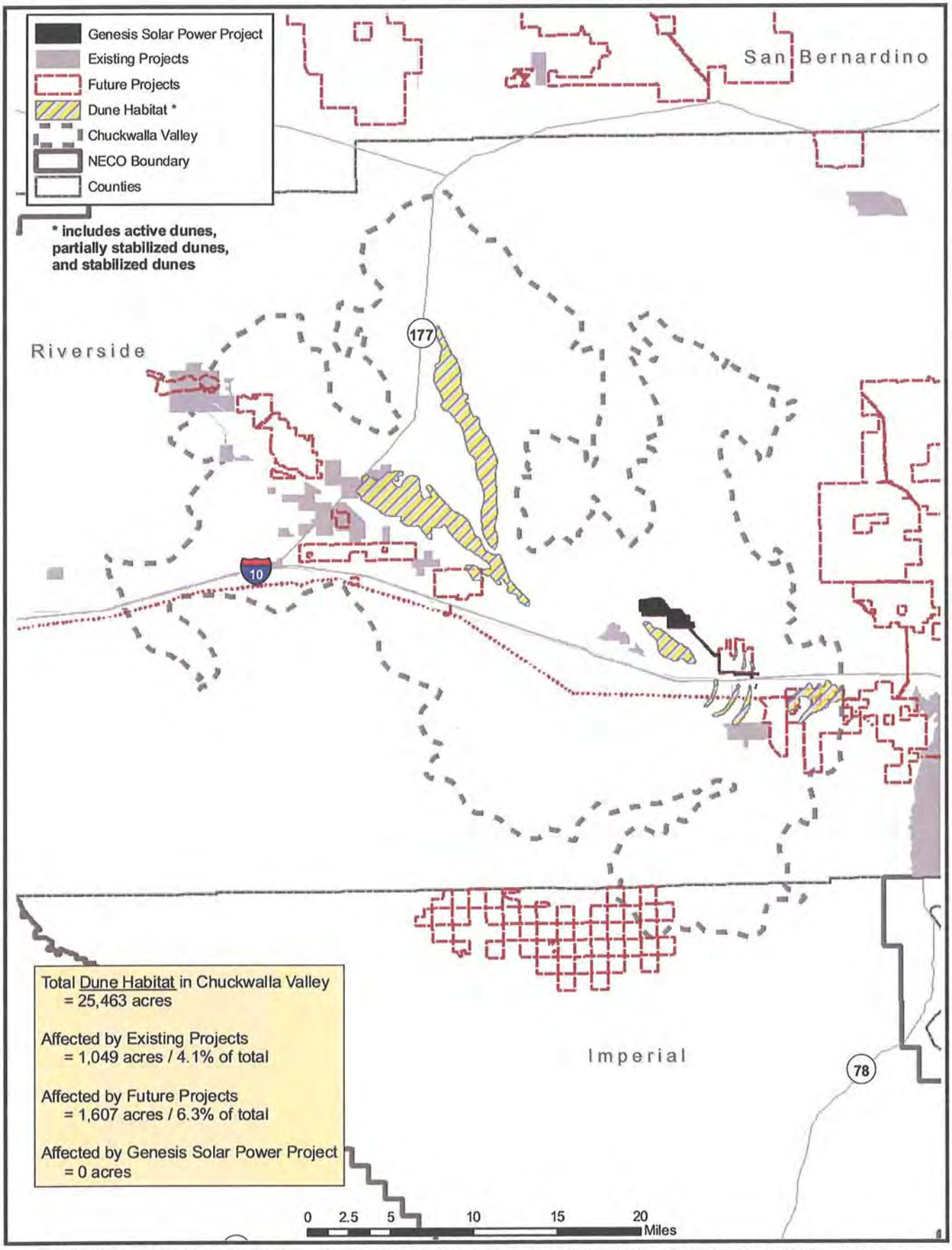


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 22

Genesis Solar Energy Project - Dune Habitat - Chuckwalla

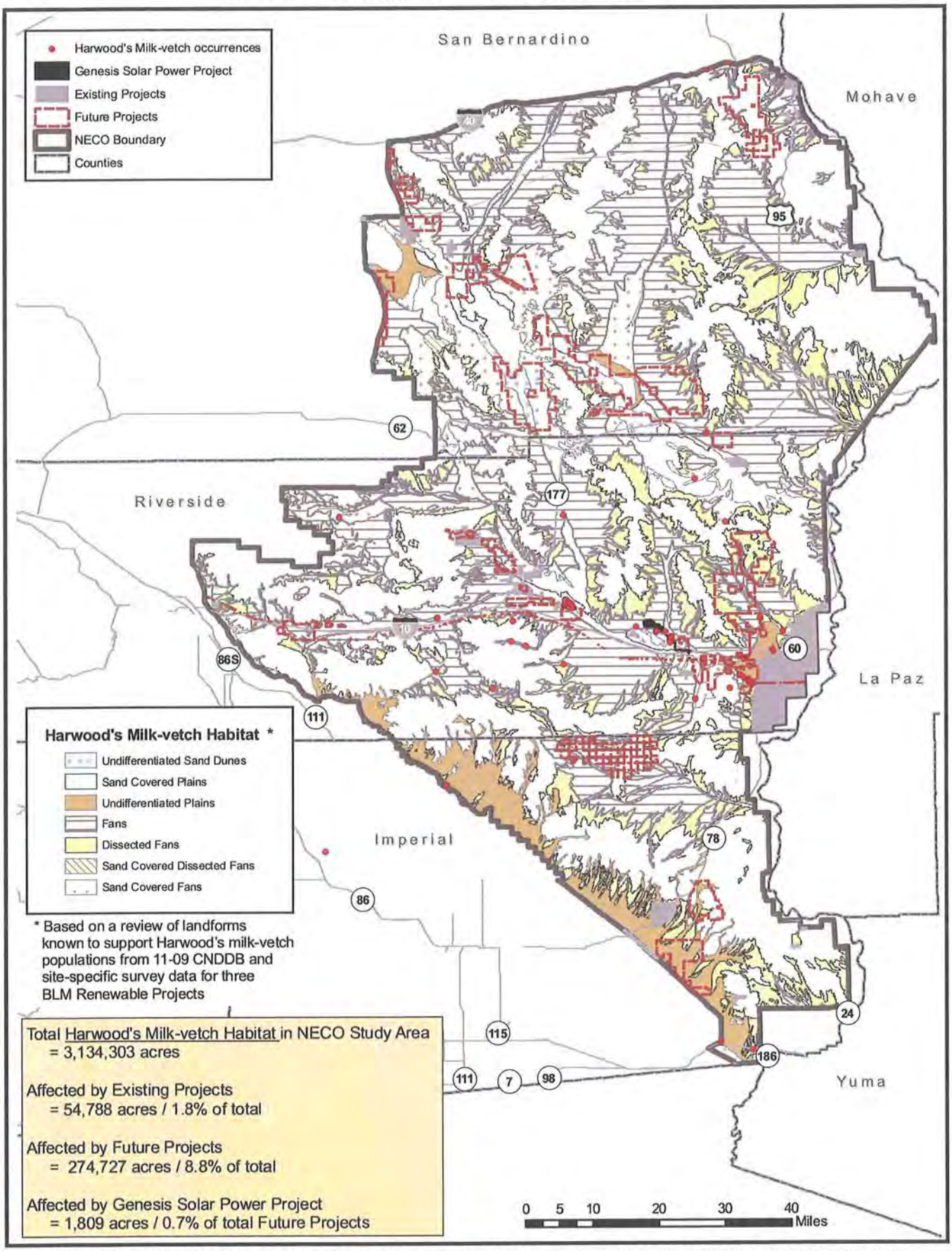


CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

BIOLOGICAL RESOURCES - FIGURE 23

Genesis Solar Energy Project - Harwood's Milk-Vetch Habitat



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION, JUNE 2010

SOURCE: CEC, BLM, Aspen Environmental

APPENDIX F
Visual Resources

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United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date 8/23/05 **District** California Desert **Field Office** Palm Springs **Scenic Quality Rating Unit** **12** **Viewpoint** **18 : Chuckwalla Valley Rd.** **Evaluator(s)** Michael Clayton		

LANDSCAPE CHARACTER

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Flat valley floor.	Irregular distribution of low growing grasses and shrubs. Coverage appearing more consistent at distance.	Linear and complex for transmission line towers and h-frame structures. Linear for I-10 (in distance).
Line	Horizontal for the valley floor.	Irregular for individual shrubs. Horizontal as defined by the valley floor. Diagonal as demarcated by access road.	Vertical, horizontal, and diagonal for lattice and h-frame structures, horizontal for I-10.
Color	Light-tan soils.	Tan to pale-yellow grasses with tanish-gray to green shrubs.	Gray to brown.
Texture	Soils in the immediate foreground appear granular.	Medium grain to matte.	Smooth

Narrative: SQRU 12 encompasses the central-eastern portion of Chuckwalla Valley in the vicinity of the exiting transmission lines on both the north and south side of I-10. The landform of the valley floor is flat and non-descript with grass and low-growing shrubs of subdued color. Though distant mountain ranges (McCoy Mountains to the north and Chuckwalla Mountains to the south) provide limited backdrops of visual interest (not part of this unit), SQRU 12 is primarily influenced by the dominant presence of existing utility infrastructure and Interstate 10.

Score

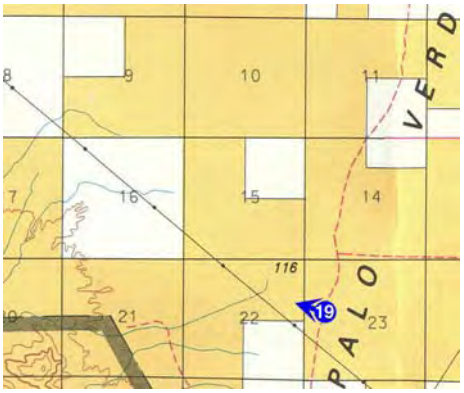
	High	Medium	Low	Explanation or Rationale
a. Landform			1	Chuckwalla Valley Floor
b. Vegetation			1	
c. Water			0	
d. Color		2		
e. Adjacent Scenery		2		Distant McCoy and Chuckwalla Mountains
f. Scarcity			1	
g. Cultural Modifications			-4	Transmission Lines and I-10
TOTALS	0	4	-1	**3**

SCENIC QUALITY CLASSIFICATION

- ☐ A 19 or more
- ☐ B 12 - 18
- ☒ C 11 or less

United States Department of the Interior Bureau of Land Management

Scenic Quality Field Inventory

Date 8/23/05 **District** California Desert **Field Office** Palm Springs **Scenic Quality Rating Unit** **12** **Viewpoint** **19 : Mule Mtns. Access Rd.** **Evaluator(s)** Michael Clayton		

LANDSCAPE CHARACTER

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Flat mesa and valley floor.	Irregular distribution of low growing grasses and shrubs. Coverage appearing more consistent at distance.	Linear and complex for transmission line towers.
Line	Horizontal for the mesa/valley floor.	Irregular for individual shrubs. Horizontal as defined by the mesa/valley floor.	Vertical, horizontal, and diagonal for lattice structures.
Color	Light-tan soils.	Tan to pale-yellow grasses with tanish-gray to green shrubs.	Gray.
Texture	Soils in the immediate foreground appear granular.	Medium grain to matte.	Smooth

Narrative: Viewpoint 19 is located on Palo Verde Mesa at the eastern end of SQRU 12. Viewing to the west toward Chuckwalla Valley, the landform is flat with relatively non-descript vegetation of subtle hues of yellow and green. Though distant mountain ranges (McCoy Mountains to the north, Chuckwalla Mountains to the southwest, Mule Mountains to the south) provide backdrops of visual interest (not part of this unit), SQRU 12 is primarily influenced by the dominant presence of existing utility infrastructure.

Score

	High	Medium	Low	Explanation or Rationale
a. Landform			1	Palo Verde Mesa / Chuckwalla Valley Floor
b. Vegetation			1	
c. Water			0	
d. Color		2		
e. Adjacent Scenery		3		McCoy, Chuckwalla, and Mule Mountains
f. Scarcity			1	
g. Cultural Modifications			-3	Transmission Line
TOTALS	0	5	0	**5**

SCENIC QUALITY CLASSIFICATION

- ☐ A 19 or more
- ☐ B 12 - 18
- ☒ C 11 or less

United States Department of the Interior Bureau of Land Management

Visual Resource Management (VRM) Classification

Date October 13, 2005			**Evaluator(s)** Michael Clayton
District California Desert			**Field Office** Palm Springs
Scenic Quality Rating Unit (SQRU) 12	**Viewpoint** 19 : Mule Mtns. Access Road		**VRM Class** **III**

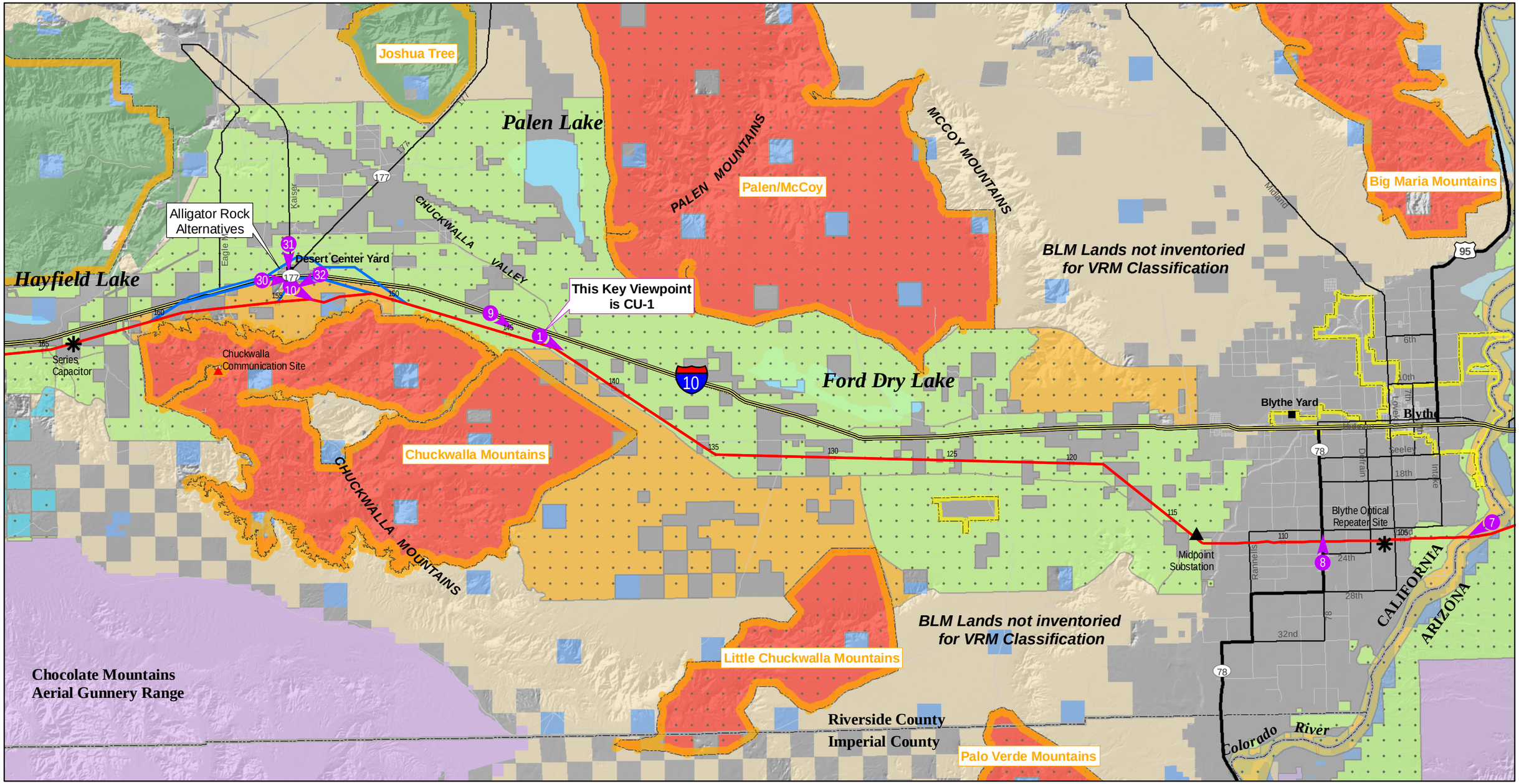
		Visual Sensitivity Levels						
		High			**Medium**			**Low**
Special Areas		I	I	I	I	I	I	I
Scenic Quality	A	II	II	II	II	II	II	II
	B	II	III* IV*	III	III	IV	IV	IV
	C	**III**	IV	IV	IV	IV	IV	IV
		f/m	**b**	**s/s**	**f/m**	**b**	**s/s**	**s/s**
		Distance Zones						

* Note: If adjacent area is Class III or lower, assign Class III, if higher assign Class IV

Basis for Determining Visual Resource Inventory Classes

Class I. Class I is assigned to all special areas where the current management situations require maintaining a natural environment essentially unaltered by man.

Classes II, III, and IV. These classes are assigned based on combinations of scenic quality, sensitivity levels, and distance zones as shown in the matrix above.



PREPARED BY Aspen Environmental Group

20 Proposed Project
Mileposts
Alternative Routes
0 10 Miles

OWNERSHIP/JURISDICTIONS (unincorporated areas)

- BLM
- Indian Lands
- Military
- National Park Service
- State
- Private
- Wilderness Areas
- Incorporated Areas

- Substations
- Series Capacitor
- Construction Yard
- Communications Site

VRM Classes

- Class I
- Class II
- Class III
- Class IV
- 5 Key Viewpoint Location and View Direction

Devers-Palo Verde No. 2 Transmission Line Project

Figure D.3-1C
Visual Resources
Colorado River to Desert Center

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

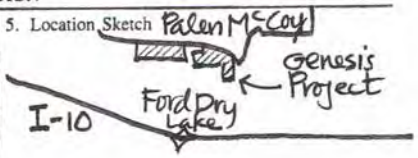
Date 8-6-09
District Palm Springs - South Coast
Resource Area Chuckwalla - Palen
Activity (program) Solar Energy

SECTION A. PROJECT INFORMATION

1. Project Name Genesis Solar Energy Project
2. Key Observation Point #1
Ford Dry Lake Bridge Over I-10
3. VRM Class III

4. Location
Township 6 South
Range 18E & 19E
Section(s) 4-11, 13-15
24, 1, 2, 3, 4

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat desert plain no water	Widely scattered individual creosote bush scrub	None
LINE	horizontal desert plain diagonal lines of mountains	rounded individual shrubs	None
COLOR	dark gray mountains light tan desert plain	olive green shrubs	None
TEXTURE	folded mountainous smooth desert plain	mottled	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat horizontal	no change as seen from KOP 1	horizontal solar troughs flat roofs
LINE	horizontal	no change as seen from KOP 1	horizontal
COLOR	no change as seen from KOP 1	no change as seen from KOP 1	light tan
TEXTURE	no change as seen from KOP 1	no change as seen from KOP 1	smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form				✓				✓			✓	
Line				✓				✓			✓	
Color					✓			✓			✓	
Texture					✓			✓			✓	

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names — Date
Lee Anderson 8-6-09

Figure 5.10-20. KOP-1 Contrast Rating Worksheet

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

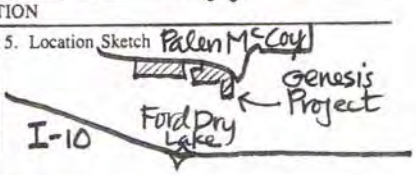
Date 8-6-09
District Palm Springs - South Coast
Resource Area Chuckwalla - Palen
Activity (program) Solar Energy

SECTION A. PROJECT INFORMATION

1. Project Name Genesis Solar Energy Project
2. Key Observation Point #2 Wiley's Well Bridge Over I-10
3. VRM Class III

4. Location
Township 6 South
Range 18E + 19E
Section(s) 4-11, 13-15
24, 1, 2, 3, 4

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat desert plain no water	Widely scattered individual creosote bush scrub	None
LINE	horizontal desert plain diagonal lines of mountains	rounded individual shrubs	None
COLOR	dark gray mountains light tan desert plain	olive green shrubs	None
TEXTURE	folded mountainous smooth desert plain	mottled	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat horizontal	no change as seen from KOP 2	horizontal solar troughs flat roofs
LINE	horizontal	no change as seen from KOP 2	horizontal
COLOR	no change as seen from KOP 2	no change as seen from KOP 2	light tan
TEXTURE	no change as seen from KOP 2	no change as seen from KOP 2	smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form				✓				✓			✓	
Line				✓				✓			✓	
Color				✓				✓			✓	
Texture				✓				✓				✓

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names — Date
Lee Anderson 8-6-09

Figure 5.10-21. KOP-2 Contrast Rating Worksheet

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

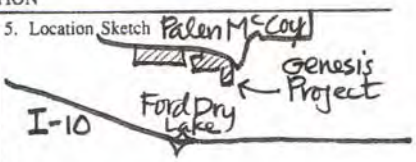
Date 8-6-09
District Palm Springs - South Coast
Resource Area Chuckwalla - Palen
Activity (program) Solar Energy

SECTION A. PROJECT INFORMATION

1. Project Name Genesis Solar Energy Project
2. Key Observation Point #3 Corn Springs BLM Road
3. VRM Class III

4. Location
Township 6 South
Range 18E + 19E
Section(s) 4-11, 13-15 24, 1, 2, 3, 4

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat desert plain no water	Widely scattered individual creosote bush scrub	None
LINE	horizontal desert plain diagonal lines of mountains	rounded individual shrubs	None
COLOR	dark gray mountains light tan desert plain	olive green shrubs	None
TEXTURE	folded mountainous smooth desert plain	mottled	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat horizontal	no change as seen from KOP 3	horizontal solar troughs flat roofs
LINE	horizontal	no change as seen from KOP 3	horizontal
COLOR	no change as seen from KOP 3	no change as seen from KOP 3	light tan
TEXTURE	no change as seen from KOP 3	no change as seen from KOP 3	smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form				✓				✓				✓
Line				✓				✓				✓
Color				✓				✓				✓
Texture				✓				✓				✓

2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☒ No (Explain on reverse side)

Evaluator's Names — Date
Lee Anderson 8-6-09

Figure 5.10-22. KOP-3 Contrast Rating Worksheet

APPENDIX G
Conditions of Certification

TABLE G-1
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY		
STAFF CONDITIONS OF CERTIFICATION		
AQ-SC1 Air Quality Construction Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with Conditions of Certification AQ-SC3, AQ-SC4 and AQ-SC5 for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM Delegates. The AQCMM and AQCMM Delegates shall have full access to all areas of construction on the project site and linear facilities, and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the Compliance Project Manager (CPM).	At least 30 days prior to the start of ground disturbance, the project owner shall submit to the CPM for approval, the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM Delegates.	CEC/BLM
AQ-SC2 Air Quality Construction Mitigation Plan (AQCMP): The project owner shall provide an AQCMP, for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with Conditions of Certification **AQ-SC3**, **AQ-SC4,** and **AQ-SC5**.	At least 30 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The AQCMP shall include effectiveness and environmental data for the proposed soil stabilizer. The CPM will notify the project owner of any necessary modifications to the plan within 15 days from the date of receipt.	CEC/BLM
AQ-SC3 Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report that demonstrates compliance with the Air Quality Construction Mitigation Plan (AQCMP) mitigation measures for the purposes of minimizing fugitive dust emission creation form construction activities and preventing all fugitive dust plumes that would not comply with the performance standards identified in **AQ-SC4** from leaving the project site. The following fugitive dust mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by AQ-SC2 and any deviation from the AQCMP mitigation measures shall require prior CPM notification and approval. a. The main access roads through the facility to the power block areas will be either paved or stabilized using soil binders, or equivalent methods, to provide a stabilized surface that is similar for the purposes of dust control to paving, that may or may not include a crushed rock (gravel or similar material with fines removed) top layer, prior to initiating construction in the main power block area, and delivery areas for operations materials (chemicals, replacement parts, etc.) will be paved or treated prior to taking initial deliveries. b. All unpaved construction roads and unpaved operation and maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent that can be determined to be as efficient as or more efficient for fugitive dust control than ARB approved soil stabilizers, and that shall not increase any other environmental impacts, including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control. All other disturbed areas in the project and linear construction sites shall be watered as frequently as necessary during grading (consistent with BIO-7); and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods, in order to comply with the dust mitigation objectives of Condition of Certification AQ-SC4. The frequency of watering can be reduced or eliminated during periods of precipitation.	The AQCMM shall provide the CPM a Monthly Compliance Report to include the following to demonstrate control of fugitive dust emissions: A. A summary of all actions taken to maintain compliance with this condition; B. Copies of any complaints filed with the District in relation to project construction; and C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
c. No vehicle shall exceed 10 miles per hour on unpaved areas within the construction site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. d. Visible speed limit signs shall be posted at the construction site entrances. e. All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways. f. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station. g. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways. h. All construction vehicles shall enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM. i. Construction areas adjacent to any paved roadway below the grade of the surrounding construction area or otherwise directly impacted by sediment from site drainage shall be provided with sandbags or other equivalently effective measures to prevent run-off to roadways, or other similar run-off control measures as specified in the Storm Water Pollution Prevention Plan (SWPPP), only when such SWPPP measures are necessary so that this condition does not conflict with the requirements of the SWPPP. j. All paved roads within the construction site shall be swept daily or as needed (less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris. k. At least the first 500 feet of any paved public roadway exiting the construction site or exiting other unpaved roads en route from the construction site or construction staging areas shall be swept as needed (less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or runoff resulting from the construction site activities is visible on the public paved roadways. l. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds. m. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard. n. Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.		
AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (A) off the project site and within 400 feet upwind of any regularly occupied structures not owned by the project owner or (B) 200 feet beyond the centerline of the construction of linear facilities indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within	The AQCMM shall provide the CPM a Monthly Compliance Report to include: A. A summary of all actions taken to maintain compliance with this condition;	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
the time limits specified. The AQCMM or Delegate shall implement the following procedures for additional mitigation measure in the event that such visible dust plumes are observed: Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination. Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1, specified above, fails to result in adequate mitigation within 30 minutes of the original determination. Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2, specified above, fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The owner/operator may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, if the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.	B. Copies of any complaints filed with the District in relation to project construction; and C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion	
AQ-SC5 Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the Monthly Compliance Report, a construction mitigation report that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction-related emissions. The following off-road diesel construction equipment mitigation measures shall be included in the Air Quality Mitigation Plan (AQCMP) required by AQ-SC2, and any deviation from the AQCMP mitigation measures shall require prior and CPM notification and approval. a. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein. b. All construction diesel engines with a rating of 50 hp or higher and lower than 750 hp shall meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b)(1), unless a good faith effort to the satisfaction of the CPM that is certified by the on-site AQCMM demonstrates that such engine is not available for a particular item of equipment. Engines larger than 750 hp shall meet Tier 2 engine standards. In the event that a Tier 3 engine is not available for any off-road equipment larger than 50 hp and smaller than 750 hp, that equipment shall be equipped with a Tier 2 engine, or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 2 levels unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" for the following, as well as other, reasons. 1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 2 equivalent emission levels and the highest level of available control using retrofit or Tier 1 engines is being used for the engine in question; or 2. The construction equipment is intended to be on site for 10 days or less. 3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not practical.	The AQCMM shall include in the Monthly Compliance Report the following to demonstrate control of diesel construction-related emissions: A. A summary of all actions taken to maintain compliance with this condition B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition, including any District permits necessary for temporary stationary diesel engines, or ARB certification for state registered portable equipment. Such information may be provided via electronic format or disk at the project owner's discretion.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
c. The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within 10 working days of the termination and that a replacement for the equipment item in question meeting the controls required in item "b" occurs within 10 days of termination of the use, if the equipment would be needed to continue working at this site for more than 15 days after the use of the retrofit control device is terminated, if one of the following conditions exists : 1. The use of the retrofit control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure. 2. The retrofit control device is causing or is reasonably expected to cause engine damage. 3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public. 4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination. d. All heavy earth-moving equipment and heavy duty construction-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications. e. All diesel heavy construction equipment shall not idle for more than five minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement. f. Construction equipment will employ electric motors when feasible.		
AQ-SC6 The project owner, when obtaining dedicated on-road or off-road vehicles for mirror washing activities and other facility maintenance activities, shall only obtain vehicles that meet California on-road vehicle emission standards or appropriate U.S.EPA/California off-road engine emission standards for the latest model year available when obtained.	At least 30 days prior to the start commercial operation, the project owner shall submit to the CPM a copy of the plan that identifies the size and type of the on-site vehicle and equipment fleet and the vehicle and equipment purchase orders and contracts and/or purchase schedule. The plan shall be updated every other year and submitted in the Annual Compliance Report.	CEC/BLM
AQ-SC7 The project owner shall provide a site Operations Dust Control Plan, including all applicable fugitive dust control measures identified in the verification of **AQ-SC3** that would be applicable to minimizing fugitive dust emission creation from operation and maintenance activities and preventing all fugitive dust plumes that would not comply with the performance standards identified in **AQ-SC4** from leaving the project site that: a. describes the active operations and wind erosion control techniques such as windbreaks and chemical dust suppressants, including their ongoing maintenance procedures, that shall be used on areas that could be disturbed by vehicles or wind anywhere within the project boundaries; and b. identifies the location of signs throughout the facility that will limit traveling on unpaved portion of roadways to solar equipment maintenance vehicles only. In addition, vehicle speed shall be limited to no more than 10 miles per hour on these unpaved roadways, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.	At least 30 days prior to start of commercial operation, the project owner shall submit to the CPM for review and approval a copy of the site Operations Dust Control Plan that identifies the dust and erosion control procedures, including effectiveness and environmental data for the proposed soil stabilizer, that will be used during operation of the project and that identifies all locations of the speed limit signs. Within 60 days after commercial operation, the project owner shall provide to the CPM a report identifying the locations of all speed limit signs, and a copy of the project employee and contractor training manual that clearly identifies	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
The site operations fugitive dust control plan shall include the use of durable non-toxic soil stabilizers on all regularly used unpaved roads and disturbed off-road areas, or alternative methods for stabilizing disturbed off-road areas, within the project boundaries, and shall include the inspection and maintenance procedures that will be undertaken to ensure that the unpaved roads remain stabilized. The soil stabilizer used shall be a non-toxic soil stabilizer or soil weighting agent that can be determined to be as efficient as or more efficient for fugitive dust control than ARB approved soil stabilizers, and that shall not increase any other environmental impacts, including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control. The performance and application of the fugitive dust controls shall also be measured against and meet the performance requirements of condition **AQ-SC4**. The measures and performance requirements of **AQ-SC4** shall also be included in the operations dust control plan.	that project employees and contractors are required to comply with the dust and erosion control procedures and on-site speed limits.	
AQ-SC8 The project owner shall provide the CPM copies of all District issued Authority-to-Construct (ATC) and Permit-to-Operate (PTO) documents for the facility. The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project federal air permit. The project owner shall submit to the CPM any modification to any federal air permit proposed by the District or U.S. Environmental Protection Agency (U.S. EPA), and any revised federal air permit issued by the District or U.S. EPA, for the project.	The project owner shall submit any ATC, PTO, and proposed federal air permit modifications to the CPM within 5 working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified ATC/PTO documents and all federal air permits to the CPM within 15 days of receipt.	CEC/BLM
DISTRICT CONDITIONS		
DISTRICT FINAL DETERMINATION OF COMPLIANCE CONDITIONS (MDAQMD 2010b) **Application No. 00010788 and 00010789 (Two - 30 MMBtu/hr Natural Gas Fired Auxiliary Boiler)** **EQUIPMENT DESCRIPTION:** Two, 30 MMBtu/hr natural gas boilers with low-NOx burner systems.		
AQ-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-2 This equipment shall be exclusively fueled with natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-3 Emissions from this equipment shall not exceed the following hourly emission limits at any firing rate, verified by fuel use and annual compliance tests: a. NOx as NO_2: 1. 0.330 lb/hr operating at 100% load (based on 9.0 ppmvd corrected to 3% O_2 and averaged over one hour) b. CO: 1. 0.563 lb/hr operating at 100% load (based on 50 ppmvd corrected to 3% O_2 and averaged over one hour) c. VOC as CH_4: 1. 0.088 lb/hr operating at 100% load d. SOx as SO_2: 1. 0.008 lb/hr operating at 100% load e. PM10: 1. 0.150 lb/hr operating at 100% load	As part of the Annual Compliance Report, the project owner shall include information demonstrating compliance with boiler operating emission rates.	CEC/BLM
AQ-4 The project owner shall maintain an operations log for this equipment on-site and current for a minimum of five (5) years, and said log shall be provided to District personnel on request. The operations log shall include the following information at a minimum: a. Total operation time (hour/day, hours/month and cumulative hours-/rolling twelve months); b. Fuel use (daily, monthly and cumulative hours/rolling twelve months); c. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol); and, d. Any permanent changes made to the equipment that would affect air pollutant emissions, and indicate when changes were made.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-5 This equipment shall not be operated for more than 1,000 hours per rolling twelve month period and more than 14 hours per calendar day.	The project owner shall submit to the CPM the boiler hours of use records demonstrating compliance with this condition as part of the Annual Operation Report.	CEC/BLM
AQ-6 The project owner shall perform initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of initial start up: a. NOx as NO_2 in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20). b. VOC as CH_4 in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18).	The project owner shall notify the District and the CPM within fifteen (15) working days before the execution of the compliance test required in this condition. The test results shall be submitted to the District and to the CPM within 180 days of initial start up.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
c. SOx as SO_2 in ppmvd at 3% oxygen and lb/hr. d. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10). e. PM10 in mg/m^3 at 3% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5). f. Flue gas flow rate in dscf per minute. g. Opacity (measured per USEPA `reference Method 9).		
AQ-7 The project owner shall perform annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required: a. NOx as NO_2 in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20). b. VOC as CH_4 in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18). c. SOx as SO_2 in ppmvd at 3% oxygen and lb/hr. d. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10). e. PM10 in mg/m^3 at 3% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5). f. Flue gas flow rate in dscf per minute. g. Opacity (measured per USEPA reference Method 9).	The project owner shall notify the District and the CPM within fifteen (15) working days before the execution of the compliance test required in this condition. The test results shall be submitted to the District and to the CPM within the timeframe required by this condition.	CEC/BLM
Application No. 00010842 and 00010843 (Two – HTF Ullage Expansion Tank) **EQUIPMENT DESCRIPTION:** Two HTF ullage/expansion tanks.		
AQ-8 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-9 This system shall store only HTF, specifically the condensable fraction of the vapors vented from the ullage system.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-10 This system shall be operated at all times with the carbon adsorption system as follows: a. The carbon adsorption system shall provide 98% control efficiency of VOC emissions vented from the HTF ullage system.	The project owner shall submit information demonstrating compliance with the substantive and recordkeeping provisions of this condition in the	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
b. The project owner shall prepare and submit a monitoring and change-out plan for the carbon adsorptions system which ensures that the system is operating at optimal control efficiency at all times for District approval prior to start up. c. This equipment shall be properly maintained and kept in good operating condition at all times. d. This equipment must be in use and operating properly at all times the HTF ullage system is venting. e. Total emissions of VOC to the atmosphere shall not exceed 1.5 lbs/day and 540 lbs/year calculated based on the most recent monitoring results. f. Total emissions of benzene to the atmosphere shall not exceed 0.6 lbs/day and 220 lbs/year calculated based on the most recent monitoring results. g. During operation, the project owner shall monitor VOC measured at outlet from the carbon beds. Sampling is to be performed on a weekly basis. Samples shall be analyzed pursuant to U.S.EPA Test Method 25 – Gaseous Non-methane Organic Emissions. Initial test shall be submitted to the District within 180 days after startup. h. FID shall be considered invalid if not calibrated on the day of required use. i. The project owner shall maintain current and on-site for the duration of the project a log of the weekly test results, which shall be provided to District personnel upon request, with date and time the monitoring was conducted. j. Prior to January 31 of each new year, the project owner of this unit shall submit to the District a summary report of all VOC emissions (as hexane).	Annual Compliance Report.	
AQ-11 Vent release shall be monitored in accordance with a District approved Inspection, Monitoring and Maintenance plan.	The inspection, monitoring, and maintenance plan for the vent release shall be submitted to the CPM for review at least 30 days before taking delivery of the HTF.	CEC/BLM
AQ-12 The project owner shall establish an inspection and maintenance program to determine repair, and log leaks in HTF piping network and expansion tanks. Inspection and maintenance program and documentation shall be available to District staff upon request. a. All pumps, compressors and pressure relief devices (pressure relief valves or rupture disks) shall be electronically, audio, or visually inspected once every operating day. b. All accessible valves, fittings, pressure relief devices (PRDs), hatches, pumps, compressors, etc. shall be inspected quarterly using a leak detection device such as a Foxboro OVA 108 calibrated for methane. c. Inspection frequency for accessible components, except pumps, compressors and pressure relief valves, may be changed from quarterly to annual when two percent or less of the components within a component type are found to leak during an inspection for five consecutive quarters. d. Inspection frequency for accessible components, except pumps, compressors and pressure relief valves, shall be increased to quarterly when more than two percent of the components within a component type are found to leak during any inspection or report.	The inspection and maintenance plan shall be submitted to the CPM for review and approval at least 30 days before taking delivery of the HTF. As part of the Annual Compliance Report, the project owner shall provide the quantity of used HTF fluid removed from the system and the amount of new HTF fluid added to the system each year. The project owner shall make the site available for inspection of HTF piping Inspection and Maintenance Program records and HTF system equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
e. If any evidence of a potential leak is found the indication of the potential leak shall be eliminated within 7 calendar days of detection. f. VOC leaks greater than 10,000-ppmv shall be repaired within 24-hours of detection. g. After a repair, the component shall be re-inspected for leaks as soon as practicable, but no later than 30 days after the date on which the component is repaired and placed in service. h. The project owner shall maintain a log of all VOC leaks exceeding 10,000-ppmv, including location, component type, date of leak detection, emission level (ppmv), method of leak detection, date of and repair, date and emission level of reinspection after leak is repaired. i. The project owner shall maintain records of the total number of components inspected, and the total number and percentage of leaking components found, by component types made. j. The project owner shall maintain record of the amount of HTF replaced on a monthly basis for a period of 5 years.		
AQ-13 The project owner shall submit to the District a compliance test protocol within sixty (60) days of start-up and shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the project owner shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.	The project owner shall provide a compliance test protocol to the District for approval and CPM for review at least no later than sixty (60) days after start-up and submit a test plan to the District for approval and CPM for review at least thirty (30) days prior to the compliance tests. The project owner shall notify the District and the CPM within ten (10) working days before the execution of the compliance tests required in **AQ-14** and **AQ-15**, and the test results shall be submitted to the District and to the CPM within forty-five (45) days after the tests are conducted.	CEC/BLM
AQ-14 The project owner shall perform the following initial compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District within 180 days of initial start up. The following compliance tests are required: a. VOC as CH_4 in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent). b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).	The project owner shall submit the test results to the District and to the CPM within 180 days after initial start up.	CEC/BLM
AQ-15 The project owner shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required: a. VOC as CH_4 in ppmvd and lb/hr (measured per USEPA Reference Methods 25A and 18 or equivalent). b. Benzene in ppmvd and lb/hr (measured per CARB method 410 or equivalent).	As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
Additionally, records of all compliance tests shall be maintained on site for a period of five (5) years and presented to District personnel upon requ		
AQ-16 Emissions from this equipment may not exceed the following emission limits, based on a calendar day summary: a. VOC as CH_4 – 1.5 lb/day, verified by compliance test. b. Benzene – 0.6 lb/day, verified by compliance test.	As part of the Annual Compliance Report, the project owner shall include the test results demonstrating compliance with this condition and the project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-17 If current non-criteria substances become regulated as toxic or hazardous substances and are used in this equipment, the project owner shall submit to the District a plan demonstrating how compliance will be achieved and maintained with such regulations.	The project owner shall submit a compliance plan of the toxic or hazardous substances for District approval and CPM review if current non-criteria substances in the HTF become regulated as toxic or hazardous substances.	CEC/BLM
Application No. 00010787 and 00010841 (Two Cooling Towers) **EQUIPMENT DESCRIPTION:** Two 7-cell cooling towers with drift eliminator rate of 0.0005% and water circulation rate of 94,623 gpm.		
AQ-18 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-19 This equipment shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-20 The drift rate shall not exceed 0.0005 percent with a maximum circulation rate of 94,623 gallons per minute. The maximum hourly PM10 emission rate shall not exceed 2.36 pounds per hour, as calculated per the written District-approved protocol.	The manufacturer guarantee data for the drift eliminator, showing compliance with this condition, shall be provided to the CPM and the District 30 days prior to cooling tower operation. As part of the Annual Compliance Report the project owner shall include information on operating emission rates to demonstrate compliance with this condition.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-21 The project owner shall perform weekly specific conductivity tests of the blow-down water to indirectly measure total dissolved solids (TDS). Quarterly tests of the below down water will be done to confirm the relationship between conductance and TDS. The TDS shall not exceed 5,000 ppmv on a calendar monthly basis.	The cooling tower recirculation water TDS content test results shall be provided to representatives of the District, ARB, and the Energy Commission upon request.	CEC/BLM
AQ-22 The project owner shall conduct all required cooling tower water tests in accordance with a District-approved test and emissions calculation protocol. Thirty (30) days prior to the first such test the project owner shall provide a written test and emissions calculation protocol for District review and approval.	The project owner shall provide an emissions calculation and water sample testing protocol to the District for approval and CPM for review at least 30 days prior to the first cooling tower water test.	CEC/BLM
AQ-23 This equipment shall not be operated for more than 3,200 hours per rolling twelve month period and more than 15 hours per calendar day.	The project owner shall submit to the CPM the cooling tower operating data demonstrating compliance with this condition as part of the Annual Operation Report.	CEC/BLM
AQ-24 The project owner shall maintain an operations log for this equipment on-site and current for a minimum of five (5) years, and said log shall be provided to District personnel on request. The operations log shall include the following information at a minimum: a. Total operation time (hours per day, hours per month, and hours per rolling twelve month period); and b. The date and result of each blow-down water test in TDS ppm, and the resulting mass emission rate.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-25 A maintenance procedure shall be established that states how often and what procedures will be used to ensure the integrity of the drift eliminators. This procedure is to be kept on-site and available to District personnel on request.	The project owner shall make available at request the written drift eliminator maintenance procedures for inspection by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
Application No. 00010790 and 00010791 (Two - 1,341 HP Emergency IC Engine) **EQUIPMENT DESCRIPTION:** Two, 341 HP diesel fueled emergency generator engines, each driving a generator.		
AQ-26 This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-27 This unit shall only be fired on ultra-low sulfur diesel fuel, whose sulfur concentration is less than or equal to 0.0015% (15 ppm) on a weight per weight basis per CARB Diesel or equivalent requirements.	The project owner shall make the site available for inspection of equipment and fuel purchase records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-28 A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed and maintained on this unit to indicate elapsed engine operating time. (Title 17 CCR §93115.10(e)(1)).	At least thirty (30) days prior to the installation of the engine, the project owner shall provide the District and the CPM the specification of the hour meter.	CEC/BLM
AQ-29 This unit shall be limited to use for emergency power, defined as in response to a fire or when commercially available power has been interrupted. In addition, this unit shall be operated no more than 50 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 50 hour per year limit.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-30 The project owner shall maintain a operations log for this unit current and on-site, either at the engine location or at a on-site location, for a minimum of two (2) years, and for another year where it can be made available to the District staff within 5 working days from the District's request, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the information specified below: a. Date of each use and duration of each use (in hours); b. Reason for use (testing & maintenance, emergency, required emission testing); c. Calendar year operation in terms of fuel consumption (in gallons) and total hours; and, d. Fuel sulfur concentration (the project owner may use the supplier's certification of sulfur content if it is maintained as part of this log).	The project owner shall submit records required by this condition that demonstrating compliance with the sulfur content and engine use limitations of conditions **AQ-27** and **AQ-29** in the Annual Compliance Report, including a photograph showing the annual reading of engine hours. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-31 This unit shall not be used to provide power during a voluntary agreed to power outage and/or power reduction initiated under an Interruptible Service Contract (ISC); Demand Response Program (DRP); Load Reduction Program (LRP) and/or similar arrangement(s) with the electrical power supplier.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-32 This engine may operate in response to notification of impending rotating outage if the area utility has ordered rotating outages in the area where the engine is located or expects to order such outages at a particular time, the engine is located in the area subject to the rotating outage, the engine is operated no more than 30 minutes prior to the forecasted outage, and the engine is shut down immediately after the utility advises that the outage is no longer imminent or in effect.	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-33 This unit is subject to the requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Title 17 CCR 93115). In the event of conflict between these conditions and the ATCM, the more stringent shall govern.	Not necessary.	CEC/BLM
AQ-34 This unit is subject to the requirements of the Federal National Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60 Subpart IIII).	The project owner shall submit the engine specifications at least 30 days prior to purchasing the engines for review and approval demonstrating that the engines meet NSPS and ARB ATCM emission limit requirements at the time of engine purchase.	CEC/BLM
Application No. 00010792 and 00010793 (Two - 315 HP Emergency IC Engine) **EQUIPMENT DESCRIPTION:** Two, 315 HP diesel fueled emergency fire pump engines, each driving a fire suppression water pump.		
AQ-35 This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application for this permit.	The project owner shall make the site available for inspection of equipment and records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-36 This unit shall only be fired on ultra-low sulfur diesel fuel, whose sulfur concentration is less than or equal to 0.0015% (15 ppm) on a weight per weight basis per CARB Diesel or equivalent requirements.	The project owner shall make the site available for inspection of equipment and fuel purchase records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-37 A non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed and maintained on this unit to indicate elapsed engine operating time. (Title 17 CCR §93115.10(e)(1)).	At least thirty (30) days prior to the installation of the engine, the project owner shall provide the District and the CPM the specification of the hour timer.	CEC/BLM
AQ-38 This unit shall be limited to use for emergency power, defined as in response to a fire or due to low fire water pressure. In addition, this unit shall be operated no more than 50 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 50 hour per year limit. The 50 hour limit can be exceeded when the emergency fire pump assembly is driven directly by a stationary diesel fueled CI engine operated per and in accord with the National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 1998 edition. This requirement includes usage during emergencies. {Title 17 CCR 93115.3(n)}	The project owner shall make the site available for inspection of records and equipment by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-39 The project owner shall maintain an operations log for this unit current and on-site, either at the engine location or at a on-site location, for a minimum of two (2) years, and for another year where it can be made available to the District staff within 5 working days from the District's request, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the information specified below: a. Date of each use and duration of each use (in hours); b. Reason for use (testing & maintenance, emergency, required emission testing); c. Calendar year operation in terms of fuel consumption (in gallons) and total hours; and, d. Fuel sulfur concentration (the project owner may use the supplier's certification of sulfur content if it is maintained as part of this log).	The project owner shall submit records required by this condition that demonstrating compliance with the sulfur content and engine use limitations of conditions **AQ-36** and **AQ-38** in the Annual Compliance Report, including a photograph showing the annual reading of engine hours. The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-40 This unit is subject to the requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Title 17 CCR 93115). In the event of conflict between these conditions and the ATCM, the requirements of the ATCM shall govern.	Not necessary.	CEC/BLM
AQ-41 This unit is subject to the requirements of the Federal National Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines (40 CFR Part 60 Subpart IIII).	The project owner shall submit the engine specifications at least 30 days prior to purchasing the engines for review and approval demonstrating that the engines meet NSPS and ARB ATCM emission limit requirements at the time of engine purchase.	CEC/BLM
Application No. 0001246 (One – Gasoline Storage Tank) U**EQUIPMENT DESCRIPTION:** One – Above ground gasoline storage tank and fuel receiving and dispensing equipment.		
AQ-42 The toll-free telephone number that must be posted is 1-800-635-4617.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-43 The project owner shall maintain a log of all inspections, repairs, and maintenance on equipment subject to Rule 461. Such logs or records shall be maintained at the facility for at least two (2) years and available to the District upon request. Records of Maintenance, Tests, Inspections, and Test Failures shall be maintained and available to District personal upon request; record form shall be similar to the Maintenance Record form indicated in EO VR-401-A, Figure 2N.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-44 Any modifications or changes to the piping or control fitting of the vapor recovery system require prior approval from the District.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-45 Pursuant to EO VR-401-A, vapor vent pipes are to be equipped with Husky 5885 pressure relief valves or as otherwise allowed by EO.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-46 The project owner shall perform the following tests within 60 days of construction completion and annually thereafter in accord with the following test procedures: a. Determination of Static Pressure Performance of Vapor Recovery Systems at Gasoline Dispensing Facilities with Aboveground Storage Tanks shall be conducted per EO VR-401-A Exhibit 4, and b. Phase I Adapters, Emergency Vents, Spill Container Drain Valve, Dedicated gauging port with drop tube and tank components, all connections, and fittings shall NOT have any detectable leaks; test methods shall be per EO VR-401-A Table 2-1, and c. Liquid Removal Test (if applicable) per TP-201.6, and • Summary of Test Data shall be documented on a Form similar to EO VR-401-A Form 1 • The District shall be notified a minimum of 10 days prior to performing the required tests with the final results submitted to the District within 30 days of completion of the tests. • District shall receive passing test reports no later than six (6) weeks prior to the expiration date of this permit.	The project owner shall notify the District at least 10 days prior to performing the required tests. The test results shall be submitted to the District within 30 days of completion of the tests and shall be made available to the CPM if requested.	CEC/BLM
AQ-47 Pursuant to California Health and Safety Code sections 39600, 39601 and 41954, this aboveground tank shall be installed and maintained in accordance with Executive Order (EO) VR-401-A for EVR Phase I, and Standing Loss requirements: http://www.arb.ca.gov/vapor/eos/eo-vr401/eo-vr401a/eo-401a.pdf. Additionally, Phase II Vapor Recovery System shall be installed and maintained per G-70-116-F with the exception that hanging hardware shall be EVR Balance Phase II type hanging hardware (VST or other CARB Approved EVR Phase II Hardware).	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-48 Pursuant to EO VR-401-A: Maintenance and repair of system components, including removal and installation of such components in the course of any required tests, shall be performed by OPW Certified Technicians.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-49 Pursuant to EO VR-401-A, Maintenance Intervals for OPW; Tank Gauge Components; Dust Caps Emergency Vents; Phase I Product and Vapor Adapters, and Spill Container Drain Valve, shall be conducted by an OPW trained technician annually.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
AIR QUALITY (cont.)		
AQ-50 The annual throughput of gasoline shall not exceed 600,000 gallons per year. Throughput Records shall be kept on site and available to District personnel upon request. Before this annual throughput can be increased the facility may be required to submit to the District a site specific Health Risk Assessment in accord with a District approved plan. In addition public notice and/or comment period may be required.	The project owner shall submit to the CPM gasoline throughput records demonstrating compliance with this condition as part of the Annual Compliance Report. The project owner shall maintain on site the annual gasoline throughput records and shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM
AQ-51 The project owner shall; install, maintain, and operate EVR Phase I in compliance with CARB Executive Order VR-401-A, and Phase II vapor recovery in accordance with G-70-116-F. In the event of conflict between these permit conditions and/or the referenced EO's the more stringent requirements shall govern.	The project owner shall make the site available for inspection of records by representatives of the District, ARB, and the Energy Commission.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES		
Designated Biologist Selection and Qualifications[1]		
BIO-1 The Project owner shall assign at least one Designated Biologist to the Project. The Project owner shall submit the resume of the proposed Designated Biologist(s), with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval in consultation with CDFG and USFWS. The Designated Biologist must meet the following minimum qualifications: 1. Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; 2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; 3. Have at least one year of field experience with biological resources found in or near the Project area; 4. Meet the current USFWS Authorized Biologist qualifications criteria (www.fws.gov/ventura/speciesinfo/protocols_guidelines), demonstrate familiarity with protocols and guidelines for the desert tortoise, and be approved by the USFWS; and 5. Possess a California ESA Memorandum of Understanding pursuant to Section 2081(a) for desert tortoise. In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, in consultation with CDFG and USFWS, that the proposed Designated Biologist or alternate has the appropriate training and background to effectively implement the conditions of certification.	No fewer than 30 days prior to construction-related ground disturbance, the Project owner shall submit the names of the Designated Biologists(s) along with the completed USFWS Desert Tortoise Authorized Biologist Request Form (www.fws.gov/ventura/speciesinfo/protocols_guidelines) and submit it to the USFWS, and the CPM for review and final approval. No construction-related ground disturbance, grading, boring, or trenching shall commence until an approved Designated Biologist is available to be on site. If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the Project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM and for consideration.	

[1] USFWS <www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt> designates biologists who are approved to handle tortoises as “Authorized Biologists.” Such biologists have demonstrated to the USFWS that they possess sufficient desert tortoise knowledge and experience to handle and move tortoises appropriately, and have received USFWS approval. Authorized Biologists are responsible for the implementation of all desert tortoise measures for which a project is approved and are permitted to then approve specific Biological Monitors to handle tortoises, at their discretion. The California Department of Fish and Game (CDFG) must also approve such biologists, potentially including individual approvals for Biological Monitors approved by the Authorized Biologist. Designated Biologists are the equivalent of Authorized Biologists. Only Designated Biologists and certain Biological Monitors who have been approved by the Designated Biologist would be allowed to handle desert tortoises.

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Designated Biologist Duties		
BIO-2 The Project owner shall ensure that the Designated Biologist performs the activities described below during any site mobilization activities, construction-related ground disturbance, grading, boring or trenching activities. The Designated Biologist may be assisted by the approved Biological Monitor(s) but remains the contact for the Project owner and the CPM. The Designated Biologist Duties shall include the following: 1. Advise the Project owner's Construction and Operation Managers on the implementation of the biological resources conditions of certification; 2. Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to be submitted by the Project owner; 3. Be available to supervise, conduct and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special-status species or their habitat; 4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions; 5. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way; 6. Notify the Project owner and the CPM of any non-compliance with any biological resources condition of certification; 7. Respond directly to inquiries of the CPM regarding biological resource issues; 8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the Monthly Compliance Report and the Annual Compliance Report; 9. Train the Biological Monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and USFWS guidelines on desert tortoise surveys and handling procedures <www.fws.gov/ventura/speciesinfo/protocols_guidelines>; and 10. Maintain the ability to be in regular, direct communication with representatives of CDFG, USFWS, and the CPM, including notifying these agencies of dead or injured listed species and reporting special-status species observations to the California Natural Diversity Database.	The Designated Biologist shall provide copies of all written reports and summaries that document biological resources compliance activities in the Monthly Compliance Reports submitted to the CPM. If actions may affect biological resources during operation a Designated Biologist shall be available for monitoring and reporting. During Project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report unless his or her duties cease, as approved by the CPM.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Biological Monitor Selection and Qualifications		
BIO-3 The Designated Biologist shall submit the resume, at least three references, and contact information of the proposed Biological Monitors to the CPM. The resume shall demonstrate, to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks. The Biological Monitor is the equivalent of the USFWS designated Desert Tortoise Monitor (USFWS 2008). Biological Monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, WEAP, and USFWS guidelines on desert tortoise surveys and handling procedures <www.fws.gov/ventura/speciesinfo/protocols_guidelines>.	The Project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any site mobilization or construction-related ground disturbance, grading, boring and trenching. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) has been trained including the date when training was completed. If additional biological monitors are needed during construction the specified information shall be submitted to the CPM and for approval at least 10 days prior to their first day of monitoring activities.	
Biological Monitor Duties		
BIO-4 The Biological Monitors shall assist the Designated Biologist in conducting surveys and in monitoring of site mobilization activities, construction-related ground disturbance, fencing, grading, boring, trenching and reporting. The Designated Biologist shall remain the contact for the Project owner and the CPM.	The Designated Biologist shall submit in the Monthly Compliance Report to the CPM copies of all written reports and summaries that document biological resources compliance activities, including those conducted by Biological Monitors. If actions may affect biological resources during operation a Biological Monitor, under the supervision of the Designated Biologist, shall be available for monitoring and reporting. During Project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report unless their duties cease, as approved by the CPM.	
Designated Biologist and Biological Monitor Authority		
BIO-5 The Project owner's construction/operation manager shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the biological resources conditions of certification. The Project owner shall provide Energy Commission staff with reasonable access to the Project site under the control of the Project owner and shall otherwise fully cooperate with the Energy Commission's efforts to verify the Project owner's compliance with, or the effectiveness of, mitigation measures set forth in the conditions of certification. The Designated Biologist shall have the authority to immediately stop any activity that is not in compliance with these conditions and/or order any reasonable measure to avoid take of an individual of a listed species. If required by the Designated Biologist and Biological Monitor(s)	The Project owner shall ensure that the Designated Biologist or Biological Monitor notifies the CPM immediately (and no later than the morning following the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, or operation activities. The Project owner	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
the Project owner's construction/operation manager shall halt all site mobilization, ground disturbance, grading, boring, trenching and operation activities in areas specified by the Designated Biologist. The Designated Biologist shall: 1. Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued; 2. Inform the Project owner and the construction/operation manager when to resume activities; and 3. Notify the CPM if there is a halt of any activities and advise them of any corrective actions that have been taken or would be instituted as a result of the work stoppage. If the Designated Biologist is unavailable for direct consultation, the Biological Monitor shall act on behalf of the Designated Biologist.	shall notify the CPM of the circumstances and actions being taken to resolve the problem. Whenever corrective action is taken by the Project owner, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the Project owner would be notified by the CPM that coordination with other agencies would require additional time before a determination can be made.	
Worker Environmental Awareness Program (WEAP)		
BIO-6 The Project owner shall develop and implement a Project-specific Worker Environmental Awareness Program (WEAP) and shall secure approval for the WEAP from the CPM. The WEAP shall be administered to all onsite personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, subcontractors, and delivery personnel. The WEAP shall be implemented during site preconstruction, construction, operation, and closure. The WEAP shall: 1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media, including photographs of protected species, is made available to all participants; 2. Discuss the locations and types of sensitive biological resources on the Project site and adjacent areas, and explain the reasons for protecting these resources; provide information to participants that no snakes, reptiles, or other wildlife shall be harmed; 3. Place special emphasis on desert tortoise, including information on physical characteristics, distribution, behavior, ecology, sensitivity to human activities, legal protection, penalties for violations, reporting requirements, and protection measures; 4. Include a discussion of fire prevention measures to be implemented by workers during Project activities; request workers dispose of cigarettes and cigars appropriately and not leave them on the ground or buried; 5. Describe the temporary and permanent habitat protection measures to be implemented at the Project site; 6. Identify whom to contact if there are further comments and questions about the material discussed in the program; and 7. Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines. The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.	At least 30 days prior to start of construction-related ground disturbance the Project owner shall provide to the CPM a copy of the final WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program. The Project owner shall provide in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least 10 days prior to construction-related ground disturbance activities the Project owner shall submit two copies of the CPM-approved final WEAP. Training acknowledgement forms signed during construction shall be kept on file by the Project owner for at least six months after the start of commercial operation. Throughout the life of the Project, the WEAP shall be repeated annually for permanent employees, and shall be routinely administered within one week of arrival to any new construction personnel, foremen, contractors, subcontractors, and other personnel potentially working within the Project area. Upon completion of the orientation, employees shall sign a form stating	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
	that they attended the program and understand all protection measures. These forms shall be maintained by the Project owner and shall be made available to the CPM and upon request. Workers shall receive and be required to visibly display a hardhat sticker or certificate that they have completed the training. During Project operation, signed statements for operational personnel shall be kept on file for six months following the termination of an individual's employment.	
Biological Resources Mitigation Implementation and Monitoring Plan		
BIO-7 The Project owner shall develop a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), and shall submit two copies of the proposed BRMIMP to the CPM for review and approval. The Project owner shall implement the measures identified in the approved BRMIMP. The BRMIMP shall incorporate avoidance and minimization measures described in final versions of the Desert Tortoise Translocation Plan, the Raven Management Plan, the Closure, Conceptual Restoration Plan, the Burrowing Owl Mitigation and Monitoring Plan, and the Weed Management Plan, and all other individual biological mitigation and/or monitoring plans associated with the Project. The BRMIMP shall be prepared in consultation with the Designated Biologist and shall include accurate and up-to-date maps depicting the location of sensitive biological resources that require temporary or permanent protection during construction and operation. The BRMIMP shall include complete and detailed descriptions of the following: 1. All biological resources mitigation, monitoring, and compliance measures proposed and agreed to by the Project owner; 2. All biological resources conditions of certification identified as necessary to avoid or mitigate impacts; 3. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, such as those provided in the USFWS Biological Opinion; 4. All sensitive biological resources to be impacted, avoided, or mitigated by Project construction, operation, and closure; 5. All required mitigation measures for each sensitive biological resource; 6. All measures that shall be taken to avoid or mitigate temporary disturbances from construction activities; 7. Duration for each type of monitoring and a description of monitoring methodologies and frequency; 8. Performance standards to be used to help decide if/when proposed mitigation is or is not successful; 9. All performance standards and remedial measures to be implemented if performance standards are not met;	The Project owner shall submit the draft BRMIMP to the CPM at least 30 days prior to start of any preconstruction site mobilization and construction-related ground disturbance, grading, boring, and trenching, and the final BRMIMP at least 7 days prior to start of any construction-related ground disturbance, grading, boring, and trenching. The BRMIMP shall contain all of the required measures included in all biological Conditions of Certification. No construction-related ground disturbance, grading, boring or trenching may occur prior to approval of the final BRMIMP by the CPM. If any permits have not yet been received when the final BRMIMP is submitted, these permits shall be submitted to the CPM within 5 days of their receipt, and the BRMIMP shall be revised or supplemented to reflect the permit condition(s). The Project owner shall submit to the CPM the revised or supplemented BRMIMP within 10 days following the Project owner's receipt of any additional permits. Under no circumstances shall ground disturbance proceed without implementation of all permit conditions. To verify that the extent of construction disturbance does not exceed that described in this analysis, the Project owner shall submit aerial photographs, at an approved scale, taken before and after construction to the CPM. The first set of aerial photographs shall reflect site	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
10. Biological resources-related facility closure measures including a description of funding mechanism(s); 11. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and 12. A requirement to submit any sightings of any special-status species that are observed on or in proximity to the Project site, or during Project surveys, to the California Natural Diversity Data Base (CNDDB) per CDFG requirements.	conditions prior to any preconstruction site mobilization and construction-related ground disturbance, grading, boring, and trenching, and shall be submitted prior to initiation of such activities. The second set of aerial photographs shall be taken subsequent to completion of construction, and shall be submitted to the CPM no later than 90 days after completion of construction. The Project owner shall also provide a final accounting of the acreages of vegetation communities/cover types present before and after construction. Any changes to the approved BRMIMP must be approved by the CPM and in consultation with CDFG and USFWS. Implementation of BRMIMP measures (for example, construction activities that were monitored, species observed) shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM, for review and approval, a written construction termination report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the Project's preconstruction site mobilization and construction-related ground disturbance, grading, boring, and trenching, and which mitigation and monitoring items are still outstanding.	
Impact Avoidance and Minimization Measures		
BIO-8 The Project owner shall undertake the following measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to biological resources: 1. Limit Disturbance Areas. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities in consultation with the Designated Biologist. Spoils and topsoil shall be stockpiled in disturbed areas lacking native vegetation and which do not provide habitat for special-status species. Parking areas, staging and disposal site locations shall similarly be located in areas without native vegetation or special-status species habitat. All disturbances, Project vehicles and equipment shall be confined to the flagged areas. 2. Minimize Road Impacts. New and existing roads that are planned for construction, widening, or other improvements shall not extend beyond the flagged impact area as described above. All vehicles passing or turning around would do	If loud construction activities are proposed between February 15 to April 15 which would result in noise levels over 65 dBA in nesting habitat, the Project owner shall submit nest survey results (as described in 9a) to the CPM no more than 7 days before initiating such construction. If an active nest is detected within this survey area the Project owner shall submit a Nesting Bird Monitoring and Management Plan to the CPM for review and approval no more than 7 days before initiating noisy construction.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction. 3. Minimize Traffic Impacts. Vehicular traffic during Project construction and operation shall be confined to existing routes of travel to and from the Project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit shall not exceed 25 miles per hour on all dirt roads and 45 mph on all paved roads. Signs shall be established at appropriate locations (for example, at Arizona crossings of drainages) to remind drivers to be aware of the potential for desert tortoise and other wildlife occurring on the roadways. 4. Monitor During Construction. In areas that have not been fenced with desert tortoise exclusion fencing and cleared, including during fence construction, the Designated Biologist shall be present at the construction site during all Project activities that have potential to disturb soil, vegetation, and wildlife. The Designated Biologist or Biological Monitor shall walk immediately ahead of equipment during brushing and grading activities in unfenced habitat (i.e., outside of the cleared and fenced Plant Site). 5. Minimize Impacts of Pipeline Alignments, Roads, Staging Areas. Staging areas for construction on the plant site shall be within the area that has been fenced with desert tortoise exclusion fencing and cleared. For construction activities outside of the plant site (transmission line, pipeline alignments) access roads, pulling sites, and storage and parking areas shall be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources. 6. Implement APLIC Guidelines. Transmission lines, fiber optic lines, and all electrical components shall be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee's (APLIC's) Suggested Practices for Avian Protection on Power Lines (APLIC 1994) and Mitigating Bird Collisions with Power Lines (APLIC 2006) to reduce the likelihood of large bird electrocutions and collisions. 7. Avoid Use of Toxic Substances. Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants. 8. Minimize Lighting Impacts. Facility lighting shall be designed, installed, and maintained to prevent side casting of light towards wildlife habitat. Lighting shall be kept to the minimum level for safety and security needs by using motion or infrared light sensors and switches to keep lights off when not required, and shielding operational lights downward to minimize skyward illumination. No high intensity, steady burning, bright lights such as sodium vapor or spotlights shall be used. FAA visibility lighting shall employ only strobed, strobe-like or blinking incandescent lights, preferably with all lights illuminating simultaneously. Minimum intensity, maximum "off-phased" duel strobes are preferred, and no steady burning lights (e.g., L-810s) shall be used. 9. Minimize Noise Impacts. A continuous low-pressure technique shall be used for steam blows, to the extent possible, in order to reduce noise levels in sensitive habitat proximate to the Genesis Project. Loud construction activities (e.g., unsilenced high pressure steam blowing and pile driving, or other) shall be avoided from February 15 to April 15 when it would result in noise levels over 65 dBA in nesting habitat (excluding noise from passing vehicles). Loud construction activities may be permitted from February 15 to April 15 only if:	All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
a. the Designated Biologist provides documentation (i.e., nesting bird data collected using methods described in BIO-15 and maps depicting location of the nest survey area in relation to noisy construction) to the CPM indicating that no active nests would be subject to 65 dBA noise, OR b. the Designated Biologist or Biological Monitor monitors active nests within the range of construction-related noise exceeding 65dBA. The monitoring shall be conducted in accordance with the Nesting Bird Monitoring and Management Plan approved by the CPM. The Plan shall include adaptive management measures to prevent disturbance to nesting birds from construction related noise. Triggers for adaptive management shall be evidence of Project-related disturbance to nesting birds such as: agitation behavior (displacement, avoidance, and defense); increased vigilance behavior at nest sites; changes in foraging and feeding behavior, or nest site abandonment. The Bird Monitoring and Management Plan shall include a description of adaptive management actions, which shall include, but not be limited to, cessation of construction activities that are deemed by the Designated Biologist to be the source of disturbance to the nesting bird. 10. Avoid Vehicle Impacts to Desert Tortoise. Parking and storage shall occur within the area enclosed by desert tortoise exclusion fencing to the extent feasible. No vehicles or construction equipment parked outside the fenced area shall be moved prior to an inspection of the ground beneath the vehicle for the presence of desert tortoise. If a desert tortoise is observed, it shall be left to move on its own. A Designated Biologist or Biological Monitor under the Designated Biologist's direct supervision may remove and relocate the animal to a safe location as described in the Applicant's Desert Tortoise Translocation Plan. 11. Avoid Wildlife Pitfalls: To avoid trapping desert tortoise and other wildlife in trenches, pipes or culverts, the following measures shall be implemented: a. Backfill Trenches. At the end of each work day, the Designated Biologist shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) outside the area fenced with desert tortoise exclusion fencing have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with desert tortoise-exclusion fencing. All trenches, bores, and other excavations outside the areas permanently fenced with desert tortoise exclusion fencing shall be inspected periodically throughout the day, at the end of each workday and at the beginning of each day by the Designated Biologist or a Biological Monitor. Should a tortoise or other wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and relocate the individual as described in the Desert Tortoise Translocation Plan. Any wildlife encountered during the course of construction shall be allowed to leave the construction area unharmed. b. Avoid Entrapment of Desert Tortoise. Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches, stored less than 8 inches aboveground and within desert tortoise habitat (i.e., outside the permanently fenced area) for one or more nights, shall be inspected for tortoises before the material is moved, buried or capped. As an alternative, all such structures may be capped before being stored outside the fenced area, or placed on elevated pipe racks. These materials would not need to be inspected or capped if they are stored within the permanently fenced area after the clearance surveys have been completed. 12. Minimize Standing Water. Water applied to dirt roads and construction areas (trenches or spoil piles) for dust abatement shall use the minimal amount needed to meet safety and air quality standards in an effort to prevent the formation of puddles, which could attract desert tortoises and common ravens to construction sites. A Biological		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Monitor shall patrol these areas to ensure water does not puddle and shall take appropriate action to reduce water application where necessary. 13. Dispose of Road-killed Animals. During construction, road killed animals or other carcasses detected by personnel on roads associated with the Project area will be reported immediately to a Biological Monitor or Designated Biologists, who will remove the roadkill promptly. During operations, the Project Environmental Compliance Monitor will be notified of any roadkills and promptly remove and dispose of any roadkills. For special-status species road-kill, the Biological Monitor shall contact CDFG and USFWS within 1 working day of receipt of the carcass for guidance on disposal or storage of the carcass. The Biological Monitor shall report the special-status species record as described in BIO-11 below. 14. Minimize Spills of Hazardous Materials. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Designated Biologist shall be informed of any hazardous spills immediately as directed in the Project Hazardous Materials Plan. Hazardous spills shall be immediately cleaned up and the contaminated soil properly disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated area. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills. 15. Worker Guidelines. During construction all trash and food-related waste shall be placed in self-closing containers and removed daily from the site. Workers shall not feed wildlife or bring pets to the Project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons. Vehicular traffic shall be confined to existing routes of travel to and from the Project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit when traveling on dirt access routes within desert tortoise habitat shall not exceed 25 miles per hour. 16. Implement Erosion Control Measures. Standard erosion control measures shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes threatens to enter “Waters of the State”. Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into the stream. All disturbed soils and roads within the Project site shall be stabilized to reduce erosion potential, both during and following construction. Areas of disturbed soils (access and staging areas) with slopes toward drainages shall be stabilized to reduce erosion potential. 17. Monitor Ground Disturbing Activities Prior to Pre-Construction Site Mobilization. If pre-construction site mobilization requires ground-disturbing activities such as for geotechnical borings or hazardous waste evaluations, a Designated Biologist or Biological Monitor shall be present to monitor any actions that could disturb soil, vegetation, or wildlife.		
Desert Tortoise Clearance Surveys and Fencing		
BIO-9 The Project owner shall undertake appropriate measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to desert tortoise. Methods for clearance surveys, fence specification and installation, tortoise handling, artificial burrow construction, egg handling and other procedures shall be consistent with those described in the USFWS’ 2009 *Desert Tortoise Field Manual* <http://www.fws.gov/ventura/speciesinfo/protocols_guidelines> or more current guidance provided by CDFG and USFWS. The Project owner shall also implement all terms and conditions described in the Biological Opinion prepared by USFWS. These measures include, but are not limited to, the following:	All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of desert tortoise clearance surveys the Designated Biologist shall submit a report to the CPM, USFWS,	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
1. Desert Tortoise Exclusion Fence Installation. Per the Applicant's Desert Tortoise Translocation Plan, in order to avoid impacts to desert tortoises, permanent desert tortoise exclusion fencing shall be installed along the permanent perimeter security fence; along the utility corridors, temporary desert tortoise exclusion fencing or monitoring will be used to protect desert tortoises during construction. The proposed alignments for the permanent perimeter fence and utility rights-of-way fencing shall be flagged and surveyed within 24 hours prior to the initiation of fence construction. Clearance surveys of the perimeter fence and utility rights-of-way alignments shall be conducted by the Designated Biologist(s) using techniques outlined in the USFWS' 2009 *Desert Tortoise Field Manual* and may be conducted in any season with USFWS and CDFG approval. Biological Monitors may assist the Designated Biologist under his or her supervision. These fence clearance surveys shall provide 100-percent coverage of all areas to be disturbed and an additional transect along both sides of the fence line. This fence line transect shall cover an area approximately 90 feet wide centered on the fence alignment. Transects shall be no greater than 15 feet apart. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS' 2009 *Desert Tortoise Field Manual*. Any desert tortoise located during fence clearance surveys shall be handled by the Designated Biologist(s) in accordance with the Applicant's Translocation Plan. a. Timing, Supervision of Fence Installation. The exclusion fencing shall be installed prior to the onset of site clearing and grubbing. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any tortoise present. b. Fence Material and Installation. The permanent tortoise exclusionary fencing shall be constructed in accordance with the USFWS' 2009 *Desert Tortoise Field Manual* (Chapter 8 – Desert Tortoise Exclusion Fence). c. Security Gates. Security gates shall be designed with minimal ground clearance to deter ingress by tortoises. The gates may be electronically activated to open and close immediately after the vehicle(s) have entered or exited to prevent the gates from being kept open for long periods of time. d. Fence Inspections. Following installation of the desert tortoise exclusion fencing for both the permanent site fencing and temporary fencing in the utility corridors, the fencing shall be regularly inspected. If tortoise were moved out of harm's way during fence construction, permanent and temporary fencing shall be inspected at least two times a day for the first 7 days to ensure a recently moved tortoise has not been trapped within the fence. Thereafter, permanent fencing shall be inspected monthly and during and within 24 hours following all major rainfall events. A major rainfall event is defined as one for which flow is detectable within the fenced drainage. Any damage to the fencing shall be temporarily repaired immediately to keep tortoises out of the site, and permanently repaired within 48 hours of observing damage. Inspections of permanent site fencing shall occur for the life of the project. Temporary fencing shall be inspected weekly and, where drainages intersect the fencing, during and within 24 hours following major rainfall events. All temporary fencing shall be repaired immediately upon discovery and, if the fence may have permitted tortoise entry while damaged, the Designated Biologist shall inspect the area for tortoise. 2. Desert Tortoise Clearance Surveys within the Plant Site. Following construction of the permanent perimeter security fence and the attached tortoise exclusion fence, the permanently fenced power plant site shall be cleared of tortoises by the Designated Biologist, who may be assisted by the Biological Monitors. Clearance surveys shall be conducted in accordance with the USFWS' 2009 *Desert Tortoise Field Manual* (Chapter 6 – Clearance Survey Protocol for the Desert Tortoise – Mojave Population) and shall consist of two surveys covering 100 percent of the project area by walking transects no more than 15-feet apart. If a desert tortoise is located on the second survey, a third survey shall be	and CDFG describing implementation of each of the mitigation measures listed above. The report shall include the desert tortoise survey results, capture and release locations of any translocated desert tortoises, and any other information needed to demonstrate compliance with the measures described above.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
conducted. On each subsequent pass surveyors shall attempt to view all shrubs and the terrain from as many angles as possible. To achieve this, transects programmed into GPS units shall be either perpendicular, parallel but offset from transect on the previous pass, and/or approached from the opposite direction on each subsequent pass. Clearance surveys of the power plant site may only be conducted when tortoises are most active (April through May or September through October). Surveys outside of these time periods require approval by USFWS and CDFG. Any tortoise located during clearance surveys of the power plant site shall be relocated and monitored in accordance with the Desert Tortoise Translocation Plan. a. Burrow Searches. During clearance surveys all desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined by the Designated Biologist, who may be assisted by the Biological Monitors, to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS' 2009 *Desert Tortoise Field Manual*. To prevent reentry by a tortoise or other wildlife, all burrows shall be collapsed once absence has been determined, in accordance with the Desert Tortoise Translocation Plan. Tortoises taken from burrows and from elsewhere on the power plant site shall be relocated or translocated as described in the Desert Tortoise Translocation Plan. b. Burrow Excavation/Handling. All potential desert tortoise burrows located during clearance surveys shall be excavated by hand, tortoises removed, and collapsed or blocked to prevent occupation by desert tortoises, in accordance with the Desert Tortoise Translocation Plan. All desert tortoise handling and removal, and burrow excavations, including nests, shall be conducted by the Designated Biologist, who may be assisted by a Biological Monitor in accordance with the USFWS' 2009 *Desert Tortoise Field Manual.* 3. Monitoring Following Clearing. Following the desert tortoise clearance and removal from the power plant site and utility corridors, workers and heavy equipment shall be allowed to enter the Project site to perform clearing, grubbing, leveling, and trenching activities. A Designated Biologist or Biological Monitor shall be on site during clearing and grading activities to move tortoises missed during the initial tortoise clearance survey. Should a tortoise be discovered, it shall be relocated or translocated as described in the Desert Tortoise Translocation Plan. 4. Reporting. The Designated Biologist shall record the following information for any desert tortoises handled: a) the locations (narrative and maps) and dates of observation; b) general condition and health, including injuries, state of healing and whether desert tortoise voided their bladders; c) location moved from and location moved to (using GPS technology); d) gender, carapace length, and diagnostic markings (i.e., identification numbers or marked lateral scutes); e) ambient temperature when handled and released; and f) digital photograph of each handled desert tortoise. Desert tortoise moved from within Project areas shall be marked and monitored in accordance with the Desert Tortoise Translocation Plan. 5. Desert Tortoise Exclusion Fence Installation. Per the Applicant's Desert Tortoise Translocation Plan, in order to avoid impacts to desert tortoises, permanent desert tortoise exclusion fencing shall be installed along the permanent perimeter security fence; along the utility corridors, temporary desert tortoise exclusion fencing or monitoring will be used to protect desert tortoises during construction.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Desert Tortoise Translocation Plan		
BIO-10 The Project owner shall develop and implement a final Desert Tortoise Translocation Plan (Plan) that is consistent with current USFWS approved guidelines, and meets the approval of the CPM. The goals of the Desert Tortoise Translocation Plan shall be to: relocate/translocate all desert tortoises from the project site to nearby suitable habitat; minimize impacts on resident desert tortoises outside the project site; minimize stress, disturbance, and injuries to relocated/translocated tortoises; and assess the success of the translocation effort through monitoring. The final Plan shall be based on the draft Desert Tortoise Translocation Plan submitted by the Applicant (TTEC 2010a) and shall include all revisions deemed necessary by USFWS, CDFG and Energy Commission staff.	Within 30 days prior to site mobilization or construction-related ground disturbance, the Project owner shall provide the CPM with the final version of a Plan that has been reviewed and approved by the CPM in consultation with USFWS and CDFG. All modifications to the approved Plan shall be made only after approval by the CPM, in consultation with USFWS and CDFG. Within 30 days after initiation of relocation and/or translocation activities, the Designated Biologist shall provide to the CPM for review and approval, a written report identifying which items of the Plan have been completed, and a summary of all modifications to measures made during implementation of the Plan.	
Desert Tortoise Compliance Verification		
BIO-11 The Project owner shall provide Energy Commission staff with reasonable access to the Project site and compensation lands under the control of the Project owner and shall otherwise fully cooperate with the Energy Commission's efforts to verify the Project owner's compliance with, or the effectiveness of, mitigation measures set forth in the conditions of certification. The Project owner shall hold the Designated Biologist and the Energy Commission harmless for any costs the Project owner incurs in complying with the management measures, including stop work orders issued by the CPM or the Designated Biologist. The Designated Biologist shall do all of the following: 1. Notification. Notify the CPM and at least 14 calendar days before initiating construction-related ground disturbance activities; immediately notify the CPM in writing if the Project owner is not in compliance with any conditions of certification, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods specified in the conditions of certification. 2. Monitoring During Grubbing and Grading. Remain onsite daily in areas located outside of permanent desert tortoise exclusion fencing while vegetation salvage, grubbing, grading and other ground-disturbance construction activities are taking place to avoid or minimize take of listed species, and verify personally or use Biological Monitors to check for compliance with all impact avoidance and minimization measures, including checking all exclusion zones to ensure that signs, stakes, and fencing are intact and that human activities are restricted in these protective zones. 3. Monthly Compliance Inspections. Conduct compliance inspections at a minimum of once per month after clearing, grubbing, and grading are completed and submit a monthly compliance report to the CPM, USFWS, and CDFG during construction.	No later than 2 days following the above required notification of a sighting, injury, kill, or relocation of a listed species, the Project owner shall deliver to the CPM, CDFG, and USFWS via FAX or electronic communication the written report from the Designated Biologist describing all reported incidents of injury, kill, or relocation of a listed species, identifying who was notified, and explaining when the incidents occurred. In the case of a sighting in an active construction area, the Project owner shall, at the same time, submit a map (e.g., using Geographic Information Systems) depicting both the limits of construction and sighting location to the CPM, CDFG and USFWS. No later than 45 days after initiation of Project operation the Designated Biologist shall provide the CPM a Final Listed Species Mitigation Report that includes, at a minimum: 1) a copy of the table in the BRMIMP with notes showing when each of the mitigation measures was implemented; 2) all available information about Project-related incidental take of	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
4. Notification of Injured or Dead Listed Species. If an injured or dead listed species is detected within or near the Project Disturbance Area the CPM, CDFG, and USFWS shall be notified immediately by phone. Notification shall occur no later than noon on the business day following the event if it occurs outside normal business hours so that the agencies can determine if further actions are required to protect listed species. Written follow-up notification via FAX or electronic communication shall be submitted to these agencies within two calendar days of the incident and shall include the following information as relevant: a. Injured Desert Tortoise. If a desert tortoise is injured as a result of Project-related activities during construction, the Designated Biologist or approved Biological Monitor shall immediately take it to a CDFG-approved wildlife rehabilitation and/or veterinarian clinic. Any veterinarian bills for such injured animals shall be paid by the Project owner. Following phone notification as required above, the CPM, CDFG, and USFWS shall determine the final disposition of the injured animal, if it recovers. Written notification shall include, at a minimum, the date, time, location, circumstances of the incident, and the name of the facility where the animal was taken. b. Desert Tortoise Fatality. If a desert tortoise is killed by Project-related activities during construction or operation, a written report with the same information as an injury report shall be submitted to the CPM, CDFG, and USFWS. These desert tortoises shall be salvaged according to guidelines described in *Salvaging Injured, Recently Dead, Ill, and Dying Wild, Free-Roaming Desert Tortoise* (Berry 2001). The Project owner shall pay to have the desert tortoises transported and necropsied. The report shall include the date and time of the finding or incident. 5. Stop Work Order. The CPM may issue the Project owner a written stop work order to suspend any activity related to the construction or operation of the Project to prevent or remedy a violation of one or more conditions of certification (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. The Project owner shall comply with the stop work order immediately upon receipt thereof.	listed species; 3) information about other Project impacts on the listed species; 4) construction dates; 5) an assessment of the effectiveness of conditions of certification in minimizing and compensating for Project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future Projects on the listed species; and 7) any other pertinent information, including the level of take of the listed species associated with the Project.	
Desert Tortoise Compensatory Mitigation		
BIO-12 To fully mitigate for habitat loss and potential take of desert tortoise, the Project owner shall provide compensatory mitigation at a 1:1 ratio for impacts to 1750 acres, and at a 5:1 ratio for impacts to 24 acres of critical habitat, adjusted to reflect the final Project footprint. For purposes of this condition, the Project footprint means all lands disturbed in the construction and operation of the Genesis Project, including all linears, as well as undeveloped areas inside the Project's boundaries that will no longer provide viable long-term habitat for the desert tortoise. To satisfy this condition, the Project owner shall acquire, protect and transfer no fewer than 1,870 acres of desert tortoise habitat lands (adjusted to reflect the final Project footprint), and shall also provide funding for the initial improvement and long-term maintenance and management of the acquired lands, and comply with other related requirements in this condition. Costs of these requirements are estimated to be $4,263,600 based on the acquisition of 1,870 acres and estimated per-acre costs of $500 for acquisition, $330 for initial habitat improvement, and $1,450 for long-term management. The actual costs to comply with this condition will vary depending on the final footprint of the Project, the actual costs of acquiring compensation habitat, the costs of initially improving the habitat, and the actual costs of long-term management as determined by a PAR report. The 1,870-acre habitat requirement, and associated funding requirements based on that acreage, will be adjusted up or down if there are changes in the final footprint of the Project.	The Project owner shall provide the CPM with written notice at least 30 days prior to the start of ground-disturbing activities on the Project site. If the mitigation actions required under this condition are not completed at least 30 days prior to the start of ground-disturbing activities, the Project owner shall provide the CPM with approved Security at least 30 days prior to the start of Project ground-disturbing activities. No later than 12 months after the start of ground-disturbing Project activities, the Project owner shall submit a formal acquisition proposal to the CPM describing the parcels intended for purchase, and shall obtain approval from the CPM, in consultation with	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Condition **BIO-29** may provide the Project owner with another option for satisfying some or all of the requirements in this condition. The requirements for the acquisition, initial improvement, protection and long-term maintenance and management of compensation lands include all of the following: a. Selection Criteria for Compensation Lands. The quality and function of the compensation lands selected for acquisition shall be equal to or better than the quality and function of the habitat impacted and: a be within the Colorado Desert Recovery Unit, with potential to contribute to desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and/or other preserve lands; b. provide habitat for desert tortoise with capacity to regenerate naturally when disturbances are removed; c. be near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation; d. be connected to lands where desert tortoises can be reasonably expected to occur based on habitat or historic occurrences, ideally with populations that are stable, recovering, or likely to recover; e. not have a history of intensive recreational use or other disturbance that does not have the capacity to regenerate naturally when disturbances are removed or might make habitat recovery and restoration infeasible; f. not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration; g. not contain hazardous wastes that cannot be removed to the extent that the site could not provide suitable habitat; and h. have water and mineral rights included as part of the acquisition, unless the CPM, in consultation with CDFG, BLM and USFWS, agrees in writing to the acceptability of land without these rights. b. Review and Approval of Compensation Lands Prior to Acquisition. The Project owner shall submit a formal acquisition proposal to the CPM describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as compensation lands for desert tortoise in relation to the criteria listed above, and must be approved by the CPM. The CPM will share the proposal with and consult with CDFG, BLM, and the USFWS before deciding whether to approve or disapprove the proposed acquisition. c. Compensation Lands Acquisition Requirements. The Project owner shall comply with the following requirements relating to acquisition of the compensation lands after the CPM, in consultation with CDFG, BLM and the USFWS, has approved the proposed compensation lands: a. Preliminary Report. The Project owner, or approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary or requested documents for the proposed compensation land to the CPM. All documents conveying or conserving compensation lands and all conditions of title are subject to review and approval by the CPM, in consultation with CDFG, BLM and the	CDFG, BLM and USFWS, prior to the acquisition. If NFWF or another approved third party is handling the acquisition, the Project owner shall fully cooperate with the third party to ensure the proposal is submitted within this time period. The Project owner or an approved third party shall complete the acquisition and all required transfers of the compensation lands, and provide written verification to the CPM, CDFG, BLM, and USFWS of such completion, no later than 18 months after the start of Project ground-disturbing activities. If NFWF or another approved third party is being used for the acquisition, the Project owner shall ensure that funds needed to accomplish the acquisition are transferred in timely manner to facilitate the planned acquisition and to ensure the land can be acquired and transferred prior to the 18-month deadline. The Project owner shall complete and submit to the CPM a PAR or PAR-like analysis no later than 60 days after the CPM approves compensation lands for acquisition. The Project owner shall fully fund the required amount for long-term maintenance and management of the compensation lands no later than 30 days after the CPM approves a PAR or PAR-like analysis of the anticipated long-term maintenance and management costs of the compensation lands. Written verification shall be provided to the CPM and CDFG to confirm payment of the long-term maintenance and management funds. No later than 60 days after the CPM determines what activities are required to provide for initial protection and habitat improvement on the compensation lands, the Project owner shall make funding available for those activities and provide written verification to the CPM of what funds are available and how costs will be paid. Initial protection and habitat improvement activities on the compensation lands shall be completed, and written verification provided to the CPM, no later than six months after the CPM's determination of what activities are required on the compensation lands.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
USFWS. For conveyances to the State, approval may also be required from the California Department of General Services, the Fish and Game Commission and the Wildlife Conservation Board. b. Title/Conveyance. The Project owner shall acquire and transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement, as required by the CPM in consultation with CDFG. Any transfer of a conservation easement or fee title must be to CDFG, a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM or other public agency approved by the CPM in consultation with CDFG. If an approved non-profit organization holds fee title to the compensation lands, a conservation easement shall be recorded in favor of CDFG or another entity approved by the CPM. If an entity other than CDFG holds a conservation easement over the compensation lands, the CPM may require that CDFG or another entity approved by the CPM, in consultation with CDFG, be named a third party beneficiary of the conservation easement. The Project owner shall obtain approval of the CPM, in consultation with CDFG, of the terms of any transfer of fee title or conservation easement to the compensation lands. c. Initial Protection and Habitat Improvement. The Project owner shall fund activities that the CPM, in consultation with the CDFG, USFWS and BLM, requires for the initial protection and habitat improvement of the compensation lands. These activities will vary depending on the condition and location of the land acquired, but may include trash removal, construction and repair of fences, invasive plant removal, and similar measures to protect habitat and improve habitat quality on the compensation lands. The cost of these activities is estimated at $330 an acre, but will vary depending on the measures that are required for the compensation lands. A non-profit organization, CDFG or another public agency may hold and expend the habitat improvement funds if it is qualified to manage the compensation lands (pursuant to California Government Code section 65965), if it meets the approval of the CPM in consultation with CDFG, and if it is authorized to participate in implementing the required activities on the compensation lands. If CDFG takes fee title to the compensation lands, the habitat improvement fund must be paid to CDFG or its designee. d. Property Analysis Record. Upon identification of the compensation lands, the Project owner shall conduct a Property Analysis Record (PAR) or PAR-like analysis to establish the appropriate amount of the long-term maintenance and management fund to pay the in-perpetuity management of the compensation lands. The PAR or PAR-like analysis must be approved by the CPM, in consultation with CDFG, before it can be used to establish funding levels or management activities for the compensation lands. e. Long-term Maintenance and Management Funding. The Project owner shall provide money to establish an account with non-wasting capital that will be used to fund the long-term maintenance and management of the compensation lands. The amount of money to be paid will be determined through an approved PAR or PAR-like analysis conducted for the compensation lands. The amount of required funding is initially estimated to be $1,450 for every acre of compensation lands. If compensation lands will not be identified and a PAR or PAR-like analysis completed within the time period specified for this payment (see the verification section at the end of this condition), the Project owner shall either provide initial payment of $2,711,500 (calculated at $1,450 an acre for 1,870 acres) or the Project owner shall include $2,711,500 to reflect this amount in the security that is provided to the Energy Commission under section 3.h. of this condition. The amount of the required initial payment or security for this item shall be adjusted for any change in the Project footprint as described above. If an initial payment is made based on the estimated per-acre costs, the Project owner shall deposit additional	The Project owner, or an approved third party, shall provide the CPM, CDFG, BLM and USFWS with a management plan for the compensation lands within180 days of the land or easement purchase, as determined by the date on the title. The CPM, in consultation with CDFG, BLM and the USFWS, shall approve the management plan after its content is acceptable to the CPM. Within 90 days after completion of all project related ground disturbance, the Project owner shall provide to the CPM, CDFG, BLM and USFWS an analysis, based on aerial photography, with the final accounting of the amount of habitat disturbed during Project construction. This shall be the basis for the final number of acres required to be acquired.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
money as may be needed to provide the full amount of long-term maintenance and management funding indicated by a PAR or PAR-like analysis, once the analysis is completed and approved. If the approved analysis indicates less than $1,450 an acre will be required for long-term maintenance and management, the excess paid will be returned to the Project owner. The Project owner must obtain the CPM's approval of the entity that will receive and hold the long-term maintenance and management fund for the compensation lands. The CPM will consult with CDFG before deciding whether to approve an entity to hold the Project's long-term maintenance and management funds. The Project owner shall ensure that an agreement is in place with the long-term maintenance and management fund holder/manager to ensure the following requirements are met: i. Interest. Interest generated from the initial capital long-term maintenance and management fund shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action that is approved by the CPM in consultation with CDFG and is designed to protect or improve the habitat values of the compensation lands. ii. Withdrawal of Principal. The long-term maintenance and management fund principal shall not be drawn upon unless such withdrawal is deemed necessary by the CPM, in consultation with CDFG, or by the approved third-party long-term maintenance and management fund manager, to ensure the continued viability of the species on the compensation lands. iii. Pooling Long-Term Maintenance and Management Funds. An entity approved to hold long-term maintenance and management funds for the Project may pool those funds with similar non-wasting funds that it holds from other projects for long-term maintenance and management of compensation lands for local populations of desert tortoise. However, for reporting purposes, the long-term maintenance and management funds for this Project must be tracked and reported individually to the CPM and CDFG. f. Other expenses. In addition to the costs listed above, the Project owner shall be responsible for all other costs related to acquisition of compensation lands and conservation easements, including but not limited to the title and document review costs incurred from other state agency reviews, overhead related to providing compensation lands to CDFG or an approved third party, escrow fees or costs, environmental contaminants clearance, and other site cleanup measures. g. Management plan. The Project owner or approved third party shall prepare a management plan for the compensation lands in consultation with the entity that will be managing the lands. The plan shall be submitted for approval of the CPM, in consultation with CDFG, BLM, and USFWS. h. Mitigation Security. The Project owner shall provide financial assurances to the CPM, with copies of the final document to CDFG, to guarantee that an adequate level of funding is available to implement any of the mitigation measures required by this condition that are not completed prior to the start of ground-disturbing Project activities. Financial assurances shall be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") approved by the CPM in consultation with CDFG. Prior to submitting the Security to the CPM, the Project owner shall obtain the CPM's approval, in		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
consultation with CDFG, of the form of the Security. The CPM may draw on the Security if the CPM determines the Project owner has failed to comply with the requirements specified in this condition. The CPM may use money from the Security solely for implementation of the requirements of this condition. The CPM's use of the Security to implement measures in this condition may not fully satisfy the Project owner's obligations under this condition. The Security shall be returned to the Project owner in whole or in part upon successful completion of the associated requirements in this condition. Security shall be provided in the amount of $4,263,600, calculated as follows but adjusted as specified below: i. land acquisition costs for compensation land, calculated at $500/acre = $935,000. ii. initial protection and habitat improvement activities on the compensation land, calculated at $330/acre = $617,100. iii. long-term maintenance and management on the compensation land calculated at $1,450/acre = $2,711,500. The amount of security shall be adjusted for any change in the Project footprint as described above. In addition, the amount of Security specified in this section may be reduced in proportion to any of the secured mitigation requirements that the Project owner has completed at the time the Security is required to be submitted. For example, if the Project owner transfers funds for long-term management of the compensation lands to an entity approved to hold those funds, the Security would not include any amount for long-term maintenance and management of the lands. The Project owner will be entitled to partial or complete release of the Security as the secured mitigation requirements are successfully completed. i. The Project owner may elect to comply with the requirements in this condition for acquisition of compensation lands, initial protection and habitat improvement on the compensation lands, or long-term maintenance and management of the compensation lands by funding, or any combination of these three requirements, by providing funds to implement those measures into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF). To use this option, the Project owner must make an initial deposit to the REAT Account in an amount equal to the estimated costs (as set forth in the Security section of this condition) of implementing the requirement. If the actual cost of the acquisition, initial protection and habitat improvements, or long-term funding is more than the estimated amount initially paid by the Project owner, the Project owner shall make an additional deposit into the REAT Account sufficient to cover the actual acquisition costs, the actual costs of initial protection and habitat improvement on the compensation lands, or the long-term funding requirements as established in an approved PAR or PAR-like analysis. If those actual costs or PAR projections are less than the amount initially transferred by the applicant, the remaining balance shall be returned to the Project owner. The responsibility for acquisition of compensation lands may be delegated to a third party other than NFWF, such as a non-governmental organization supportive of desert habitat conservation, by written agreement of the Energy Commission. Such delegation shall be subject to approval by the CPM, in consultation with CDFG, BLM and USFWS, prior to land acquisition, enhancement or management activities. Agreements to delegate land acquisition to an approved third party, or to manage compensation lands, shall be executed and implemented within 18 months of the Energy Commission's certification of the Project.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Raven Management Plan		
BIO-13 The Project owner shall implement a raven monitoring and control plan that is consistent with the most current USFWS-approved raven management guidelines, and which meets the approval of the CPM, in consultation with USFWS. The draft Common Raven Monitoring, Management, and Control Plan (Raven Plan) submitted by the Applicant (TTEC 2010r) shall provide the basis for the final plan, subject to review and revisions and approval from the CPM and USFWS. The Raven Plan shall include but not be limited to a program to monitor increased raven presence in the Project vicinity and to implement raven control measures as needed based on that monitoring. The purpose of the plan is to avoid any Project-related increases in raven numbers during construction, operation, and decommissioning. The threshold for implementation of raven control measures shall be any increases in raven numbers from baseline conditions, as detected by monitoring proposed in the Raven Plan. In addition, to offset the cumulative contributions of the Project to desert tortoise from increased raven numbers, the Project owner shall also contribute to the USFWS Regional Raven Management Program. The Project owner shall do all of the following: 1. Prepare and Implement a Raven Management Plan that includes the following: a. Identify conditions associated with the Project that might provide raven subsidies or attractants; b. Describe management practices to avoid or minimize conditions that might increase raven numbers and predatory activities; c. Describe control practices for ravens; d. Address monitoring and nest removal during construction and for the life of the Project, and; e. Discuss reporting requirements. 2. Contribute to the USFWS Regional Raven Management Program. The project owner shall submit payment to the project sub-account of the REAT Account held by the National Fish and Wildlife Foundation (NFWF) to support the USFWS Regional Raven Management Program. The amount shall be a one-time payment of $105 per acre of permanent disturbance.	No less than 30 days prior to any construction-related ground disturbance activities, the Project owner shall provide the CPM, USFWS, and CDFG with the final version of a Raven Plan. All modifications to the approved Raven Plan shall be made only with approval of the CPM in consultation with USFWS and CDFG. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM for review and approval, a written report identifying which items of the Raven Plan have been completed, a summary of all modifications to mitigation measures made during the Project's construction phase, and which items are still outstanding. On January 31st of each year following construction the Designated Biologist shall provide a report to the CPM that includes: a summary of the results of raven management and control activities for the year; a discussion of whether raven control and management goals for the year were met; and recommendations for raven management activities for the upcoming year.	
Weed Management Plan		
BIO-14 The Project owner shall implement a Weed Management Plan that meets the approval of the CPM. The objective of the Weed Management Plan shall be to prevent the introduction of any new weeds and the spread of existing weeds as a result of Project construction, operation, and decommissioning. The draft Weed Management Plan submitted by the Applicant (TTEC 2009g) shall provide the basis for the final plan, subject to review and revisions from the CPM. The Final Weed Management Plan shall include at a minimum the following information: specific weed management objectives and measures for each target non-native weed species; baseline conditions; a map of the Weed Management Areas; weed risk assessment and measures to prevent the introduction and spread of weeds; monitoring and surveying methods; and reporting requirements.	No less than 10 days prior to start of any Project-related ground disturbance activities, the Project owner shall provide the CPM with the final version of a Weed Management Plan that has been reviewed and approved by Energy Commission staff, USFWS, and CDFG. Modifications to the approved Weed Control Plan shall be made only after consultation with the Energy Commission staff, USFWS, and CDFG.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
To ensure that weed management does not have unintended adverse effects on special-status species, the final Weed Management Plan shall be revised to be consistent with guidelines for safe use of herbicides in natural areas provided by The Nature Conservancy's The Global Invasive Species Team: http://www.invasive.org/gist/products/library/herbsafe.pdf. The final Plan shall include detailed specifications for avoiding herbicide and soil stabilizer drift, and shall include a list of herbicides and soil stabilizers that will be used on the Project with manufacturer's guidance on appropriate use. The Plan shall Indicate where the herbicides will be used, and what techniques will be used to avoid chemical drift or residual toxicity to special-status species and their pollinators, and consistent with the Nature Conservancy guidelines and the criteria under #2, below. The final plan shall only include weed control measures for target weeds with a demonstrated record of success, based on the best available information from sources such as: The Nature Conservancy's The Global Invasive Species Team, Cooperative Extension, California Invasive Plant Council: http://www.cal-ipc.org/ip/management/plant_profiles/index.php, and the California Department of Food & Agriculture Encycloweedia: http://www.cdfa.ca.gov/phpps/ipc/encycloweedia/encycloweedia_h p.htm. The methods shall meet the following criteria: 1. Manual: well-timed removal of plants or seed heads with hand tools; seed heads and plants must be disposed of in accordance with guidelines from the Riverside County Agricultural Commissioner. 2. Chemical: Herbicides known to have residual toxicity, such as pre-emergents and pellts, shall not be used in natural areas or within the engineered channels. Only the following application methods may be used: wick (wiping onto leaves); inner bark injection; cut stump; frill or hack & squirt (into cuts in the trunk); basal bark girdling; foliar spot spraying with backpack sprayers or pump sprayers at low pressure or with a shield attachment to control drift, and only on windless days, or with a squeeze bottle for small infestations. 3. Biological: Biological methods may be used subject to review and approval by CDFG and USFWS and only if approved for such use by CDFA, and are either locally native species or have no demonstrated threat of naturalizing or hybridizing with native species; 4. Mechanical: disking, tilling, and mechanical mowers or other heavy equipment shall not be employed in natural areas but hand weed trimmers (electric or gas-powered) may be used. Mechanical trimmers shall not be used during periods of high fire risk and shall only be used with implementation of fire prevention measures (GSEP 2009a).	Within 30 days after completion of Project construction, the Project owner shall provide to the CPM for review and approval, a written report identifying which items of the Weed Management Plan have been completed, a summary of all modifications to mitigation measures made during the Project's construction phase, and which items are still outstanding. On January 31st of each year following construction the Designated Biologist shall provide a report to the CPM that includes: a summary of the results of noxious weeds surveys and management activities for the year; a discussion of whether weed management goals for the year were met; and recommendations for weed management activities for the upcoming year.	
Pre-Construction Nest Surveys And Avoidance Measures		
BIO-15 Pre-construction nest surveys for bird species other than burrowing owls shall be conducted if construction activities would occur at any time during the period of February 1 through July 31. Burrowing owl nest surveys are addressed in BIO-18. The Designated Biologist or Biological Monitor conducting the surveys shall be experienced bird surveyors familiar with standard nest-locating techniques such as those described in Martin and Guepel (1993 as referenced in the CEC RSA June 2010). The goal of the nesting surveys shall be to identify the general location of the nest sites, sufficient to establish a protective buffer zone around the potential nest site, and need not include identification of the precise nest locations. Surveyors performing nest surveys shall not concurrently be conducting desert tortoise surveys. The bird surveyors shall perform surveys in accordance with the following guidelines:	Prior to the start of any Project-related ground disturbance activities, the Project owner shall provide the CPM a letter-report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor (s); and a list of species observed. If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
1. Surveys shall cover all potential nesting habitat in the Project site or within 500 feet of the boundaries of the site (including linear facilities); 2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. One of the surveys shall be conducted within the 7-day period preceding initiation of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed three weeks, an interval during which birds may establish a nesting territory and initiate egg laying and incubation; 3. If active nests are detected during the survey, a buffer zone and monitoring plan shall be developed. The size of the buffer zone shall be developed in consultation with CDFG and shall be determined based on the species specific alert distance and flush initiation distance[2]. Nest locations shall be mapped and submitted, along with a report stating the survey results, to the CPM; and The Designated Biologist or Biological Monitor shall monitor the nest until he or she determines that nestlings have fledged and dispersed; activities that might, in the opinion of the Designated Biologist, disturb nesting activities, shall be prohibited within the buffer zone until such a determination is made.	the no-disturbance buffer zone around the nest(s) that would be avoided during project construction. No later than January 31st of every year following construction a follow-up report shall be provided to the CPM, CDFG, and USFWS describing the success of the buffer zones in preventing disturbance to nesting activity and a brief description of the outcome of the nesting effort (for example, whether young were successfully fledged from the nest or if the nest failed).	
Avian Protection Plan		
BIO-16 The Project owner shall prepare and implement an Avian Protection Plan to monitor the death and injury of birds from collisions with facility features such as transmission lines, reflective mirror-like surfaces and from heat, and bright light from concentrating sunlight. The Project owner shall use the monitoring data to inform and develop an adaptive management program that would avoid and minimize Project-related avian impacts. Project-related bird deaths or injuries shall be reported to the CPM, CDFG, and USFWS. The CPM, in consultation with CDFG and USFWS, shall determine if the Project-related bird deaths or injuries warrant implementation of adaptive management measures contained in the Avian Protection Plan. The study design for the Avian Protection Plan shall be approved by the CPM in consultation with CDFG and USFWS, and, once approved, shall be incorporated into the project's BRMIMP and implemented.	No less than 30 days prior to the start of construction-related ground disturbance activities the Project owner shall submit to the CPM, USFWS, and CDFG a final Avian Protection Plan. Modifications to the Avian Protection Plan shall be made only after approval from the CPM. For one year following the beginning of power plant operation the Designated Biologist shall submit quarterly reports to the CPM, CDFG, and USFWS describing the dates, durations, and results of monitoring. The quarterly reports shall provide a detailed description of any Project-related bird deaths or injuries detected during the monitoring study or at any other time, and describe adaptive management measures implemented to avoid or minimize deaths or injuries. Following the completion of the fourth quarter of monitoring the Designated Biologist shall prepare an Annual Report that summarizes the year's data, analyzes any Project-related bird fatalities or injuries detected, and provides recommendations for future monitoring and any adaptive	

[2] Alert distance refers to the distance between an animal and an activity when the animal becomes visibly alert (as evidenced by cessation of feeding and scrutiny of activity). Flush initiation distance, also called flight distance, refers to the distance between the animal and an activity when the animal takes flight (Taylor and Knight 2003).

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
	management actions needed. No later than January 31st of every year the Annual Report shall be provided to the CPM, CDFG, and USFWS. Quarterly reporting shall continue until the CPM, in consultation with CDFG and USFWS determine whether more years of monitoring are needed, and whether mitigation and adaptive management measures are necessary. After two years of data collection the project owner or contractor shall prepare a report that describes the study design and monitoring results of the Avian Protection Plan. The report shall be submitted to the CPM, CDFG and USFWS no later than the third year after onset of Project operation.	
American Badger and Desert Kit Fox Impact Avoidance and Minimization Measures		
BIO-17 To avoid direct impacts to American badgers and desert kit fox, pre-construction surveys shall be conducted for these species concurrent with the desert tortoise surveys. Surveys shall be conducted as described below: Biological Monitors shall perform pre-construction surveys for badger and kit fox dens in the Project area, including areas within 90 feet of all Project facilities, utility corridors, and access roads. Surveys may be concurrent with desert tortoise surveys. If dens are detected each den shall be classified as inactive, potentially active, or definitely active. Inactive dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by badgers or kit fox. Potentially and definitely active dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. If tracks are observed, and especially if high or low ambient temperatures could potentially result in harm to kit fox or badger from burrow exclusion, various passive hazing methods may be used to discourage occupants from continued use. After verification that the den is unoccupied it shall then be excavated and backfilled by hand to ensure that no badgers or kit fox are trapped in the den. In the event that passive relocation techniques fail for badgers, the Applicant will contact CDFG to explore other relocation options, which may include trapping.	The Project owner shall submit a report to the CPM and CDFG within 30 days of completion of badger and kit fox surveys. The report shall describe survey methods, results, impact avoidance and minimization measures implemented, and the results of those measures.	
Burrowing Owl Impact Avoidance, Minimization, and Compensation Measures		
BIO-18 The Project owner shall implement the following measures to avoid, minimize and offset impacts to burrowing owls: 1. Pre-Construction Surveys. The Designated Biologist or Biological Monitor shall conduct pre-construction surveys for burrowing owls no more than 30 days prior to initiation of construction activities. Surveys shall be focused exclusively	If pre-construction surveys detect burrowing owls within 500 feet of proposed construction activities, the Designated Biologist shall provide to the CPM, BLM, CDFG and USFWS documentation indicating that non-	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
on detecting burrowing owls, and shall be conducted from two hours before sunset to one hour after or from one hour before to two hours after sunrise. The survey area shall include the Project Disturbance Area and surrounding 500 foot survey buffer. 2. Implement Avoidance Measures. If an active burrowing owl burrow is detected within 500 feet from the Project Disturbance Area the following avoidance and minimization measures shall be implemented: a. Establish Non-Disturbance Buffer. Fencing shall be installed at a 250-foot radius from the occupied burrow to create a non-disturbance buffer around the burrow. The non-disturbance buffer and fence line may be reduced to 160 feet if all Project-related activities that might disturb burrowing owls would be conducted during the non-breeding season (September 1st through January 31st). Signs shall be posted in English and Spanish at the fence line indicating no entry or disturbance is permitted within the fenced buffer. b. Monitoring: If construction activities would occur within 500 feet of the occupied burrow during the nesting season (February 1 – August 31st) the Designated Biologist or Biological Monitor shall monitor to determine if these activities have potential to adversely affect nesting efforts, and shall implement measures to minimize or avoid such disturbance. 3. Passive Relocation of Burrowing Owls. If pre-construction surveys indicate the presence of burrowing owls within the Project Disturbance Area (the Project Disturbance Area means all lands disturbed in the construction and operation of the Genesis Project), the Project owner shall prepare and implement a Burrowing Owl Relocation and Mitigation Plan, in addition to the avoidance measures described above. The final Burrowing Owl Relocation and Mitigation Plan shall be approved by the CPM, in consultation with USFWS, BLM and CDFG, and shall: a. Identify and describe suitable relocation sites within 1 mile of the Project Disturbance Area, and describe measures to ensure that burrow installation or improvements would not affect sensitive species habitat or existing burrowing owl colonies in the relocation area; b. Passive relocation sites shall be in areas of suitable habitat for burrowing owl nesting, and be characterized by minimal human disturbance and access. Relative cover of non-native plants within the proposed relocation sites shall not exceed the relative cover of non-native plants in the adjacent habitats; c. Provide detailed methods and guidance for passive relocation of burrowing owls occurring within the Project Disturbance Area; and d. Prepare a monitoring and management of the relocated burrowing owl site, and provide a reporting plan. The objective of the plan shall be to manage the relocation area for the benefit of burrowing owls, with the specific goals of: i. Maintaining the functionality of the burrows for two years. ii. Minimizing the occurrence of weeds (species considered “moderate” or “high” threat to California wildlands as defined by CAL-IPC [2006] and noxious weeds rated “A” or “B” by the California Department of Food and Agriculture and any federal-rated pest plants [CDFA 2009]) at less than 10 percent cover of the shrub and herb layers. 4. Acquire Compensatory Mitigation Lands for Burrowing Owls. The following measures for compensatory mitigation shall	disturbance buffer fencing has been installed at least 10 days prior to the start of any construction-related ground disturbance activities. The Project owner shall report monthly to the CPM, CDFG, BLM and USFWS for the duration of construction on the implementation of burrowing owl avoidance and minimization measures. Within 30 days after completion of construction the Project owner shall provide to the CPM, BLM, CDFG and USFWS a written construction termination report identifying how mitigation measures described in the plan have been completed. If pre-construction surveys detect burrowing owls within the Project Disturbance Area, the Project owner shall notify the CPM, BLM, CDFG, and USFWS no less than 10 days of completing the surveys that a relocation of owls is necessary. The Project owner shall do all of the following if relocation of one or more burrowing owls is required: a. Within 30 days of completion of the burrowing owl pre-construction surveys, submit to the CPM, CDFG and USFWS a Burrowing Owl Relocation and Mitigation Plan. b. No less than 90 days prior to acquisition of the burrowing owl compensation lands, the Project owner, or an approved third party, shall submit a formal acquisition proposal to the CPM, CDFG, and USFWS describing the 39-acre parcel intended for purchase. At the same time the Project owner shall submit a PAR or PAR-like analysis for the parcels for review and approval by the CPM, CDFG and USFWS. c. Within 90 days of the land or easement purchase, as determined by the date on the title, the Project owner shall provide the CPM with a management plan for review and approval, in consultation with CDFG, BLM and USFWS, for the compensation lands and associated funds. d. No later than 30 days prior to the start of construction-related ground disturbing activities, the Project owner shall provide written verification	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
apply only if burrowing owls that are detected within the Project Disturbance Area. The Project owner shall acquire, in fee or in easement, 19.5 acres of land for each burrowing owl that is displaced by construction of the Project. Staff anticipates displacement of two owls for a total of 39 acres of compensatory mitigation land. This compensation acreage of 19.5 acres per single bird or pair of nesting owls assumes that there is no evidence that the compensation lands are occupied by burrowing owls. If burrowing owls are observed to occupy the compensation lands, then only 9.75 acres per single bird or pair is required, per CDFG (1995 as cited in the CEC RSA June 2010) guidelines. If the compensation lands are contiguous to currently occupied habitat, then the replacement ratio will be 13.0 acres per pair or single bird. All measures below that are based on a compensation lands total of 39 acres would be revised accordingly. Thirty-nine acres will be used as a placeholder for security. The Project owner shall provide funding for the enhancement and long-term management of these compensation lands. The acquisition and management of the compensation lands may be delegated by written agreement to CDFG or to a third party, such as a non-governmental organization dedicated to habitat conservation, subject to approval by the CPM, in consultation with CDFG and USFWS prior to land acquisition or management activities. Additional funds shall be based on the adjusted market value of compensation lands at the time of construction to acquire and manage habitat. In lieu of acquiring lands itself, the Project owner may satisfy the requirements of this condition by depositing funds into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF), as described in Section 3.i. of Condition of Certification BIO-12. a. Criteria for Burrowing Owl Mitigation Lands. The terms and conditions of this acquisition or easement shall be as described in Paragraph 1 of **BIO-12** [Desert Tortoise Compensatory Mitigation], with the additional criteria to include: 1) the 39 acres of mitigation land must provide suitable habitat for burrowing owls, and 2) the acquisition lands must either currently support burrowing owls or be within dispersal distance from areas occupied by burrowing owls (generally approximately 5 miles). The 39 acres of burrowing owl mitigation lands may be included with the desert tortoise mitigation lands ONLY if these two burrowing owl criteria are met. If the 39 acre of burrowing owl mitigation land is separate from the acquisition required for desert tortoise compensation lands, the Project owner shall fulfill the requirements described below in this condition. b. Security. The Security measures described below is based on the assumption that two owls would be impacted by construction of the Project, and would therefore require 39 acres of compensatory mitigation land. If the 39 acres of burrowing owl mitigation land is separate from the acreage required for desert tortoise compensation lands the Project owner or an approved third party shall complete acquisition of the proposed compensation lands prior to initiating ground-disturbing Project activities. Alternatively, financial assurance can be provided by the Project owner to the CPM with copies of the document(s) to CDFG, BLM and the USFWS, to guarantee that an adequate level of funding is available to implement the mitigation measure described in this condition. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") prior to initiating ground-disturbing Project activities. Prior to submittal to the CPM, the Security shall be approved by the CPM, in consultation with CDFG, BLM and the USFWS to ensure funding. As of the publication of the RSA, this amount is $44,460 but this amount may change based on land costs or the estimated costs of enhancement and endowment (see subsection C.2.4.2, Desert Tortoise, for a discussion of the assumptions used in calculating the Security, which are based on an estimate of $2,280 per acre to fund acquisition, enhancement, and long-term management). The final amount due will be determined by the PAR analysis conducted pursuant to **BIO-12**.	of Security in accordance with this condition of certification. e. No later than 18 months after the start of construction-related ground disturbance activities, the Project owner shall provide written verification to the CPM, BLM, CDFG and USFWS that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient. f. On January 31st of each year following construction for a period of five years, the Designated Biologist shall provide a report to the CPM, USFWS, BLM and CDFG that describes the results of monitoring and management of the burrowing owl relocation area. The annual report shall provide an assessment of the status of the relocation area with respect to burrow function and weed infestation, and shall include recommendations for actions the following year for maintaining the burrows as functional burrowing owl nesting sites and minimizing the occurrence of weeds.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Special-Status Plant Impact Avoidance, Minimization and Compensation		
BIO-19 This condition contains the following four sections: ▪ **Section A: Special-Status Plant Impact Avoidance and Minimization Measures** contains the Best Management Practices and other measures designed to avoid accidental impacts to plants occurring outside of the Project Disturbance Area and within 100 feet of the Project Disturbance Area during construction, operation, and closure. ▪ **Section B: Conduct Late Season Botanical Surveys** describes guidelines for conducting summer-fall 2010 surveys to detect special-status plants that would have been missed during the spring 2010 surveys. ▪ **Section C: Avoidance Requirements for Special-Status Plants Detected in the Summer/Fall 2010 Surveys** outlines the level of avoidance required for plants detected during the summer-fall surveys, based on the species' rarity and status codes. ▪ **Section D: Off-Site Compensatory Mitigation for Special-Status Plants** describes performance standards for mitigation for a range of options for compensatory mitigation through acquisition, restoration/enhancement, or a combination of acquisition and restoration/enhancement. "Project Disturbance Area" encompasses all areas to be temporarily and permanently disturbed by the Project, including the plant site, linear facilities, and areas disturbed by temporary access roads, fence installation, construction work lay-down and staging areas, parking, storage, or by any other activities resulting in disturbance to soil or vegetation. The Project owner shall implement the following measures in Section A, B, C, and D to avoid, minimize, and compensate for impacts to special-status plant species: **G.1 Section A: Special-Status Plant Impact Avoidance and Minimization Measures** To protect all special-status plants[3] located outside of the Project Disturbance Area and within 100 feet of the permitted Project Disturbance Area from accidental and indirect impacts during construction, operation, and closure, the Project owner shall implement the following measures: 1. Designated Botanist. An experienced botanist who meets the qualifications described in Section **B-2** below shall oversee compliance with all special-status plant avoidance, minimization, and compensation measures described in this condition throughout construction and closure. The Designated Botanist shall oversee and train all other Biological Monitors tasked with conducting botanical survey and monitoring work. During operation of the Project, the Designated Biologist shall be responsible for protecting special-status plant occurrences within 100 feet of the Project boundaries. 2. Special-Status Plant Impact Avoidance and Minimization Measures. The Project owner shall incorporate all measures for protecting special-status plants in close proximity to the site into the BRMIMP (**BIO-7**). These measures shall include the following elements:	The Special-Status Plant Impact Avoidance and Minimization Measures shall be incorporated into the BRMIMP as required under Condition of Certification **BIO-7.** Raw GPS data, metadata, and CNDDB field forms shall be submitted to the CPM within two weeks of the completion of each survey. A preliminary summary of results for the late summer/fall botanical surveys shall also be submitted to the CPM and BLM's State Botanist within two weeks following the completion of the surveys. If surveys are split into more than one period, then a summary letter shall be submitted following each survey period. The Final Summer-Fall Botanical Survey Report, GIS shape files and metadata shall be submitted to the BLM State Botanist and the CPM no less than 30 days prior to the start of ground-disturbing activities. The Final Report shall include a detailed accounting of the acreage of Project impacts to special-status plant occurrences. The draft conceptual Special-Status Plant Mitigation Plan shall be submitted to the CPM for review and approval no less than 30 days prior to the start of ground-disturbing activities. The Project owner shall immediately provide written notification to the CPM, CDFG, USFWS, and BLM if it detects a State- or Federal-Listed Species, or BLM Sensitive Species at any time during its late summer/fall botanical surveys or at any time thereafter through the life of the Project, including conclusion of Project decommissioning. No less than 30 days prior to the start of ground-disturbing activities the Project owner shall submit grading plans and construction drawings to the CPM	

[3] Staff defines special-status plants as described in *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (California Natural Resources Agency, Department of Fish and Game, issued November 24, 2009).

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
a. Site Design Modifications: Incorporate site design modifications to minimize impacts to special-status plants along the Project linears: limiting the width of the work area; adjusting the location of staging areas, lay downs, spur roads and poles or towers; driving and crushing vegetation as an alternative to blading temporary roads to preserve the seed bank, and minor adjustments to the alignment of the roads and pipelines within the constraints of the ROW. Design the engineered channel discharge points to maintain the natural surface drainage patterns between the engineered channel and the outlet of the natural washes that flow toward the south and east, downstream of the Project These modifications shall be clearly depicted on the grading and construction plans, and on report-sized maps in the BRMIMP. b. Establish Environmentally Sensitive Areas (ESAs). Prior to the start of any ground- or vegetation-disturbing activities, the Designated Botanist shall establish ESAs to protect avoided special-status plants that occur outside of the Project Disturbance Areas and within 100 feet of Project Disturbance Areas. This includes plant occurrences identified during the spring 2009-2010 surveys and the late season 2010 surveys. The locations of ESAs shall be clearly depicted on construction drawings, which shall also include all avoidance and minimization measures on the margins of the construction plans. The boundaries of the ESAs shall be placed a minimum of 20 feet from the uphill side of the occurrence and 10 feet from the downhill side. Where this is not possible due to construction constraints, other protection measures, such as silt-fencing and sediment controls, may be employed to protect the occurrences. Equipment and vehicle maintenance areas, and wash areas, shall be located 100 feet from the uphill side of any ESAs. ESAs shall be clearly delineated in the field with temporary construction fencing and signs prohibiting movement of the fencing or sediment controls under penalty of work stoppages and additional compensatory mitigation. ESAs shall also be clearly identified (with signage or by mapping on site plans) to ensure that avoided plants are not inadvertently harmed during construction, operation, or closure. c. Special-Status Plant Worker Environmental Awareness Program (WEAP). The WEAP **(BIO-6)** shall include training components specific to protection of special-status plants as outlined in this condition. d. Herbicide and Soil Stabilizer Drift Control Measures. **S**pecial-status plant occurrences within 100 feet of the Project Disturbance Area shall be protected from herbicide and soil stabilizer drift. The Weed Control Program (**BIO-14**) shall include measures to avoid chemical drift or residual toxicity to special-status plants consistent with guidelines such as those provided by the Nature Conservancy's *The Global Invasive Species Team*[4], the U.S. Environmental Protection Agency, and the Pesticide Action Network Database[5].	which depict the location of Environmentally Sensitive Areas and the Avoidance and Minimization Measures contained in Section A of this Condition. If compensatory mitigation is required, no less than 30 days prior to the start of ground-disturbing activities, the Project owner shall submit to the CPM the form of Security adequate to acquire compensatory mitigation lands and/or undertake habitat enhancement or restoration activities, as described in this condition. Actual Security shall be provided 7 days prior to start of ground-disturbing activities. No fewer than 90 days prior to acquisition of compensatory mitigation lands, the Project owner shall submit a formal acquisition proposal and draft Management Plan for the proposed lands to the CPM, with copies to CDFG, USFWS, and BLM, describing the parcels intended for purchase and shall obtain approval from the CPM prior to the acquisition. No fewer than 90 days prior to acquisition of compensatory mitigation lands, the Project owner shall submit to the CPM and obtain CPM approval of any agreements to delegate land acquisition to an approved third party, or to manage compensation lands; such agreement shall be executed and implemented within 18 months of the start of ground disturbance. No fewer than 30 days after acquisition of the property the Project owner shall deposit the funds required by Section I e above (long term management and maintenance fee) and provide proof of the deposit to the CPM. The Project owner or an approved third party shall complete the acquisition and all required transfers of the compensation lands, and provide written	

4 Hillmer, J. & D. Liedtke. 2003. Safe herbicide handling: a guide for land stewards and volunteer stewards. Ohio Chapter, The Nature Conservancy, Dublin, OH. 20 pp. Online: <http://www.invasive.org/gist/products.html.

5 Pesticide Action Network of North America. Kegley, S.E., Hill, B.R., Orme S., Choi A.H., PAN Pesticide Database, Pesticide Action Network, North America. San Francisco, CA, 2010 <http://www.pesticideinfo.org>

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
e. Erosion and Sediment Control Measures. Erosion and sediment control measures shall not inadvertently impact special-status plants (e.g., by using invasive or non-native plants in seed mixes, introducing pest plants through contaminated seed or straw, etc.). These measures shall be incorporated in the Drainage, Erosion, and Sedimentation Control Plan required under **SOIL&WATER-1**. f. Avoid Special-Status Plant Occurrences. Areas for spoils, equipment, vehicles, and materials storage areas; parking; equipment and vehicle maintenance areas, and wash areas shall be placed at least 100 feet from any ESAs. g. Monitoring and Reporting Requirements. The Designated Botanist shall conduct weekly monitoring of the ESAs that protect special-status plant occurrences during construction and decommissioning activities. **G.2 Section B: Conduct Late-Season Botanical Surveys** The Project owner shall conduct late-summer/fall botanical surveys for late-season special-status plants prior to start of construction or by the end of 2010, as described below: 1. Survey Timing. Surveys shall be timed to detect: a) summer annuals triggered to germinate by the warm, tropical summer storms (which may occur any time between June and October). Fall-blooming perennials that respond to the cooler, later season storms (typically beginning in September or October) shall only be required if blooms and seeds are necessary for identification or the species are summer-deciduous and require leaves for identification. The surveys shall not be timed to coincide with the statistical peak bloom period of the target species but shall instead, if possible, be based on plant phenology and the timing of a significant storm event (e. g., a 10mm or greater rain or multiple storm events of sufficient volume to trigger germination as determined by a qualified botanist.). If possible, surveys shall occur at the appropriate time to capture the characteristics necessary to identify the taxon. Construction is authorized to commence following a 2010 late season survey. 2. Surveyor Qualifications and Training. Surveys shall be conducted by a qualified botanist knowledgeable in the complex biology of the local flora, and consistent with CDFG protocols (CDFG 2009). Each surveyor shall be equipped with a GPS unit and record a complete tracklog; these data shall be compiled and submitted along with the Summer-Fall Survey Botanical Report (described below). Prior to the start of surveys, all crew members shall, at a minimum, visit reference sites (where available) and/or review herbarium specimens of all BLM Sensitive plants, CNPS List 1B or 2 (Nature Serve rank S1 and S2) or proposed List 1B or 2 taxa, and any new reported or documented taxa, to obtain a search image. Because the potential for range extensions is unknown, the list of potentially occurring special-status plants shall include all special-status taxa known to occur within the Sonoran Desert region and the eastern portion of the Mojave in California. The list shall also include taxa with bloom seasons that begin in fall and extend into the	verification to the CPM of such completion no later than 18 months after the start of Project ground-disturbing activities. If NFWF or another approved third party is being used for the acquisition, the Project owner shall ensure that funds needed to accomplish the acquisition are transferred in timely manner to facilitate the planned acquisition and to ensure the land can be acquired and transferred prior to the 18-month deadline. If habitat enhancement is proposed, no later than six months following the start of ground-disturbing activities, the Project owner shall obtain CPM approval of the final Habitat Enhancement/Restoration Plan, prepared in accordance with Section D, and submit to the CPM or a third party approved by the CPM Security adequate for long-term implementation and monitoring of the Habitat Enhancement/Restoration Plan. Enhancement/restoration activities shall be initiated no later than 12 months from the start of construction. The implementation phase of the enhancement project shall be completed within five years of initiation. Until completion of the five-year implementation portion of the enhancement action, a report shall be prepared and submitted as part of the Annual Compliance Report. This report shall provide, at a minimum: a summary of activities for the preceding year and a summary of activities for the following year; quantitative measurements of the Project's progress in meeting the enhancement project success criteria; detailed description of remedial actions taken or proposed; and contact information for the responsible parties. If a Status and Distribution Study is proposed, the study shall commence no later than six months following the start of ground-disturbing activities. The draft study shall be submitted to the CPM and BLM Botanist for review and approval no more than two	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
early spring as many of these are reported to be easier to detect in fall, following the start of the fall rains. 3. Survey Coverage. The survey coverage or intensity shall be in accordance with BLM Survey Protocols (issued July 2009)[6], which specify that intuitive controlled surveys shall only be accomplished by botanists familiar with the habitats and species that may reasonably be expected to occur in the project area. 4. Documenting Occurrences. If a special-status plant is detected, the full extent of the population onsite shall be recorded using GPS in accordance with BLM survey protocols. Additionally, the extent of the population within one mile of Project boundaries shall be assessed at least qualitatively to facilitate an accurate estimation of the proportion of the population affected by the Project. For populations that are very dense or very large, the population size may be estimated by simple sampling techniques. When populations are very extensive or locally abundant, the surveyor must provide some basis for this assertion and roughly map the extent on a topographic map. All but the smallest populations (e.g., a population occupying less than 100 square feet) shall be recorded as area polygons; the smallest populations may be recorded as point features. All GPS-recorded occurrences shall include: the number of plants, phenology, observed threats (e.g., OHV or invasive exotics), and habitat or community type. The map of occurrences submitted with the final botanical report shall be prepared to ensure consistency with definition of an occurrence by CNDDB, i.e., occurrences found within 0.25 miles of another occurrence of the same taxon, and not separated by significant habitat discontinuities, shall be combined into a single 'occurrence'. The Project owner shall also submit the raw GPS shape files and metadata, and completed CNDDB forms for each 'occurrence' (as defined by CNDDB). 5. Reporting. Raw GPS data, metadata, and CNDDB field forms shall be provided to the CPM within two weeks of the completion of each survey. If surveys are split into two or more periods (e.g., a late summer survey and a fall survey), then a summary letter shall be submitted following each survey period. The Final Summer-Fall Botanical Survey Report shall be prepared consistent with CDFG guidelines (CDFG 2009), and BLM 2009 guidelines and shall include all of the following components: a. the BLM designation, NatureServe Global and State Rank of each species or taxon found (or proposed rank, or CNPS List); b. the number or percent of the occurrence that will be directly affected, and indirectly affected by changes in drainage patterns or altered geomorphic processes; c. the habitat or plant community that supports the occurrence and the total acres of that habitat or community type that occurs in the Project Disturbance Area; d. an indication of whether the occurrence has any local or regional significance (e.g., if it exhibits any unusual morphology, occurs at the periphery of its range in California, represents a significant range extension or disjunct occurrence, or occurs in an atypical habitat or substrate);	years following the start of ground-disturbing activities. The final study shall be submitted no more than 30 months following the start of ground-disturbing activities. If a Distribution Study is implemented as contingency mitigation, the study shall be initiated no later than 6 months from the start of construction. The implementation phase of the study shall be completed within two years of the start of construction. Within 18 months of ground-disturbing activities, the Project owner shall transfer to the CPM or an approved third party the difference between the Security paid and the actual costs of (1) acquiring compensatory mitigation lands, completing initial protection and habitat improvement, and funding the long-term maintenance and management of compensatory mitigation lands; and/or (2) implementing and providing for the long-term protection and monitoring of habitat enhancement or restoration activities. Implementation of the special-status plant impact avoidance and minimization measures shall be reported in the Monthly Compliance Reports prepared by the Designated Botanist. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM, for review and approval, in consultation with the BLM State Botanist, a written construction termination report identifying how measures have been completed. The Project owner shall submit a monitoring report every year for the life of the project to monitor effectiveness of protection measures for all avoided special-status plants to the CPM and BLM State Botanist. The monitoring report shall include: dates of worker awareness training sessions and attendees, completed CNDDB field forms for each avoided occurrence on-site and within 100 feet of the Project boundary off-site, and description of the remedial action, if warranted and planned for the upcoming	

6 Bureau of Land Management (BLM), California State Office. *Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Plant Species*. Issued July 2009.

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
e. a completed CNDDB field form for every occurrence (occurrences of the same species within one-quarter mile or less of each other combined as one occurrence, consistent with CNDDB methodology), and f. two maps: one that depicts the raw GPS data (as collected in the field) on a topographic base map with Project features; and a second map that follows the CNDDB protocol for occurrence mapping.	year. The completed forms shall include an inventory of the special-status plant occurrences and description of the habitat conditions, an indication of population and habitat quality trends.	
G.3 Section C: Avoidance Requirements for Special-Status Plants Detected in the Summer/Fall 2010 Surveys The Project owner shall apply the following avoidance standards to late blooming special-status plants that might be detected during late summer/fall season surveys. Avoidance and/or the mitigation measures described in Section D below would reduce impacts to these special-status plant species to less than significant levels.		
1. Mitigation for CNDDB Rank 1 Plants (Critically Imperiled) - Avoidance Required: If late blooming species with a CNDDB rank of 1 are detected within the Project Disturbance Area the Project owner shall prepare and implement a Special-Status Plant Mitigation Plan (Plan). The goal of the Plan shall be to retain at least 75% of the local population of the affected species. Compensatory mitigation, as described in Section D of this condition, and at a mitigation ratio of 3:1, shall be required for the 25% or portion that is not avoided. The Plan shall include, at a minimum, the following components and definitions: a. A description of the occurrences of the CNDDB rank 1 species on the Project, ecological characteristics such as micro-habitat requirements, ecosystem processes required for maintenance of the habitat, reproduction and dispersal mechanisms, pollinators, local distribution, a description of the extent of the population off-site, the percentage of the local population affected, and a description of how these occurrences would be impacted by the Project, including direct and indirect effects. The "local population" shall be measured by the number of individuals occurring on the Project Site and within the immediate watershed of the Project for wash dependent-species or species of unknown dispersal mechanism, or within the local sand transport corridor for wind dispersed species. Occurrences shall be considered impacted if they are within the Project footprint, and if they would be affected by Project-related hydrologic changes or changes to the local sand transport system. b. A description of the avoidance and minimization measures that would achieve complete avoidance of occurrences on the Project linears and construction laydown areas, unless such avoidance would cause disturbance to areas not previously surveyed for biological resources (GSEP 2009a, TTEC 2010m) or would create greater environmental impacts in other resource areas (e.g. Cultural Resource Sites) or other restrictions (e.g., FAA or other restrictions for placement of transmission poles). c. A description of the measures that would be implemented to avoid or minimize impacts to occurrences on the solar facility. Avoidance is generally considered not feasible if the species is located within the Permanent Project Disturbance Area (bounded by the permanent tortoise exclusion fence and the drainage channels). d. If avoidance on the linears, construction laydown areas, and solar facility combined protect less than 75% of the local population of the affected species, the project owner shall implement offsite mitigation that demonstrates that the impacts will not cause a loss of viability for that species. Implementation of the compensatory offsite mitigation must meet the performance standards described in section D of this		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Condition, and may include land acquisition or implementation of a restoration/enhancement program for the species. e. "Avoidance" shall include protection of the ecosystem processes essential for maintenance of the protected plant occurrence. For all but one of the late blooming plant species with potential to occur, the plant species are annuals that depend on a viable seed bank to maintain population health and persistence. The primary goal of avoidance for these annual species will be protection of the soil integrity and the seed bank that is closely associated with undisturbed soils. Any impacts to the soil structure or surface features will be considered an impact, but measures like temporary mowing or brush removal that does not disturb the soil will not be considered impacts to the population. Isolated 'islands' of protected plants disconnected by the Project from natural fluvial, aeolian (wind), or other processes essential for maintenance of the species, shall not be considered to be protected and shall not be credited as contributing to the 75% avoidance requirement because such isolated populations are not sustainable. 2. Mitigation for CNDDB Rank 2 Plants (Imperiled) –Avoidance on Linears Required: If species with a CNDDB rank of 2 are detected within the Project Disturbance Area, the Project owner shall prepare and implement a Special-Status Plant Mitigation Plan (Plan) that describes measures to achieve complete avoidance of occurrences on the Project linears and construction laydown areas, unless such avoidance would cause disturbance to areas not previously surveyed for biological resources (GSEP 2009a, TTEC 2010m) or would create greater environmental impacts in other resource areas (e.g. Cultural Resource Sites) or other restrictions (e.g., FAA or other restrictions for placement of transmission poles). The Project owner shall provide compensatory mitigation, at a ratio of 2:1, as described below in Section D for impacts to Rank 2 plants that could not be avoided. The content of the Plan and definitions shall be as described above in subsection C.1. 3. Mitigation for CNDDB Rank 3 Plants – No On-Site Avoidance Required Unless Local or Regional Significance: If species with a CNDDB rank of 3 are detected within the Project Disturbance Area, no onsite avoidance or compensatory mitigation shall be required unless the occurrence has local or regional significance, in which case the plant occurrence shall be treated as a CNDDB rank 2 plant species. A plant occurrence would be considered to have local or regional significance if: a. It occurs at the outermost periphery of its range in California; b. It occurs in an atypical habitat, region, or elevation for the taxon that suggests that the occurrence may have genetic significance (e.g., that may increase its ability to survive future threats), or; c. It exhibits any unusual morphology that is not clearly attributable to environmental factors that may indicate a potential new variety or sub-species. 4. Pre-Construction Notification for State- or Federal-Listed Species, or BLM Sensitive Species. If a state or federal-listed species or BLM Sensitive species is detected, the Project owner shall immediately notify the CDFG, USFWS, BLM, and the CPM. 5. Preservation of the Germplasm of Affected Special-Status Plants. For all significant impacts to special-status plants, regardless of whether compensatory mitigation is required, mitigation shall include seed collection		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
from the affected special-status plants on-site prior to construction to conserve the germplasm and provide a seed source for restoration efforts. The seed shall be collected under the supervision or guidance of a reputable seed storage facility such as the Rancho Santa Ana Botanical Garden Seed Conservation Program, San Diego Natural History Museum, or the Missouri Botanical Garden. The costs associated with the long-term storage of the seed shall be the responsibility of the Project owner. Any efforts to propagate and reintroduce special-status plants from seeds in the wild shall be carried out under the direct supervision of specialists such as those listed above and as part of a Habitat Restoration/Enhancement Plan approved by the CPM.		
G.4 Section D: Off-Site Compensatory Mitigation for Special-Status Plants Where compensatory mitigation is required under the terms of Section C, above, the Project owner shall mitigate Project impacts to special-status plant occurrences with compensatory mitigation. Compensatory mitigation shall consist of acquisition of habitat supporting the target species, or restoration/enhancement of populations of the target species, and shall meet the performance standards for mitigation described below. In the event that no opportunities for acquisition or restoration/enhancement exist, the Project owner can fund a species distribution study designed to promote the future preservation, protection or recovery of the species. Compensatory mitigation shall be at a ratio of 3:1 for Rank 1 plants, with three acres of habitat acquired or restored/enhanced for every acre of habitat occupied by the special status plant that will be disturbed by the Project Disturbance Area (for example if the area occupied by the special status plant collectively measured is ¼ acre than the compensatory mitigation will be ¾ of an acre). The mitigation ratio for Rank 2 plants shall be 2:1. So, for the example above, the mitigation ratio would be one-half acre for the Rank 2 plants. The Project owner shall provide funding for the acquisition and/or restoration/enhancement, initial improvement, and long-term maintenance and management of the acquired or restored lands. The actual costs to comply with this condition will vary depending on the Project Disturbance Area, the actual costs of acquiring compensation habitat, the actual costs of initially improving the habitat, the actual costs of long-term management as determined by a Property Analysis Record (PAR) report, and other transactional costs related to the use of compensatory mitigation. The Project owner shall comply with other related requirements in this condition: **I. Compensatory Mitigation by Acquisition:** The requirements for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of special-status plant compensation lands include all of the following: 1. Selection Criteria for Acquisition Lands. The compensation lands selected for acquisition may include any of the following three categories: a. Occupied Habitat, No Habitat Threats: The compensation lands selected for acquisition shall be occupied by the target plant population and shall be characterized by site integrity and habitat quality that are required to support the target species, and shall be of equal or better habitat quality than that of the affected occurrence. The occurrence of the target special-status plant on the proposed acquisition lands should be viable, stable or increasing (in size and reproduction). b. Occupied Habitat, Habitat Threats. Occupied compensation lands characterized by habitat threats may		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
also be acquired as long as the population could be reasonably expected to recover with habitat restoration efforts (e.g., OHV or grazing exclusion, or removal of invasive non-native plants) and is accompanied by a Habitat Enhancement/Restoration Plan as described in Section D.II, below. c. Unoccupied but Adjacent. The Project owner may also acquire habitat for which occupancy by the target species has not been documented, if the proposed acquisition lands are adjacent to occupied habitat. The Project owner shall provide evidence that acquisitions of such unoccupied lands would improve the defensibility and long-term sustainability of the occupied habitat by providing a protective buffer around the occurrence and by enhancing connectivity with undisturbed habitat. This acquisition may include habitat restoration efforts where appropriate, particularly when these restoration efforts will benefit adjacent habitat that is occupied by the target species. 2. Review and Approval of Compensation Lands Prior to Acquisition. The Project owner shall submit a formal acquisition proposal to the CPM describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as compensation lands for special-status plants in relation to the criteria listed above, and must be approved by the CPM. 3. Management Plan. The Project owner or approved third party shall prepare a management plan for the compensation lands in consultation with the entity that will be managing the lands. The goal of the management plan shall be to support and enhance the long-term viability of the target special-status plant occurrences. The Management Plan shall be submitted for review and approval to the CPM. 4. Integrating Special-Status Plant Mitigation with Other Mitigation lands. If all or any portion of the acquired Desert Tortoise, Waters of the State, or other required compensation lands meets the criteria above for special-status plant compensation lands, the portion of the other species' or habitat compensation lands that meets any of the criteria above may be used to fulfill that portion of the obligation for special-status plant mitigation. 5. Compensation Lands Acquisition Requirements. The Project owner shall comply with the following requirements relating to acquisition of the compensation lands after the CPM, has approved the proposed compensation lands: a. Preliminary Report. The Project owner, or an approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary or requested documents for the proposed compensation land to the CPM. All documents conveying or conserving compensation lands and all conditions of title are subject to review and approval by the CPM. For conveyances to the State, approval may also be required from the California Department of General Services, the Fish and Game Commission and the Wildlife Conservation Board. b. Title/Conveyance. The Project owner shall acquire and transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement, as required by the CPM. Any transfer of a conservation easement or fee title must be to CDFG, a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM or other public agency approved by the CPM. If an approved non-profit organization holds fee title to the compensation lands, a conservation easement shall be recorded in		

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favor of CDFG or another entity approved by the CPM. If an entity other than CDFG holds a conservation easement over the compensation lands, the CPM may require that CDFG or another entity approved by the CPM, in consultation with CDFG, be named a third party beneficiary of the conservation easement. The Project owner shall obtain approval of the CPM of the terms of any transfer of fee title or conservation easement to the compensation lands. c. Initial Protection and Habitat Improvement. The Project owner shall fund activities that the CPM requires for the initial protection and habitat improvement of the compensation lands. These activities will vary depending on the condition and location of the land acquired, but may include trash removal, construction and repair of fences, invasive plant removal, and similar measures to protect habitat and improve habitat quality on the compensation lands. The costs of these activities are estimated to be $330 per acre, using the estimated cost per acre for Desert Tortoise mitigation as a best available proxy, at the ratio of 3:1 for Rank 1 plants and 2:1 for Rank 2 plants, but actual costs will vary depending on the measures that are required for the compensation lands. A non-profit organization, CDFG or another public agency may hold and expend the habitat improvement funds if it is qualified to manage the compensation lands (pursuant to California Government Code section 65965), if it meets the approval of the CPM in consultation with CDFG, and if it is authorized to participate in implementing the required activities on the compensation lands. If CDFG takes fee title to the compensation lands, the habitat improvement fund must be paid to CDFG or its designee. d. Property Analysis Record. Upon identification of the compensation lands, the Project owner shall conduct a Property Analysis Record (PAR) or PAR-like analysis to establish the appropriate amount of the long-term maintenance and management fund to pay the in-perpetuity management of the compensation lands. The PAR or PAR-like analysis must be approved by the CPM before it can be used to establish funding levels or management activities for the compensation lands. e. Long-term Maintenance and Management Funding. The Project owner shall deposit in NFWF's REAT Account a non-wasting capital long-term maintenance and management fee in the amount determined through the Property Analysis Record (PAR) or PAR-like analysis conducted for the compensation lands. The CPM, in consultation with CDFG, may designate another non-profit organization to hold the long-term maintenance and management fee if the organization is qualified to manage the compensation lands in perpetuity. If CDFG takes fee title to the compensation lands, CDFG shall determine whether it will hold the long-term management fee in the special deposit fund, leave the money in the REAT Account, or designate another entity to manage the long-term maintenance and management fee for CDFG and with CDFG supervision. f. Interest, Principal, and Pooling of Funds. The Project owner shall ensure that an agreement is in place with the long-term maintenance and management fund (endowment) holder/manager to ensure the following requirements are met: i. Interest. Interest generated from the initial capital long-term maintenance and management fund shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead,		

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Condition of Certification	Verification	Responsible Agency
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biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action that is approved by the CPM and is designed to protect or improve the habitat values of the compensation lands. ii. Withdrawal of Principal. The long-term maintenance and management fund principal shall not be drawn upon unless such withdrawal is deemed necessary by the CPM or by the approved third-party long-term maintenance and management fund manager, to ensure the continued viability of the species on the compensation lands. iii. Pooling Long-Term Maintenance and Management Funds. An entity approved to hold long-term maintenance and management funds for the Project may pool those funds with similar non-wasting funds that it holds from other projects for long-term maintenance and management of compensation lands for special-status plants. However, for reporting purposes, the long-term maintenance and management funds for this Project must be tracked and reported individually to the CPM. g. Other Expenses. In addition to the costs listed above, the Project owner shall be responsible for all other costs related to acquisition of compensation lands and conservation easements, including but not limited to the title and document review costs incurred from other state agency reviews, overhead related to providing compensation lands to CDFG or an approved third party, escrow fees or costs, environmental contaminants clearance, and other site cleanup measures. h. Mitigation Security. The Project owner shall provide financial assurances to the CPM to guarantee that an adequate level of funding is available to implement any of the mitigation measures required by this condition that are not completed prior to the start of ground-disturbing Project activities. Financial assurances shall be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") approved by the CPM. The amount of the Security shall be $2,280 per acre, using the estimated cost per acre for Desert Tortoise mitigation as a best available proxy, at a ratio of 3:1 for Rank 1 plants and 2:1 for Rank 2 plants, for every acre of habitat supporting the target special-status plant species which is significantly impacted by the project. The actual costs to comply with this condition will vary depending on the actual costs of acquiring compensation habitat, the costs of initially improving the habitat, and the actual costs of long-term management as determined by a PAR report. Prior to submitting the Security to the CPM, the Project owner shall obtain the CPM's approval of the form of the Security. The CPM may draw on the Security if the CPM determines the Project owner has failed to comply with the requirements specified in this condition. The CPM may use money from the Security solely for implementation of the requirements of this condition. The CPM's use of the Security to implement measures in this condition may not fully satisfy the Project owner's obligations under this condition, and the Project owner remains responsible for satisfying the obligations under this condition if the Security is insufficient. The unused Security shall be returned to the Project owner in whole or in part upon successful completion of the associated requirements in this condition. i. The Project owner may elect to comply with the requirements in this condition for acquisition of compensation lands, initial protection and habitat improvement on the compensation lands, or long-term maintenance and management of the compensation lands by funding, or any combination of these three requirements, by providing funds to implement those measures into the Renewable Energy Action		

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Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF). To use this option, the Project owner must make an initial deposit to the REAT Account in an amount equal to the estimated costs (as set forth in the Security section of this condition) of implementing the requirement. If the actual cost of the acquisition, initial protection and habitat improvements, or long-term funding is more than the estimated amount initially paid by the Project owner, the Project owner shall make an additional deposit into the REAT Account sufficient to cover the actual acquisition costs, the actual costs of initial protection and habitat improvement on the compensation lands, and the long-term funding requirements as established in an approved PAR or PAR-like analysis. If those actual costs or PAR projections are less than the amount initially transferred by the Applicant, the remaining balance shall be returned to the Project owner. The responsibility for acquisition of compensation lands may be delegated to a third party other than NFWF, such as a non-governmental organization supportive of desert habitat conservation, by written agreement of the Energy Commission. Such delegation shall be subject to approval by the CPM, in consultation with CDFG, BLM and USFWS, prior to land acquisition, enhancement or management activities. Agreements to delegate land acquisition to an approved third party, or to manage compensation lands, shall be executed and implemented within 18 months of the start of ground disturbance. **II. Compensatory Mitigation by Habitat Enhancement/Restoration:** As an alternative or adjunct to land acquisition for compensatory mitigation the Project owner may undertake habitat enhancement or restoration for the target special-status plant species. Habitat enhancement or restoration activities must achieve protection at a 3:1 ratio for Rank 1 plants and 2:1 for Rank 2 plants, with improvements applied to three acres, or two acres, respectively, of habitat for every acre special-status plant habitat directly or indirectly disturbed by the Project Disturbance Area (for example if the area occupied by the special status plant collectively measured is ¼ acre than the improvements would be applied to an area equal to ¾ of an acre at a 3:1 ratio, or one-half acre at a 2:1 ratio). Examples of suitable enhancement projects include but are not limited to the following: i) control unauthorized vehicle use into an occurrence (or pedestrian use if clearly damaging to the species); ii) control of invasive non-native plants that infest or pose an immediate threat to an occurrence; iii) exclude grazing by wild burros or livestock from an occurrence; or iv) restore lost or degraded hydrologic or geomorphic functions critical to the species by restoring previously diverted flows, removing obstructions to the wind sand transport corridor above an occurrence, or increasing groundwater availability for dependent species. If the Project owner elects to undertake a habitat enhancement project for mitigation, the project must meet the following performance standards: The proposed enhancement project shall achieve rescue of an off-site occurrence that is currently assessed, based on the NatureServe threat ranking system[7] with one of the following threat ranks: a) long-term decline >30%; b) an immediate threat that affects >30% of the population, or c) has an overall threat impact that is High to Very High. “Rescue” would be considered successful if it achieves an		

[7] Master, L., D. Faber-Langendoen, R. Bittman, G. A., Hammerson, B. Heidel, J. Nichols, L. Ramsay, and A. Tomaino. 2009. *NatureServe Conservation Status Assessments: Factors for Assessing Extinction Risk.* NatureServe, Arlington, VA. Online: http://www.natureserve.org/publications/ConsStatusAssess_StatusFactors.pdf , “Threats”. See also: Morse, L.E., J.M. Randall, N. Benton, R. Hiebert, and S. Lu. 2004. An Invasive Species Assessment Protocol: Evaluating Non-Native Plants for Their Impact on Biodiversity. Version 1. NatureServe, Arlington, Virginia. Online: http://www.natureserve.org/publications/pubs/invasiveSpecies.pdf

TABLE G-1 (Continued)
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improvement in the occurrence trend to "stable" or "increasing" status, or downgrading of the overall threat rank to slight or low (from "High" to "Very High"). If the Project owner elects to undertake a habitat enhancement project for mitigation, they shall submit a Habitat Enhancement/Restoration Plan to the CPM for review and approval, and shall provide sufficient funding for implementation and monitoring of the Plan. The amount of the Security shall be $2,280 per acre, using the estimated cost per acre for Desert Tortoise mitigation as a best available proxy, at the ratio of 3:1 for Rank 1 plants and 2:1 for Rank 2 plants, for every acre of habitat supporting the target special-status plant species which is directly or indirectly impacted by the project. The amount of the security may be adjusted based on the actual costs of implementing the enhancement, restoration and monitoring. The implementation and monitoring of the enhancement/restoration may be undertaken by an appropriate third party such as NFWF, subject to approval by the CPM. The Habitat Enhancement/Restoration Plan shall include each of the following: 1. Goals and Objectives. Define the goals of the restoration or enhancement project and a measurable course of action developed to achieve those goals. The objective of the proposed habitat enhancement plan shall include restoration of a target special-status plant occurrence that is currently threatened with a long-term decline. The proposed enhancement plan shall achieve an improvement in the occurrence trend to "stable" or "increasing" status, or downgrading of the overall threat rank to slight or low (from "High" to "Very High"). 2. Historical Conditions. Provide a description of the pre-impact or historical conditions (before the site was degraded by weeds or grazing or ORV, etc.), and the desired conditions. 3. Site Characteristics. Describe other site characteristics relevant to the restoration or enhancement project (e.g., composition of native and pest plants, topography and drainage patterns, soil types, geomorphic and hydrologic processes important to the site or species. 4. Ecological Factors. Describe other important ecological factors of the species being protected, restored, or enhanced such as total population, reproduction, distribution, pollinators, etc. 5. Methods. Describe the restoration methods that will be used (e.g., invasive exotics control, site protection, seedling protection, propagation techniques, etc.) and the long-term maintenance required. The implementation phase of the enhancement must be completed within five years. 6. Budget. Provide a detailed budget and time-line, and develop clear, measurable, objective-driven annual success criteria. 7. Monitoring. Develop clear, measurable monitoring methods that can be used to evaluate the effectiveness of the restoration and the benefit to the affected species. The Plan shall include a minimum of five years of quarterly monitoring, and then annual monitoring for the remainder of the enhancement project, and until the performance standards for rescue of a threatened occurrence are met. At a minimum the progress reports shall include: quantitative measurements of the projects progress in meeting the enhancement project success criteria, detailed description of remedial actions taken or proposed, and contact information for the responsible parties. 8. Reporting Program. The Plan shall ensure accountability with a reporting program that includes progress toward goals and success criteria. Include names of responsible parties.		

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9. Contingency Plan. Describe the contingency plan for failure to meet annual goals. 10. Long-term Protection. Include proof of long-term protection for the restoration site. For private lands this would include conservations easements or other deed restrictions; projects on public lands must be contained in a Desert Wildlife Management Area, Wildlife Habitat Management Area, or other land use protections that will protect the mitigation site and target species. **III. Compensatory Mitigation by Conducting or Contributing to a Distribution and Status Study for the Affected Species:** As determined by the CPM, in the event there are no opportunities for mitigation through acquisition or restoration/enhancement, a Study of Distribution and Status for the affected special-status plant species may be implemented or funded. Information on the distribution, status or health of known occurrences, ecological requirements, and ownership and management opportunities is very limited for many of the special-status plant species that occur on the Project or have potential to occur on the project, especially the late summer and fall blooming species. Some of these late blooming species are only known from a few viable occurrences in California, and historic occurrences that have not been re-located or surveyed since they were first documented. The objectives of this study would be to better understand the full distribution of the affected species, the degree and immediacy of threats to occurrences, and ownership and management opportunities, with the primary goal of future preservation, protection, or recovery of the affected species within California. Additionally the study should delineate other areas in the region that should be avoided or protected due to rare plant presence. To further ensure protection, study data shall be published in the state's rare plant database. At a minimum, the study shall include the following: 1. Occurrence and Life History Review. The Study shall include an evaluation of all documented, historical and reported localities for the affected species, and a review of current information on the species life history. This would include a review of the CNDDB database, records from regional and national herbaria, literature review, consultation with U.C. Riverside, San Diego Natural History Museum, and other educational institutions or natural heritage organizations in California, Arizona, and Nevada, etc.), other biotechnical survey reports from the region, and information from regional botanical experts. 2. Conduct Site Visits to Documented and Reported Localities. Documented and reported occurrences would be evaluated in the field during the appropriate time of the year for each late blooming species. If located, these occurrences would be evaluated for population size (area and quantity), population trend, ecological characteristics, soils, habitat quality, potential threats, degree and immediacy of threats, ownership and management opportunities. GPS location data would also be collected during these site visits. 3. Survey Surrounding Areas. Areas surrounding the occurrences that contain habitat suitable to support the affected species shall be surveyed to determine the full extent of its range and distribution. If additional populations are found, collect data (GPS and assessment) on these additional populations consistent with III.2 above. 4. Prepare a Status and Distribution Study Report. A report shall be prepared that contains the results of the surveys and assessment. The report shall contain the following components: a) Range and Distribution (including maps and GPS data); b) Abundance and Population Trends; c) Life History; d) Habitat Necessary for Survival; d) Factors Affecting Ability to Survive and Reproduce; e) Degree and Immediacy of Threat; f)		

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Ownership and Management Opportunities for Protection or Recovery; g) Sources of Information, and g) Conclusions. The conclusions shall contain an explanation of whether the species' survival is threatened by any of the following factors: i) present or threatened modification or destruction of its habitat; ii) competition; iii) disease; iv) or other natural occurrences (such as climate change) or human-related activities. This valuable information will provide a better understanding of the ecological factors driving the distribution of these species, and will identify opportunities for mitigation and management opportunities for recovery. All data from this study will be submitted for incorporation into the CNDDB system and the study report will be made available to resource agencies, and conservation groups, and other interested parties. The cost to implement or fund the study shall be no greater than the cost for acquisition, enhancement, and long-term management of compensatory mitigation lands based on the specifications and standards for acquisition or restoration/enhancement described above under D.I and D.II.		
Sand Dunes/Mojave Fringe-Toed Lizard Mitigation		
BIO-20 The Project owner shall mitigate for direct and indirect impacts to stabilized and partially stabilized sand dunes and other Mojave fringe-toed lizard habitat by acquisition of 136 acres of Mojave fringe-toed lizard habitat. The Project owner shall provide funding for the acquisition, initial habitat improvements and long-term management of the compensation lands. The 136-acre acquisition requirement, and associated funding requirements based on that acreage will be adjusted if there are changes in the final footprint of the Project. In lieu of acquiring lands itself, the Project owner may satisfy the requirements of this condition by depositing funds into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF), as described in Section 3.i. of Condition of Certification **BIO-12.** Condition of Certification **BIO-29** may provide the Project owner with another option for satisfying some or all of the requirements in this condition. The requirements for acquisition, initial improvement and long-term management of compensation lands include all of the following: 1. Criteria for Compensation Lands: The compensation lands selected for acquisition shall: a. Provide suitable habitat for Mojave fringe-toed lizards that is equal to or better than that found in the Project disturbance area, and may include stabilized and partially stabilized desert dunes or sand drifts over playas or Sonoran creosote bush scrub; b. Be within the Chuckwalla Valley with potential to contribute to Mojave fringe-toed lizard habitat connectivity and build linkages between known populations of Mojave fringe-toed lizards and preserve lands with suitable habitat; c. Be connected to lands that are either currently occupied or have high potential to be occupied by Mojave fringe-toed lizard based on patch size and habitat quality; d. Be near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation;	No later than 30 days prior to beginning construction-related ground-disturbing activities, the Project owner shall provide written verification of Security in accordance with this condition of certification. The Project owner, or an approved third party, shall complete and provide written verification of the proposed compensation lands acquisition within 18 months of the start of construction-related ground-disturbing activities. The Project owner, or an approved third party, shall provide the CPM, CDFG and USFWS with a management plan for the compensation lands and associated funds within 180 days of the land or easement purchase, as determined by the date on the title. The CPM shall review and approve the management plan, in consultation with CDFG and the USFWS. No less than 90 days prior to acquisition of the property, the Project owner shall submit a formal acquisition proposal to the CPM, CDFG, and USFWS describing the parcels intended for purchase. At the same time the project owner shall submit a PAR or PAR-like analysis for the parcels for review and approval by the CPM, in consultation with BLM, CDFG and USFWS.	

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e. Not have a history of intensive recreational use or other disturbance that might make habitat recovery and restoration infeasible; f. Not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration; g. Not contain hazardous wastes; h. Not be subject to property constraints (i.e. mineral leases, cultural resources); and i. Be on land for which long-term management is feasible. 2. Security for Implementation of Mitigation: The Project owner shall provide financial assurances to the CPM to guarantee that an adequate level of funding is available to implement the acquisitions and enhancement of Mojave fringe-toed lizard habitat as described in this condition. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or Security prior to initiating ground-disturbing project activities. The Security shall be approved by the CPM, in consultation with CDFG and the USFWS, to ensure sufficient funding. As of the publication of the RSA, this amount is $433,200. This amount may change based on land costs or the estimated costs of enhancement and endowment (see subsection C.2.4.2, Desert Tortoise, for a discussion of the assumptions used in calculating the Security, which are based on an estimate of $1,450 per acre to fund acquisition, enhancement and long-term management). 3. Preparation of Management Plan: The Project owner shall submit to the CPM, CDFG and USFWS a draft Management Plan that that reflects site-specific enhancement measures for the Mojave fringe-toed lizard habitat on the acquired compensation lands. The objective of the Management Plan shall be to enhance the value of the compensation lands for Mojave fringe-toed lizards, and may include enhancement actions such as weed control, fencing to exclude livestock, erosion control, or protection of sand sources or sand transport corridors.	Within 90 days after completion of Project construction, the Project owner shall provide to the CPM and CDFG an analysis with the final accounting of the amount of Mojave fringe-toed lizard habitat disturbed during Project construction. The Project owner shall provide written verification to the CPM, USFWS and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient no later than 18 months after the initiation of construction related ground-disturbance activities.	
Evaporation Pond Netting and Monitoring		
BIO-21 The Project owner shall cover the evaporation ponds prior to any discharge with 1.5-inch mesh netting designed to exclude birds and other wildlife from drinking or landing on the water of the ponds. Netting with mesh sizes other than 1.5-inches may be installed if approved by the CPM in consultation with CDFG and USFWS. The netted ponds shall be monitored regularly to verify that the netting remains intact, is fulfilling its function in excluding birds and other wildlife from the ponds, and does not pose an entanglement threat to birds and other wildlife. The ponds shall include a visual deterrent in addition to the netting, and the pond shall be designed such that the netting shall never contact the water. Monitoring of the evaporation ponds shall include the following: 1. Monthly Monitoring. The Designated Biologist or Biological Monitor shall regularly survey the ponds at least once per month starting with the first month of operation of the evaporation ponds. The purpose of the surveys shall be to determine if the netted ponds are effective in excluding birds, if the nets pose an entrapment hazard to birds and wildlife, and to assess the structural integrity of the nets. The monthly survey shall be conducted in one day for a minimum of two hours following sunrise (i.e., dawn), a minimum of one hour mid-day (i.e., 1100 to 1300), and a minimum of two	No less than 30 days prior to operation of the evaporation ponds the project owner shall provide to the CPM as-built drawings and photographs of the ponds indicating that the bird exclusion netting has been installed. For the first year of operation the Designated Biologist shall submit quarterly reports to the CPM, CDFG, and USFWS describing the dates, durations and results of site visits conducted at the evaporation ponds. Thereafter the Designated Biologist shall submit annual monitoring reports with this information. The quarterly and annual reports shall fully describe any bird or wildlife death or entanglements detected during the site visits or at any	

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hours preceding sunset (i.e., dusk) in order to provide an accurate assessment of bird and wildlife use of the ponds during all seasons. Surveyors shall be experienced with bird identification and survey techniques. Operations staff at the Project site shall also report finding any dead birds or other wildlife at the evaporation ponds to the Designated Biologist within one day of the detection of the carcass. The Designated Biologists shall report any bird or other wildlife deaths or entanglements within two days of the discovery to the CPM, CDFG, and USFWS. 2. Dead or Entangled Birds. If dead or entangled birds are detected, the Designated Biologist shall take immediate action to correct the source of mortality or entanglement. The Designated Biologist shall make immediate efforts to contact and consult the CPM, CDFG, and USFWS by phone and electronic communications prior to taking remedial action upon detection of the problem, but the inability to reach these parties shall not delay taking action that would, in the judgment of the Designated Biologist, prevent further mortality of birds or other wildlife at the evaporation ponds. 3. Quarterly Monitoring. If after 12 consecutive monthly site visits no bird or wildlife deaths or entanglements are detected at the evaporation ponds by or reported to the Designated Biologist, monitoring, as described in paragraph 1, can be conducted on a quarterly basis. 4. Biannual Monitoring. If after 12 consecutive quarterly site visits no bird or wildlife deaths or entanglements are detected by or reported to the Designated Biologist and with approval from the CPM, USFWS and CDFG, future surveys may be reduced to two surveys per years, during the spring nesting season and during fall migration. If approved by the CPM, USFWS and CDFG, monitoring outside the nesting season may be conducted by the Environmental Compliance Manager. 5. Modification of Monitoring Program. CDFG or USFWS may submit a request for modifications to the evaporation pond monitoring program based on information acquired during monitoring, and may also suggest adaptive management measures to remedy any problems that are detected during monitoring or modifications if bird impacts are not observed. Modifications to the evaporation pond monitoring described above and implementation of adaptive management measures shall be made only after approval from the CPM, in consultation with USFWS and CDFG.	other time, and shall describe actions taken to remedy these problems. The annual report shall be submitted to the CPM, CDFG, and USFWS no later than January 31st of every year for the life of the project.	
Mitigation For Impacts to State Waters		
BIO-22 The Project owner shall implement the following measures to avoid, minimize and mitigate for direct and indirect impacts to waters of the state and to satisfy requirements of California Fish and Game Code sections 1600 and 1607. 1. Acquire Off-Site State Waters: The Project owner shall acquire, in fee or in easement, a parcel or parcels of land that includes at least 132 acres of state jurisdictional waters, or the area of state waters directly or indirectly impacted by the final Project footprint. The Project footprint means all lands disturbed by construction and operation of the Genesis Project, including all Project linears. The parcel or parcels comprising the 132 acres of ephemeral washes shall include at least 48 acres of microphyll woodland. If the Reduced Acreage Alternative were constructed the mitigation requirements for impacts to state waters would be a minimum of 109 acres that included at least 48 acres of microphyll woodland. The terms and conditions of this acquisition or easement shall be as described in Condition of Certification **BIO-12**, #2 and #3. Mitigation for impacts to state waters shall occur within the Chuckwalla-Ford Dry Lake or surrounding watersheds, as close to the Project site as possible. The 132-acre acquisition of state waters may be integrated with the desert tortoise mitigation acquisition if the criteria described in this condition are met.	No less than 30 days prior to the start of construction-related ground disturbance activities potentially affecting waters of the state, the Project owner shall provide written verification (i.e., through incorporation into the BRMIMP) to the CPM that the above best management practices shall be implemented. The Project owner shall also provide a discussion of work in waters of the state in Compliance Reports for the duration of the Project. No less than 30 days prior to beginning construction-related ground-disturbing activities the Project owner shall provide written verification of Security in accordance with this condition of certification. The	

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2. Security for Implementation of Mitigation: The Project owner shall provide financial assurances to the CPM and CDFG to guarantee that an adequate level of funding is available to implement the acquisitions and enhancement of state waters as described in this condition. These funds shall be used solely for implementation of the measures associated with the project. Financial assurance can be provided to the CPM and CDFG in the form of an irrevocable letter of credit, a pledged savings account or Security prior to initiating construction-related ground disturbing activities. Prior to submittal to the CPM, the Security shall be approved by the CPM, in consultation with CDFG and the USFWS, to ensure sufficient funding. As of the publication of the RSA, this amount is $300,960. These amounts may change based on changes in land costs or the estimated costs of enhancement and endowment (see subsection C.2.4.2, Desert Tortoise, for a discussion of the assumptions used in calculating the Security, which are based on an estimate of $2,280 per acre to fund acquisition, enhancement and long-term management). The final amount due shall be determined by an updated appraisals and the PAR analysis conducted as described in **BIO-12**. 3. Title/Conveyance. The Project owner shall transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement as required by the CPM in consultation with CDFG. Transfer of either fee title or an approved conservation easement will usually be sufficient, but some situations, e.g., the donation of lands burdened by a conservation easement to BLM, will require that both types of transfers be completed. Any transfer of a conservation easement or fee title must be to CDFG, a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM under terms approved by the CPM in consultation with CDFG. If an approved non-profit organization holds title to the compensation lands, a conservation easement shall be recorded in favor of CDFG in a form approved by the CPM. If an approved non-profit holds a conservation easement, CDFG shall be named a third party beneficiary. 4. Preparation of Management Plan: The Project owner shall submit to the CPM and CDFG a draft Management Plan that reflects site-specific enhancement measures for the drainages on the acquired compensation lands. The objective of the Management Plan shall be to enhance the wildlife value of the drainages, and may include enhancement actions such as weed control, fencing to exclude livestock, or erosion control. 5. Stop Work Provisions. The Project owner shall provide a copy of this condition (Condition of Certification **BIO-22)** from the Energy Commission Final Decision to all contractors, subcontractors, and other on-site personnel. Copies shall be readily available at work sites at all times during periods of active work and must be presented to any CDFG personnel upon demand. The CPM reserves the right to issue a stop work order or allow CDFG to issue a stop work order after giving notice to the Project owner and the CPM if the CPM, in consultation with CDFG, determines that the Project owner has breached any of the terms or conditions or for other reasons, including but not limited to the following: a. The information provided by the Applicant regarding impacts to waters of the state is incomplete or inaccurate; b. New information becomes available that was not known to staff in preparing the terms and conditions; or c. The Project or Project activities as described in the Staff Assessment have changed. 6. Notification: The project owner shall notify the CPM and CDFG in writing before conducting Project activities in jurisdictional areas. The Project owner shall notify the CPM and CDFG of any change of conditions to the Project, the jurisdictional impacts, or the mitigation efforts, if the conditions at the site of a proposed Project change in a manner which changes risk to biological resources that may be substantially adversely affected by the proposed Project. The notifying report shall be provided to the CPM and CDFG no later than seven days after the change of conditions is	Project owner, or an approved third party, shall complete and provide written verification of the proposed compensation lands acquisition within 18 months of the start of construction-related ground-disturbing activities. The Project owner shall notify the CPM and CDFG, in writing, at least five days prior to initiation of construction-related ground-disturbing activities in jurisdictional state waters and at least five days prior to completion of Project activities in jurisdictional areas. The Project owner shall notify the CPM and CDFG of any change of conditions to the Project, impacts to state waters, or the mitigation efforts. The notifying report shall be provided to the CPM and CDFG no later than seven days after the change of conditions is identified. As used here, change of condition refers to the process, procedures, and methods of operation of a Project; the biological and physical characteristics of a Project area; or the laws or regulations pertinent to the Project as defined below. A copy of the notifying Change of Conditions report shall be included in the annual reports or until it is deemed unnecessary by the CPM, in consultation with CDFG. The Project owner, or an approved third party, shall provide the CPM, CDFG and USFWS with a draft management plan for the compensation lands and associated funds within 180 days of the land or easement purchase, as determined by the date on the title. The CPM shall review and approve the management plan, in consultation with CDFG. Within 90 days after completion of Project construction, the Project owner shall provide to the CPM and CDFG an analysis with the final accounting of the amount of jurisdictional state waters disturbed during Project construction. The Project owner shall provide written verification to the CPM, USFWS and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient no later than 18 months after the start of construction-related	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
identified. As used here, change of condition refers to the process, procedures, and methods of operation of a project; the biological and physical characteristics of a project area; or the laws or regulations pertinent to the project as defined below. A copy of the notifying change of conditions report shall be included in the annual reports. A change of conditions is defined as follows: a. Biological Conditions: a change in biological conditions includes, but is not limited to, the following: 1) the presence of biological resources within or adjacent to the Project area, whether native or non-native, not previously known to occur in the area; or 2) the presence of biological resources within or adjacent to the Project area, whether native or non-native, the status of which has changed to endangered, rare, or threatened, as defined in section 15380 of Title 14 of the California Code of Regulations. b. Physical Conditions: a change in physical conditions includes, but is not limited to, the following: 1) a change in the morphology of a river, stream, or lake, such as the lowering of a bed or scouring of a bank, or substantial changes in stream form and configuration caused by storm events; 2) the movement of a river or stream channel to a different location; 3) a reduction of or other change in vegetation on the bed, channel, or bank of a drainage, or 4) changes to the hydrologic regime such as fluctuations in the timing or volume of water flows in a river or stream. c. Legal Conditions: a change in legal conditions includes, but is not limited to, a change in Regulations, Statutory Law, a Judicial or Court decision, or the listing of a species, the status of which has changed to endangered, rare, or threatened, as defined in section 15380 of Title 14 of the California Code of Regulations.	ground-disturbing activities. On January 31st of each year following construction the Designated Biologist shall provide a report to the CPM, BLM, USFWS and CDFG that describes the results of monitoring and management of the acquisition lands. The annual report shall describe actions taken to implement the management plan (for example, fencing, erosion control, weed control) during the year and recommendations for enhancement actions that should be implemented the following year.	
7. Best Management Practices: The Project owner shall also comply with the following conditions to protect drainages near the approved impact areas as defined in the approved construction documents: a. The Project owner shall minimize road building, construction activities and vegetation clearing within ephemeral drainages to the extent feasible. b. The Project owner shall not allow water containing mud, silt, or other pollutants from grading, aggregate washing, or other activities to enter ephemeral drainages or be placed in locations that may be subjected to high storm flows. c. The Project owner shall comply with all litter and pollution laws. All contractors, subcontractors, and employees shall also obey these laws, and it shall be the responsibility of the Project owner to ensure compliance. d. Spoil sites shall be located at least 30 feet from the boundaries and drainages or in locations that may be subjected to high storm flows, where spoils might be washed back into drainages. e. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources, resulting from Project-related activities, shall be prevented from contaminating the soil and/or entering waters of the state. These materials, placed within or where they may enter a drainage, shall be removed immediately. f. No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from any construction or associated activity of whatever nature shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into waters of the state. g. When operations are completed, any excess materials or debris shall be removed from the work area.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
h. No equipment maintenance shall occur within 150 feet of any ephemeral drainage where petroleum products or other pollutants from the equipment may enter these areas under any flow.		
Decommissioning and Closure Plan		
BIO-23 Upon Project closure the Project owner shall implement a final Decommissioning and Closure Plan for the Project site. The Decommissioning and Closure Plan shall include a cost estimate for implementing the proposed decommissioning and reclamation activities, and shall be consistent with the guidelines in BLM's 43 CFR 3809.550 et seq., subject to review and revisions from the CPM in consultation with BLM, USFWS, and CDFG. The Project owner shall submit a draft Decommissioning and Closure Plan for review to the CPM, BLM, USFWS and CDFG. The Project owner shall finalize the plan only after approval from the CPM, in consultation with BLM, USFWS, and CDFG. Throughout the life of the Project the Project owner plan shall regularly submit the plan to the CPM for review and updating, if warranted, as described in Verification below. Modifications to the final Decommissioning and Closure Plan shall be made only after approval from the CPM, in consultation with BLM, USFWS, and CDFG.	No less than 30 days prior to initiating construction-related ground disturbance activities, the Project owner shall provide to BLM and the CPM a draft Decommissioning and Closure Plan. The plan shall be finalized prior to the start of commercial operation and reviewed every five years thereafter and submitted to the CPM for approval, in consultation with BLM. Modifications to the approved Decommissioning and Closure Plan shall be made only after approval from the CPM, in consultation with BLM, USFWS, and CDFG. No less than 10 days prior to initiating construction-related ground disturbance activities the Project owner shall provide financial assurances to the CPM to guarantee that an adequate level of funding would be available to implement measures described in the Decommissioning and Closure Plan, consistent with the provisions set forth in 43 C.F.R. sections 2805.12 and 3809.500-.599.	
Revegetation of Temporarily Disturbed Areas		
BIO-24 The Project owner shall prepare and implement a Revegetation Plan to restore all areas subject to temporary disturbance. The final Revegetation Plan shall be based on the draft Revegetation Plan submitted by the Applicant (TTEC 2010i) and shall include all revisions deemed necessary by the CPM in consultation with BLM. The objectives of the Revegetation Plan shall be to stabilize disturbed soils, minimize erosion and sedimentation impacts to soil and water resources, prevent colonization by noxious weeds and other non-native plants, salvage native plantings and seed from Project Disturbance Areas, and to achieve restoration of disturbed areas to functioning, established early-successional native plant communities. Target performance standards at the end of the monitoring period shall be as follows: a. total absolute cover of all plants shall equal at least 30 percent; b. survivorship of salvaged and transplanted cacti and other native plantings shall equal 30% percent;	No less than 30 days prior to construction-related ground-disturbance activities the Project owner shall submit to the CPM a final agency-approved Revegetation Plan that has been reviewed and approved by the CPM. All modifications to the Revegetation Plan shall be made only after approval from the CPM. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM for review and approval a report identifying which items of the Revegetation Plan have been completed, a summary of all modifications to revegetation measures made	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
c. at least 90 percent (relative cover) of the perennial species observed within the temporarily disturbed areas shall be locally native species that naturally occur in the adjacent desert scrub or dune habitats; d. relative cover of perennial plant species shall equal at least 60 percent of the total vegetative cover; and e. Relative cover of non-native plants within the temporarily disturbed areas shall not exceed the relative cover of non-native plants in the adjacent habitats.	during the Project's construction phase, and which items are still outstanding. The Designated Biologist shall provide reports to the CPM according to the reporting schedule in the Revegetation Plan that that includes: a summary of revegetation activities for the year, a discussion of whether revegetation performance standards for the year were met; and recommendations for revegetation remedial action, if warranted, planned for the upcoming year. Reports shall be submitted on January 31st following the relevant reporting year.	
Groundwater Dependent Vegetation Monitoring		
BIO-25 If the Project uses wet cooling, the Applicant shall prepare and implement a Draft Groundwater-Dependent Vegetation Monitoring Plan (Vegetation Monitoring Plan). The objectives of the Vegetation Monitoring Plan shall be to monitor the Project effects of groundwater pumping on groundwater-dependent vegetation (phreatophytes) and, in conjunction with **BIO-26**, to ensure that the Project has a less than significant effect on groundwater-dependent ecosystems. The Vegetation Monitoring Plan shall be consistent with guidance for designing vegetation monitoring plans and conducting statistical analysis in *Measuring and Monitoring Plant Populations* (Elzinga et al. 1998). Monitoring shall focus on areas containing obligate or facultative phreatophytes (mesquite, ironwood, bush seep-weed, palo verde, cat's claw, smoke tree, and tamarisk) in areas that are most likely to be influenced by groundwater (low-lying areas in the basin floor). Monitoring sites shall include: 1. Reference Monitoring Sites: sites outside of the zone of Project influence that can be compared to sites influenced by Project pumping and used to distinguish Project effects from the effects of climate change or normal drought cycles; sites located in state or national parks are least likely to be influenced by human-caused hydrologic alterations. 2. Project Monitoring Sites: sites within the predicted worst-case scenario drawdown cone around the Project pumping well (Figure 3 of the Groundwater Resources Cumulative Impacts Analysis [Worley-Parsons 2009]), an area within a radius of approximately 10 miles from the Project pumping well. Ford Dry Lake, and the old-growth ironwood forest along the Palen wash are also included within this zone. 3. Distant Monitoring Sites: sites located near Palen Dry Lake within the predicted worst-case scenario drawdown cone around the Project pumping well around Palen Dry Lake where near-surface groundwater has been detected and where plant communities dominated by phreatophytes occur (including bush seep-weed-dominant alkali sink scrubs). In areas where the Project's estimated end of operation effects overlap the Palen Solar Power Project's estimated zone of water table effects (AECOM 2010a, Figures DR-ALT-207-1 & 2), the Project shall not be responsible for monitoring groundwater-dependent vegetation unless the Palen project (or other project at same site) is not constructed and/or no groundwater pumping is proposed by that project.	No more than 60 days following the docketing of the Energy Commission Final Decision, the Project owner shall submit to the CPM a final Vegetation Monitoring Plan that has been reviewed and approved by the CPM. All modifications to the Vegetation Monitoring Plan shall be made only after approval from the CPM. Monitoring shall begin no later than April 1st following docketing of the Energy Commission Final Decision and shall occur every year during the same one to two week time period in early spring. On January 31st of each year following the start of data collection, the Designated Biologist shall provide a report, prepared by the plant ecologist supervising the study and analyzing the data, to the CPM that describes monitoring activities and results, including recommendations for remedial action. If monitoring detects declining spring water tables—in any amount greater than the normal year-to-year variability of spring water tables—combined with a decline in plant vigor in groundwater dependent vegetation at the Project Monitoring Sites that is not also detected in the Reference Sites (by comparing monitoring site data with reference site data), the supervising plant ecologist shall prepare a summary of the data analysis within 30 days of completion of that monitoring.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Baseline data shall be collected at all sites prior to the start of pumping, and annual monitoring for the life of the Project shall be required at Project, Distant, and Reference Monitoring sites. A statistician shall be retained to use the first year of baseline data to conduct a "priori power analysis" (Elzinga et al. 1998) and evaluate the adequacy of the sampling design. **The Vegetation Monitoring Plan shall:** 1. Be prepared by a qualified plant ecologist with a demonstrated understanding of desert plant ecology and physiology. The plant ecologist overseeing the monitoring and preparing the annual reports shall be approved by the CPM; 2. Identify Project Monitoring Sites within the zone of potential Project effect depicted in Figure 3 of the Groundwater Resources Cumulative Impacts Analysis (Worley-Parsons 2009). Monitoring shall focus on areas containing obligate or facultative phreatophytes in areas that are the most likely to be influenced by groundwater (versus surface water) such as low lying areas in the basin floor outside of the stream channels; 3. Identify Distant Monitoring sites around Palen Dry Lake where near-surface groundwater and plant communities dominated by phreatophytes occur, including mesquite stands, bush seepweed-dominant sink scrubs, and dune scrubs; 4. Identify Reference Monitoring Sites within the Sonoran or Colorado Desert regions of California that contain examples of the target groundwater-dependent plant communities represented at the Project and Distant Monitoring Sites. Reference sites shall be characterized by surface and groundwater hydrology unaltered by anthropogenic influences such as groundwater pumping or other diversions. Sites located in state park and national park lands or wilderness areas are likely candidates for reference sites; 5. Provide a detailed description of sampling protocol for collecting a minimum of three years of baseline data from the Reference, Project, and Distant Monitoring Sites. The sampling protocol shall include a requirement that monitoring data be collected from all three monitoring sites at the same time of year at the start of the growing season (for example, March 15). A statistician shall be consulted during the design phase to conduct a "priori power analysis" (Elzinga et al. 1998) prior to determining an appropriate sample size achieve adequate power; 6. Provide a detailed description of the long-term data collection approach including: sampling objectives (target/threshold, change/trend-based) attributes measured, field techniques, minimum standards for monitoring personnel, data management, statistical analysis, monitoring schedule, reporting requirements, and responsible parties; 7. Include appropriate field techniques for measuring drought response, including (at a minimum): percent dieback; live crown density; percent cover of live (versus dead or residual) vegetation, and any other vigor indicators that detect subtle changes over time; percent cover/frequency of associated species, changes over time in percent composition of native versus non-native species, and facultative wetland plants present. A detailed description of monitoring protocol shall also be included (for example, photo monitoring at permanent photo stations, among other monitoring techniques); 8. Include a description of the biological and ecological characteristics of groundwater-dependent species and natural communities, such as whether species are obligate vs. facultative; root growth and water acquisition; morphological adaptations to the desert environment; reproduction and germination; general and micro-habitat preferences; salt tolerance; role in the morphology of dunes; wildlife uses, etc;		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
9. Describe annual reporting requirements, which shall include (at a minimum): summaries of the results of the Groundwater Well Monitoring **(Soil&Water-5)** and a comparison of predicted versus actual water table declines during the early spring monitoring period, summary of the Vegetation Monitoring data, sampling and monitoring techniques used, field measurements employed, names and contact information for the monitoring personnel and responsible parties, description of data management, statistical analysis, photos, and conclusions. Trigger for Remedial Action: The Project owner shall implement remedial action, as described in Condition of Certification **BIO-26,** if the monitoring described in **BIO-25** detects declining spring water tables—in any amount greater than the normal year-to-year variability—combined with a decline in plant vigor in groundwater dependent vegetation at the Project Monitoring Sites compared to the Reference Monitoring Sites. The baseline spring water table depth, as measured in groundwater monitoring conducted pursuant to Soil & Water-4 and 5, shall be established based on the normal range of variability in area shallow water tables in spring (March 15-April 1). The project owner may not pump groundwater from the site until the final Vegetation Monitoring Plan has been reviewed and approved by the CPM.		
Remedial Action for Adverse Effects to Groundwater-Dependent Biological Resources		
BIO-26 The Project owner shall implement remedial action if the monitoring described in **BIO-25** detects project-related declining spring water tables—in any amount greater than the normal year-to-year variability—combined with a decline in plant vigor in groundwater dependent vegetation at the Project Monitoring Sites compared to the Reference Monitoring Sites. The baseline spring water table depth, as measured in groundwater monitoring conducted pursuant to **Soil & Water-4 and 5**, shall be established based on the normal range of variability in area shallow water tables in spring (March 15-April 1). The Project owner shall submit a detailed proposal for remedial action to be approved by the CPM. Remedial measures must include one of the following measures to meet the performance standard of restoring the spring groundwater tables to baseline levels: 1) Relocating the Project pumping well to another location farther from the groundwater-dependent vegetation (and where the dependent vegetation is no longer within the drawdown cone of depression), or—alternatively—constructing a new well farther away and reducing water usage in the well closest to the dependent plant communities; 2) Reducing the Project water usage through water conservation methods or new technologies. The proposal shall clearly demonstrate that the proposed remedial action would restore the spring groundwater tables to baseline levels to sustain healthy ecological functioning in the affected plant communities. The Project owner may choose the most feasible method of restoring baseline spring water table levels providing it meets this performance standard. The Project owner must implement remedial action, as approved by the CPM.	Within 90 days following submission of the data summary described in **BIO-25** that triggers remedial action according to the threshold described in **BIO-25,** the Project owner shall submit to the CPM a draft, or conceptual plan for remedial action. The draft plan shall summarize the data and observations describing the adverse effect, including all calculations and assumptions made in development of the report data and interpretations. The draft plan must include, but not limited to, one of the remedial measures described above to meet the performance standard of restoring the spring groundwater table to baseline levels. A final plan shall be submitted to the CPM within 60 days of receipt of the CPM's comments. No later than one year following approval of the remedial action plan, the Project owner shall provide to the CPM for review and approval, documentation of completed remedial action. If, after review of the annual monitoring data described in **BIO-25** and in **Soil & Water-5**, the CPM agrees, monitoring measurements and frequencies may be revised or eliminated.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
Couch's Spadefoot Toad Impact Avoidance and Minimization Measures		
BIO-27 The Project owner shall prepare and implement a Couch's Spadefoot Toad Protection and Mitigation Plan (Protection and Mitigation Plan) to avoid, minimize or mitigate impacts to Couch's spadefoot toads and their breeding habitat during construction and operation of the Project. The Protection and Mitigation Plan shall be approved by the CPM in consultation with CDFG, and shall be incorporated into the Project's BRMIMP and implemented. It is expected that, as currently proposed, the Project could avoid the known breeding pond south of I-10 near Wiley Well Road and minimize impacts to the surrounding upland buffer. The Protection and Mitigation Plan shall address methods to achieve this avoidance and minimization, and shall include avoidance, minimization, and mitigation measures that would be required if additional habitat is found during habitat surveys. The Protection and Mitigation Plan shall include, at a minimum: 1. Habitat Survey Results: a. Survey methodology; b. Survey results, including a detailed discussion of potential breeding sites, and a description of areas determined not to include breeding habitat; and c. Figures showing the areas surveyed and the location of potential breeding habitat in relation to proposed Project features. 2. Impacts Assessment from: a. Habitat disturbance from construction; b. Noise from construction, operations, and potential ORV traffic; c. Increased access for vehicles from road construction or improvements; d. Changes in breeding habitat due to changes in flow levels and flow patterns to breeding ponds; e. Increased traffic from construction and operations; f. Increased risk of predation. 3. Avoidance and Minimization Measures: a. Description of measures that would be implemented to avoid impacts to potential breeding ponds, such as design strategies; protective fencing or other barriers, worker's education, minimizing construction traffic within the vicinity of breeding ponds, and biological monitoring; b. Designation of a Management Area around breeding ponds that includes an appropriate upland buffer, and a description of measures used to minimize impacts within this buffer. 4. Mitigation: If complete avoidance of the pond south of I-10 or other breeding sites identified during surveys is not possible, the Protection and Mitigation Plan shall include plans to create additional breeding habitats (ephemeral pond) at least equal in area to the acreage of ponds being impacted. The created ponds shall be capable of holding water for at least nine days during the spadefoot toad breeding season, and shall be established as close as possible (no more	No less than 30 days prior to construction-related ground-disturbance the Project owner shall submit to the CPM and CDFG a final Protection and Mitigation Plan. Modifications to the Protection and Mitigation Plan shall be made only after approval from the CPM, in consultation with CDFG. If the Protection and Mitigation Plan includes creation of ponds, the number and acreage of created ponds shall be described in the plan. No less than 90 days prior to operation of Project the Project owner shall provide to the CPM as-built drawings and photographs of the created ponds and maps showing the size and location of the ponds in relation to project features. On January 31st of every year following initiation of operation of the Project the Project owner shall submit reports to the CPM documenting the capacity of the created ponds to hold water for at least 9 days during the spadefoot toad breeding season. If ponds fail to hold water as described above the Project owner shall implement remedial actions. The annual reporting may be terminated upon satisfactory demonstration of this performance standard, and with approval of the CPM.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
BIOLOGICAL RESOURCES (cont.)		
than ¼ mile) from the location of the impacted ponds. The created ponds shall be monitored and managed to ensure fulfillment of this performance standard by site visits at the pond following summer rainfall events. If the created ponds fail to achieve this standard, remedial action shall be implemented (for example, by compacting the soil in the pond to increase water-holding capacity).		
Golden Eagle Inventory and Monitoring		
BIO-28 The Project owner shall implement the following measures to avoid or minimize Project-related construction impacts to golden eagles. 1. Annual Inventory During Construction. For each calendar year during which construction will occur an inventory shall be conducted to determine if golden eagle territories occur within one mile of the Project boundaries. Survey methods for the inventory shall be as described in the Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations (Pagel et al. 2010) or more current guidance from the USFWS. 2. Inventory Data: Data collected during the inventory shall include at least the following: territory status (unknown, vacant, occupied, breeding successful, breeding unsuccessful); nest location, nest elevation; age class of golden eagles observed; nesting chronology; number of young at each visit; digital photographs; and substrate upon which nest is placed. 3. Determination of Unoccupied Territory Status: A nesting territory or inventoried habitat shall be considered unoccupied by golden eagles ONLY after completing at least 2 full surveys in a single breeding season. 4. Monitoring and Adaptive Management Plan: If an occupied nest is detected within one mile of the Project boundaries, the Project owner shall prepare and implement a Golden Eagle Monitoring and Management Plan for the duration of construction to ensure that Project construction activities do not result in injury or disturbance to golden eagles.	No fewer than 30 days from completion of the golden eagle inventory the project owner shall submit a report to the CPM, CDFG, and USFWS documenting the results of the inventory. If an occupied nest is detected within one mile of the Project boundary during the inventory the Project shall contact staff at the USFWS Carlsbad Office and CDFG within one working day of detection of the nest for interim guidance on monitoring and nest protection. The project owner shall provide the CPM, CDFG, and USFWS with the final version of the Golden Eagle Monitoring and Management Plan within 30 days after detection of the nest. This final Plan shall have been reviewed and approved by the CPM in consultation with USFWS and CDFG.	
In-Lieu Fee Mitigation Option		
BIO-29 The Project owner may choose to satisfy its mitigation obligations identified in this Decision by paying an in lieu fee instead of acquiring compensation lands, pursuant to Fish and Game code sections 2069 and 2099 or any other applicable in-lieu fee provision, to the extent the in-lieu fee provision is found by the Commission to be in compliance with CEQA and CESA requirements.	If electing to use this provision, the Project owner shall notify the Commission that it would like a determination that the Project's in-lieu fee proposal meets CEQA and CESA requirements.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES		
CUL-1 Prehistoric Trails Network Cultural Landscape (PTNCL) Documentation and Possible NRHP Nomination The project owner shall contribute to a special fund set up by the Energy Commission and/or BLM to finance the completion of the PTNCL Documentation and Possible NRHP Nomination program presented in the cultural PTNCL Genesis Solar Energy Project (GSEP) Revised Staff Assessment (RSA). The amount of the contribution shall be $35 per acre that the project encloses or otherwise disturbs. An additional contribution may be required to ensure the completion of the required documentation and possible NRHP nomination. Any additional contingency contribution is not to exceed an amount totaling 20% of the total original contribution. The contribution to the special fund may be made in installments at the approval of the CPM, with the first installment to constitute 1/3 of the total original contribution amount. If a project is not certified, or if a project owner does not build the project, or, if for some other reason deemed acceptable by the CPM, a project owner does not participate in funding the PTNCL documentation and possible NRHP nomination program, the other project owner(s) may consult with the CPM to adjust the scale of the PTNCL documentation and possible NRHP nomination program research activities to match available funding. A project owner that funds the PTNCL documentation and possible NRHP nomination program, then withdraws, will be able to reclaim their monetary contribution, to be refunded on a prorated basis.	No later than 10 days after receiving notice of the successful transfer of funds for any installment to the Energy Commission's and/or BLM's special PTNCL fund, the project owner shall submit a copy of the notice to the Energy Commission's Compliance Project Manager (CPM).	CEC/BLM
CUL-2 Desert Training Center California-Arizona Maneuver Area Cultural Landscape (DTCCL) Documentation and Possible NRHP Nomination The project owner shall contribute to a special fund set up by the Energy Commission and/or BLM to finance the completion of the Documentation and Possible NRHP Nomination program presented in the GSEP RSA. The amount of the contribution shall be $25 per acre that the project encloses or otherwise disturbs. An additional contribution may be required to ensure the completion of the required documentation and possible NRHP nomination. Any additional contingency contribution is not to exceed an amount totaling 20% of the total original contribution. The contribution to the special fund may be made in installments at the approval of the CPM, with the first installment to constitute 1/3 of the total original contribution amount. If a project is not certified, or if a project owner does not build the project, or, if for some other reason deemed acceptable by the CPM, a project owner does not participate in funding the DTCCL documentation and possible NRHP nomination program, the other project owner(s) may consult with the CPM to adjust the scale of the DTCCL documentation and possible NRHP nomination program research activities to match available funding. A project owner that funds the DTCCL documentation and possible NRHP nomination program, then withdraws, will be able to reclaim their monetary contribution, to be refunded on a prorated basis.	No later than 10 days after receiving notice of the successful transfer of funds for any installment to the Energy Commission's and/or BLM's special DTCCL fund, the project owner shall submit a copy of the notice to the CPM.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
CUL-3 Cultural Resources Personnel Prior to the start of ground disturbance (includes "preconstruction site mobilization", "ground disturbance," and "construction grading, boring, and trenching," as defined in the General Conditions for this project), the project owner shall obtain the services of a Cultural Resources Specialist (CRS), one or more alternate CRSs, if alternates are needed, and the technical specialists identified below in this condition. The CRS can also serve in the role of one or more of the technical specialists if that person has the requisite qualifications. The CRS shall manage all cultural resources mitigation, monitoring, curation, and reporting activities in accordance with the Conditions of Certification (Conditions). The CRS shall have a primarily administrative and coordinative role for the GSEP. The project owner shall ensure that the CRS implements the cultural resources conditions, providing for data recovery from known historical resources, and shall ensure that the CRS makes recommendations regarding the eligibility for listing in the California Register of Historical Resources (CRHR) of any cultural resources that are newly discovered or that may be impacted in an unanticipated manner. The CRS may obtain the services of field crew members and cultural resources monitors (CRMs), if needed, to assist in mitigation, monitoring, and curation activities. No ground disturbance shall occur prior to CPM approval of the CRS and alternates, unless such activities are specifically approved by the CPM. Approval of a CRS may be denied or revoked for reasons including but not limited to noncompliance on this or other Energy Commission projects. **Cultural Resources Specialist** The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and backgrounds conform to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61. In addition, the CRS shall have the following qualifications: 1. A background in anthropology and prehistoric archaeology; 2. At least 10 years of archaeological resource mitigation and field experience, with at least 3 of those years in California; and 3. At least 3 years of experience in a decision-making capacity on cultural resources projects, with at least 1 of those years in California, and the appropriate training and experience to knowledgably make recommendations regarding the significance of cultural resources. **Required Cultural Resources Technical Specialists** The project owner shall ensure that the CRS obtains the services of a qualified prehistoric archaeologist to conduct the research specified in **CUL-10, CUL-11,** and **CUL-12**. The Project Prehistoric Archaeologist's (PPA) training and background must meet the U.S. Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology, as published in Title 36, Code of Federal Regulations, part 61, and the resume of the PPA must demonstrate familiarity with similar artifacts and environmental modifications (deliberate and incidental) to those associated with the prehistoric and protohistoric use of the Chuckwalla Valley. The PPA must meet OSHA standards as a "Competent Person" in trench safety. If mechanical excavation is required during the excavation of CA-Riv-9072, the project owner shall ensure that the CRS obtains the services of a specialist backhoe operator to conduct the subsurface mechanical excavation described in **CUL-11**. This backhoe operator shall have a resume that demonstrates previous experience using a backhoe in coordination with an archaeologist. In addition the operator shall use a machine with a "stripping bucket" that is sensitive enough to remove even and consistent layers of sediment 5 cm thick.	1. No less than 75 days prior to the start of ground disturbance, the project owner shall submit the resumes for the CRS, the alternate CRS(s) if desired, the PPA, the PE, the PHA, and the PG to the CPM and BLM, if desired by BLM, for review and approval. 2. At least 10 days prior to the start of data recovery on known archaeological sites, the project owner shall confirm in writing to the CPM that the approved CRS, the PPA, the PE, the PHA, and the PG will be available for on-site work and are prepared to implement the cultural resources Conditions **CUL-8, CUL-10, CUL-11, CUL-12,** and **CUL-17.** 3. At least 10 days prior to a termination or release of the CRS, or within 10 days after the resignation of a CRS, the project owner shall submit the resume of the proposed new CRS to the CPM and BLM, if desired by BLM, for review and approval. At the same time, the project owner shall also provide to the proposed new CRS the AFC and all cultural resources documents, field notes, photographs, and other cultural resources materials generated by the project. If no alternate CRS is available to assume the duties of the CRS, a monitor may serve in place of a CRS so that ground disturbance may continue up to a maximum of 3 days without a CRS. If cultural resources are discovered then ground disturbance will remain halted until there is a CRS or alternate CRS to make a recommendation regarding significance. 4. At least 15 days prior to data recovery on known archaeological sites, the CRS shall provide a letter naming anticipated field crew members for the project and attesting that the identified field crew members meet the minimum qualifications for cultural resources data recovery required by this Condition. 5. At least 15 days prior to ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and attesting that the identified CRMs meet the minimum qualifications for cultural resources monitoring required by this Condition.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
The project owner shall ensure that the CRS obtains the services of a qualified ethnographer to conduct the research and activities specified in **CUL-16**, *if one is not hired* by the PTNCL PI for the overall duties as described in the PTNCL documentation and possible NRHP nomination program. The Project Ethnographer's (PE) training and background must meet the NPS standards for Anthropologist/Applied Ethnographer (GS-190, 11-12 or 13-15). The PE must have already established long-term relationships with Native American groups whose traditional territories are near GSEP. The project owner shall ensure that the CRS obtains the services of a qualified historical archaeologist to conduct the research specified in **CUL-17**. The Project Historical Archaeologist's (PHA) training and background must meet the U.S. Secretary of Interior's Professional Qualifications Standards for historical archaeology, as published in Title 36, Code of Federal Regulations, part 61. The project owner shall ensure that the CRS obtains the services of a qualified geoarchaeologist to conduct the research specified in **CUL-8, CUL-10, and CUL-11.** The resume of the proposed Project Geoarchaeologist (PG) shall demonstrate that the PG's training and background meet the U.S. Secretary of Interior's Professional Qualifications Standards for prehistoric archaeology, as published in Title 36, Code of Federal Regulations, part 61, and show the completion of graduate-level coursework in geoarchaeology or Quaternary science. The resumes of the CRS, alternate CRS, PPA, PE, PHA, and PG shall include the names and telephone numbers of contacts familiar with the work of these persons on projects referenced in the resumes and demonstrate to the satisfaction of the CPM that these persons have the appropriate training and experience to undertake the required research. The project owner may name and hire the CRS, alternate CRS, the PPA, and the PHA prior to certification. **Field Crew Members And Cultural Resources Monitors** CRMs and field crew members shall have the following qualifications: 1. A B.S. or B.A. degree in anthropology, archaeology, historical archaeology, or a related field, and one year experience monitoring in California; or 2. An A.S. or A.A. degree in anthropology, archaeology, historical archaeology, or a related field, and four years experience monitoring in California; or 3. Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historical archaeology, or a related field, and two years of monitoring experience in California.	6. At least 5 days prior to additional CRMs beginning on-site duties during the project, the CRS shall provide letters to the CPM identifying the new CRMs and attesting to their qualifications.	
CUL-4 Project Documents for Cultural Resources Personnel Prior to the start of ground disturbance, the project owner shall provide the CRS, the PPA, the PE, the PHA, and the PG with copies of the AFC, data responses, confidential cultural resources documents, the Revised Staff Assessment (RSA), and the RSA Supplement/Errata, if any, for the project. The project owner shall also provide the CRS, the PPA, the PE, the PHA, the PG, and the CPM with maps and drawings showing the footprints of the power plant, all linear facility routes, all access roads, and all laydown areas. Maps shall include the appropriate USGS quadrangles and maps at an appropriate scale (e.g., 1:2400 or 1" = 200') for plotting cultural features or materials. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. Staff shall review map submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless such activities are specifically approved by the	1. No less than 60 days prior to the start of ground disturbance, the project owner shall provide the AFC, data responses, confidential cultural resources documents, the Revised Staff Assessment (RSA), and RSA Supplement/Errata to the CRS, if needed, and to the PPA, the PHA, and the PG. The project owner shall also provide the subject maps and drawings to the CRS, PPA, PE, PHA, PG, and CPM. Staff, in consultation with the CRS, PPA, and PHA, will review and approve maps and drawings suitable for cultural	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
CPM. Release of cultural resources information will be pending BLM approval. If construction of the project would proceed in phases, maps and drawings not previously provided shall be provided to the CRS, the PPA, the PHA, the PG, and CPM prior to the start of each phase. Written notice identifying the proposed schedule of each project phase shall be provided to the CRS and CPM. Weekly, until ground disturbance is completed, the project construction manager shall provide to the CRS and CPM a schedule of project activities for the following week, including the identification of area(s) where ground disturbance will occur during that week. The project owner shall notify the CRS and the CPM of any changes to the scheduling of the construction phases.	resources monitoring and data recovery activities. 2. At least 15 days prior to the start of ground disturbance, if there are changes to any project-related footprint, the project owner shall provide revised maps and drawings for the changes to the CRS, PPA, PHA, and CPM. 3. At least 15 days prior to the start of each phase of a phased project, the project owner shall submit the appropriate maps and drawings, if not previously provided, to the CRS, PPA, PHA, and CPM. 4. Weekly, during ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax. 5. Within 5 days of changing the scheduling of phases of a phased project, the project owner shall provide written notice of the changes to the CRS and CPM.	
CUL-5 Cultural Resources Monitoring and Mitigation Plan Prior to the start of ground disturbance, the project owner shall submit to the CPM for review and approval the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by or under the direction of the CRS, with the contributions of the PPA, the PHA, and the PG. The authors' name(s) shall appear on the title page of the CRMMP. The CRMMP shall specify the impact mitigation protocols for all known cultural resources and identify general and specific measures to minimize potential impacts to all other cultural resources, including those discovered during construction. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, the PPA, the PE, the PHA, the PG, each CRM, and the project owner's on-site construction manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless such activities are specifically approved by the CPM. Prior to certification, the project owner may have the CRS, alternate CRS, the PPA, and the PHA complete and submit to Energy Commission for review the CRMMP, except for the portions to be contributed by the PTNCL and the DTCCL programs. The CRMMP shall include, but not be limited to, the elements and measures listed below. 1. The following statement shall be included in the Introduction: "Any discussion, summary, or paraphrasing of the Conditions of Certification in this CRMMP is intended as general guidance and as an aid to the user in understanding the Conditions and their implementation. The conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the conditions in the CRMMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in Appendix A."	1. No less than 30 days prior to the start of ground disturbance, the project owner shall submit the CRMMP to the CPM for review and approval. 2. At least 20 days prior to the start of ground disturbance, in a letter to the CPM, the project owner shall agree to pay curation fees for any materials generated or collected as a result of the archaeological investigations (survey, testing, data recovery). 3. At least 30 days prior to the initiation of ground disturbance, the project owner shall provide to the CPM a copy of a letter from a curation facility that meets the standards stated in the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections, stating the facility's willingness and ability to receive the materials generated by GSEP cultural resources activities and requiring curation. Any agreements concerning curation will be retained and available for audit for the life of the project.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
2. The duties of the CRS shall be fully discussed, including any coordination duties with respect to the completion of the Prehistoric Trails Network Cultural Landscape (PTNCL) documentation and possible NRHP nomination program and the Desert Training Center California-Arizona Maneuver Area Cultural Landscape (DTCCL) documentation and possible NRHP nomination program, and oversight/management duties with respect to site evaluation, data collection, monitoring, and reporting at both known prehistoric and historic-period archaeological sites and any CRHR-eligible (as determined by the CPM) prehistoric and historic-period archaeological sites discovered during construction. 3. A general research design shall be developed that: a. Charts a timeline of all research activities, including any coordinated under the PTNCL and DTCCL documentation and possible NRHP nomination programs; b. Recapitulates any existing paleoenvironmental, prehistoric, ethnohistoric, ethnographic, and historic contexts developed in the PTNCL and DTCCL historic context and adds to these the additional context of the non-military, historic-period occupation and use of the Chuckwalla Valley, to create a comprehensive historic context for the GSEP vicinity; c. Poses archaeological research questions and testable hypotheses specifically applicable to the archaeological resource types known for the Chuckwalla Valley, based on any research questions developed under the PTNCL and DTCCL research and on the archaeological and historical literature pertinent to the Chuckwalla Valley; and d. Clearly articulates why it is in the public interest to address the research questions that it poses. 4. Protocols, reflecting the guidance provided in **CUL-3, CUL-10, CUL-11, CUL-12, CUL-16,** and **CUL-17** shall be specified for the data recovery from known prehistoric and historic-period archaeological resources. 5. Artifact collection, retention/disposal, and curation policies shall be discussed, as related to the research questions formulated in the research design. These policies shall apply to cultural resources materials and documentation resulting from evaluation and data recovery at both known prehistoric and historic-period archaeological sites and any CRHR-eligible (as determined by the CPM) prehistoric and historic-period archaeological sites discovered during construction. A prescriptive treatment plan may be included in the CRMMP for limited data types. 6. The implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the ground-disturbance and post-ground–disturbance analysis phases of the project shall be specified. 7. Person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team shall be identified. 8. The manner in which Native American observers or monitors will be included, in addition to their roles in the activities required under CUL-1, the procedures to be used to select them, and their roles and responsibilities shall be described. 9. All impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation shall be described. Any areas where these measures are to be implemented shall be identified. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from project-related impacts.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
10. The commitment to record on Department of Parks and Recreation (DPR) 523 forms, to map, and to photograph all encountered cultural resources over 50 years of age shall be stated. In addition, the commitment to curate all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery), in accordance with the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections, into a retrievable storage collection in a public repository or museum shall be stated. 11. The commitment of the project owner to pay all curation fees for artifacts recovered and for related documentation produced during cultural resources investigations conducted for the project shall be stated. The project owner shall identify a curation facility that could accept cultural resources materials resulting from GSEP cultural resources investigations. 12. The CRS shall attest to having access to equipment and supplies necessary for site mapping, photography, and recovery of all cultural resource materials (that cannot be treated prescriptively) from known CRHR-eligible archaeological sites and from CRHR-eligible sites that are encountered during ground disturbance. 13. The contents, format, and review and approval process of the final Cultural Resource Report (CRR) shall be described.		
CUL-6 Cultural Resources Report (CRR) The project owner shall submit the final Cultural Resources Report (CRR) to the CPM for review and comment and to the BLM Palm Springs archaeologist for review and approval. The final CRR shall be written by or under the direction of the CRS and shall be provided in the ARMR format, as specified by the California State Historic Preservation Office. The final CRR shall report on all field activities including dates, times and locations, results, samplings, and analyses. All survey reports, revised and final Department of Parks and Recreation (DPR) 523 forms, data recovery reports, and any additional research reports not previously submitted to the California Historical Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as appendices to the final CRR. If the project owner requests a suspension of ground disturbance and/or construction activities, then a draft CRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM and to the BLM Palm Springs archaeologist for review and approval on the same day as the suspension/extension request. The draft CRR shall be retained at the project site in a secure facility until ground disturbance and/or construction resumes or the project is withdrawn. If the project is withdrawn, then a final CRR shall be submitted to the CPM for review and approval at the same time as the withdrawal request.	1. Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft CRR to the CPM for review and approval. 2. Within 180 days after completion of ground disturbance (including landscaping), the project owner shall submit the final CRR to the CPM for review and approval and to the BLM Palm Springs Field Office archaeologist for review and approval. If any reports have previously been sent to the CHRIS, then receipt letters from the CHRIS or other verification of receipt shall be included in an appendix. 3. Within 10 days after the CPM and the BLM Palm Springs Field Office archaeologist approve the CRR, the project owner shall provide documentation to the CPM confirming that copies of the final CRR have been provided to the SHPO, the CHRIS, the curating institution, if archaeological materials were collected, and to the Tribal Chairpersons of any Native American groups requesting copies of project-related reports.	CEC/BLM
CUL-7 Worker Environmental Awareness Program (WEAP) Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment at the project site, along the linear facilities routes, and at laydown areas, roads, and other ancillary areas. The training shall be prepared by the CRS in consultation with local Native Americans and shall incorporate the traditions and beliefs of local Native American groups into the presentation.	1. At least 30 days prior to the beginning of ground disturbance, the CRS shall provide the training program draft text and graphics and the informational brochure to the CPM for review and approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
If consultation with local Native Americans is not possible, the CRS shall consult, instead, with an ethnographer, either the PTNCL Ethnographer or the GSEP PE, on the content of the presentation. The presentation may be conducted by any member of the archaeological team and a Native American, if possible (preferably the Native American serving as a construction monitor under CUL-8), and may be presented in the form of a video. A consulting fee or honorarium shall be negotiated with the local Native American consultants and presenter and paid to them for their participation. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must be resumed when ground disturbance, such as landscaping, resumes. The training shall include: 1. A discussion of applicable laws and penalties under the law; 2. Samples or visuals of artifacts that might be found in the project vicinity; 3. A discussion of what such artifacts may look like when partially buried, orwholly buried and then freshly exposed; 4. A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits; 5. A discussion of what local Native American beliefs are, how those beliefs are related to archaeological resources that may be found in the area, and the appropriate respectful behavior towards sacred places and objects; 6. Instruction that the CRS, alternate CRS, and CRMs have the authority to halt ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS; 7. Instruction that employees are to avoid areas flagged as sensitive for cultural resources; 8. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the CRS or CRM, and that redirection of work would be determined by the construction supervisor and the CRS; 9. An informational brochure that identifies reporting procedures in the event of a discovery; 10. An acknowledgement form signed by each worker indicating that they have received the training; and 11. A sticker that shall be placed on hard hats indicating that environmental training has been completed. No ground disturbance shall occur prior to implementation of the WEAP program, unless such activities are specifically approved by the CPM.	2. At least 15 days prior to the beginning of ground disturbance, the CPM will provide to the project owner a WEAP Training Acknowledgement form for each WEAP trained worker to sign. 3. Monthly, until ground disturbance is completed, the project owner shall provide in the Monthly Compliance Report (MCR) the WEAP Training Acknowledgement forms of workers who have completed the training in the prior month and a running total of all persons who have completed training to date.	
CUL-8 Construction Monitoring Program Staff expects the Qoaf alluvium to be reached during grading across most of the site. The project owner shall ensure that the CRS, alternate CRS, or CRMs monitor full time all ground disturbance, if allowed by the BLM, until the CRS, alternate CRS, or CRMs certify that the **sterile Qoaf alluvium** has been reached. This will include ground disturbance at the project site, along the linear facilities routes, and at laydown areas, roads, and other ancillary areas, to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner.	1. At least 30 days prior to the start of ground disturbance, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log. 2. Within 15 days of receiving from a local Native American group a request that a Native American	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
During utility trenching along the linear corridor, which is expected to reach a depth of 10 feet, the face of each trench shall be examined for features. While the utility trench is open, the owner shall arrange for a geoarchaeologist with qualifications described in CUL-3 to observe the exposed stratigraphy. This specialist shall collect information and samples that will aid in the paleo-environmental reconstruction of Ford Dry Lake over the last 14,000 years, as specified in the PTCNL documentation and possible NRHP nomination program funded under CUL-1. Full-time archaeological monitoring for this project shall be the archaeological monitoring of the earth-removing activities in the areas specified in the previous paragraph, for as long as the activities are ongoing. Where excavation equipment is actively removing dirt and hauling the excavated material farther than 50 feet from the location of active excavation, full-time archaeological monitoring shall require at least two monitors per excavation area. In this circumstance, one monitor shall observe the location of active excavation and a second monitor shall inspect the dumped material. For excavation areas where the excavated material is dumped no farther than fifty feet from the location of active excavation, one monitor shall both observe the location of active excavation and inspect the dumped material. In the event that the CRS believes that the required number of monitors is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the number of monitors shall be provided to the CPM for review and approval prior to any change in the number of monitors. The project owner shall obtain a Native American monitor to monitor ground disturbance if local Native American groups so request. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that shall be monitored. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. Staff will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor. The research design in the CRMMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered. On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of non-compliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended. The CRS or alternate CRS shall report daily to the CPM on the status of the project's cultural resources-related activities, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM. In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring. The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities, including PTNCL sites monitoring, with Energy Commission technical staff. Cultural resources monitoring activities, including PTNCL sites monitoring, are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate	monitor be employed, the project owner shall submit a copy of the request and a copy of a response letter to the group notifying them that a Native American monitor has been employed and identifying the Native American monitor. 3. Monthly, while monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS and shall attach any new DPR 523A forms completed for finds treated prescriptively, as specified in the CRMMP. 4. At least 24 hours prior to implementing a proposed change in monitoring level, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for changing the monitoring level. 5. Daily, as long as no cultural resources are found, the CRS shall provide a statement that "no cultural resources over 50 years of age were discovered" to the CPM as an e-mail or in some other form of communication acceptable to the CPM. 6. At least 24 hours prior to reducing or ending daily reporting, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for reducing or ending daily reporting. 7. No later than 30 days following the discovery of any Native American cultural materials, the project owner shall submit to the CPM copies of the information transmittal letters sent to the Chairpersons of the Native American tribes or groups who requested the information. Additionally, the project owner shall submit to the CPM copies of letters of transmittal for all subsequent responses to Native American requests for notification,	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions. Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM.	consultation, and reports and records. 8. Within 15 days of receiving them, the project owner shall submit to the CPM copies of any comments or information provided by Native Americans in response to the project owner's transmittals of information.	
CUL-9 Authority to Halt Construction; Treatment of Discoveries The project owner shall grant authority to halt ground disturbance to the CRS, alternate CRS, PPA, PHA, PG, and the CRMs in the event of a discovery of a cultural resource over 50 years of age, or younger if determined to be exceptionally significant by the CPM. Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS. In the event that a cultural resource over 50 years of age is found (or if younger, determined exceptionally significant by the CPM), or impacts to such a resource can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. Monitoring and daily reporting, as provided in other conditions, shall continue during the project's ground-disturbing activities elsewhere. The halting or redirection of ground disturbance shall remain in effect until the CRS has visited the discovery, and all of the following have occurred: 1. The CRS has notified the project owner and the BLM Palm Springs Field Office archaeologist, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e., work stoppage or redirection), a recommendation of CRHR eligibility, and recommendations for data recovery from any cultural resources discoveries, whether or not a determination of CRHR eligibility has been made. 2. If the discovery would be of interest to Native Americans, the CRS has notified all Native American groups that expressed a desire to be notified in the event of such a discovery. 3. The CRS has completed field notes, measurements, and photography for a DPR 523 "Primary" form. Unless the find can be treated prescriptively, as specified in the CRMMP, the "Description" entry of the DPR 523 "Primary" form shall include a recommendation on the CRHR eligibility of the discovery. The project owner shall submit completed forms to the CPM. 4. The CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery plan, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have been completed.	1. At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, PPA, PHA, PG, and CRMs have the authority to halt ground disturbance in the vicinity of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning. 2. Within 48 hours of the discovery of a resource of interest to Native Americans, the project owner shall ensure that the CRS notifies all Native American groups that expressed a desire to be notified in the event of such a discovery. 3. Unless the discovery can be treated prescriptively, as specified in the CRMMP, completed DPR 523 forms for resources newly discovered during ground disturbance shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever the CRS decides is more appropriate for the subject cultural resource.	CEC/BLM
CUL-10 Data Recovery for Small Sites Prior to the start of ground disturbance, the project owner shall ensure that the CRMMP includes a data recovery plan for the following sites: CA-Riv-9084, CA-Riv-9209, CA-Riv-9215, CA-Riv-9216, CA-Riv-9220, CA-Riv-9223 and CA-Riv-9227. This	1. At least 15 days prior to commencing data recovery on any of these sites, the project owner shall notify the CPM that data recovery for small	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
site list may be revised only with the agreement of the CRS and the CPM. When ground disturbance will start within 30 meters of the boundaries of these sites, the project owner shall ensure that the CRS, the PPA, and/or archaeological team members implement the plan, if allowed by the BLM, which shall include, but is not limited to the following tasks: 1. Use location recordation equipment that has the latest technology with sub-meter accuracy (such as UTM 11 North or California Teale Albers) to add to the original site maps the following features: seasonal drainages, site boundaries, location of each individual artifact, and the boundaries around individual artifact concentrations; 2. Collects all artifacts after their locations are marked, and submits them for laboratory analysis; 3. Requests the PG to identify the specific landform for each site and its relationship to specific ancient lakeshores of Ford Dry Lake. If a lakeshore is present within 100 meters of the site boundary, it shall be included on the site map; 4. Excavates one 1-meter-by-1-meter unit in 10-centimeter levels until the unit reaches the top of the Qoaf alluvium, placing these units in the part of the site with the highest artifact density 5. Places, one 1-meter-by-1-meter excavation unit, as described above, in the center of each concentration if multiple artifact concentrations have been identified; 6. Tests the horizontal limits of the site by placing test units down to the upper boundary of the Qoaf alluvium with a shovel or hand auger, or other similar technique, at four spots equally spread around the exterior edge of each site; 7. Continues exploring the extent of the site using methods described in **CUL-11**, if features or other buried deposits are identified. Plans for this contingency shall be described in detail in the CRMMP. If no buried deposits are found, data recovery is complete; 8. Presents the results of the **CUL-10** data recovery in a letter report by the PPA or CRS, which shall serve as a preliminary report. Letter reports may address one site, or multiple sites depending on the needs of the CRS. The letter report shall be a concise document the provides description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of excavation units including topographic contours and the site landforms; 9. Updates the existing Department of Parks and Recreation (DPR) 523 site form for these sites, including new data on seasonal drainages, site boundaries, location of each individual artifact, the boundaries around individual artifact concentrations, and the landform; and 10. Presents the final results of data recovery at these prehistoric sites in the CRR, as described in **CUL-6**.	sites has ensued. 2. Within one week of the completion of data recovery at a site, the project owner shall verify this by submitting a letter report written by the PPA or CRS for review and approval of the CPM. When the CPM approves the letter report, ground disturbance may begin at these site locations.	
CUL-11 Data Recovery for Large Sites Prior to the start of ground disturbance, the project owner shall ensure that the CRMMP includes a plan to recover data from those parts of site CA-Riv-9072 that the project will directly impact. When ground disturbance will start within 30 meters of the boundaries of this site, the project owner shall ensure that the plan is implemented, if allowed by the BLM. The sub-surface data recovery plan shall, at a minimum, include the following: 1. The research questions to be addressed by the data recovery at this potential PTNCL contributor, based on any context written by PTNCL staff as funded by CUL-1.	1. At least 45 days prior to ground disturbance, the project owner shall notify the CPM that data recovery for large sites has ensued. 2. Within one week of completing data recovery at a site, the project owner shall submit to the CPM for review and approval a letter report written by the CRS, evidencing that the field portion of data recovery at each site has been completed. When	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
2. The accurate and conspicuous marking with lath and flagging of that portion of the site that is inside plant site boundaries and subject to destruction; this area shall constitute the study area for each site; 3. The detailed examination of the surface within the site study area; 4. The creation of a digital map using location recordation equipment using the latest technology with sub-meter accuracy (such as UTM 11 North or California Teale Albers); the map shall include at a minimum: the site boundary, local landforms, features, and the boundaries around artifact concentrations; point proveniencing on the map of all artifacts shall be used unless, in cases of high artifact density, alternative methods can be negotiated with the CPM. After the location of each artifact is marked, it shall be collected for analysis; FAR (fire-affected rock—rock that shows evidence of having been in prolonged contact with fire) that is not also groundstone, may be counted and discarded; 5. The testing of the horizontal limits of the site by placing test units down to the upper boundary of the Qoaf alluvium using hand excavation, augers, or other similar non-mechanical technique; 6. Use testing results to determine additional excavation that the CRS, the PPA, BLM, and the CPM shall agree upon and in order to explore the spatial variability in the physical and material character and the chronology of the site; 7. If mechanical excavation is used to identify buried deposits, a trenching plan shall be included in the **CUL-11** data recovery plan in the CRMMP, shall specify the location of the trenches and the strategy behind their placement at each site; at a minimum the trenching plan shall: a. Result in a 2.5 percent sample of the portion of the site expected to be destroyed, trench spacing between 10-m to 50-m, and a trench orientation from north-south, unless site specific conditions suggest better results using a different arrangement; b. Use backhoe trenches two feet wide and generally dug to depths no greater than 5 feet to conform to OSHA standards; c. Use stepped trenches or hydraulic shoring if a depth greater than 5 feet is required to investigate archaeological features, to comply with OSHA regulations; d. Require trench walls, excavated within the boundaries of the archaeological site, to be scraped with hand tools to provide a clear exposure of subsurface cultural remains; e. Require archaeological features identified in trench walls to be marked and assigned a number; and f. Require the completion of a trench record form for each trench that includes its essential characteristics (trench number, length, width, and depth), the locations and types of archaeological features, the stratigraphy and characteristics of exposed sediments, and locations of disturbances such as tree roots or animal burrows. 8. The requirements that: a. All identified features shall be documented through standardized forms, scaled profile drawings, plan view maps, and photographs; b. Between 50 and 100 percent of the features identified shall be fully or partially excavated, depending on their state of preservation and the presence or absence chronologically relevant materials;	the CPM approves the letter report, ground disturbance may begin at the site location(s) that are the subject of the letter report. 3. At least 15 days before the presentation of the CA-Riv-9072 paper at a professional conference, the project owner shall submit to the CPM and BLM for review and approval the draft of the required research paper.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
c. The proportion of excavated features shall be negotiated between the owner and the CPM, depending on the nature of the features identified, their rarity, and their information potential; and d. Buried features shall be excavated by hand or by mechanical "stripping" with a backhoe bucket to remove sterile overburden until 20 centimeters above the limits of the feature, as identified in the trench wall, then excavating the remainder of the feature by hand, using the standard archaeological methods as outlined by the California SHPO; and e. Samples such as flotation, pollen, and charcoal shall be methodically collected from appropriate contexts, and artifacts such as lithics, ceramics, groundstone, and shell shall be subject to the professionally appropriate laboratory analyses. 9. The determination of the age and function of the site, if possible; 10. A letter report, which shall serve as a preliminary report, written by the CRS, submitted to the CPM that details what was found at each site, as follows: a. Letter reports may address one site, or multiple sites depending on the needs of the CRS; and b. The letter report shall be a concise document the provides a description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of excavation units, including topographic contours and the site landforms. 11. The updating of the existing DPR 523 site forms including new data on features, artifact analyses and the overall results of the data recovery and the landform; 12. The definitive determination as to whether the site evaluated is a contributing element to the PTNCL, made by the PTNCL PI using the data collected from the field work; 13. The completion of a final, comprehensive report, after all recovered data are analyzed, written by the CRS and/or the trench specialist, or under their direction; 14. The inclusion of the final version of this report in the CRR (CUL-6). 15. The inclusion of relevant portions of the information gathered in the National Register nomination for the PTNCL, if the nomination is done; 16. If the results would be of interest to the professional community, and BLM allows, a paper will be presented at a professional conference incorporating the final results of all data recovery at CA-Riv-9072, in accordance with all applicable laws.		
CUL-12 Surface Collection with Sampling for Site CA-RIV-9072 Prior to the start of ground disturbance, the project owner shall ensure that the CRMMP includes a plan to recover data from those parts of site CA-Riv-9072 that the project will both directly and indirectly impact. When ground disturbance will start within 30 meters of the boundaries of this site, the project owner shall ensure that the plan is implemented, if allowed by the	1. At least 15 days prior to surface collection on site CA-Riv-9072, the project owner shall notify the CPM that the surface collection has ensued. 2. Within one week of completing data recovery at a site, the project owner shall submit to the CPM for	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
BLM. The surface data collection plan shall include, but is not limited to the following: 1. Completing a surface collection in the part of site CA-RIV-9072 that is inside the plant site boundaries, and thus subject to destruction, prior to ground disturbance in the area; all diagnostic artifacts and features shall be mapped using location recordation equipment that has the latest technology with sub-meter accuracy (such as UTM 11 North or California Teale Albers), and collected; if datable materials are present on the ground surface and in clear association with a feature, a sample of these materials shall be collected; 2. Completing additional surface collection transects or units, judgmentally placed in areas of highest artifact density, in total representing 10 percent of the overall site area outside of the plant site boundaries; the artifacts in these transects shall be mapped and then collected; 3. Analyzing the collected artifacts and the incorporate the results into the appropriate section of the CRR for CA-RIV-9072; 4. Writing and submitting to the CPM a letter report by the CRS and PPA, which shall serve as a preliminary report that details what was found at CA-RIV-9072. Letter reports may address one site, or multiple sites depending on the needs of the CRS; the results of the surface collection may be incorporated into the results of the data recovery, required in **CUL-11**, at the same site, depending on the needs of the CRS; 5. Ensuring that the letter report is a concise document that provides description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of collection units including topographic contours and the site landforms; and Including the final results of the surface collection at CA-RIV-9072 into the CRR required under **CUL-6** and in the conference paper required under **CUL-11**.	review and approval a letter report written by the CRS, evidencing that the surface collection portion of data recovery at each site has been completed.	
CUL-13 Flag and Avoid Prior to the start of ground-disturbing activities within 30 meters of sites CA-Riv-0260, CA-Riv-0663, and CA-Riv-9072, the project owner shall reduce or avoid impacts to these sites, if allowed by the BLM, by: 1. Ensuring that a CRS, alternate CRS, PPA, or CRM re-establish the portion of the boundary of each site which is within 30 m of the GSEP linear corridor or site footprint, add a 10-meter-wide buffer around this boundary, and flag the resulting space in a conspicuous manner; 2. Ensuring that a CRM enforces avoidance of the flagged areas during GSEP construction;	While construction is on-going, the project owner shall ensure that the CRS or other archaeological crew member establish that the temporary site markers are visible and in place on a monthly basis. The status of these boundary markers will be reported on in the monthly monitoring summary report.	CEC/BLM
CUL-14 DELETED		CEC/BLM
CUL-15 DELETED		CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
CUL-16 Native American Assessment of Impacts and Mitigation Recommendations for Ethnographic Resources If the PTNCL documentation and possible NRHP nomination program do not include Native American consultation and site visit regarding to the McCoy Spring National Register Archaeological District and for four petroglyph sites (CA-Riv-0523, CA-Riv-3149, CA-Riv-4569, and CA-Riv-4699), then prior to the start of construction, the project owner shall have the PE consult with local Native American groups to determine what indirect GSEP impacts they identify for the McCoy Spring National Register Archaeological District and for four petroglyph sites (CA-Riv-0523, CA-Riv-3149, CA-Riv-4569, and CA-Riv-4699; this site list may be revised only with the agreement of the CRS and the CPM), and to determine what mitigation they recommend. These consultations shall include personal interviews if allowed by BLM and agreed to Native Americans. Additionally, the PE must invite interested Native Americans to visit and view the subject district and sites, if allowed by the BLM. The project owner shall facilitate these visits by providing the necessary equipment and information on the sites. The Project owner shall: 1. With the approval of BLM, construct a security gate and/or guard at the south end of the access road to prevent unauthorized access. 2. Will include in the WEAP (CUL-7) training to ensure that all workers are aware that they are prohibited from going outside authorized work areas. Any worker found disturbing any resources will be subject to disciplinary action, including termination.	1. Prior to commencement of grading operations on the plant site, the project owner will provided documentation to the CPM demonstrating that the security gate and/or guard is in place. 2. See CUL-7 for WEAP verification. 3. At least 30 days prior to the start of construction, the project owner shall notify the CPM that the Native American consultation by the PE has been initiated. 4. At least 15 days prior to the start of construction, the project owner shall provide to the CPM and to the BLM Palm Springs Field Office archaeologist the results of the PE's consultation and site visits with local Native American groups concerning the impacts they identify for the PTNCL and what mitigation they recommend for these impacts.	CEC/BLM
CUL-17 Historic-Period Site Mapping and In-Field Artifact Analysis Prior to the start of ground disturbance, the project owner shall ensure that a data recovery plan for the historic-period archaeological resources identified within the GSEP site footprint and linear corridor is included in the CRMMP. These sites include: P33-13508, CA-Riv-9063, CA-Riv-9203, CA-Riv-9204, CA-Riv-9205, CA-Riv-9211, CA-Riv-9213, CA-Riv-9214, CA-Riv-9228, CA-Riv-9246, CA-Riv-9258, CA-Riv-9259, CA-Riv-9262, and CA-Riv-9263. This site list may be revised only with the agreement of the CRS and the CPM. The project owner shall ensure that the plan is implemented when ground disturbance will start within 30 meters of the boundaries of these sites, if approved by BLM. The plan must include, but is not limited to, the following: 1. Research questions addressed by this field work shall be based upon any context developed by DTCCL staff, as funded by CUL-2 2. The project owner shall hire a PHA with the qualifications described in CUL-3 to supervise the field work. 3. The project owner shall ensure that, prior to beginning the field work, the PHA and crew chiefs are trained by the DTCCL Historical Archaeologist, or equivalent qualified person approved by the CPM and hired by the project owner should the DTCCL Historical Archaeologist not be available, in the identification, analysis and interpretation of the artifacts, environmental modifications, and trash disposal patterns associated with the early phases of WWII land-based U.S. army activities, as researched and detailed by the DTCCL PI-Historian and the DTCCL Historical Archaeologist 4. The project owner shall ensure that, prior to beginning the field work, the field crew members are trained in the consistent and accurate identification of the full range of late nineteenth and early-to-mid-twentieth-century can, bottle, and ceramic diagnostic traits.	1. At least 15 days prior to ground disturbance within 30 meters of the boundaries of the subject sites, the project owner shall notify the CPM that historic-period site mapping and in-field artifact analysis has ensued. 2. Within one week of completing data recovery at a site, the project owner shall submit to the CPM for review and approval a letter report written by the CRS, evidencing that the field portion of data recovery at each site has been completed. When the CPM approves the letter report, ground disturbance may begin at the site location(s) that are the subject of the letter report.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
CULTURAL RESOURCES (cont.)		
5. The project owner shall ensure that all 15 historic-period archaeological sites shall be revisited by the field crew. Using location recordation equipment that has the latest technology with sub-meter accuracy (such as UTM 11 North or California Teale Albers), the original site map shall be updated to include at minimum: landform features such as small drainages, the location of each artifact, and the limits of any artifact concentrations or other features. 6. The project owner shall ensure that an in-field analysis of all artifacts shall be completed. The dimensions of each artifact and feature shall be recorded. Types of seams and closures for each bottle and all cans shall be documented. Photographs shall be taken of any text or designs. Unusual or unidentifiable artifacts may be collected for further analysis, but otherwise artifacts shall not be collected. 7. The project owner shall ensure that each site shall be examined with a metal detector to determine if buried deposits are present. If such deposits are located, the size and shape of each feature shall be established and a sample of the materials each feature contains shall be excavated by a qualified historical archaeologist. Details for this contingency shall be outlined in the CRMMP. 8. The project owner shall ensure that the details of what is found shall be presented in a letter report from the CRS or PHA,which shall serve as a preliminary report, that details what was found at each site, as follows:. a. Letter reports may address one site, or multiple sites depending on the needs of the CRS; and b. The letter report shall be a concise document the provides a description of the schedule and methods used in the field effort, a preliminary tally of the numbers and types of features and deposits that were found, a discussion of the potential range of error for that tally, and a map showing the location of collection and/or excavation units, including topographic contours and the site landforms. 9. The project owner shall ensure that the data collected from the field work shall be provided to the DTCCL Historical Archaeologist to assist in the determination of which, if any, of the historic-period sites are contributing elements to the DTCCL. 10. The project owner shall ensure that the PHA analyzes all recovered data and writes or supervises the writing of a comprehensive final report. This report shall be included in the CRR (CUL-6). Relevant portions of the information gathered shall be included in the possible NRHP nomination for the DTCCL (funded by CUL-**2**).		
CUL-18 Compliance with BLM Programmatic Agreement If provisions in the BLM Genesis Solar Energy Project Programmatic Agreement and associated implementation and monitoring programs conflict with or duplicate these Conditions of Certification, the BLM provisions shall take precedence. Provisions in these conditions that are additional to or exceed BLM provisions and represent requirements under the Energy Commission's CEQA responsibilities shall continue to apply to the project's activities, contingent on BLM's approval as authorized by federal law.		CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN		
GEN-1 The project owner shall design, construct, and inspect the project in accordance with the 2007 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval (the CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days previously). The project owner shall ensure that all the provisions of the above applicable codes are enforced during the construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility. All transmission facilities (lines, switchyards, switching stations and substations) are covered in the conditions of certification in the **Transmission System Engineering** section of this document. In the event that the initial engineering designs are submitted to the CBO when the successor to the 2007 CBSC is in effect, the 2007 CBSC provisions shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. The project owner shall ensure that all contracts with contractors, subcontractors, and suppliers clearly specify that all work performed and materials supplied comply with the codes listed above.	Within 30 days following receipt of the certificate of occupancy, the project owner shall submit to the CPM a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation, and inspection requirements of the applicable LORS and the Energy Commission's decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the certificate of occupancy within 30 days of receipt from the CBO. Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes. The CPM will then determine if the CBO needs to approve the work.	
GEN-2 Before submitting the initial engineering designs for CBO review, the project owner shall furnish the CPM and the CBO with a schedule of facility design submittals, and master drawing and master specifications lists. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM upon request.	At least 60 days (or a project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the master drawing and master specifications lists of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in **Facility Design Table 2**, below. Major structures and equipment shall be added to or deleted from the table only with CPM approval. The project owner shall provide schedule updates in the monthly compliance report.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		

Facility Design Table 2
Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Steam Turbine Generator Foundation and Connections	2
Start-up Boilers Foundations and Connections	2
Generator Step-up Transformer Foundation and Connections	2
Unit Auxiliary Transformer Foundation and Connections	2
Station Service Transformer Foundation and Connections	6
Surface Condenser Foundation and Connections	2
Cooling Tower Chemical Feed/Storage Area Structure, Foundation and Connections	2
Cooling Tower Electrical Enclosure Structure, Foundation and Connections	2
Cooling Tower Structure, Foundation and Connections	2
Raw/Fire Tank Structure, Foundation and Connections	2
Demineralized Water Tank and Pump Skid Structure, Foundation and Connections	2
Control Room/Warehouse Building Structure, Foundation and	2

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		

Connections	
Water Treatment Area Structure, Foundation and Connections	2
Deaerator/Storage Tank Structure, Foundation and Connections	2
Feedwater Heaters Foundation and Connections	2
Gland Steam Condenser Foundation and Connections	2
Economizers Foundation and Connections	10
Re-heaters Foundation and Connections	8
Evaporators Foundation and Connections	8
Superheaters Foundation and Connections	4
Expansion Tanks Structure, Foundation and Connections	2 Lots
Blowdown Tanks Structure, Foundation and Connections	2
Auxiliary Boiler Foundation and Connections	2
Generator Circuit Breaker Foundation and Connections	2
Main Electrical Enclosure Structure, Foundation and Connections	2
Ullage System Area Foundation and Connections	2
Waste Water Tank Structure,	2

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		

Foundation and Connections	
Closed Cooling Water Heat Exchanger Foundation and Connections	4
Fire Pump House Structure, Foundation and Connections	2
Fire Protection Sprinkler House Structure, Foundation and Connections	6
Start Diesel Generator Foundation and Connections	2
Above Ground Diesel Fuel Storage Tank Structure, Foundation and Connections	2
Excitation Transformer Foundation and Connections	2
Turbine Area Flash Tank Structure, Foundation and Connections	2
Lube Oil and EHC Skid Structure, Foundation and Connections	2
Oil/Water Separator Foundation and Connections	2
Closed Cooling Water Expansion Tank Structure, Foundation and Connections	2
Nitrogen Bulk Storage and Vaporizer Structure, Foundation and Connections	2
Emergency Diesel Generator Foundation and Connections	2
Pipe Racks	1 Lot

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
	Pumps Skid Structure, Foundation and Connections — 1 Lot Solar Field Reflectors and Receivers Foundations and Connections — 1 Lot Drainage Systems (including sanitary drain and waste) — 1 Lot High Pressure and Large Diameter Piping and Pipe Racks — 1 Lot HVAC and Refrigeration Systems — 1 Lot Temperature Control and Ventilation Systems (including water and sewer connections) — 1 Lot Building Energy Conservation Systems — 1 Lot Substation, Switchboards, Transformers, Buses and Towers — 1 Lot Electrical Cables/Duct Banks — 1 Lot Prefabricated Assemblies — 1 Lot	
GEN-3 The project owner shall make payments to the CBO for design review, plan checks, and construction inspections, based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 2007 CBC, adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be otherwise agreed upon by the project owner and the CBO.	The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next monthly compliance report indicating that applicable fees have been paid.	
GEN-4 Prior to the start of rough grading, the project owner shall assign a California- registered architect, or a structural or civil engineer, as the resident engineer (RE) in charge of the project. All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in the conditions of certification in the **Transmission System Engineering** section of this document. The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project, respectively. A project may be divided into parts, provided that each part is clearly defined as a distinct unit. Separate assignments of	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the resume and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
general responsibility may be made for each designated part. The RE shall: 1. Monitor progress of construction work requiring CBO design review and inspection to ensure compliance with LORS; 2. Ensure that construction of all facilities subject to CBO design review and inspection conforms in every material respect to applicable LORS, these conditions of certification, approved plans, and specifications; 3. Prepare documents to initiate changes in approved drawings and specifications when either directed by the project owner or as required by the conditions of the project; 4. Be responsible for providing project inspectors and testing agencies with complete and up-to-date sets of stamped drawings, plans, specifications, and any other required documents; 5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and 6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests when they do not conform to approved plans and specifications. The resident engineer (or his delegate) must be located at the project site, or be available at the project site within a reasonable period of time, during any hours in which construction takes place. The RE shall have the authority to halt construction and to require changes or remedial work if the work does not meet requirements. If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.	delegated engineer(s) within five days of the approval. If the RE or the delegated engineer(s) is subsequently reassigned or replaced, the project owner has five days to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.	
GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: a civil engineer; a soils, geotechnical, or civil engineer experienced and knowledgeable in the practice of soils engineering; and an engineering geologist. Prior to the start of construction, the project owner shall assign at least one of each of the following California registered engineers to the project: a design engineer who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; a mechanical engineer; and an electrical engineer. (California Business and Professions Code section 6704 et seq., and sections 6730, 6731 and 6736 require state registration to practice as a civil engineer or structural engineer in California). All transmission facilities (lines, switchyards, switching stations, and substations) are handled in the conditions of certification in the **Transmission System Engineering** section of this document. The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (for example, proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible civil engineer, soils (geotechnical) engineer and engineering geologist assigned to the project. At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of construction, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible design engineer, mechanical engineer, and electrical engineer assigned to the project.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
The project owner shall submit, to the CBO for review and approval, the names, qualifications, and registration numbers of all responsible engineers assigned to the project. If any one of the designated responsible engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned responsible engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. A. The civil engineer shall: 1. Review the foundation investigations, geotechnical, or soils reports prepared by the soils engineer, the geotechnical engineer, or by a civil engineer experienced and knowledgeable in the practice of soils engineering; 2. Design (or be responsible for the design of), stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the CBO. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads and sanitary sewer systems; and 3. Provide consultation to the RE during the construction phase of the project and recommend changes in the design of the civil works facilities and changes to the construction procedures. B. The soils engineer, geotechnical engineer, or civil engineer experienced and knowledgeable in the practice of soils engineering, shall: 1. Review all the engineering geology reports; 2. Prepare the foundation investigations, geotechnical, or soils reports containing field exploration reports, laboratory tests, and engineering analysis detailing the nature and extent of the soils that could be susceptible to liquefaction, rapid settlement or collapse when saturated under load; 3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with requirements set forth in the 2007 CBC (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both); and 4. Recommend field changes to the civil engineer and RE. This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform to the predicted conditions used as the basis for design of earthwork or foundations. C. The engineering geologist shall: 1. Review all the engineering geology reports and prepare a final soils grading report; and 2. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2007 CBC (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both).	The project owner shall notify the CPM of the CBO's approvals of the responsible engineers within five days of the approval. If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
D. The design engineer shall: 1. Be directly responsible for the design of the proposed structures and equipment supports; 2. Provide consultation to the RE during design and construction of the project; 3. Monitor construction progress to ensure compliance with engineering LORS; 4. Evaluate and recommend necessary changes in design; and 5. Prepare and sign all major building plans, specifications, and calculations. E. The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform to all of the mechanical engineering design requirements set forth in the Energy Commission's decision. F. The electrical engineer shall: 1. Be responsible for the electrical design of the project; and Sign and stamp electrical design drawings, plans, specifications, and calculations.		
GEN-6 Prior to the start of an activity requiring special inspection, including prefabricated assemblies, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 2007 CBC. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in conditions of certification in the Transmission System Engineering section of this document. A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels). The special inspector shall: 1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection; 2. Inspect the work assigned for conformance with the approved design drawings and specifications; 3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and 4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications, and other provisions of the applicable edition of the CBC.	At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next monthly compliance report. If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
GEN-7 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend required corrective actions. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification and, if appropriate, applicable sections of the CBC and/or other LORS.	The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next monthly compliance report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action to obtain CBO's approval.	
GEN-8 The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at another accessible location during the operating life of the project. Electronic copies of the approved plans, specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.	Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, in the next monthly compliance report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing the final approved engineering plans, specifications, and calculations described above, the project owner shall submit to the CPM a letter stating both that the above documents have been stored and the storage location of those documents. Within 90 days of the completion of construction, the project owner shall provide to the CBO three sets of electronic copies of the above documents at the project owner's expense. These are to be provided in the form of "read only" (Adobe pdf 6.0) files, with restricted (password-protected) printing privileges, on archive quality compact discs.	
CIVIL-1 The project owner shall submit to the CBO for review and approval the following: 1. Design of the proposed drainage structures and the grading plan; 2. An erosion and sedimentation control plan; 3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and 4. Soils, geotechnical, or foundation investigations reports required by the 2007 CBC.	At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design review and approval. In the next monthly compliance report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible soils engineer, geotechnical engineer, or the civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications, and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area.	The project owner shall notify the CPM within 24 hours, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.	
CIVIL-3 The project owner shall perform inspections in accordance with the 2007 CBC. All plant site-grading operations, for which a grading permit is required, shall be subject to inspection by the CBO. If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM. The project owner shall prepare a written report, with copies to the CBO and the CPM, detailing all discrepancies, non-compliance items, and the proposed corrective action.	Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a non-conformance report (NCR), and the proposed corrective action for review and approval. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following monthly compliance report.	
CIVIL-4 After completion of finished grading and erosion and sedimentation control and drainage work, the project owner shall obtain the CBO's approval of the final grading plans (including final changes) for the erosion and sedimentation control work. The civil engineer shall state that the work within his/her area of responsibility was done in accordance with the final approved plans.	Within 30 days (or project owner- and CBO-approved alternative time frame) of the completion of the erosion and sediment control mitigation and drainage work, the project owner shall submit to the CBO, for review and approval, the final grading plans (including final changes) and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes, along with a copy of the transmittal letter to the CPM. The project owner shall submit a copy of the CBO's approval to the CPM in the next monthly compliance report.	
STRUC-1 Prior to the start of any increment of construction of any major structure or component listed in **Facility Design Table 2** of condition of certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items (from **Table 2**, above): 1. Major project structures;	At least 60 days (or project owner- and CBO-approved alternative time frame) prior to the start of any increment of construction of any structure or component listed in **Facility Design Table 2** of condition of certification **GEN-2**, above, the project owner shall submit to the CBO the above final design plans, specifications and calculations, with a copy of	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
2. Major foundations, equipment supports, and anchorage; and 3. Large field-fabricated tanks. Construction of any structure or component shall not begin until the CBO has approved the lateral force procedures to be employed in designing that structure or component. The project owner shall: 1. Obtain approval from the CBO of lateral force procedures proposed for project structures; 2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (for example, highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications; 3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation; 4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations, and specifications shall be signed and stamped by the responsible design engineer; and 5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to applicable LORS.	the transmittal letter to the CPM. The project owner shall submit to the CPM, in the next monthly compliance report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in applicable engineering LORS.	
STRUC-2 The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval: 1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters); 2. Concrete pour sign-off sheets; 3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques); 4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and 5. Reports covering other structural activities requiring special inspections shall be in accordance with the 2007 CBC.	If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies and the proposed corrective action to the CBO, with a copy of the transmittal letter to the CPM. The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM. The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 2007 CBC, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give to the CBO prior notice of the intended filing.	On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the monthly compliance report, when the CBO has approved the revised plans.	
STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in the 2007 CBC shall, at a minimum, be designed to comply with the requirements of that chapter.	At least 30 days (or project owner- and CBO-approved alternate time frame) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification. The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following monthly compliance report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the monthly compliance report following completion of any inspection.	
MECH-1 The project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in **Facility Design Table 2**, condition of certification **GEN-2**, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of that construction. The responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations for the major piping and plumbing systems, subject to CBO design review and approval, and submit a signed statement to the CBO when the proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards, which may include, but are not limited to: • American National Standards Institute (ANSI) B31.1 (Power Piping Code); • ANSI B31.2 (Fuel Gas Piping Code); • ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of any increment of major piping or plumbing construction listed in **Facility Design Table 2**, condition of certification **GEN-2,** above, the project owner shall submit to the CBO for design review and approval the final plans, specifications, and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report. The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
• ANSI B31.8 (Gas Transmission and Distribution Piping Code); • Title 24, California Code of Regulations, Part 5 (California Plumbing Code); • Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems); • Title 24, California Code of Regulations, Part 2 (California Building Code); and • Riverside County codes. • The CBO may deputize inspectors to carry out the functions of the code enforcement agency.	the CBO's inspection approvals.	
MECH-2 For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of that installation. The project owner shall: 1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated, and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and 2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications, and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM. The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.	
MECH-3 The project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations, and quality control procedures for any heating, ventilating, air conditioning (HVAC) or refrigeration system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets. The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of that construction. The final plans, specifications and calculations shall include approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS.	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans, and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.	
ELEC-1 Prior to the start of any increment of electrical construction for all electrical equipment and systems 480 Volts or higher (see a representative list, below), with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications, and calculations. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the	At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
FACILITY DESIGN (cont.)		
project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in conditions of certification in the **Transmission System Engineering** section of this document. A. Final plant design plans shall include: 1. one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems; and 2. system grounding drawings. B. Final plant calculations must establish: 1. short-circuit ratings of plant equipment; 2. ampacity of feeder cables; 3. voltage drop in feeder cables; 4. system grounding requirements; 5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems; 6. system grounding requirements; and 7. lighting energy calculations. C. The following activities shall be reported to the CPM in the monthly compliance report: 1. Receipt or delay of major electrical equipment; 2. Testing or energization of major electrical equipment; and 3. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission decision.	include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGICAL AND PALEONTOLOGICAL RESOUORCES		
General conditions of certification with respect to engineering geology are proposed under Conditions of Certification **GEN-1, GEN-5, and CIVIL-1** in the **FACILITY DESIGN** section. Proposed paleontological conditions of certification follow. It is staff's opinion that the likelihood of encountering paleontological resources is moderate at the plant site.		
PAL-1 The project owner shall provide the Compliance Project Manager (CPM) with the resume and qualifications of its PRS for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, the project owner shall obtain CPM approval of the replacement PRS. The project owner shall keep resumes on file for qualified Paleontological Resource Monitors (PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM. The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the required paleontological resource tasks. As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology (SVP) guidelines of 1995. The experience of the PRS shall include the following: 1. Institutional affiliations, appropriate credentials, and college degree; 2. Ability to recognize and collect fossils in the field; 3. Local geological and biostratigraphic expertise; 4. Proficiency in identifying vertebrate and invertebrate fossils; and 5. At least three years of paleontological resource mitigation and field experience in California and at least one year of experience leading paleontological resource mitigation and field activities. The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems necessary on the project. Paleontological Resource Monitors (PRMs) shall have the equivalent of the following qualifications: • BS or BA degree in geology or paleontology and one year of experience monitoring in California; or • AS or AA in geology, paleontology, or biology and four years' experience monitoring in California; or Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.	(1) At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work. (2) At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project, stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor's beginning on-site duties. (3) Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.	CEC/BLM
PAL-2 The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plants, construction lay down areas, and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and plan and profile drawings for the utility lines would be acceptable for this purpose. The plan drawings should show the location, depth, and extent of all ground disturbances and be at a scale of 1 inch = 40 feet to 1 inch = 100 feet range. If the footprint of the project or its linear facilities change, the project owner shall provide maps and drawings reflecting those changes to the PRS and CPM.	(1) At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the CPM. (2) If there are changes to the footprint of the project, revised maps and drawings shall be provided to the{RS CPM at least 15 days prior to the start of ground disturbance.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGICAL AND PALEONTOLOGICAL RESOUORCES (cont.)		
If construction of the ISEGS project proceeds in phases, maps and drawings may be submitted prior to the start of each power plant. A letter identifying the proposed schedule of each project power plant shall be provided to the PRS, and CPM. Before work commences on affected power plants, the project owner shall notify the PRS and CPM of any construction phase scheduling changes. At a minimum, the project owner shall ensure that the PRS or PRM consults weekly with the project superintendent or construction field manager to confirm area(s) to be worked the following week, and until ground disturbance is completed.	(3) If there are changes to the scheduling of the construction phases of each power plant, the project owner shall submit a letter to BLM's Authorized Officer and the CPM within 5 days of identifying the changes.	
PAL-3 If after review of the plans provided pursuant to **PAL-2**, the PRS determines that materials with moderate, high, or unknown paleontological sensitivity could be impacted, the project owner shall ensure that the PRS prepares, and the project owner submits to the CPM for review and approval, a paleontological resources monitoring and mitigation plan (PRMMP) to identify general and specific measures to minimize potential impacts to significant paleontological resources. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting, and sampling activities, and may be modified with CPM approval. This document shall be used as the basis of discussion when on-site decisions or changes are proposed. Copies of the PRMMP shall reside with the PRS, each monitor, the project owner's on-site manager and the CPM. The PRMMP shall be developed in accordance with the guidelines of the Society of Vertebrate Paleontology (SVP 1995) and shall include, but not be limited, to the following: 1. Assurance that the performance and sequence of project-related tasks, such as any literature searches, pre-construction surveys, worker environmental training, fieldwork, flagging or staking, construction monitoring, mapping and data recovery, fossil preparation and collection, identification and inventory, preparation of final reports, and transmittal of materials for curation will be performed according to PRMMP procedures; 2. Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and the conditions of certification; 3. A thorough discussion of the anticipated geological units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units; 4. An explanation of why, how, and how much sampling is expected to take place and in what units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained units; 5. A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed plan for monitoring and sampling; 6. A discussion of procedures to be followed in the event of a significant fossil discovery, halting construction, resuming construction, and how notifications will be performed; 7. A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits; 8. Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meet the Society of Vertebrate Paleontology's standards and requirements for the	At least 30 days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an affidavit of authorship by the PRS, and acceptance of the PRMMP by the project owner evidenced by a signature.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGICAL AND PALEONTOLOGICAL RESOUORCES (cont.)		
curation of paleontological resources; 9. Identification of the institution that has agreed to receive data and fossil materials collected, requirements or specifications for materials delivered for curation, and how they will be met, and the name and phone number of the contact person at the institution; and 10. A copy of the paleontological conditions of certification.		
PAL-4 If after review of the plans provided pursuant to **PAL-2**, the PRS determines that materials with moderate, high, or unknown paleontological sensitivity could be impacted then, prior to ground disturbance and for the duration of construction activities involving ground disturbance, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for the following workers: project managers, construction supervisors, foremen and general workers involved with or who operate ground-disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved worker training. Worker training shall consist of an initial in-person PRS training during the project kick-off, for those mentioned above. Following initial training, a CPM-approved video or in-person training may be used for new employees. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or other areas of interest or concern. No ground disturbance shall occur prior to CPM approval of the Worker Environmental Awareness Program (WEAP), unless specifically approved by the CPM. The WEAP shall address the possibility of encountering paleontological resources in the field, the sensitivity and importance of these resources, and legal obligations to preserve and protect those resources. The training shall include: 1. A discussion of applicable laws and penalties under the law; 2. Good quality photographs or physical examples of vertebrate fossils for project sites containing units of high paleontological sensitivity; 3. Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery or unanticipated impact to a paleontological resource; 4. Instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM; 5. An informational brochure that identifies reporting procedures in the event of a discovery; 6. A WEAP certification of completion form signed by each worker indicating that he/she has received the training; and 7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.	(1) At least 30 days prior to ground disturbance, the project owner shall submit the proposed WEAP, including the brochure, with the set of reporting procedures for workers to follow. (2) At least 30 days prior to ground disturbance, the project owner shall submit the script and final video to the CPM for approval if the project owner is planning to use a video for interim training. (3) If the owner requests an alternate paleontological trainer, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval prior to installation of an alternate trainer. Alternate trainers shall not conduct training prior to CPM authorization. (4) In the monthly compliance report (MCR, the project owner shall provide copies of the WEAP certification of completion forms with the names of those trained and the trainer or type of training (in-person or video) offered that month. The MCR shall also include a running total of all persons who have completed the training to date.	CEC/BLM
PAL-5 The project owner shall ensure that the PRS and PRM(s) monitor consistent with the PRMMP all construction-related grading, excavation, trenching, and augering in areas where potential fossil-bearing materials have been identified, both at the site and along any constructed linear facilities associated with the project. In the event that the PRS determines full-time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM.	The project owner shall ensure that the PRS submits the summary of monitoring and paleontological activities in the MCR. When feasible, the CPM shall be notified 10 days in advance of any proposed changes in monitoring different from the plan identified in the	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGICAL AND PALEONTOLOGICAL RESOUORCES (cont.)		
The project owner shall ensure that the PRS and PRM(s) have the authority to halt or redirect construction if paleontological resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows: 1. Any change of monitoring from the accepted schedule in the PRMMP shall be proposed in a letter or email from the PRS and the project owner to the CPM prior to the change in monitoring and will be included in the monthly compliance report. The letter or email shall include the justification for the change in monitoring and be submitted to the CPM for review and approval. 2. The project owner shall ensure that the PRM(s) keep a daily monitoring log of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time. 3. The project owner shall ensure that the PRS notifies the CPM within 24 hours of the occurrence of any incidents of non-compliance with any paleontological resources conditions of certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the conditions of certification. 4. For any significant paleontological resources encountered, either the project owner or the PRS shall notify the CPM within 24 hours, or Monday morning in the case of a weekend event where construction has been halted because of a paleontological find. The project owner shall ensure that the PRS prepares a summary of monitoring and other paleontological activities placed in the monthly compliance reports. The summary will include the name(s) of PRS or PRM(s) active during the month, general descriptions of training and monitored construction activities, and general locations of excavations, grading, and other activities. A section of the report shall include the geological units or subunits encountered, descriptions of samplings within each unit, and a list of identified fossils. A final section of the report will address any issues or concerns about the project relating to paleontological resource monitoring, including any incidents of non-compliance or any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the report shall include an explanation in the summary as to why monitoring was not conducted.	PRMMP. If there is any unforeseen change in monitoring, the notice shall be given as soon as possible prior to implementation of the change.	
PAL-6 The project owner, through the designated PRS, shall ensure that all components of the PRMMP are adequately performed including collection of fossil materials, preparation of fossil materials for analysis, analysis of fossils, identification and inventory of fossils, the preparation of fossils for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during project construction.	The project owner shall maintain in his/her compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. The project owner shall maintain these files for a period of three years after project completion and approval of BLM Authorized Officer- and CPM-approved paleontological resource report (see **PAL-7**). The project owner shall be responsible for paying any curation fees charged by the museum for fossils collected and curated as a result of paleontological mitigation. A copy of the letter of transmittal submitting the fossils to the curating institution shall be provided to the CPM.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
GEOLOGICAL AND PALEONTOLOGICAL RESOUORCES (cont.)		
PAL-7 The project owner shall ensure preparation of a Paleontological Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of the ground-disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information, and submit it to the CPM for review and approval. The report shall include, but is not limited to, a description and inventory of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the PRS that project impacts to paleontological resources have been mitigated below the level of significance.	Within 90 days after completion of ground-disturbing activities, including landscaping, the project owner shall submit the PRR under confidential cover to the CPM.	CEC/BLM
HAZARDOUS MATERIALS MANAGEMENT		
HAZ-1 The project owner shall not use any hazardous materials not listed in Appendix A, below, or in greater quantities or strengths than those identified by chemical name in Appendix A, below, unless approved in advance by the Compliance Project Manager (CPM).	The project owner shall provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility.	CEC/BLM
HAZ-2 The project owner shall concurrently provide a Hazardous Materials Business Plan (HMBP), a Spill Prevention, Control, and Countermeasure Plan (SPCC), and a Process Safety Management Plan (PSMP) to the Riverside County Environmental Health Department (RCEHD) and the CPM for review. After receiving comments from the RCEHD and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final HMBP shall then be provided to the RCEHD for information and to the CPM for approval.	At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan, a Spill Prevention, Control, and Countermeasure Plan, and a Process Safety Management Plan to the CPM for approval.	CEC/BLM
HAZ-3 The project owner shall develop and implement a Safety Management Plan for the delivery and handling of liquid and gaseous hazardous materials. The plan shall include procedures, protective equipment requirements, training and a checklist. It shall also include a section describing all measures to be implemented to prevent mixing of incompatible hazardous materials. This plan shall be applicable during construction, commissioning, and operation of the power plant.	At least sixty (60) days prior to the delivery of any liquid or gaseous hazardous material to the facility, the project owner shall provide a Safety Management Plan as described above to the CPM for review and approval.	CEC/BLM
HAZ-4 The project owner shall place an adequate number of isolation valves in the Heat transfer Fluid (HTF) pipe system for section and loop isolation in the event of a fluid leak. These valves shall be actuated either manually or remotely depending on location and function. The engineering design drawings showing the number, location, and type of isolation valves shall be provided to the CPM for review and approval prior to the commencement of the solar array piping construction.	At least thirty (30) days (or less if agreed to by the CPM) prior to the commencement of solar array piping construction, the project owner shall provide the design drawings as described above to the CPM for review and approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
HAZARDOUS MATERIALS MANAGEMENT (cont.)		
HAZ-5 Prior to commencing construction, a site-specific Construction Site Security Plan for the construction phase shall be prepared and made available to the CPM for review and approval. The Construction Security Plan shall include the following: 1. perimeter security consisting of fencing enclosing the construction area; 2. security guards; 3. site access control consisting of a check-in procedure or tag system for construction personnel and visitors; 4. written standard procedures for employees, contractors and vendors when encountering suspicious objects or packages on site or off site; 5. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and 6. evacuation procedures.	At least thirty (30) days prior to commencing construction, the project owner shall notify the CPM that a site-specific Construction Security Plan is available for review and approval.	CEC/BLM
HAZ-6 The project owner shall also prepare a site-specific security plan for the commissioning and operational phases that will be available to the CPM for review and approval. The project owner shall implement site security measures that address physical site security and hazardous materials storage. The level of security to be implemented shall not be less than that described below (as per NERC 2002). The Operation Security Plan shall include the following: 1. permanent full perimeter fence or wall, at least eight feet high and topped with barbed wire or the equivalent; 2. main entrance security gate, either hand operated or motorized; 3. evacuation procedures; 4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; 5. written standard procedures for employees, contractors, and vendors when encountering suspicious objects or packages on site or off site; A. a statement (refer to sample, **ATTACHMENT A**), signed by the project owner certifying that background investigations have been conducted on all project personnel. Background investigations shall be restricted to determine the accuracy of employee identity and employment history and shall be conducted in accordance with state and federal laws regarding security and privacy; B. a statement(s) (refer to sample, **ATTACHMENT B**), signed by the contractor or authorized representative(s) for any permanent contractors or other technical contractors (as determined by the CPM after consultation with the project owner), that are present at any time on the site to repair, maintain, investigate, or conduct any other technical duties involving critical components (as determined by the CPM after consultation with the project owner) certifying that background investigations have been conducted on contractors who visit the project site; 6. site access controls for employees, contractors, vendors, and visitors;	At least thirty (30) days prior to the initial receipt of hazardous materials on site, the project owner shall notify the CPM that a site-specific operations site security plan is available for review and approval. In the annual compliance report, the project owner shall include a statement that all current project employee and appropriate contractor background investigations have been performed, and that updated certification statements have been appended to the operations security plan. In the annual compliance report, the project owner shall include a statement that the operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
HAZARDOUS MATERIALS MANAGEMENT (cont.)		
7. a statement(s) (refer to sample, **ATTACHMENT C**), signed by the owners or authorized representative of hazardous materials transport vendors, certifying that they have prepared and implemented security plans in compliance with 49 CFR 172.802, and that they have conducted employee background investigations in accordance with 49 CFR Part 1572, subparts A and B; 8. closed circuit TV (CCTV) monitoring system, recordable, and viewable in the power plant control room and security station (if separate from the control room) with cameras able to pan, tilt, and zoom, have low-light capability, and are able to view the outside entrance to the control room and the front gate; and, 9. additional measures to ensure adequate perimeter security consisting of either: A. security guard(s) present 24 hours per day, 7 days per week; **or** B. power plant personnel on site 24 hours per day, 7 days per week, and one of the following: ▪ Perimeter breach detectors or • CCTV able to view both site entrance gates and 100% of the power block area perimeter The project owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to those security plans. The CPM may authorize modifications to these measures, or may require additional measures such as protective barriers for critical power plant components— transformers, gas lines, and compressors—depending upon circumstances unique to the facility or in response to industry-related standards, security concerns, or additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electrical Reliability Council, after consultation with both appropriate law enforcement agencies and the applicant.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
NOISE		
NOISE-1 At least 15 days prior to the start of ground disturbance, the project owner shall notify all residents within two miles of the project site boundaries and one-half mile of linears, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project and include that telephone number in the above notice. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.	Prior to ground disturbance, the project owner shall transmit to the Compliance Project Manager (CPM) a statement, signed by the project owner's project manager, stating that the above notification has been performed and describing the method of that notification, verifying that the telephone number has been established and posted at the site, and giving that telephone number.	CEC/BLM
NOISE-2 NOISE COMPLAINT PROCESS. Throughout the construction and operation of Genesis, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall: • Use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint; • Attempt to contact the person(s) making the noise complaint within 24 hours; • Conduct an investigation to determine the source of noise related to the complaint; • Take all feasible measures to reduce the noise at its source if the noise is project related; and • Submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts, and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.	Within five days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a three-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is implemented.	CEC/BLM
NOISE-3 The project owner shall submit to the CPM for review and approval a noise control program and a statement, signed by the project owner's project manager, verifying that the noise control program will be implemented throughout construction of the project. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal/OSHA standards.	At least 30 days prior to the start of ground disturbance, the project owner shall submit to the CPM the noise control program and the project owner's project manager's signed statement. The project owner shall make the program available to Cal/OSHA upon request.	CEC/BLM
NOISE-4 Following the project's first achieving a sustained output of 90 percent or greater of rated capacity, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations sections 5095–5099 and Title 29, Code of Federal Regulations section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.	Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal/OSHA upon request.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
HEALTH AND SAFETY		
Public Health-1 The Project owner shall develop and implement a Cooling Water Management Plan to ensure that the potential for bacterial growth in cooling water is kept to a minimum. The Plan shall be consistent with the Cooling Technology Institute's "Best Practices for Control of Legionella" guidelines.	At least 60 days prior to the commencement of cooling tower operations, the Cooling Water Management Plan shall be provided to the CPM for review and approval.	CEC/BLM
SOIL AND WATER RESOURCES		
Drainage Erosion and Sedimentation Control Plan (DESCP)		
SOIL&WATER-1 Prior to site mobilization, the Project owner shall obtain both the and Compliance Project Manager (CPM) approval of the Drainage Erosion and Sedimentation Control Plan (DESCP) for managing stormwater during Project construction and operations as normally administered by the County of Riverside. The DESCP must ensure proper protection of water quality and soil resources, demonstrate no increase in off-site flooding potential, include provisions for sediment and stormwater retention from both the power block, solar fields and transmission right of way to meet any Riverside County requirements, address exposed soil treatments in the solar fields for both road and non-road surfaces, and identify all monitoring and maintenance activities. The DESCP shall contain, at minimum, the elements presented below that outline site management activities and erosion and sediment-control BMPs to be implemented during site mobilization, excavation, construction, and post construction (operating) activities. **A.** **Vicinity Map** – A map(s), at a minimum scale 1 inch=500 feet, shall be provided indicating the location of all Project elements (construction sites, laydown area, pipelines) with depictions of all significant geographic features including swales, storm drains, and sensitive areas. **B.** **Site Delineation** – All areas subject to soil disturbance for the proposed Project (Project phases, laydown area, all linear facilities, landscaping areas, and any other Project elements) shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities. **C.** **Watercourses and Critical Areas** – The DESCP shall show the location of all nearby watercourses including swales, storm drains, and drainage ditches. It shall indicate the proximity of those features to the proposed Project construction, laydown, and landscape areas and all transmission and pipeline construction corridors. a. The DESCP shall describe how the project will avoid or minimize impacts to Palen-McCoy Valley sand corridor, b. All proposed linear features (with the exception of Power Pylons) shall be constructed flush with the surrounding ground surface and without ground level obstructions. **D.** **Drainage Map** – The DESCP shall provide a topographic site map(s), at a minimum scale of 1 inch=200 feet, showing existing, interim, and proposed drainage swales and drainage systems and drainage-area boundaries. On the map, spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended off site for a minimum distance of 100 feet.	No later than thirty (30) days prior to start of site mobilization, the Project owner shall submit a copy of the final DESCP to the CPM for review and comment and to the County of Riverside and the CRBRWQCB if required. The CPM shall consider comments if received by the county and CRBRWQCB before approval of the DESCP. The DESCP shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1**, and relevant portions of the DESCP shall clearly show approval by the chief building official. The Project owner shall provide in the monthly compliance report with a narrative on the effectiveness of the drainage, erosion, and sediment-control measures and the results of monitoring and maintenance activities. Once operational, the Project owner shall update and maintain the DESCP for the life of the Project and shall provide in the annual compliance report information on the results of monitoring and maintenance activities.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
E. Drainage of Project Site Narrative – The DESCP shall include a narrative of the drainage measures necessary to protect the site and potentially affected soil and water resources within the drainage downstream of the site. The narrative shall include the summary pages from the hydraulic analysis prepared by a professional engineer and erosion control specialist. The narrative shall state the watershed size(s) in acres that was used in the calculation of drainage features.		
F. Clearing and Grading Plans – The DESCP shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections, or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Existing and proposed topography shall be illustrated by tying in proposed contours with existing topography.		
G. Clearing and Grading Narrative – The DESCP shall include a table with the estimated quantities of material excavated or filled for the site and all Project elements (Project site, laydown area, transmission and pipeline corridors, roadways, and bridges) whether such excavation or fill is temporary or permanent, and the amount of such material to be imported or exported.		
H. Soil Wind and Water Erosion Control - The plan shall address exposed soil treatments to be used during construction and operation of the proposed Project for both road and non-road surfaces including specifically identifying all chemical based dust palliatives, soil bonding, and weighting agents appropriate for use at the proposed Project site that would not cause adverse effects to vegetation. BMPs shall include measures designed to prevent wind and water erosion including application of chemical dust palliatives after rough grading to limit water use. All dust palliatives, soil binders, and weighting agents shall be approved by the CPM prior to use.		
I. Best Management Practices Plan – The DESCP shall identify on the topographic site map(s) the location of the site specific BMPs to be employed during each phase of construction (initial grading, Project element excavation and construction, and final grading/stabilization). BMPs shall include measures designed to control dust, stabilize construction access roads and entrances, and control storm water runoff and sediment transport.		
J. Best Management Practices Narrative – The DESCP shall show the location (as identified in (I) above), timing, and maintenance schedule of all erosion- and sediment-control BMPs to be used prior to initial grading, during all Project element (site, pipelines) excavations and construction, final grading/stabilization, and operation. Separate BMP implementation schedules shall be provided for each Project element for each phase of construction. The maintenance schedule shall include post-construction maintenance of structural-control BMPs, or a statement provided about when such information would be available.		
K. Project Schedule – The DESCP shall identify on the topographic site map the location of the site-specific BMPs to be employed during each phase of construction (initial grading, Project element construction, and final grading/stabilization). Separate BMP implementation schedules shall be provided for each Project element for each phase of construction.		
L. Erosion Control Drawings – The erosion-control drawings and narrative shall be designed, stamped and sealed by a professional engineer or erosion control specialist.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
M. Agency Comments – The DESCP shall include copies of recommendations, conditions, and provisions from the California Department of Fish and Game (CDFG) and Colorado River Basin Regional Water Quality Control Board (CRBRWQCB). **N. Monitoring Plan:** Monitoring activities shall include routine measurement of the volume of accumulated sediment in the onsite drainage ditches, and storm water diversions. The monitoring plan shall be part of the Channel Monitoring and Maintenance Plan, **SOIL&WATER-13**.		
Groundwater Level Monitoring, Mitigation, and Reporting		
SOIL&WATER-2 The Project owner shall submit a Groundwater Level Monitoring and Reporting Plan to the CPM for review and approval. The Groundwater Level Monitoring and Reporting Plan shall provide detailed methodology for monitoring background and site groundwater levels. Monitoring shall include pre-construction, construction, and Project operation water use. The primary objective for the monitoring is to establish pre-construction and Project related groundwater level trends that can be quantitatively compared against observed and simulated trends near the Project pumping wells and near potentially impacted existing wells. The Project owner shall: **A. Prior to Project Construction** 1. A well reconnaissance shall be conducted to investigate and document the condition of existing water supply wells located within 10 miles of the project site for a wet-cooled project and within 2 miles of the project site for a dry-cooled project, provided that access is granted by the well owners. The reconnaissance will include sending notices by registered mail to all property owners within a 10 mile radius of the project site for a wet-cooled project and within 2 miles of the project site for a dry-cooled project. 2. Monitor to establish preconstruction conditions. The monitoring plan and network of monitoring wells will make use of the two test wells and observation wells installed during the Groundwater Resources Investigation completed by the applicant (WPAR, 2010) and any monitoring wells that are installed to comply with Waste Discharge Requirements issued by the RWQCB for the evaporation ponds and land treatment unit associated with the Project. In addition, up to four additional existing wells in the basin that are located up to 10 miles from the Project site (if wet cooling is utilized) or 2 miles (if dry cooling is utilized) will be incorporated into the program, provided access is granted by the owners and that the wells are deemed to be of suitable location and construction to satisfy the requirements for the monitoring program. The off-site wells incorporated in the program will include both shallower wells completed above the pumped interval and deeper wells completed within the pumped interval. The monitoring plan shall also include the identification of any seeps and or springs within one mile of the perimeter of the project site. The seeps and or springs shall be included in the groundwater level monitoring network. 3. Collect groundwater levels from the off-site and on-site wells, seeps and or springs to provide initial groundwater levels for both on-site and off-site wells.	The Project owner shall do all of the following: 1. At least thirty (30) days prior to Project construction, the Project owner shall submit to the CPM, a comprehensive report presenting all the data and information required in item A above. 2. The Project owner shall submit to the CPM all calculations and assumptions made in development of the report data and interpretations. 3. During Project construction, the Project owner shall submit to the CPM quarterly reports presenting all the data and information required in item B above. 4. The Project owner shall submit to the CPM all calculations and assumptions made in development of the report data and interpretations. 5. No later than sixty (60) days after commencing Project operation, the Project owner shall provide to the CPM for review and approval, documentation showing that any mitigation to private well owners during Project construction was satisfied, based on the requirements of the property owner as determined by the CPM. 6. During Project operation, the Project owner shall submit to the CPM, applicable quarterly, semi-annual and annual reports presenting all the data and information required in item C above. Quarterly reports shall be submitted to the CPM	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
4. Map groundwater levels within the CVGB within 10 miles of the site from the groundwater data collected prior to construction. Update trend plots and statistical analyses, as data is available. **B. During Construction:** 1. Collect water levels within the monitoring network and seeps and or springs on a quarterly basis throughout the construction period and at the end of the construction period. In addition, collect continuous water level measurements from two shallow (water table) wells at the site using recording pressure transducers. Perform statistical trend analysis for water levels data. Assess the significance of an apparent trend and estimate the magnitude of that trend. Use pressure transducer data to characterize seasonal and diurnal fluctuations in groundwater levels. **C. During Operation:** 1. On a quarterly basis for the first year of operation and semi-annually thereafter for the following four years, collect water level measurements from any wells and seeps and or springs identified in the groundwater monitoring program to evaluate operational influence from the Project. In addition, collect continuous water level measurements from two shallow (water table) wells at the site using recording pressure transducers. Quarterly operational parameters (i.e., pumping rate) of the water supply wells shall be monitored. Additionally, quarterly groundwater-use in the eastern CVGB shall be estimated based on available data. 2. On an annual basis, perform statistical trend analysis for water levels and comparison to predicted water level declines due to project pumping. Analysis of the significance of an apparent trend shall be determined and the magnitude of that trend estimated. Use the pressure transducer data to characterize seasonal and diurnal fluctuations in groundwater levels. Based on the results of the statistical trend analyses and comparison to predicted water level declines due to Project pumping, the Project owner shall determine the area where the Project pumping has induced a drawdown in the water supply at a level of 5 feet or more below the baseline trend. 3. If water levels have been lowered more than 5 feet below pre-site operational trends, and monitoring data provided by the Project owner show these water level changes are different from background trends or influences by other groundwater pumpers and are caused by Project pumping, then the Project owner shall provide mitigation to the well owner(s) if impacted. Mitigation shall be provided to the impacted well owners that experience 5 feet or more of Project-induced drawdown if the CPM's inspection of the well monitoring data confirms the drawdown (or a portion thereof) is the result of Project-related changes to water levels and water level trends relative to measured pre-project water levels, and the well yield or performance has been significantly affected by Project pumping. The type and extent of mitigation shall be determined by the amount of water level decline induced by the Project, the type of impact, and site specific well construction and water use characteristics. If an impact is determined to be caused by drawdown from more than one source, the level of mitigation provided shall be proportional to the amount of drawdown induced by the Project relative to other sources. In order to be eligible, a well owner must provide documentation of the well location and construction, including pump intake depth, and that the well was constructed and usable before Project pumping was initiated. The mitigation of impacts shall be determined as follows:	thirty (30) days following the end of the quarter. The 4th quarter report shall serve as the annual report, and will be provided on January 31 in the following year. 7. The Project owner shall submit to the both the CPM all calculations and assumptions made in development of report data and interpretations, calculations, and assumptions used in development of any reports. 8. The Project owner shall provide mitigation as described in item 3.c above, if the CPM's inspection of the monitoring information confirms Project-induced changes to water levels and water level trends relative to measured pre-project water levels, and well yield has been lowered by Project pumping. The type and extent of mitigation shall be determined by the amount of water level decline and site specific well construction and water use characteristics. The mitigation of impacts will be determined as set forth in item 3.c above. 9. If mitigation includes monetary compensation, the Project owner shall provide documentation to the CPM that compensation payments have been made by March 31 of each year of Project operation or, if lump-sum payment are made, payment is made by March 31 following the first year of operation only. Within thirty (30) days after compensation is paid, the Project owner shall submit to the CPM a compliance report describing compensation for increased energy costs necessary to comply with the provisions of this condition. 10. After the first five year operational and monitoring period, the Project owner shall submit a 5-year monitoring report to the CPM that submits all monitoring data collected and provides a summary of the findings. The CPM will determine if the water level measurement frequencies	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
a. If Project pumping has lowered water levels and increased pumping lifts, increased energy costs shall be calculated. Payment or reimbursement for the increased costs shall be provided at the option of the affected well owner on an annual basis. In the absence of specific electrical use data supplied by the well owner, the Project owner shall use **SOIL&WATER-3** to calculate increased energy costs. b. If groundwater monitoring data indicate Project pumping has lowered water levels below the top of the well screen, and the well yield is shown to have decreased by 10 percent or more of the initial yield, compensation shall be provided for the diagnosis and maintenance to treat and remove encrustation from the well screen. Reimbursement shall be provided at an amount equal to the customary local cost of performing the necessary diagnosis and maintenance for well screen encrustation. Should well yield reductions be reoccurring, the Project owner shall provide payment or reimbursement for either periodic maintenance throughout the life of the Project or, if treatment is anticipated to be required more frequently than every 3-5 years, replacement of the well. c. If Project pumping has lowered water levels to significantly impact well yield so that it can no longer meet its intended purpose, causes the well to go dry, or cause casing collapse, payment or reimbursement of an amount equal to the cost of deepening or replacing the well shall be provided to accommodate these effects. Payment or reimbursement shall be at an amount equal to the customary local cost of deepening the existing well or constructing a new well of comparable design and yield (only deeper). The demand for water, which determines the required well yield, shall be determined on a per well basis using well owner interviews and field verification of property conditions and water requirements compiled as part of the pre-project well reconnaissance. Well yield shall be considered significantly impacted if it is incapable of meeting 110 percent of the well owner's maximum daily demand, dry-season demand, or annual demand – assuming the pre-project well yield documented by the initial well reconnaissance met or exceeded these yield levels. For already low-yielding wells identified prior to Project construction, a reduction due solely to Project pumping of 10 percent or more below the pre-project yield shall be considered a significant impact. The contribution of Project pumping to observed decreases in observed well yield shall be determined by interpretation of the groundwater monitoring data collected and shall take into consideration the effect of other nearby pumping and the condition of the well prior to the commencement of project pumping. d. The Project owner shall notify any owners of the impacted wells within one month of CPM approval of the compensation analysis for increased energy costs. e. Pump lowering – In the event that groundwater is lowered as a result of Project pumping to an extent where pumps are exposed but well screens remain submerged the pumps shall be lowered to maintain production in the well. The Project shall reimburse the impacted well owner for the costs associated with lowering pumps in proportion to the Project's contribution to the lowering of the groundwater table that resulted in the impact. f. Deepening of wells – If the groundwater is lowered enough as a result of Project pumping that well screens and/or pump intakes are exposed, and pump lowering is not an option such affected wells shall be deepened or new wells constructed. The Project shall reimburse the impacted well owner for all costs associated with deepening existing wells or constructing new wells in proportion to the Project's contribution to the lowering of the water table that resulted in the impact.	should be revised or eliminated.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
4. After the first five-year operational and monitoring period the CPM shall evaluate the data and determine if the monitoring program water level measurement frequencies should be revised or eliminated. Revision or elimination of any monitoring program elements shall be based on the consistency of the data collected. The determination of whether the monitoring program should be revised or eliminated shall be made by the CPM. 5. At the end of every subsequent five-year monitoring period, the collected data shall be evaluated by the CPM and they shall determine if the sampling frequency should be revised or eliminated. 6. During the life of the Project, the Project owner shall provide to the CPM all monitoring reports, complaints, studies and other relevant data within ten (10) days of being received by the Project owner.		
SOIL&WATER-3: Where it is determined that the Project owner shall reimburse a private well owner for increased energy costs identified as a result of analysis performed in Condition of Certification **SOIL&WATER-2,** the Project owner shall calculate the compensation owed to any owner of an impacted well as described below. Increased cost for energy = change in lift/total system head x total energy consumption x costs/unit of energy Where: change in lift (ft) = calculated change in water level in the well resulting from project total system head (ft) = elevation head + discharge pressure head elevation head (ft) = difference in elevation between wellhead discharge pressure gauge and water level in well during pumping. discharge pressure head (ft) = pressure at wellhead discharge gauge (psi) X 2.31 The Project owner shall submit to the CPM for review and approval the documentation showing which well owners must be compensated for increased energy costs and that the proposed amount is sufficient compensation to comply with the provisions of this condition. • Any reimbursements (either lump sum or annual) to impacted well owners shall be only to those well owners whose wells were in service within six months of the Commission decision and that experience more than 5 feet of project-induced drawdown. • The Project owner shall notify all owners of the impacted wells within one month of the CPM approval of the compensation analysis for increase energy costs. • Compensation shall be provided on either a one-time lump-sum basis, or on an annual basis, as described below: **Annual Compensation**: Compensation provided on an annual basis shall be calculated prospectively for each year by estimating energy costs that will be incurred to provide the additional lift required as a result of the project. With the permission of the impacted well owner, the Project owner shall provide energy meters for each well or well field affected by the project. The impacted well owner to receive compensation must provide documentation of energy consumption in the form of meter readings, calculations based on pump characteristics and volumes pumped, or other verification of fuel consumption. For each year after the first year of operation, the Project owner shall include an	The Project owner shall do all of the following: 1. No later than thirty (30) days after CPM approval of the well drawdown analysis, the Project owner shall submit to the CPM for review and approval all documentation and calculations describing necessary compensation for energy costs associated with additional lift requirements. 2. The Project owner shall submit to the CPM all calculations, along with any letters signed by the well owners indicating agreement with the calculations, and the name and phone numbers of those well owners that do not agree with the calculations. Compensation payments shall be made by March 31 of each year of project operation or, if lump-sum payment is selected, payment shall be made by March 31 of the first year of operation only. Within thirty (30) days after compensation is paid, the Project owner shall submit to the CPM a compliance report describing compensation for increased energy costs necessary to comply with the provisions of this condition.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
adjustment for any deviations between projected and actual energy costs for the previous calendar year. **<u>One-Time Lump-Sum Compensation</u>**: Compensation provided on a one-time lump-sum basis shall be based on a well-interference analysis, assuming the maximum projected project-pumping rates for a wet-cooled or dry-cooled project, as applicable. Compensation associated with increased pumping lift for the life of the project shall be estimated as a lump sum payment as follows: • The current cost of energy to the affected party considering time of use or tiers of energy cost applicable to the party's billing of electricity from the utility providing electric service, or a reasonable equivalent if the party independently generates their electricity; • An annual inflation factor for energy cost of 3 percent; and • A net present value determination assuming a term of 30 years and a discount rate of 9 percent.		
Project Groundwater Wells, Pre-Well Installation		
SOIL&WATER-4 The Project owner proposes to construct and operate up to two or more onsite groundwater production wells that produce water from the CVGB. The Project owner shall ensure that the wells are completed in accordance with all applicable state and local water well construction permits (see C.9.9.2) and requirements. Prior to initiation of well construction activities, the Project owner shall submit for review and comment a well construction packet to the County of Riverside and fees normally required for the county's well permit, with copies to the CPM. The Project shall not construct a well or extract and use groundwater until the CPM provides approval to construct and operate the well. **Post-Well Installation.** The Project owner shall provide documentation to the CPM that the well has been properly completed. In accordance with California's Water Code section 13754, the driller of the well shall submit to the DWR a Well Completion Report for each well installed. The Project owner shall ensure the Well Completion reports are submitted. The Project owner shall ensure compliance with all county water well standards and requirements for the life of the wells and shall provide the CPM with two (2) copies each of all monitoring or other reports required for compliance with the County of Riverside water well standards and operation requirements, as well as any changes made to the operation of the well.	The Project owner shall do all of the following: **A.** No later than sixty (60) days prior to the construction of the onsite groundwater production wells, the Project owner shall submit to the CPM a copy of the water well construction packet submitted to the County of Riverside. **B.** No later than thirty (30) days prior to the construction of the onsite groundwater production wells, the Project owner shall submit a copy of written concurrence received from the County of Riverside that the proposed well construction activities comply with all county well requirements and meet the requirements established by the county's water well permit program. **C.** No later than sixty (60) days after installation of each well at the Project site, the Project owner shall ensure that the well driller submits a Well Completion Report to the DWR with a copy provided to the CPM. The Project owner shall submit to the CPM, together with the Well Completion Report, a copy of well drilling logs, water quality analyses, and any inspection reports. **D.** During well construction and for the operational life of the well, the Project owner shall submit two	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
	(2) copies each to the CPM of any proposed well construction or operation permit changes within ten (10) days of submittal to or receipt from the County of Riverside. **E.** No later than fifteen (15) days after completion of the onsite groundwater production wells (including closure of any associated mud pits), the Project owner shall submit documentation to the CPM, and the CRBRWQCB that well drilling activities were conducted in compliance with Title 23, California Code of Regulations, Chapter 15, Discharges of Hazardous Wastes to Land, (23 CCR, sections 2510 et seq.) requirements and that any onsite drilling sumps used for Project drilling activities were removed in compliance with 23 CCR section 2511(c).	
Construction and Operation Water Use		
SOIL&WATER-5 The Project owner proposes to use groundwater for water supply during construction and during operation. The proposed Project's use of groundwater during construction shall not exceed an annual average of 1,368 afy during the entire construction period and an annual average of 1,605 afy during operation for wet cooling and 202 afy for dry cooling. Water quality used for project construction and operation will be reported in accordance with Condition of Certification **SOIL&WATER-20** to ensure compliance with this condition. Prior to the use of groundwater for construction, the Project owner shall install and maintain metering devices as part of the water supply and distribution system to document Project water use and to monitor and record in gallons per day the total volume(s) of water supplied to the Project from this water source. The metering devices shall be operational for the life of the Project.	At least thirty (30) days prior to the start of construction of the proposed Project, the Project owner shall submit to the CPM a copy of evidence that metering devices have been installed and are operational. Beginning six (6) months after the start of construction, the Project owner shall prepare a semi-annual summary of amount of water used for construction purposes. The summary shall include the monthly range and monthly average of daily water usage in gallons per day. The Project owner shall prepare an annual summary, which will include monthly range and monthly average of water usage in gallons per month, and total water used on an annual basis in acre-feet. For years subsequent to the initial year of operation, the annual summary will also include the yearly range and yearly average water use by source. For calculating the total water use, the term "year" will correspond to the date established for the annual compliance report submittal.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
Waste Discharge Requirements		
SOIL&WATER-6: The Project owner shall comply with the requirements specified in Appendix B, C, and D. These requirements relate to discharges, or potential discharges, of waste that could affect the quality of waters of the state, and were developed in consultation with staff of the State Water Resources Control Board and/or the applicable California Regional Water Quality Control Board (hereafter "Water Boards"). It is the Commission's intent that these requirements be enforceable by both the Commission and the Water Boards. In furtherance of that objective, the Commission hereby delegates the enforcement of these requirements, and associated monitoring, inspection and annual fee collection authority, to the Water Boards. Accordingly, the Commission and the Water Board shall confer with each other and coordinate, as needed, in the enforcement of the requirements. The Project owner shall pay the annual waste discharge permit fee associated with this facility to the Water Boards. In addition, the Water Boards may "prescribe" these requirements as waste discharge requirements pursuant to Water Code Section 13263 solely for the purposes of enforcement, monitoring, inspection, and the assessment of annual fees, consistent with Public Resources Code Section 25531, subdivision (c).	No later than sixty (60) days prior to any waste discharge or use of land treatment units, the Project owner shall provide documentation to the CPM, with copies to the CRBWQCB, demonstrating compliance with the WDRs established in Appendices B, C, and D. Any changes to the design, construction, or operation of the evaporation basins, treatment units, or associated storm water system shall be requested in writing to the CPM, with copies to the CRBWQCB, and approved by the CPM, in consultation with the CRBWQCB, prior to initiation of any changes. The Project owner shall provide to the CPM, with copies to the CRBWQCB, all monitoring reports required by the WDRs, and fully explain any violations, exceedances, enforcement actions, or corrective actions related to construction or operation of the evaporation basins, treatment units, or storm water system.	CEC/BLM
Septic System and Leach Field Requirements		
SOIL&WATER-7 The Project owner shall comply with the requirements of the County of Riverside Ordinance Code Title 8, Chapter 8.124 and the California Plumbing Code (California Code of Regulations Title 24, Part 5) regarding sanitary waste disposal facilities such as septic systems and leach fields. The septic system and leach fields shall be designed, operated, and maintained in a manner that ensures no deleterious impact to groundwater or surface water. Compliance shall include an engineering report on the septic system and leach field design, operation, maintenance, and loading impact to groundwater.	The Project owner shall submit all necessary information and the appropriate fee to the County of Riverside to ensure that the project has complied with county sanitary waste disposal facilities requirements. Written assessments prepared by the County of Riverside regarding the project's compliance with these requirements must be submitted to the CPM for review and approval thirty (30) days prior to the start of power plant operation.	CEC/BLM
Revised Project Drainage Report and Plans		
SOIL&WATER-8 The Project owner shall provide a revised Drainage Report which includes the following additional information: A. Calculations for all the collector/conveyance channels and onsite drainage channels showing adequate depth and non-erosive velocities. Data provided shall include depth, velocity, Froude number and other relevant hydraulic parameters.	The Project owner shall submit a Revised Project Drainage Report with the 30 percent Grading and Drainage Plans to the CPM for their review and comments a minimum of sixty (60) days before project mobilization. The owner will address comments	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
B. Detailed scour calculations to justify toe-down depths for all soil cement segments, drop structures, slope protection, and any other features where scour is an issue. C. Post development onsite drainage maps, calculations and discussion which include a delineation of all onsite watersheds with basin areas, points of concentration, and peak discharge values where the smaller onsite channels discharge into the larger collector and conveyance channels. The maps should also show peak flow values at all downstream points of discharge from the Project. D. A discussion and associated calculations documenting the methods to be used for erosion control at outlet locations along the southern property boundary where flow is released to existing ground. E. A specific discussion of how the proposed onsite drainage design will protect the facility from erosion and the possible failure of the facilities resulting in a release of HTF. F. Stage-discharge rating calculations for all outlet structures (i.e. pipes and weirs) used to outlet water along the southern project boundary. G. Digital copies of all hydrologic and hydraulic analysis. The Project owner shall also provide the 30 percent Grading and Drainage Plans which include the design based on information provided in the revised Drainage Report outlined above.	provided by the CPM until approval of the report is issued. All comments and concepts presented in the approved Revised Project Drainage Report with the 30 percent Grading and Drainage Plans will be included in the final Grading and Drainage Plans.	
DETAILED FLO-2D ANALYSIS		
SOIL&WATER-9 The Project owner shall provide a revised FLO-2D analysis which models the post-development flood conditions for the 10-, 25- and 100-year storm events along the southern project boundary where flow is released to existing ground. The post-development model must include all outlet structure in the model with appropriate elevations and stage-discharge data. The methods and results of the analysis must be fully documented in the revised Project Drainage Report required in **SOIL&WATER-8**. Graphical output must include depth and velocity mapping for the post-development condition. Color shading schemes used for the mapping must be consistent between all maps as well as clear and easily differentiated between designated intervals for hydraulic parameters. Intervals to be used in the mapping are as follows: • Flow Depth: at 0.20 ft intervals up to 1 ft, and 0.40 ft intervals thereafter. • Velocity: 0.5 feet per second (ft/s) intervals A set of figures will be provided for the 10-, 25- and 100-year events at a scale of no less than 1 in=200 ft which show the extent, depths and velocities of flows being discharged along the southern property boundary, as well as annotation indicating the location and type of outlet structure. Digital input and output files associated with the FLO-2D analysis must be included with all submittals. The results of this analysis will be used to ensure a design where flow is released from the southern channel in a manner which reasonably mimics existing conditions with respect to flow depth and velocity, and does not result in erosion downstream of the facility.	The Project owner shall submit a detailed FLO-2D analysis to the CPM for their review and comments with the 30 percent Grading and Drainage Plans and revised Project Drainage Report required in **SOIL&WATER-8**. The Project owner will address comments provided by the CPM until approval of the analysis is issued.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
Drainage Channel Design		
SOIL&WATER-10 All collector and conveyance channels shall be constructed consistent with Riverside County Flood Control and Water Conservation District (RCFCWCD) guidelines where applicable. Deviation from those guidelines should be documented in the Project drainage report along with justification. Grade control structures shall be utilized where needed to meet channel velocity and Froude number requirements. Channels shall be sized along discreet sections based on the results of the detailed FLO-2D analysis described in **SOIL&WATER-9**. All grade control and drop structures shall have adequate toe-down to account for the design drop plus two additional feet to account for potential downcutting of the channel over time. Channel confluence design must be given special consideration, especially as the preliminary Grading and Drainage Plans show 90 degree angles of confluence at nearly all locations. The issues of confluence hydraulics and potential scour shall be specifically addressed in the revised Drainage Report. Offsite flows shall discharge directly into collector channels following the natural drainage patterns. The Project owner shall also flatten constructed channel side slopes at a 4:1 ratio at all locations where adequate space exists and in no cases are slopes to be steeper than 3:1along reaches requiring soil cement. At slopes of 3:1, soil cement shall be placed in horizontal lifts. The proposed collector channel design must be fully documented in the Grading and Drainage plans and must include the following information: A. Detailed and accurate cut/fill lines demonstrating in plan view how the channel would tie into existing grade and the solar facility. B. Channel cross-sections at 200-foot intervals or any major changes in channel configuration showing the channel geometry, existing grade, proposed grade at the facility and how the channel would tie in at on both sides. C. Detailed channel profiles showing existing and finished grades at channel flow line and left and right banks. All drop structures as well as the toe-of soil cement profile must also be shown and fully annotated. The 100-year water surface elevation will be provided on all profiles. D. Typical sections and design details for all discreet channel sections, drop structures, channel confluences, flow dispersion structures and other relevant drainage features. E. Details for all outlet structures to be used along the downstream property boundary to release flow from the engineered channels to existing ground as well as details and specifications for all erosion protection measures to be used at those locations. F. Consistent nomenclature and stationing on all plans, sections, profiles and details.	The Project owner shall prepare preliminary, 30 percent channel design drawings and submit two (2) copies for the CPM review and comment. The preliminary design drawings shall be submitted at the same time as the Revised Project Drainage Report in **SOIL&WATER-8** and FLO 2D Analysis in **SOIL&WATER-9**. The Project owner will update and modify the design as necessary to obtain CPM approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
Channel Erosion Protection		
SOIL&WATER–11 The Project owner must provide revised preliminary Grading and Drainage Plans which incorporate the items and information as listed below for the channels designated as A, B, C, D, E, B/C, D/E on the Conceptual Grading Plans (GSEP 2010a). **A.** Soil cement bank protection must be provided such that the channels are protected from bank erosion and lateral headcutting. The extents of the proposed bank protection must be shown on the revised Grading and Drainage Plans. Typical sections for these channels must show the layout of the bank protection including thickness, width and toe-down location and depth consistent with the scour calculation provided in the revised Drainage Report. **B.** Soil cement bank protection shall be provided on both channel banks wherever 10-year channel flow velocity exceeds 5 ft/s. It shall be provided on the outer channel bank wherever offsite topography and a detailed FLO-2D analysis indicate surface flow would enter the collector channels. **C.** Soil cement bank protection shall be provided at all channel confluences of otherwise unlined channels where the result of the detailed hydraulic analysis presented in the revised Drainage Report indicate the increased potential for erosion due to adverse angles of confluence. Detailed plans for each confluence showing the extents of the soil cement based on specific hydraulic conditions shall be provided in the formal Grading and Drainage Plans. **D.** Other methods of channel stabilization, such as dumped riprap or gabions, will not be permitted. Bio-stabilization measures are not permitted. **E.** Earthen berms used on the outside of collector channels to guide flow to discreet points of discharge into a channel shall not be utilized in lieu of soil cement on the outside bank of collector channels. Offsite flows shall discharge directly into collector channels. **F.** The plans shall include reference to regionally accepted specifications for soil cement production and construction. A copy of the specification must be submitted with the revised plans. **G.** A soils report indicating the suitability of the Project soils for use in the production of soil cement to the Project specifications shall be submitted with the revised Grading and Drainage Plans. **H.** The bottom of engineered collector channels may be left earthen or fully lined at the discretion of the engineer. Fully lined channels will have higher allowable velocities and Froude numbers assuming hydraulic jumps are modeled and considered in the channel design. **I.** If modifications to the existing drainages to allow construction of and future access to linear facilities require stabilization of the channel in the vicinity of those modifications, location of disturbance to the existing drainages shall be stabilized consistent with best engineering practice to eliminate future negative impacts to those drainages upstream and downstream of the linear facility in the form of downcutting, erosion and headcutting. The use of "non-engineered" culvert crossings shall not be allowed. All structures to be utilized in existing drainages along linear facilities shall be documented in the project drainage report and reflected in the project improvement plans. Channel erosion mitigation measures along linear facilities shall be subject to all the requirements of this Condition of Certification where applicable.	The required information and criteria shall be incorporated into the Grading and Drainage Plans and with all subsequent submittals as required in **SOIL&WATER-8** through **SOIL&WATER-10**. The drainage report associated with the linears identified in "I" above may be submitted separately from the site Grading and Drainage Plans. The Project owner will update and modify the design as necessary to obtain CPM approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
Non-Transient, Non-Community Water System		
SOIL&WATER-12: The Project is subject to the requirement of Title 22, Article 3, Sections 64400.80 through 64445 for a non-transient, non-community water system (serving 25 people or more for more than six months). In addition, the system will require periodic monitoring for various bacteriological, inorganic and organic constituents. The Project owner shall designate a California Certified Water Treatment Plant Operator as well as the technical, managerial and financial requirements as prescribed by State law. The Project owner will supply updates on an annual basis of monitoring requirements, any submittals to County of Riverside as well and proof of annual renewal of the operating permit. Pursuant to this requirement, the Project owner shall obtain a permit from the County of Riverside to operate a non-transient, non-community water system.	The Project owner shall obtain a permit to operate a non-transient, non-community water system with the County of Riverside at least sixty (60) days prior to commencement of operations at the site. The Project owner shall supply updates annually for all monitoring requirements and submittals to County of Riverside related to the permit, and proof of annual renewal of the operating permit.	CEC/BLM
Channel Maintenance Program		
SOIL&WATER-13: The Project owner shall develop and implement a Channel Maintenance Program that provides long-term guidance to implement routine channel maintenance projects and comply with conditions of certification in a feasible and environmentally-sensitive manner. The Channel Maintenance Program will be a process and policy document prepared by the Project owner, reviewed by the CPM. The Project owner shall supervise the implementation of a Channel Maintenance Program in accordance with conditions of certification. The Channel Maintenance Program shall include the following: **A. Purpose and Objectives** – Establishes the main goals of the Program, of indefinite length, to maintain the diversion channel to meet its original design to provide flood protection, support Project mitigation, protect wildlife habitat and movement/ migration, and maintain groundwater recharge. **B. Application and Use** - The channel maintenance work area is defined as the Project engineered channel, typically extending to the top of bank, include access roads, and any adjacent property that Project owns or holds an easement for access and maintenance. The Program would include all channel maintenance as needed to protect the Project facilities and downstream property owners. **C. Channel Maintenance Activities** **1. Sediment Removal** - sediment is removed when it: (1) reduces the diversion channel effective flood capacity, to less than the design discharge, (2) prevents appurtenant hydraulic structures from functioning as intended, and (3) becomes a permanent, non-erodible barrier to instream flows. **2. Vegetation Management** - Vegetation management shall include control of invasive or nonnative vegetation as prescribed in Condition of Certification **BIO-14**. **3. Bank Protection and Grade Control Repairs** – Bank protection and grade control structure repairs involve any action by the Project owner to repair eroding banks, incising toes, scoured channel beds, as well as preventative erosion protection. The Project owner would implement instream repairs when the problem: (1) causes or could cause significant damage to Project; adjacent property, or the structural elements of the diversion channel; (2) is a	At least sixty (60) days prior to the start of any project-related activities (not including linears), the Project owner shall coordinate with the CPM to develop the Channel Maintenance Program. The Project owner shall submit two copies of the programmatic documentation, describing the proposed Channel Maintenance Program, to the CPM (for review and approval). The Project owner shall provide written notification that they plan to adopt and implement the measures identified in the approved Channel Maintenance Program.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
public safety concern; (3) negatively affects groundwater recharge; or (4) negatively affects the mitigation vegetation, habitat, or species of concern. **4. Routine Channel Maintenance** - trash removal and associated debris to maintain channel design capacity; repair and installation of fences, gates and signs; grading and other repairs to restore the original contour of access roads and levees (if applicable); and removal of flow obstructions at Project storm drain outfalls. **5. Channel Maintenance Program –** Exclusions including: emergency repair and CIP. **D. Related Programmatic Documentation** –the CPM will review and approve the Channel Maintenance Program programmatic documentation. Maintenance activities shall comply with the stream alteration agreement provisions and requirements for channel maintenance activities consistent with California's endangered species protection regulations and other applicable regulations. **E. Channel Maintenance Process Overview** **1. Program Development and Documentation** – This documentation provides the permitting requirements for channel maintenance work in accordance with the conditions of certification for individual routine maintenance of the engineered channel without having to perform separate CEQA/NEPA review or obtain permits. The Project owner shall supervise the implementation of a Channel Maintenance Program in accordance with conditions of certification. **2. Maintenance Guidelines** - based on two concepts: (1) the maintenance standard and (2) the acceptable maintenance condition, and applies to sediment removal, vegetation management, trash and debris collection, blockage removal, fence repairs, and access road maintenance. **3. Implementation** – Sets Maintenance Guidelines for vegetation and sediment management. Project's vegetation management activities are established in Condition of Certification **BIO-14**. Maintenance Guidelines for sediment removal provide information on the allowable depth of sediment for the engineered channel that would continue to provide design discharge protection. **4. Reporting** –the CPM requires the following reports to be submitted each year as part of the Annual Compliance Report: a. Channel Maintenance Work Plan - Describes the planned "major" maintenance activities and extent of work to be accomplished; and b. Channel Maintenance Program Annual Report – Specifies which maintenance activities were completed during the year including type of work, location, and measure of the activity (e.g. cubic yards of sediment removed). c. A report describing "Lessons Learned" to evaluate the effectiveness of both resource protection and maintenance methods used throughout the year. **F. Resource Protection Policies** - establishes policies to ensure that resources would be protected to the fullest extent feasible during routine channel maintenance activities. Policies would be developed to guide decision-making for channel maintenance activities. BMPs shall be developed to implement these policies.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
In addition, the Project owner shall: • Supervise the implementation of a Channel Maintenance Program in accordance with conditions of certification; • Ensure the Project Construction and Operation Managers receive training on the Channel Maintenance Program; As part of the Project Annual Compliance Report to the CPM, submit a Channel Maintenance Program Annual Report specifying which maintenance activities were completed during the year including type of work, location, and measure of the activity (e.g. cubic yards of sediment removed).		
Closure and Decommissioning Plan		
SOIL&WATER–14 The Project owner shall identify likely decommissioning scenarios and develop specific decommissioning plans for each scenario that will identify actions to be taken to avoid or mitigate long-term impacts related to water and wind erosion after decommissioning. Actions may include such measures as a decommissioning surface water monitoring, revegetation and restoration of disturbed areas, post-decommissioning maintenance, collection and disposal of project materials and chemicals, and access restrictions.	At least sixty (60) days prior to the start of site mobilization or alternate date as agreed to with BLM, the Project owner shall submit decommissioning plans to the CPM for review and approval. The Project owner shall amend these documents as necessary, with approval from the CPM, should the decommissioning scenario change in the future.	CEC/BLM
Mitigation of Impacts to the Palo Verde Mesa Groundwater Basin		
Genesis and Staff have been engaged in productive discussions to develop a water mitigation plan acceptable to both parties. Genesis and Staff concur that the Project will decrease the amount of groundwater underflow from the CVGB to the PVMGB, but that there is no existing legal requirement for the Project to obtain an entitlement to Colorado River water for its water supply. However, a difference of opinion persists as to the Project's potential effects/impacts on the Colorado River and associated drains. Genesis contends that given the existing groundwater mound in the adjacent Palo Verde Valley and its relationship to the river and drains, it is not possible for the decreased underflow to the PVMGB to cause Colorado River water to move from the river or the drains into the subsurface. CEC staff does not accept this contention, but does agree that whatever the effect of PVMGB water depletion is on the adjacent Palo Verde Valley Groundwater Basin or on the river, it will be less than the amount of PVMGB depletion. For this reason, Staff and Genesis have agreed that Genesis will mitigate its impacts on the PVMGB water budget. This would address any concern regarding project impacts to the river or drains, and the amount of water required to offset the PVMGB water budget depletion will be greater than what would be required to offset any theoretical impact to the river or drains, and thus the measure is conservative.		
SOIL&WATER–15 The Project owner shall undertake one or more of the activities identified below to mitigate project impacts that result in depletion of the PVMGB groundwater budget. The amount of PVMGB depletion requiring mitigation shall be determined based on an analysis of the Project's effect on the PVMGB groundwater budget, including an estimate of the decrease in underflow from the CVGB to the PVMGB. The analysis shall be conducted as described in Soil & Water 19. Water conservation projects that may be considered as mitigation include the following: payment for irrigation improvements in Palo Verde Irrigation District (PVID), payment for conversion to cultivation of crops with lower crop water demand in the PVID, use of tertiary treated water, implementation of water conservation programs in the CVGB, PVMGB or Colorado River flood plain communities, and/or participation in BLM's Tamarisk Removal Program. The Project owner will be required to demonstrate to the satisfaction of the CPM that the appropriate amounts of water will be conserved.	The Project Owner shall submit a Water Supply Plan to the CPM for review and approval thirty (30) days before the start of extraction of groundwater for construction or operation.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
The activities proposed for mitigation will be outlined in a Water Supply Plan that will be provided to the CPM for review and approval. The Water Supply Plan shall include the following at a minimum: A. Identification of the activity and water source that will replace the decreased underflow to the PVMGB determined under Soil & Water 19; B. Demonstration of the Project owner's legal entitlement to the water or ability to conduct the activity; C. Discuss whether any governmental approval of the identified activities will be needed, and, if so, whether additional that approval will require compliance with CEQA or NEPA; D. Demonstration of how water diverted from the PVMGB will be replaced for each of the activities; E. An estimated schedule for completion of the activities; F. Performance measures that would be used to evaluate the amount of water replaced by the activities; and G. Monitoring and Reporting Plan outlining the steps necessary and proposed frequency of reporting to show the activities are achieving the intended benefits and replacing PVMGB diversions The Project owner shall implement the activities reviewed and approved in the Water Supply Plan in accordance with the agreed upon schedule in the Water Supply Plan. If agreement on identification or implementation of mitigation activities cannot be achieved the Project owner shall immediately halt construction or operation until assurance that the agreed upon activities can be identified and implemented.		
Groundwater Production Reporting		
SOIL&WATER–16 The Project will file an annual notice per the requirement of Water Code Sections 4999 et. seq. for reporting of groundwater production in excess of 25 acre feet per year.	The Project owner shall file an annual "Notice of Extraction and Diversion of Water" with the SWRCB in accordance with Water Code Sections 4999 et. seq. The Project owner shall include a copy of the filling in the annual compliance report.	CEC/BLM
Ground Subsidence Monitoring and Action Plan		
SOIL&WATER–17 One monument monitoring station per production well or a minimum of three stations shall be constructed to measure potential inelastic subsidence that may alter surface characteristics of the Chuckwalla Valley near the proposed production wells. The Project owner shall: A. Prepare and submit a Subsidence Monitoring Plan (SMP), including all calculations and assumptions. The plan shall include the following elements: 1. Construction diagrams of the proposed monument monitoring station including size and description, planned depth, measuring points, and protection measures;	The Project owner shall do all of the following: 1. At least thirty (30) days prior to Project construction, the Project owner shall submit to the CPM, a comprehensive report presenting all the data and information required in item A above. 2. During Project construction and operations, the Project owner shall submit to the CPM quarterly reports presenting all the data and information	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
2. Map depicting locations (minimum of three) of the planned monument monitoring stations; 3. Monitoring program that includes monitoring frequency, thresholds of significance, reporting format. B. Prepare quarterly reports commencing three (3) months following commencement of groundwater production during construction and operations. 1. The reports will include presentation and interpretation of the data collected including comparison to the thresholds developed in Item C. C. Prepare a Mitigation Action Plan that will detail the following: 1. Thresholds of significance for implementation of proposed action plan; a. Any subsidence that may occur will not be allowed to damage existing structures either on or off the site or alter the appearance or use of the structure; b. Any subsidence that may occur will not be allowed to alter the natural drainage patterns or permit the formation of playas or lakes to form; c. Any subsidence that violates (a) or (b) will result in the Project owner to investigate the need to immediately reduce/cease pumping until the cause is interpreted subsidence caused by project pumping abates and the structures and/or drainage patterns are stabilized and corrected. 2. Action Plan that details proposed actions by the applicant in the event thresholds are achieved during the monitoring program The applicant will be required to submit the Ground Subsidence Monitoring and Action Plan that is prepared by an Engineering Geologist registered in the State of California thirty (30) days prior to the start of extraction of groundwater for construction or operation.	required in item B above. 3. The Project owner shall submit to the CPM all calculations and assumptions made in development of the report data and interpretations. 4. After the first five (5) years of the monitoring period, the Project owner shall submit a 5-year monitoring report to the CPM that submits all monitoring data collected and provides a summary of the findings. The CPM will determine if the Ground Subsidence Monitoring and Action Plan frequencies should be revised or eliminated.	
Water Policy Compliance		
SOIL&WATER-18 If the Project owner uses wet cooling as part of the overall project, the Project owner shall undertake one or more of the activities identified below to ensure Water Policy Compliance. These activities shall result in replacement of 50,590 acre feet (~1,605 acre-feet annually) in the Chuckwalla Valley Groundwater Basin or the Palo Verde Mesa Groundwater Basin, unless the Project owner mitigates its impacts to the Colorado River through Colorado River water allotments per **SOIL & WATER 15**. If the Project owner refines the estimate of Colorado River impacts per **SOIL & WATER 19**, or uses Zero Liquid Discharge technology, but still chooses to wet cool, the remaining groundwater use shall be offset in accordance with this condition. If the Project owner chooses to dry cool, reducing water use to 202 afy during operations, this condition does not apply and staff recommends that this project be determined to have met with the Energy Commission's water policy. The activities proposed for mitigation will be outlined in a Water Policy Compliance Water Supply Plan that will be provided to the CPM for review and approval. The Water Policy Compliance Water Supply Plan shall include the following at a minimum:	The Project owner shall submit a Water Policy Compliance Water Supply Plan to the CPM for review and approval thirty (30) days before the start of extraction of groundwater for construction or operation.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
A. Identification of the activity and water source that will replace 50,590 acre feet or 1,605 afy under a wet cooling Project alternative; B. Demonstration of the Project owner's legal entitlement to the water or ability to conduct the activity; C. Include a discussion of any needed governmental approval of the identified activities, including a discussion of whether that approval that requires ; D. Discuss whether any governmental approval of the identified activities will be needed, and, if so, whether additional that approval will require compliance with CEQA or NEPA; E. An estimated schedule for completion of the activities; F. Performance measures that would be used to evaluate the amount of water replaced by the activities; G. Monitoring and Reporting Plan outlining the steps necessary and proposed frequency of reporting to show the activities are achieving the intended benefits and replacing the water; and H. If the application for allocation from the Colorado River is accepted by the USBR, the Project owner shall submit to the CPM for their approval, a copy of a water allocation from the Colorado River issued by the CRB for the Projects diversion of Colorado River water. The Project owner shall implement the activities reviewed and approved in the Water Policy Compliance Water Supply Plan in accordance with the agreed upon schedule in the Water Policy Compliance Water Supply Plan. If agreement on identification or implementation of mitigation activities cannot be achieved the Project owner shall immediately halt construction or operation until assurance that the agreed upon activities can be identified and implemented.		
Estimation of Impacts to PVMGB		
SOIL&WATER-19 The Project owner, for the purpose of determining the appropriate volume of water for mitigation in accordance with **SOIL&WATER-15** shall conduct an analysis of the Project's effect on the PVMGB groundwater budget including an estimate of the decrease in underflow from the CVGB to the PVMGB. The analysis shall include the following: A. Refinement of the estimate of decrease in underflow from the CVGB to the PVMGB using the numerical groundwater flow model developed for the Project. An upper-bound estimate of the underflow decrease shall be developed through sensitivity analysis of the lateral hydraulic conductivity of the pumped aquifer and the general head boundaries, as well as recharge. 1. A statistical analysis of the seventeen existing aquifer tests and specific capacity tests in the eastern CVGB shall be conducted to characterize the distribution of hydraulic conductivity values in the area. 2. Model runs shall be conducted using the first quartile (25 percent), second quartile (50 percent) and third quartile (75 percent) hydraulic conductivities to evaluate the change in underflow induced by Project pumping under a reasonable of values. 3. The effect of recharge in the model domain shall be simulated by applying mountain front recharge at the appropriate locations in amounts representing two percent to three percent of total average incident precipitation falling on the mo	Within thirty (30) days prior to mobilization of the proposed Project, the Project owner will submit to the CPM for their approval a report detailing the results of the modeling effort. The report will include the estimated amount of PVMGB underflow depletion due to project pumping. This estimate shall be used for determining the appropriate volume of water for mitigation in accordance with **SOIL&WATER-15**.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
domain and tributary mountain areas. B. The maximum predicted decrease in underflow from the CVGB to the PVMGB shall be used to assess the volume of water requiring mitigation under Soil & Water 15. The volume predicted will include the cumulative decrease in underflow during the period the project pumps groundwater from the CVGB as well as any latency effects following cessation of pumping. The latency period will extend until underflow achieves pre-project conditions. C. An assessment report shall be prepared summarizing the methods and results of this supplemental analysis, presenting any supporting data, assumptions made, and an estimate of the uncertainty of PVMGB underflow depletion. D. The Project owner shall present the results of the conceptual model, numerical model, transient runs and sensitivity analysis in a report for review and approval by the CPM. The report shall include all pertinent information regarding the development of the numerical models. The report shall include: 1. Introduction 2. Previous Investigations 3. Conceptual Model 4. Numerical Model and Input Parameters 5. Sensitivity Analysis 6. Transient Modeling Runs 7. Conclusions		
Groundwater Quality Monitoring and Reporting Plan		
SOIL&WATER-20 The Project owner shall submit a Groundwater Quality Monitoring and Reporting Plan to the CPM for review and approval. The Groundwater Quality Monitoring and Reporting Plan shall provide a description of the methodology for monitoring background and site groundwater levels and quality. The sampling required for the water quality monitoring program shall be implemented during groundwater level monitoring events using the well identified to comply with **SOIL&WATER-2**. Prior to project construction, monitoring shall commence to establish pre-construction groundwater quality conditions in the well proposed for the program. Monitoring shall continue during construction and project operation. The primary objectives for the water quality monitoring program are to identify potential changes in the existing water quality of the proposed water supply resulting from Project pumping, if any, in concert with Condition of Certification **SOIL&WATER–2,** establish pre-construction and project related groundwater quality data and to avoid, minimize, or mitigate significant impacts to sensitive receptors (springs and groundwater-dependent vegetation, and groundwater supply users). A. The Plan shall include a scaled map showing the site and vicinity, existing well locations, and proposed monitoring locations (both existing wells and new monitoring wells proposed for construction). Additional monitoring wells to be installed include wells required under Waste Discharge Requirements issued by the CRBRWQCB for the evaporation ponds and land treatment unit proposed for the project. The map shall also include relevant natural and man-made features (existing and proposed as part of this project). The plan also shall provide: (1) well construction information	The Project owner shall complete the following: At least six (6) weeks prior to the start of construction activities, a Groundwater Level and Quality Monitoring and Reporting Plan shall be submitted to the CPM for review and approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
and borehole lithology for each existing well proposed for use as a monitoring well; (2) description of proposed drilling and well installation methods; (3) proposed monitoring well design; and, (4) schedule for completion of the work. B. At least four (4) weeks prior to construction, a Well Monitoring Installation and Groundwater Quality Network Report shall be submitted to the CPM for review and approval in conjunction with Condition of Certification **SOIL&WATER-2**. The report shall include a scaled map showing the final monitoring well network. It shall document the drilling methods employed, provide individual well construction as-builds, borehole lithology recorded from the drill cuttings, well development, and well survey results. The well survey shall measure the location and elevation of the top of the well casing and reference point for all water level measurements, and shall include the coordinate system and datum for the survey measurements. C. As part of the monitoring well network development, all newly constructed monitoring wells shall be constructed consistent with State and Riverside County specifications. D. At least four (4) weeks prior to use of any groundwater for construction, all groundwater quality and groundwater level monitoring data shall be reported to the CPM. The report shall include the following: 1. An assessment of pre-project groundwater levels, a summary of available climatic information (monthly average temperature and rainfall records from the nearest weather station). 2. As assessment of pre-project groundwater quality with groundwater samples analyzed for TDS, chloride, nitrates, major cations and anions, oxygen-18 and deuterium isotopes, and any other constituents the CPM deem critical in protecting existing water supply quality. 3. The data shall be tabulated, summarized, and submitted to the CPM. The data summary shall include the estimated range (minimum and maximum values), average, and median for each constituent analyzed. If a sufficient number of data points are available, the data shall also be analyzed using the Mann-Kendall test for trend at 90 percent confidence to assess whether pre-project water quality trends, if any, are statistically significant. E. During project construction and during the first five years of project operations, the Project owner shall semi-annually monitor the quality of groundwater and changes in groundwater elevation and submit data semi-annually to the CPM. After five years of project operations, the frequency and scope of the monitoring program shall be reassessed by the CPM. The summary report shall document water level and quality monitoring methods, the water level and quality data, water level and quality plots and trend evaluation, and a comparison between pre- and post-project start-up water level trends as itemized below. The report shall also include a summary of actual water use conditions, monthly climatic information (temperature and rainfall) from the nearest meteorological monitoring station, and a comparison and assessment of water level data relative to the assumptions and simulated spatial trends predicted by the applicant's groundwater model. 1. Groundwater samples from all wells in the monitoring well network shall be analyzed and reported semi-annually for TDS, chloride, nitrates, cations and anions, oxygen-18 and deuterium isotopes. These analyses, and particularly the stable isotope data, can be useful for identifying water sources and assessing their contributions to the quality of water produced by wells.		

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
SOIL AND WATER RESOURCES (cont.)		
2. For analysis purposes, pre-project water quality shall be defined by samples collected prior to project construction as specified above, and compliance data shall be defined by samples collected after the construction start date. The compliance data shall be analyzed for both trends and for contrast with the pre-project data. 3. Trends shall be analyzed using the Mann-Kendall test for trend at the 90 percent confidence, once a statistically significant number of sample data are available. Trends in the compliance data shall be compared and contrasted to pre-project trends, if any. 4. The contrast between pre-project and compliance mean or median concentrations shall be compared using an Analysis of Variance (ANOVA) or other appropriate statistical method approved by the RWQCB for evaluation of water quality impacts. A parametric ANOVA (for example, an F-test) can be conducted on the two data sets if the residuals between observed and expected values are normally distributed and have equal variance, or the data can be transformed to an approximately normal distribution. If the data cannot be represented by a normal distribution, then a nonparametric ANOVA shall be conducted (for example, the Kruskal-Wallis test). If a statistically significant difference is identified at 90 percent confidence between the two data sets, the monitoring data are inconsistent with random differences between the pre-project and baseline data indicating a water quality impact from project pumping may be occurring. 5. If compliance data indicate that the water supply quality has deteriorated (exceeds pre-project constituent concentrations in TDS, sodium, chloride, or other constituents identified as part of the monitoring plan and applicable Water Quality Objectives are exceeded for the applicable beneficial uses of the water supply) for three consecutive years, the Project owner shall provide treatment or a new water supply to either meet or exceed pre-project water quality conditions to any impacted water supply wells.		
TRAFFIC AND TRANSPORTATION		
TRANS-1 Traffic Control Plan. Prior to start of construction of the Genesis Solar Energy Project (GSEP) the project owner shall prepare and implement a Traffic Control Plan (TCP) for the GSEP's construction and operation traffic. The TCP shall address the movement of workers, vehicles, and materials, including arrival and departure schedules, and designated workforce and delivery routes. The project owner shall consult with the County of Riverside and the Department of Transportation (Caltrans) District 8 office in the preparation and implementation of the Traffic Control Plan and shall submit the proposed Traffic Control Plan to the County of Riverside and the Department of Transportation (Caltrans) District 8 office in sufficient time for review and comment to the Energy Commission Compliance Project Manager (CPM) for review and approval prior to the proposed start of construction and implementation of the plan. The project owner shall provide a copy of any written comments from the County of Riverside and the Department of Transportation (Caltrans) District 8 office and any changes to the Traffic Control Plan to the CPM prior to the proposed start of construction.	At least 60 calendar days prior to the start of construction, including any grading or site remediation on the power plant site or its associated easements, the project owner shall submit the proposed traffic control plan to the County of Riverside and the Department of Transportation (Caltrans) District 8 office for review and comment and to the CPM for review and approval. The project owner shall also provide the CPM with a copy of the transmittal letter to the County of Riverside and the Department of Transportation (Caltrans) District 8 office requesting review and comment. At least 30 calendar days prior to the start of construction, the project owner shall provide copies of any comment letters received from either the County of	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRAFFIC AND TRANSPORTATION (cont.)		
The Traffic Control Plan shall include: • A work schedule and end-of-shift departure plan designed to ensure that stacking does not occur on intersections necessary to enter and exit the project sites. The project owner shall consider using one or more of the following measures designed to prevent stacking: staggered work shifts; off-peak work schedules; restricting travel to and departures from each project site to 10 or fewer vehicles every three minutes during peak travel hours on Interstate 10. The project owner may use any of the above traffic measures or any other measures if the project owner can demonstrate that the implemented measures would ensure that Interstate 10 operates at a Level of Service (LOS) C or higher during the peak travel hours. • Provisions for an incentive program such as an employer-sponsored Commuter Check Program to encourage construction workers to carpool and/or use van or bus service. • Limitation on truck deliveries to the project sites to only off-peak hours to ensure adequate exit and entry at appropriate intersections. • Provisions for redirection of construction traffic with a flag person as necessary to ensure traffic safety and minimize interruptions to non-construction related traffic flow. • Placement of signage, lighting, and traffic control device at the project construction site and laydown areas. • Signage along eastbound and westbound appropriate roads and at the entrance of each of the I-10 northbound and southbound off-ramps at appropriate roads notifying drivers of construction traffic throughout the duration of the construction period. • A heavy-haul plan designed to address the transport and delivery of heavy and oversized loads requiring permits from Department of Transportation (Caltrans) or other state and federal agencies. • Parking for workforce and construction vehicles. • Emergency vehicle access to the project site.	Riverside and the Department of Transportation (Caltrans) District 8 office, along with any changes to the proposed traffic control plan to the CPM for review and approval.	
TRANS-2 Oversized and Overweight Vehicles The project owner shall comply with limitations imposed by the Department of Transportation (Caltrans) District 8 office and other relevant jurisdictions including the County of Riverside on vehicle sizes and weights and driver licensing. In addition, the project owner or its contractor shall obtain necessary transportation permits from the Department of Transportation (Caltrans) and all relevant jurisdictions for use of roadways.	In the Monthly Compliance Reports (MCRs), the project owner shall report permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation on-site for Compliance Project Manager (CPM) inspection if requested.	CEC/BLM
TRANS-3 Encroachment into Public Rights-of-Way The project owner or its contractor shall comply with the Department of Transportation (Caltrans) and other relevant jurisdictions limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from the Department of Transportation (Caltrans) and all relevant jurisdictions.	In the MCR's, the project owner shall report permits received during that reporting period. In addition, for at least six months after the start of commercial operation, the project owner shall retain copies of permits and supporting documentation on-site for CPM inspection, if requested.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRAFFIC AND TRANSPORTATION (cont.)		
TRANS-4 Securing Permits/Licenses to Transport Hazardous Materials The project owner shall ensure that permits and/or licenses are secured from the California Highway Patrol and Department of Transportation (Caltrans) for the transport of hazardous materials.	In the MCR's, the project owner shall report permits and/or licenses for hazardous substance transportation received during that reporting period. In addition, the project owner shall retain copies of permits, licenses, and supporting documentation on-site for CPM inspection if requested.	CEC/BLM
TRANS-5 Restorations of All Public Roads, Easements, and Rights-of-Way The project owner shall restore all public roads, easements, and rights-of-way that have been damaged due to project-related construction activities to original or near-original condition in a timely manner, as directed by the CPM. Repairs and restoration of access roads may be required at any time during the construction phase of the project to assure safe ingress and egress.	At least 30 days prior to the start of mobilization, the project owner shall photograph or videotape all affected public roads, easements, and right-of-way segments and/or intersections and shall provide the CPM, the affected local jurisdictions and the Department of Transportation (if applicable) with a copy of these images. The project owner shall rebuild, repair and maintain all public roads, easements, rights-of-way in a usable condition throughout the construction phase of the project. Prior to the start of site mobilization, the project owner shall consult with the County of Riverside and the Department of Transportation (Caltrans) District 8 and notify them of the proposed schedule for project construction. The purpose of this notification is to request that the County of Riverside and the Department of Transportation (Caltrans) consider postponement of public right-of-way repair or improvement activities in areas affected by project construction until construction is completed and to coordinate with the project owner regarding any concurrent construction-related activities that are planned or in progress and cannot be postponed. Within 60 calendar days after completion of construction, the project owner shall meet with the CPM, the County of Riverside and Department of Transportation (Caltrans) District 8 to identify sections of public right-of-way to be repaired. At that time, the project owner shall establish a schedule to complete the repairs and to receive approval for the action(s). Following completion of any public right-of-way repairs, the project owner shall provide a letter signed by the County of Riverside and the Department of Transportation (Caltrans) District 8 stating their satisfaction with the repairs to the CPM.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION LINE SAFETY AND NUISANCE		
TLSN-1 The project owner shall construct the proposed transmission line according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2. High Voltage Electrical Safety Orders, sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison's EMF reduction guidelines.	At least 30 days before starting the transmission line or related structures and facilities, the project owner shall submit to the Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the lines will be constructed according to the requirements stated in the condition.	CEC/BLM
TLSN-2 The project owner shall use a qualified individual to measure the strengths of the electric and magnetic fields from the line at the points of maximum intensity along the route for which the applicant provided specific estimates. The measurements shall be made before and after energization according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures. These measurements shall be completed no later than 6 months after the start of operations.	The project owner shall file copies of the pre-and post-energization measurements with the CPM within 60 days after completion of the measurements.	CEC/BLM
TLSN-3 The project owner shall ensure that the rights-of-way of the proposed transmission line are kept free of combustible material, as required under the provisions of section 4292 of the Public Resources Code and section 1250 of Title 14 of the California Code of Regulations.	During the first 5 years of plant operation, the project owner shall provide a summary of inspection results and any fire prevention activities carried out along the right-of-way and provide such summaries in the Annual Compliance Report.	CEC/BLM
TLSN-4 The project owner shall ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards regardless of ownership.	At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with this condition.	CEC/BLM
TRANSMISSION SYSTEM ENGINEERING		
TSE-1 The project owner shall furnish to the CPM and to the CBO a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.	Prior to the start of construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major equipment in Table 1: Major Equipment List below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
	Table 1: Major Equipment List Breakers Step-up transformer Switchyard Busses Surge arrestors Disconnects Take-off facilities Electrical control building Switchyard control building Transmission pole/tower Grounding system	
TSE-2 Before the start of construction, the project owner shall assign to the project an electrical engineer and at least one of each of the following: a) a civil engineer; b) a geotechnical engineer or a civil engineer experienced andknowledgeable in the practice of soils engineering; c) a design engineer who is either a structural engineer or a civil engineer and fully competent and proficient in the design of power plant structures and equipment supports; or d) a mechanical engineer (Business and Professions Code Sections 6704 et seq. require state registration to practice as either a civil engineer or a structural engineer in California). The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers as long as each engineer is responsible for a particular segment of the project, e.g., proposed earthwork, civil structures, power plant structures, or equipment support. No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer. The civil, geotechnical, or	Prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications, and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval. If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
civil and design engineer, assigned as required by Facility Design Condition **GEN-5**, may be responsible for design and review of the TSE facilities. The project owner shall submit to the CBO, for review and approval, the names, qualifications, and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earth work and require changes; if site conditions are unsafe or do not conform with the predicted conditions used as the basis for design of earth work or foundations. The electrical engineer shall: 1. be responsible for the electrical design of the power plant switchyard, outlet, and termination facilities; and 2. sign and stamp electrical design drawings, plans, specifications, and calculations.		
TSE-3 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action (2001 California Building Code, Chapter 1, section 108.4, approval required; Chapter 17, section 1701.3, *Duties and Responsibilities of the Special Inspector;* Appendix Chapter 33, section 3317.7, *Notification of Noncompliance*). The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval and refer to this condition of certification.	The project owner shall submit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days of receipt. If disapproved, the project owner shall advise the CPM, within five days, the reason for the disapproval, along with the revised corrective action required to obtain the CBO's approval.	
TSE-4 For the power plant switchyard, outlet line and termination, the project owner shall not begin any construction until plans for that increment of construction have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the monthly compliance report: a) receipt or delay of major electrical equipment; b) testing or energization of major electrical equipment; and c) the number of electrical drawings approved, submitted for approval, and still to be submitted.	Prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, and outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer verifying compliance with all applicable LORS, and send the CPM a copy of the transmittal letter in the next monthly compliance report.	
TSE-5 The project owner shall ensure that the design, construction, and operation of the proposed transmission facilities will conform to all applicable LORS, and the requirements listed below. The project owner shall submit the required number of copies of the design drawings and calculations, as determined by the CBO. a) The power plant outlet line shall meet or exceed the electrical, mechanical, civil, and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the *High Voltage Electric Safety Orders*, California ISO standards, National Electric Code (NEC) and related	Prior to the start of construction of transmission facilities (or fewer days if mutually agreed upon by the project owner and CBO), the project owner shall submit to the CBO for approval: a) Design drawings, specifications, and calculations conforming with CPUC General Order 95 or	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
industry standards. b) Breakers and busses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis. c) Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards. d) The project conductors shall be sized to accommodate the full output of the project. e) Termination facilities shall comply with applicable SCE interconnection standards. f) The project owner shall provide to the CPM: i) The Special Protection System (SPS) sequencing and timing if applicable, ii) A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation, for which the project is responsible, are acceptable, iii) The final Phase II Interconnection Study, including a description of facility upgrades, operational mitigation measures, and/or special protection system sequencing and timing if applicable; and iv) A copy of the executed LGIA signed by the California ISO and the project owner.	National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the *High Voltage Electric Safety Orders*, CA ISO standards, National Electric Code (NEC) and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems, and major switchyard equipment; b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"1 and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the *High Voltage Electric Safety Orders*, California ISO standards, National Electric Code (NEC), and related industry standards; c) Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in charge, a route map, and an engineering description of the equipment and configurations covered by requirements **TSE-5** a) through f), above; d) The Special Protection System (SPS) sequencing and timing if applicable shall be provided concurrently to the CPM. e) A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation, for which the project is responsible, are acceptable, f) The final Phase II Interconnection Study, including a description of facility upgrades, operational mitigation measures, and/or special protection	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
	system sequencing and timing if applicable, and g) A copy of the executed LGIA signed by the California ISO and the project owner.	
TSE-6 The project owner shall inform the CPM and CBO of any impending changes that may not conform to requirements **TSE-5** a) through f), and have not received CPM and CBO approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.	Prior to the construction of transmission facilities, the project owner shall inform the CBO and the CPM of any impending changes that` may not conform to requirements of **TSE-5** and request approval to implement such changes.	
TSE-7 The project owner shall provide the following Notice to the California Independent System Operator (California ISO) prior to synchronizing the facility with the California Transmission system: 1. At least one week prior to synchronizing the facility with the grid for testing, provide the California ISO a letter stating the proposed date of synchronization; and 2. At least one business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the California ISO Outage Coordination Department.	The project owner shall provide copies of the California ISO letter to the CPM when it is sent to the California ISO one week prior to initial synchronization with the grid. The project owner shall contact the California ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351- 2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the California ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.	
TSE-8 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8, CCR, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such nonconformance and describe the corrective actions to be taken.	Within 60 days after first synchronization of the project, the project owner shall transmit to the CPM and CBO: a) "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", and applicable interconnection standards, NEC, related industry standards, and these conditions shall be provided concurrently. b) An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the	

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
TRANSMISSION SYSTEM ENGINEERING (cont.)		
	registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the electrical, mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan". c) A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.	
VISUAL RESOURCES		
Surface Treatment of Non-Mirror Project Structures and Buildings		
VIS-1 The project owner shall treat all non-mirror surfaces of all project structures and buildings visible to the public such that a) their colors minimize visual intrusion and contrast by blending with the existing dark brown color of the background bajadas and mountain slopes as seen from the highway or, in the case of foreground transmission poles, the lighter tan color of the valley floor; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive. This measure shall include coloring of security fencing with vinyl or other non-reflective coating; or with slats or similar semi-opaque, non-reflective material, to blend to the greatest feasible extent with the background soil. The project owner shall submit for CPM review and approval, a specific Surface Treatment Plan that will satisfy these requirements. The treatment plan shall include: A. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes; B. A list of each major project structure, building, tank, pipe, and wall; the transmission line towers and/or poles; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;	At least 30 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to Riverside County for review and comment. If the CPM determine that the plan requires revision, the project owner shall provide to and the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval. Upon completion of construction of specific facility structures, the project owner shall notify the CPM that surface treatment of that structure or building has been completed and is ready for inspection and shall submit one set of electronic color photographs of the	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
VISUAL RESOURCES (cont.)		
C. One set of color brochures or color chips showing each proposed color and finish; D. A specific schedule for completion of the treatment; and E. A procedure to ensure proper treatment maintenance for the life of the project. The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.	structure. The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.	
Temporary and Permanent Exterior Lighting		
VIS-2 To the extent feasible, consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting and all temporary construction lighting such that a) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas; b) lighting does not cause excessive reflected glare; c) direct lighting does not illuminate the nighttime sky, except for required FAA aircraft safety lighting; d) illumination of the project and its immediate vicinity is minimized, and e) the plan complies with local policies and ordinances. The project owner shall submit to the CPM for review and approval and simultaneously to the County of Riverside for review and comment a lighting mitigation plan that includes the following: A. Location and direction of light fixtures shall take the lighting mitigation requirements into account; B. Lighting design shall consider setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements; C. Lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated; D. Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security; E. All lighting shall be of minimum necessary brightness consistent with operational safety and security; and F. Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied. To the greatest feasible extent, project lighting shall be used on an 'as needed' basis and turned off at other times.	At least 90 days prior to ordering any permanent exterior lighting or 30 days prior to temporary construction lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan. At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to the County of Riverside for review and comment a lighting mitigation plan. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM. The project owner shall not order any permanent exterior lighting until receiving CPM approval of the lighting mitigation plan. Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection, the CPM notify the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection. Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
VISUAL RESOURCES (cont.)		
	complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted the CPM within 30 days.	
VIS-3 DELETED		CEC/BLM
Reflective Glare Mitigation		
VIS-4 In order to reduce brightness of spread reflections of the sun to off-site viewers, the perimeter chain link fencing proposed by Applicant shall include opaque privacy slats of a minimum 8 feet in height. The slats shall be of a dark tan or earth-tone color selected to blend with the visual background of the site.	At least 90 days prior to start of construction of the fence, the project owner shall present to the CPM a plan describing the fencing measures and materials proposed for mitigating off-site glare. The plan shall include color samples of slatted fencing proposed for use. If the CPM determine that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM. The project owner shall not begin construction of the fence until receiving CPM approval of the revised plan. Within 48 hours of receiving a glare complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days.	CEC/BLM
Visual Mitigation and Re-Vegetation of Staging Area		
VIS-5 In order to minimize the visual prominence of the proposed staging area to visitors at Wiley's Well Rest Area on I-10, the project owner shall provide a revised site plan for staging that includes screening of the proposed laydown area with earth berms, opaque fencing, and/or other measures to minimize visibility from within the main rest area, and restoration and revegetation of the laydown area after completion of construction. The revised staging plan shall be consistent with any cultural or biological resource constraints identified elsewhere in this Staff Assessment/DEIS. Restoration shall include re-grading to original contours in order to appear natural and undisturbed; revegetation shall employ appropriate locally native species only, again in accordance with conditions identified in the cultural and biological resource analyses of this report. The	At least 90 days prior to start of construction, the project owner shall present to the CPM a revised staging area site plan. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM. The project owner shall not begin construction until receiving	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
VISUAL RESOURCES (cont.)		
project owner shall provide a re-vegetation plan describing how the staging site will be restored following construction. The plan shall call for beginning of restoration of the site within the shortest feasible time following completion of construction.	CPM approval of the revised plan. At least 60 days prior to start of operation, the project owner shall present to the CPM a revegetation plan for the staging area. If the CPM determine that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM. The project owner shall not begin operation until receiving CPM approval of the revised plan.	
Reduction of Form, Line, and Texture Contrast		
VIS-6 To the extent practicable, the project owner will use applicable design principles to reduce the visual contrast of the project with the characteristic landscape. These include proper siting and location; reduction of visibility; repetition of form, line, color (see VIS-1) and texture of the landscape; and reduction of unnecessary disturbance. Design strategies to address these fundamentals will be based on the following factors as applicable and feasible in this case: **Earthwork:** Select locations and alignments that fit into the landforms to minimize the size of cuts and fills. Avoid hauling in or hauling out of excess earth cut or fill. Avoid rounding and/or warping slopes. Avoid soil types that generate strong color contrasts. Reduce dumping or sloughing of excess earth and rock on downhill slopes. **Vegetation Manipulation:** Retain as much of the existing vegetation as possible. **Structures:** Minimize the number of structures and combine different activities in one structure. Use natural, self-weathering materials and chemical treatments on surfaces to reduce color contrast. Use natural appearing forms to complement the characteristic landscape. Screen the structure from view by using natural land forms and vegetation. **Reclamation and Restoration:** Reduce the amount of disturbed area and blend the disturbed areas into the characteristic landscape. Replace soil, brush, rocks, and natural debris over disturbed area.	As early as possible in the site and facility design, the project owner shall meet with the CPM to discuss incorporation of these above factors into the design plans. At least 90 days prior to construction, the project owner shall contact the CPM to review the incorporation of the above factors into the final facility and site design plans. If the CPM determine that the site and facility plans require revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.	CEC/BLM
WASTE MANAGEMENT		
WASTE-1 In the event that contamination is identified during assessment of the project site, during any phase of GSEP construction, any additional work to assess and/or remediate any contamination shall be conducted under the oversight of DTSC, with CPM involvement.	The project owner shall consult with the Department of Toxic Substances Control, and abide by all federal, state and local requirements for site assessment and remediation if contaminated soil is identified during any phase of GSEP site construction. The project owner shall ensure that the CPM is involved and appraised of all discussions with Department of Toxic Substances Control, and CPM concurrence shall be required for project decisions addressing site remediation.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WASTE MANAGEMENT (cont.)		
WASTE-2 The project owner shall provide the resume of an experienced and qualified professional engineer or professional geologist, who shall be available for additional site characterization (if needed), building demolition, soil excavation, and grading activities, to the CPM for review and approval. The resume shall show experience in remedial investigation and feasibility studies. The professional engineer or professional geologist shall be given authority by the project owner to oversee any earth moving activities that have the potential to disturb contaminated soil and impact public health, safety and the environment.	At least 30 days prior to the start of site mobilization, the project owner shall submit the resume to the CPM for review and approval.	CEC/BLM
WASTE-3 If potentially contaminated soil is identified during site characterization, demolition, excavation or grading at either the proposed site or linear facilities, as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the professional engineer or professional geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project owner, representatives of Department of Toxic Substances Control or Regional Water Quality Control Board, and the CPM stating the recommended course of action. Depending on the nature and extent of contamination, the professional engineer or professional geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If in the opinion of the professional engineer or professional geologist, significant remediation may be required, the project owner shall contact the CPM and representatives of the Department of Toxic Substances Control or Regional Water Quality Control Board for guidance and possible oversight.	The project owner shall submit any reports filed by the professional engineer or professional geologist to the CPM within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.	CEC/BLM
WASTE-4 The project owner shall prepare a Construction Waste Management Plan for all wastes generated during construction of the facility and shall submit the plan to the CPM for review and approval prior to the start of construction. The plan shall contain, at a minimum, the following: • A description of all construction waste streams, including projections of frequency, amounts generated, and hazard classifications; and • Management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans.	The project owner shall submit the Construction Waste Management Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site.	CEC/BLM
WASTE-5 The project owner shall prepare a UXO Identification, Training and Reporting Plan to properly train all site workers in the recognition, avoidance and reporting of military waste debris and ordnance. The project owner shall submit the plan to the CPM for review and approval prior to the start of construction. The plan shall contain, at a minimum, the following: • A description of the training program outline and materials, and the qualifications of the trainers; and • Identification of available trained experts that will respond to notification of discovery of any ordnance (unexploded or not); and • Work plan to recover and remove discovered ordnance, and complete additional field screening, possibly including geophysical surveys to investigate adjacent areas for surface, near surface or buried ordnance in all proposed land disturbance areas.	The project owner shall submit the UXO Identification, Training and Reporting Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WASTE MANAGEMENT (cont.)		
WASTE-6 The project owner shall obtain a hazardous waste generator identification number from the United States Environmental Protection Agency (USEPA) prior to generating any hazardous waste during project construction and operations.	The project owner shall keep a copy of the identification number on file at the project site and provide documentation of the hazardous waste generation and notification and receipt of the number to the CPM in the next scheduled Monthly Compliance Report after receipt of the number. Submittal of the notification and issued number documentation to the CPM is only needed once unless there is a change in ownership, operation, waste generation, or waste characteristics that requires a new notification to USEPA. Documentation of any new or revised hazardous waste generation notifications or changes in identification number shall be provided to the CPM in the next scheduled compliance report.	CEC/BLM
WASTE-7 Upon notification of any impending waste management-related enforcement action related to project site activities by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts for the project, and describe the owner's response to the impending action or if a violation has been found, how the violation will be corrected.	The project owner shall notify the CPM in writing within 10 days of receiving written notice from authorities of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the way project-related wastes are managed as a result of a finalized action against the project.	CEC/BLM
WASTE-8 DELETED		CEC/BLM
WASTE-9 The project owner shall prepare an Operation Waste Management Plan for all wastes generated during operation of the Genesis Solar Energy facility and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following: • A detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications; • Management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans; • Information and summary records of conversations with the local Certified Unified Program Agency and the Department of Toxic Substances Control regarding any waste management requirements necessary for project activities. Copies of all required waste management permits, notices, and/or authorizations shall be included in the plan and updated as necessary;	The project owner shall submit the Operation Waste Management Plan to the CPM for approval no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary. The project owner shall also document in each Annual Compliance Report the actual volume of wastes generated and the waste management methods used during the year; provide a comparison of the actual waste generation and management methods used to those proposed in the original Operation Waste Management Plan; and update the Operation Waste Management Plan as necessary to address current	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WASTE MANAGEMENT (cont.)		
• A detailed description of how facility wastes will be managed, and any contingency plans to be employed, in the event of an unplanned closure or planned temporary facility closure; and • A detailed description of how facility wastes will be managed and disposed of upon closure of the facility.	waste generation and management practices.	
WASTE-10 The project owner shall document all releases and spills of HTF as described in Condition of Certification WASTE-11 and report only those that are 42 gallons or more, the CERCLA reportable quantity. Cleanup and temporary staging of HTF-contaminated soils shall be conducted in accordance with the approved Operation Waste Management Plan required in Condition of Certification of WASTE-9. The project owner shall sample HTF-contaminated soil from CERCLA reportable incidents involving 42 gallons or more in accordance with the United States Environmental Protection Agency's (USEPA) current version of "Test Methods for Evaluating Solid Waste" (SW-846). Samples shall be analyzed in accordance with USEPA Method 8015 or other method to be reviewed and approved by DTSC and the CPM. The project owner shall notify the DTSC and CPM of spill results and whether the soil is considered hazardous or non-hazardous. HTF-contaminated soil that exceeds the hazardous waste levels must be disposed of in accordance with California Health and Safety Code (HSC) Section 25203. HTF-contaminated soil that does not exceed the hazardous waste levels may be discharged into the land treatment unit (LTU). For discharges into the LTU, the project owner shall comply with the Waste Discharge Requirements contained in the Soil & Water Resources section of this document. If DTSC and the CPM concur with the project owner that the HTF-contaminated soil is considered hazardous it shall be disposed of in accordance with California Health and Safety Code (HSC) Section 25203 and procedures outlined in the approved Operation Waste Management Plan required in Condition of Certification **WASTE-9** and reported to the CPM in accordance with Condition of Certification **WASTE-11**. If DTSC and the CPM concur with the project owner that the HTF-contaminated soil is considered non-hazardous it shall be retained in the LTU and treated on-site in accordance with the Waste Discharge Requirements contained within in the Soil & Water Resources section of this document.	Within 28 days of an HTF spill that is 42 gallons or more, the CERCLA reportable quantity, the project owner shall notify the DTSC and CPM of the spill and provide the results of the analyses and their assessment of whether the spill is hazardous or non-hazardous in accordance with the criteria established and approved by theDTSC and the CPM per WASTE-10.	CEC/BLM
WASTE-11 The project owner shall ensure that spills or releases of hazardous substances, hazardous materials, or hazardous waste that are in excess of EPA's reportable quantities (RQ) that occur on the project property or related facilities during construction and on the property during operation, are documented and cleaned up and that wastes generated from the release/spill are properly managed and disposed of, in accordance with all applicable federal, state, and local requirements. The project owner shall document management of all accidental spills and unauthorized releases of hazardous substances, hazardous materials, and hazardous wastes that are in excess of EPA's reportable quantities (RQ), that occur on the project property or related linear facilities during construction and on the property during operation.	A copy of the unauthorized release/spill documentation shall be providedto the CPM within 30 days of the date the release was discovered. The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; how release was managed and material cleaned up; amount of contaminated soil and/or cleanup wastes generated; if the release was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies; level of cleanup achieved and actions taken to prevent a similar release or spill; and disposition of any hazardous wastes and/or contaminated soils and materials that may have been generated by the release.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WORKER SAFETY AND FIRE PROTECTION		
WORKER SAFETY-1 The project owner shall submit to the Compliance Project Manager (CPM) a copy of the Project Construction Safety and Health Program containing the following: • a Construction Personal Protective Equipment Program; • a Construction Exposure Monitoring Program; • a Construction Injury and Illness Prevention Program; • a Construction heat stress protection plan that implements and expands on existing Cal OSHA regulations as found in 8 CCR 3395; • a Construction Emergency Action Plan; and • a Construction Fire Prevention Plan. The Personal Protective Equipment Program, the Exposure Monitoring Program, the Heat Stress Protection Plan, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable safety orders. The Construction Emergency Action Plan and the Fire Prevention Plan shall be submitted to the Riverside County Fire Department for review and comment prior to submittal to the CPM for approval.	At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Safety and Health Program.	CEC/BLM
WORKER SAFETY-2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following: • an Operation Injury and Illness Prevention Plan; • an Operation heat stress protection plan that implements and expands on existing Cal OSHA regulations (8 CCR 3395); • a Best Management Practices (BMP) for the storage and application of herbicides; • an Emergency Action Plan; • Hazardous Materials Management Program; • Fire Prevention Plan (8 Cal Code Regs. § 3221); and • Personal Protective Equipment Program (8 Cal Code Regs, §§ 3401—3411). The Operation Injury and Illness Prevention Plan, Emergency Action Plan, Heat Stress Protection Plan, BMP for Herbicides, and Personal Protective Equipment Program shall be submitted to the CPM for review and comment concerning compliance of the programs with all applicable safety orders. The Fire Prevention Plan and the Emergency Action Plan shall also be submitted to the Riverside County Fire Department for review and comment.	At least 30 days prior to the start of first-fire or commissioning, the project owner shall submit to the CPM for approval a copy of the Project Operations and Maintenance Safety and Health Program.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WORKER SAFETY AND FIRE PROTECTION (cont.)		
WORKER SAFETY-3 The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards; is capable of identifying workplace hazards relating to the construction activities; and has authority to take appropriate action to assure compliance and mitigate hazards. The CSS shall: • have overall authority for coordination and implementation of all occupational safety and health practices, policies, and programs; • assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects; • assure that all construction and commissioning workers and supervisors receive adequate safety training; • complete accident and safety-related incident investigations and emergency response reports for injuries and inform the CPM of safety-related incidents; and • assure that all the plans identified in Conditions of Certification **WORKER SAFETY-1** and **-2** are implemented.	At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the Construction Safety Supervisor (CSS). The contact information of any replacement CSS shall be submitted to the CPM within one business day. The CSS shall submit in the Monthly Compliance Report a monthly safety inspection report to include: • record of all employees trained for that month (all records shall be kept on site for the duration of the project); • summary report of safety management actions and safety-related incidents that occurred during the month; • report of any continuing or unresolved situations and incidents that may pose danger to life or health; and • report of accidents and injuries that occurred during the month.	CEC/BLM
WORKER SAFETY-4 The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO and will be responsible for verifying that the Construction Safety Supervisor, as required in Condition of Certification Worker Safety-3, implements all appropriate Cal/OSHA and Energy Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities.	At least sixty (60) days prior to the start of construction, the project owner shall provide proof of its agreement to fund the Safety Monitor services to the CPM for review and approval.	CEC/BLM
WORKER SAFETY-5 The project owner shall ensure that a portable automatic external defibrillator (AED) is located on site during construction and operations and shall implement a program to ensure that workers are properly trained in its use and that the equipment is properly maintained and functioning at all times. During construction and commissioning, the following persons shall be trained in its use and shall be on site whenever the workers that they supervise are on site: the Construction Project Manager or delegate, the Construction Safety Supervisor or delegate, and all shift foremen. During operations, all power plant employees shall be trained in its use. The training program shall be submitted to the CPM for review and approval.	At least 60 days prior to the start of site mobilization, the project owner shall submit to the CPM proof that a portable automatic external defibrillator (AED) exists on site and a copy of the training and maintenance program for review and approval.	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WORKER SAFETY AND FIRE PROTECTION (cont.)		
WORKER SAFETY-6 The project owner shall: a. Identify and provide a second access gate for emergency personnel to enter the site. This secondary access gate shall be at least one-quarter mile from the main gate and shall be accessed via a gravel road off the main road near the facility fence line. The location shall be submitted to the Riverside County Fire Department (RCFD) for review and comment and to the CPM for review and approval. b. Provide two all-terrain fire engines, as identified and chosen by the RCFD, for emergency personnel to enter the site in the event the access to the plant is unavailable. The applicant will be required to provide funding for replacement of similar equipment based on the 20 year depreciation methodology used by the Riverside County Fire Department throughout the life of the project. c. If at some point in the future an alternate means of emergency access to the project site, other than the all-terrain fire engines, is available, reviewed by the RCFD, and approved by the CPM, the need for the project owner to provide the all-terrain fire engines or funding for equipment maintenance or replacement would no longer be required.	At least 60 days prior to the start of site mobilization, the project owner shall submit to the Riverside County Fire Department and the CPM preliminary plans showing the location of a second access gate to the site, a description of how the gate will be opened by the fire department, and a description and map showing the location and composition of the gravel road that will provide access from the main access road to the second access gate. At least thirty (30) days prior to the start of site mobilization, the project owner shall submit final plans to the CPM for review and approval. The final plan submittal shall also include a letter containing comments from the Riverside County Fire Department or a statement that no comments were received. At least 180 days prior to the initial receipt of heat transfer fluid on-site, the project owner shall: a. Submit proof to the CPM in the form of a signed statement from the Chief of the RCFD that the all-terrain fire engines have been delivered to the RCFD and are acceptable to the RCFD. b. If an alternative means of emergency access to the site is provided prior or subsequent to the purchase of the all-terrain fire engines, the project owner shall submit to the RCFD for review and comment and to the CPM for review and approval plans describing the specifications for the alternative means of emergency access. The project owner shall also provide to the CPM documentation demonstrating that the RCFD approves the alternate means.	CEC/BLM
WORKER SAFETY-7 The project owner shall either: (1) reach an agreement with the Riverside County Fire Department regarding funding of its project-related share of capital costs to build fire protection/response infrastructure and provide appropriate equipment as mitigation of project-related impacts on fire protection services, or, if no agreement can be reached shall (2) fund its share of the capital costs in the amount of $850,000 and shall provide an annual payment of $375,000 to the RCFD for the support of three fire department staff commencing with the date of site mobilization and continuing annually thereafter on the anniversary until the final date of power plant decommissioning.	At least 30 days prior to the start of site mobilization, the project owner shall provide to the CPM for review and approval either: (1) A copy of the agreement with the RCFD or (2) Documentation that a letter of credit in the amount of $850,000 has been provided to the RCFD and that a letter of credit in the amount of $375,000 will be	CEC/BLM

TABLE G-1 (Continued)
CONDITIONS OF CERTIFICATION

Condition of Certification	Verification	Responsible Agency
WORKER SAFETY AND FIRE PROTECTION (cont.)		
	provided each year at the start of commercial operations.	
WORKER SAFETY-8 The project owner shall develop and implement an enhanced Dust Control Plan that includes the requirements described in **AQ-SC3** and additionally requires: i. site worker use of dust masks (NIOSH N-95 or better) whenever visible dust is present; ii. implementation of methods consistent with Rule 402 of the Kern County Air Pollution Control District (as amended Nov. 3, 2004); and iii. implementation of enhanced dust control methods (increased frequency of watering, use of dust suppression chemicals, etc. consistent with **AQ-SC4**) immediately whenever visible dust comes from or onto the site or when PM10 measurements exceed 50 µg/m^3.	At least sixty (60) days prior to the commencement of site mobilization, the enhanced Dust control Plan shall be provided to the CPM for review and approval.	CEC/BLM
WORKER SAFETY-9 The project owner shall participate in joint training exercises with the Riverside County Fire Department (RCFD). The project owner shall coordinate this training with other Energy Commission-licensed solar power plants within Riverside County such that this project shall host the annual training on a rotating yearly basis with the other solar power plants.	At least ten (10) days prior to the start of commissioning, the project owner shall submit to the CPM proof that a joint training program with the RCFD is established. In the annual compliance report to the CPM, the project owner shall include the date, list of participants, training protocol, and location of the joint training.	CEC/BLM