

BIOLOGICAL RESOURCES

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Common Name - Portrait
ACSF Project - La Panza NE and California Valley Quads, and GIS Query Results

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 American badger <i>Taxidea taxus</i>	AMAJF04010			G5	S4	SC
2 California condor <i>Gymnogyps californianus</i>	ABNKA03010	Endangered	Endangered	G1	S1	
3 Coulter's goldfields <i>Lasthenia glabrata ssp. coulteri</i>	PDAST5L0A1			G4T3	S2.1	1B.1
4 Hall's tarplant <i>Deinandra halliana</i>	PDAST4R0C0			G1	S1.1	1B.1
5 Indian Valley spineflower <i>Aristocapsa insignis</i>	PDPGN0U010			G2	S2.2	1B.2
6 Jared's pepper-grass <i>Lepidium jaredii ssp. jaredii</i>	PDBRA1M0G1			G1T1	S1.2	1B.2
7 Lemmon's jewelflower <i>Caulanthus coulteri var. lemmonii</i>	PDBRA0M0E0			G4T2	S2.2	1B.2
8 Lost Hills crownscale <i>Atriplex vallicola</i>	PDCHE04250			G1	S1.1	1B.2
9 Munz's tidy-tips <i>Layia munzii</i>	PDAST5N0B0			G1	S1.1	1B.2
10 Nelson's antelope squirrel <i>Ammospermophilus nelsoni</i>	AMAFB04040		Threatened	G2	S2	
11 Parish's checkerbloom <i>Sidalcea hickmanii ssp. parishii</i>	PDMAL110A3	Candidate	Rare	G3T1	S1.2	1B.2
12 San Joaquin kit fox <i>Vulpes macrotis mutica</i>	AMAJA03041	Endangered	Threatened	G4T2T3	S2S3	
13 San Joaquin pocket mouse <i>Perognathus inornatus inornatus</i>	AMAFD01061			G4T2T3	S2S3	
14 San Luis Obispo mariposa lily <i>Calochortus simulans</i>	PMLIL0D170			G2	S2.3	1B.3
15 Tipton kangaroo rat <i>Dipodomys nitratooides nitratooides</i>	AMAFD03152	Endangered	Endangered	G3T1	S1	
16 Tulare grasshopper mouse <i>Onychomys torridus tularensis</i>	AMAFF06021			G5T1T2	S1S2	SC
17 blunt-nosed leopard lizard <i>Gambelia sila</i>	ARACF07010	Endangered	Endangered	G1	S1	
18 burrowing owl <i>Athene cunicularia</i>	ABNSB10010			G4	S2	SC
19 diamond-petaled California poppy <i>Eschscholzia rhombipetala</i>	PDPAP0A0D0			G1	S1.1	1B.1
20 dwarf calycadenia <i>Calycadenia villosa</i>	PDAST1P0B0			G2	S2.1	1B.1
21 giant kangaroo rat <i>Dipodomys ingens</i>	AMAFD03080	Endangered	Endangered	G2	S2	
22 heartscale <i>Atriplex cordulata</i>	PDCHE040B0			G2?	S2.2?	1B.2
23 pale-yellow layia <i>Layia heterotricha</i>	PDAST5N070			G1	S1.1	1B.1

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Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 pallid bat <i>Antrozous pallidus</i>	AMACC10010			G5	S3	SC
25 prairie falcon <i>Falco mexicanus</i>	ABNKD06090			G5	S3	SC
26 recurved larkspur <i>Delphinium recurvatum</i>	PDRAN0B1J0			G2	S2.2	1B.2
27 round-leaved filaree <i>Erodium macrophyllum</i>	PDGER01070			G4	S2.1	2.1
28 showy madia <i>Madia radiata</i>	PDAST650E0			G2	S2.1	1B.1
29 vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened		G3	S2S3	
30 western spadefoot <i>Spea (=Scaphiopus) hammondii</i>	AAABF01030			G3	S3	SC



United States Department of the Interior



**FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003**

**Listed, Proposed, And Candidate
Species Which May Occur in San
Luis Obispo County
(38 Species)**

Type	Common Name	Scientific Name	Status	Date Listed	CH	CH Date
Amphibian	ARROYO TOAD	<i>Bufo microscaphus californicus</i>	Endangered	16-Dec-94	Yes	13-Apr-05
Amphibian	CALIFORNIA RED-LEGGED FROG	<i>Rana aurora draytonii</i>	Threatened	23-May-96	Yes	13-Apr-06
Amphibian	CALIFORNIA TIGER SALAMANDER	<i>Ambystoma californiense</i>	Threatened	04-Aug-04	Yes	23-Aug-05
Bird	BALD EAGLE	<i>Haliaeetus leucocephalus</i>	Threatened	11-Mar-67	No	
Bird	BROWN PELICAN	<i>Pelicanus occidentalis</i>	Endangered	02-Jun-70	No	
Bird	CALIFORNIA CLAPPER RAIL	<i>Rallus longirostris obsoletus</i>	Endangered	13-Oct-70	No	
Bird	CALIFORNIA CONDOR	<i>Gymnogyps californianus</i>	Endangered	11-Mar-67	Yes	22-Sep-77
Bird	CALIFORNIA LEAST TERN	<i>Sterna antillarum browni</i>	Endangered	02-Jun-70	No	
Bird	LEAST BELL'S VIREO	<i>Vireo bellii pusillus</i>	Endangered	02-May-86	Yes	02-Feb-94
Bird	WESTERN SNOWY PLOVER	<i>Charadrius alexandrinus nivosus</i>	Threatened	05-Mar-93	Proposed	
Bird	YELLOW-BILLED CUCKOO	<i>Coccyzus americanus</i>	Candidate	25-Jul-01	No	
Fish	SOUTHERN CALIFORNIA STEELHEAD	<i>Oncorhynchus mykiss</i>	Endangered	17-Jun-98	Proposed	
Fish	TIDEWATER GOBY	<i>Eucyclogobius newberryi</i>	Endangered	07-Mar-94	No	
Invertebrate	LONGHORN FAIRY SHRIMP	<i>Branchinecta longiantenna</i>	Endangered	19-Sep-94	Yes	10-Feb-06
Invertebrate	MORRO SHOULDERBAND SNAIL	<i>Helminthoglypta walkeriana</i>	Endangered	15-Dec-94	Yes	07-Feb-01
Invertebrate	SMITH'S BLUE	<i>Euphilotes enoptes</i>	Endangered	01-Jun-	No	

	BUTTERFLY	smithi		76		
Invertebrate	VERNAL POOL FAIRY SHRIMP	Branchinecta lynchi	Threatened	19-Sep-94	Yes	10-Feb-06
Mammal	GIANT KANGAROO RAT	Dipodomys ingens	Endangered	05-Jan-87	No	
Mammal	MORRO BAY KANGAROO RAT	Dipodomys heermanni morroensis	Endangered	13-Oct-70	Yes	11-Aug-77
Mammal	SAN JOAQUIN KIT FOX	Vulpes macrotis mutica	Endangered	11-Mar-67	No	
Mammal	SOUTHERN SEA OTTER	Enhydra lutris nereis	Threatened	14-Jan-77	No	
Plant	CALIFORNIA JEWELFLOWER	Caulanthus californicus	Endangered	19-Jul-90	No	
Plant	CALIFORNIA ORCUTT GRASS	Orcuttia californica	Endangered	03-Aug-93	No	
Plant	CALIFORNIA SEABLITE	Suaeda californica	Endangered	15-Dec-94	No	
Plant	CAMATTA CANYON AMOLE	Chlorogalum purpureum var. reductum	Threatened	20-Mar-00	Yes	24-Aug-02
Plant	CHORRO CREEK BOG THISTLE	Cirsium fontinale var. obispoense	Endangered	15-Dec-94	No	
Plant	GAMBEL'S WATERCRESS	Rorippa gambellii	Endangered	03-Aug-93	No	
Plant	INDIAN KNOB MOUNTAINBALM	Eriodictyon altissimum	Endangered	15-Dec-94	No	
Plant	LA GRACIOSA THISTLE	Cirsium loncholepis	Endangered	20-Mar-00	Yes	17-Mar-04
Plant	MARSH SANDWORT	Arenaria paludicola	Endangered	03-Aug-93	No	
Plant	MORRO MANZANITA	Arctostaphylos morroensis	Threatened	15-Dec-94	No	
Plant	NIPOMO MESA LUPINE	Lupinus nipomensis	Endangered	20-Mar-00	No	
Plant	PARISH'S CHECKERBLOOM	Sidalcea hickmanii ssp. parishii	Candidate	28-Feb-96	No	
Plant	PISMO CLARKIA	Clarkia speciosa var. immaculata	Endangered	15-Dec-94	No	
Plant	PURPLE AMOLE	Chlorogalum purpureum var. purpureum	Threatened	20-Mar-00	Yes	24-Oct-02
Plant	SALT MARSH BIRD'S-BEAK	Cordylanthus maritimus ssp.	Endangered	28-Sep-78	No	

		maritimus			
Plant	SAN JOAQUIN WOOLY- THREADS	Lembertia congdonii	Endangered	19-Jul- 90	No
Reptile	BLUNT-NOSED LEOPARD LIZARD	Gambelia silus	Endangered	11-Mar- 67	No

DISCLAIMER NOTICE
 The information provided on this page should not be considered an OFFICIAL species list.
 If you have a proposed project and are in need of an official species list, please mail a
 detailed request
 to the address listed at the top of the page.

Scientific Name	Common Name
ANGIOSPERMS (DICOTYLEDONS)	
ASCLEPIADACEAE	MILKWEED FAMILY
<i>Asclepias erosa</i>	desert milkweed
<i>Asclepias fascicularis</i>	narrow-leaf milkweed
ASTERACEAE	SUNFLOWER FAMILY
<i>Centaurea melitensis</i> *	toocalote
<i>Centaurea solstitialis</i> *	yellow star-thistle
<i>Filago gallica</i> *	fluffweed
<i>Hazardia stenolepis</i>	narrow-scaled goldenbush
<i>Hemizonia fasciculata</i>	fascicled tarweed
<i>Hemizonia fitchii</i>	Fitch's tarweed
<i>Isocoma</i> sp.	goldenbush
<i>Lactuca serriola</i> *	prickly lettuce
<i>Lagophylla ramosissima</i>	branched lagophylla
<i>Layia platyglossa</i>	tidy-tips
<i>Stephanomeria exigua</i>	small wreathplant
<i>Stephanomeria pauciflora</i>	wire lettuce
BORAGINACEAE	BORAGE FAMILY
<i>Amsinckia menziesii</i>	common fiddleneck
<i>Cryptantha</i> sp.	cryptantha
<i>Heliotropium curassavicum</i>	salt heliotrope
<i>Plagiobothrys</i> sp.	popcorn flower
BRASSICACEAE	MUSTARD FAMILY
<i>Brassica nigra</i> *	black mustard
<i>Hirschfeldia incana</i> *	short-podded mustard
<i>Lepidium nitidum</i>	shining peppergrass
<i>Sisymbrium irio</i> *	London rocket
CARYOPHYLLACEAE	PINK FAMILY
<i>Herniaria hirsuta</i> ssp. <i>cinerea</i>	rupturewort
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Chenopodium album</i> *	lamb's quarters
CONVOLVULACEAE	MORNING-GLORY FAMILY
<i>Convolvulus arvensis</i> *	bindweed
<i>Cressa truxillensis</i>	alkali weed
CUCURBITACEAE	GOURD FAMILY

<i>Cucurbita palmata</i>	coyote melon
EUPHORBIACEAE	SPURGE FAMILY
<i>Eremocarpus setigerus</i>	dove weed
FABACEAE	LEGUME FAMILY
<i>Astragalus</i> sp.	astragalus
<i>Robinia pseudoacacia</i>	black locust
<i>Vicia benghalensis</i>	purple vetch
<i>Vicia</i> sp.	vetch
GERANIACEAE	GERANIUM FAMILY
<i>Erodium cicutarium</i> *	red-stemmed filaree
LAMIACEAE	MINT FAMILY
<i>Marrubium vulgare</i> *	horehound
<i>Trichostema lanceolatum</i>	vinegar weed
MALVACEAE	MALLOW FAMILY
<i>Malvella leprosa</i>	alkali-mallow
PAPAVERACEAE	POPPY FAMILY
<i>Eschscholzia californica</i>	California poppy
<i>Eschscholzia minutiflora</i>	pygmy golden poppy
PLATANACEAE	SYCAMORE FAMILY
<i>Platanus racemosa</i>	western sycamore
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Eriogonum</i> sp.	annual buckwheat
<i>Polygonum arenastrum</i> *	common knotweed
<i>Rumex crispus</i> *	curly dock
SIMAROUBACEAE	QUASSIA FAMILY
<i>Ailanthus altissima</i> *	tree of heaven
SOLANACEAE	NIGHTSHADE FAMILY
<i>Datura wrightii</i>	jimson weed
<i>Nicotiana quadrivalvis</i>	indian tobacco
TAMARICACEAE	TAMARISK FAMILY
<i>Tamarix</i> sp. *	tamarisk
ULMACEAE	ELM FAMILY
<i>Ulmus parvifolia</i> *	Chinese elm
VITACEAE	GRAPE FAMILY
<i>Parthenocissus quinquefolia</i>	Virginia creeper
ANGIOSPERMS (MONOCOTYLEDONS)	

POACEAE	GRASS FAMILY
<i>Avena barbata</i> *	slender wild oat
<i>Avena</i> sp.*	wild oat
<i>Bromus diandrus</i> *	ripgut grass
<i>Bromus hordeaceus</i> *	soft chess
<i>Bromus madritensis</i> *	foxtail chess
<i>Bromus tectorum</i> *	cheat grass
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Horedum murinum</i> ssp. <i>leporinum</i> *	barley
<i>Lolium perenne</i> *	perennial ryegrass
<i>Nassella cernua</i>	nodding needlegrass
<i>Schismus barbatus</i> *	Mediterranean schismus
<i>Triticum aestivum</i> *	wheat
<i>Vulpia myuros</i> var. <i>myuros</i> *	Zorro annual fescue

Common Name	Scientific Name	Detection
Wildlife Species		
Insects		
Cabbage white butterfly	<i>Pieris rapae</i>	Visual
Checkered white butterfly	<i>Pontia protodice</i>	Visual
Monarch butterfly	<i>Danaus plexippus</i>	Visual
Velvet ant	<i>Dasymutilla</i> sp.	Visual
Birds		
Turkey vulture	<i>Cathartes aura</i>	Visual
Red-tailed hawk	<i>Buteo jamaicensis</i>	Visual
Golden eagle (SSC)	<i>Aquila chrysaetos</i>	Visual
American kestrel	<i>Falco sparverius</i>	Visual
Prairie falcon (SSC)	<i>Falco mexicanus</i>	Visual
Northern harrier (SSC)	<i>Circus cyaneus</i>	Visual
Peregrine falcon (SE)	<i>Falco peregrinus</i>	Visual - Offsite
Barn owl	<i>Tyto alba</i>	Visual
Burrowing owl (SSC)	<i>Athene cunicularia</i>	Visual
Western kingbird	<i>Tyrannus verticalis</i>	Visual
Common raven	<i>Corvus corax</i>	Visual
Horned lark (SSC)	<i>Eremophila alpestris</i>	Visual
Western meadowlark	<i>Sturnella neglecta</i>	Visual
House sparrow	<i>Passer domesticus</i>	Visual
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	Visual
House finch	<i>Carpodacus mexicanus</i>	Visual
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	Visual
European starling	<i>Sturnus vulgaris</i>	Visual
Long-billed curlew	<i>Numenius americanus</i>	Visual
Mourning dove	<i>Zenaida macroura</i>	Visual
Rock dove	<i>Columba livia</i>	Visual
Road runner	<i>Geococcyx californianus</i>	Visual
Barn swallow	<i>Hirundo rustica</i>	Visual
Reptiles		
Gopher snake	<i>Pituophis catenifer</i>	Visual
California striped racer	<i>Masticophis lateralis lateralis</i>	Visual
Western whiptail	<i>Cnemidophorus tigris</i>	Visual
California side-blotched	<i>Uta stansburiana elegans</i>	Visual

Common Name	Scientific Name	Detection
lizard		
Mammals		
California ground squirrel	<i>Spermophilus beecheyi nudipes</i>	Visual
Pocket gopher	<i>Thomomys</i> sp.	Visual
Coyote	<i>Canis latrans</i>	Scat
Cottontail rabbit	<i>Sylvilagus auduboni</i>	Visual
American badger (SSC)	<i>Taxidea taxus</i>	Den
Cattle	<i>Bos taurus</i>	Visual
Pronghorn	<i>Antilocapra americana</i>	Visual
Red fox	<i>Vulpes vulpes</i>	Visual
Kit fox (ST, FE)	<i>Vulpes macrotis mutica</i>	Dead
Mule deer	<i>Odocoileus hemionus</i>	Visual - Offsite
Tule elk	<i>Cervus elephus</i>	Visual - Offsite
FE = Federal Endangered (in danger of becoming extinct throughout all or a significant portion of its range). SE = State Endangered (in danger of becoming extinct throughout all or a significant portion of its range). SSC = State Species of Concern (information exists which warrants concern over that species' status and warrants study).		

APPENDIX L-4 Photographs of Jurisdictional Waters on the CESF Laydown Site

APPENDIX L-4 Photographs of Jurisdictional Waters on the CESF Laydown Site



Photograph #1

Comments:
Carrizo Energy
Solar Farm Project.

Location of
road/culvert
installation at
southern boundary
of Project site in
Section 3. OHWM
is approximately 3
feet wide with 14
foot wide banks.



Photograph #2

Comments:
Carrizo Energy
Solar Farm Project..

View toward
northwest at road
crossing/culvert
location at southern
boundary of Project
site in Section 33.

APPENDIX L-4 Photographs of Jurisdictional Waters on the CESF Laydown Site



Photograph #3

Comments:
Carrizo Energy
Solar Farm Project.

View to southeast at road crossing/culvert on western boundary of OWUS in Section 33. OHWM is 5 feet wide with 18 foot wide banks.



Photograph #4

Comments:
Carrizo Energy
Solar Farm Project.

View to east/southeast at OWUS feature on project. OHWM is 24 feet wide with 3 foot high banks.

APPENDIX L-4 Photographs of Jurisdictional Waters on the CESF Laydown Site



Photograph #5

Comments:
Carrizo Energy
Solar Farm Project.

View of channel as
it meanders south.
OWHM is
approximately 2 feet
wide at this location.



Photograph #6

Comments:
Carrizo Energy
Solar Farm Project.

Cottonwood tree
(*Populus fremontii*)
along channel.
OHWM is 3 feet
wide and bank –to
bank width is
approximately 18
feet.

APPENDIX L-4 Photographs of Jurisdictional Waters on the CESF Laydown Site



Photograph #7

Comments:
Carrizo Energy
Solar Farm Project.

Area of deeper cuts
within channel.
Deposition of bones
and other debris
apparently caused
by high-energy
water flows.



Photograph #8

Comments:
Carrizo Energy
Solar Farm Project.

View of channel
toward northwest.
Note disking
through channel.

APPENDIX L-4 Photographs of Jurisdictional Waters on the CESF Laydown Site



Photograph #9

Comments:
Carrizo Energy
Solar Farm Project.

Wide portion of
channel with alluvial
riverwash substrate
and evidence of
disking through
channel, which
likely affects the
natural flow regime.



Photograph #10

Comments:
Carrizo Energy
Solar Farm Project.

18-foot wide
OWHM with
riverwash alluvial
substrate.

APPENDIX L-4 Photographs of Jurisdictional Waters on the CESF Laydown Site



Photograph #11

Comments:

Carrizo Energy
Solar Farm Project.

Arizona Crossing at
southern end of
Section 33.



September 24, 2007

Mr. Mark D'Avignon
Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103-1398

Subject: Carrizo Energy Solar Farm
San Luis Obispo County, California
URS Project No. 22239472.01300

Dear Mr. D'Avignon:

On behalf of Ausra CA II, LLC (dba Carrizo Energy, LLC), this letter is to request a Nationwide 14 permit from the United States Army Corps of Engineers (USACE) for modifications to a large drainage located at a site to be developed in support of a solar energy farm in San Luis Obispo County, California. The attachments to this letter include figures showing the location of the site, photographs of the drainage, an application for a Nationwide 14 permit, and a Biological Assessment for Section 7 Consultation with United States Fish and Wildlife Service (USFWS) for potential incidental take of San Joaquin kit fox. Representatives of the USFWS have been briefed on this project.

PROJECT LOCATION

The Carrizo Energy Solar Farm (CESF) Project Area comprises a total of approximately 1,020 acres and is located in the Carrizo Plain area of the South Coast Ranges, within central eastern San Luis Obispo County (Figure 1). More specifically, the Project Area is located entirely within Sections 28 and 33 of Township 29 South, Range 18 East of the La Panza NE and California Valley United States Geological Survey (USGS) 7.5-minute series quadrangle maps. The CESF consists primarily of disturbed ranchland with abandoned farm structures in Sections 28 and 33. The site is generally flat, sloping gently to the southwest with elevations ranging from approximately 629 meters (2065 feet) to 614 meters (2016 feet) above mean seal level (MSL).

PROJECT DESCRIPTION

The proposed CESF and its ancillary systems will consist of approximately one hundred and ninety-five Compact Linear Fresnel reflector (CLFR) solar concentrating lines, associated steam drums, steam turbine generators (STGs), air cooled condensers (ACCs), and infrastructure producing a nominal 163 net megawatts (MWs). The 640-acre Project site is located on one section of land adjacent to California State Route 58 (SR 58)/Carrisa Highway, in an un-incorporated area of San Luis Obispo County near the towns of Simmler and California Valley, California. An access road will be located in the 380-acre construction laydown area south of and adjacent to the proposed Project site on Section 33. The new access road will require crossing the subject channel in two locations (Figure 2).



Mr. Mark D'Avignon
Army Corps of Engineers
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WATERS OF THE UNITED STATES/STATE JURISDICTIONAL WATERS

There are no known named drainages within the Project. Project surface water is intermittent and drains to local surface depressions and channels tributary to the larger intermittent stream running through the southern portion of the temporary construction laydown area in Section 33 (Figure 2). This drainage has an average width of 20 feet throughout its length and is also located within the 100-year FEMA floodplain. Project surface water that does not percolate into the ground is ultimately tributary to Soda Lake, approximately 10 miles downstream.

The draft Biological Assessment associated with the Application for Certification (AFC) for the Project is provided as a confidential attachment. The draft Biological Assessment also presents a discussion of the waters of the United States and State of California Jurisdictional Waters. Photographs are also included as an attachment.

The access road will be required to allow access to the entire construction laydown area during the construction phase and as a turn-around for large trucks during operations of the CESF. The access road will require two permanent crossings of the drainage that will sufficiently support the large construction and operations vehicles under all weather conditions, including large storm events. The access road will be 30 feet wide, and each crossing will require 48 inch culverts, which will be large enough to support the large vehicles and also allow for wildlife passage.

Crossing 1 of the drainage is at the southern end of the Project boundary, and has a 2-foot wide and 2-foot deep ordinary high water mark (OHWM), and 14-foot wide banks. Approximately 4.4 cubic yards of fill will be discharged into the channel and 0.001 acre of impact to the unvegetated OWUS will occur at this location.

Crossing 2 of the drainage is along the western boundary of the Project construction laydown area. The OHWM is approximately 5 feet wide and 2 feet deep, with 18-foot wide banks. Approximately 11.1 cubic yards of fill will be discharged into the channel, and 0.003 acre of impact to the unvegetated OWUS will occur at this location.

Channel Feature	Crossing No. 1	Crossing No. 2
Length	30 feet	30 feet
Width of OHWM	5 feet	2 feet
Bank-to-bank Width	18 feet	14 feet
Depth	2 feet	2 feet
Cubic Yards of Fill	4.4	11.1
Acreage of Disturbance to Jurisdictional Waters	0.001	0.003



Mr. Mark D'Avignon
Army Corps of Engineers
September 24, 2007
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We appreciate your help with this determination and Nationwide 14 permit application. If there is additional information that URS Corporation can provide to assist with this process, please do not hesitate to call.

Sincerely,

URS CORPORATION

A handwritten signature in black ink that reads "Theresa Miller".

Theresa Miller, Wildlife Biologist
URS Corporation Americas

Attachments:

1. Draft Biological Assessment for CESF Project
2. Draft Figures 1 and 2
3. Photographs of the OWUS

cc: Angela Leiba, URS Corporation, San Diego
Patrick J. Mock, URS Corporation, San Diego
Perry Fontana, Carrizo Energy, LLC

**APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)**

OMB APPROVAL NO. 0710-003

Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instructions, Searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-003), Washington, DC 20503. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in, or affecting, navigable waters of the United States; the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED
--------------------	----------------------	------------------	-------------------------------

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME & TITLE (an agent is not required)
6. APPLICANT'S ADDRESS	9. AGENT'S ADDRESS
7. APPLICANT'S PHONE NUMBERS WITH AREA CODE a. Residence b. Business	10. AGENT'S PHONE NUMBERS WITH AREA CODE a. Residence b. Business

11. STATEMENT OF AUTHORIZATION

I hereby authorize _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE

DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)	
13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
15. LOCATION OF PROJECT COUNTY STATE	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)	
17. DIRECTIONS TO THE SITE	

18. NATURE OF ACTIVITY (Description of project, include all features)

19. PROJECT PURPOSE (Describe the reason or purpose of the project, see instructions)

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. REASON(S) FOR DISCHARGE

21. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS

22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (see instructions)

23. IS ANY PORTION OF THE WORK ALREADY COMPLETE? YES NO IF YES, DESCRIBE THE WORK

24. ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC. WHOSE PROPERTY ADJOINS THE WATERBODY (If more than can be entered here, please attach a supplemental list)

25. LIST OF OTHER CERTIFICATIONS OR APPROVALS/DENIALS RECEIVED FROM OTHER FEDERAL, STATE, OR LOCAL AGENCIES FOR WORK DESCRIBED IN THIS APPLICATION

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
--------	----------------	-----------------------	--------------	---------------	-------------

* Would include but is not restricted to zoning, building and flood plain permits.

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Block 16:

The 380-acre CESF construction laydown area is located in one section of land adjacent and to the south and west of California State Route (SR) 58, in an unincorporated area of San Luis Obispo County near the towns of Simmler and California Valley, California. The construction laydown area is located entirely within Section 33 of Township 29 South, Range 18 East of the La Panza NE and California Valley United States Geological Survey (USGS) 7.5-minute series quadrangle maps.

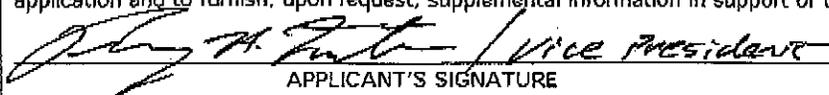
Block 18:

Installation of 48 inch culverts in 2 permanent crossing locations in the construction laydown area of the overall CESF project.

Crossing 1 will consist of 4.4cy of fill, 0.001 acre of impact to unvegetated OWUS and Crossing 2 will consist of 11.1cy of fill, 0.003 acre of impact to unvegetated OWUS. Figure 2 shows details of culvert locations, Attachment A shows photographs of the drainage at crossing locations, and Attachment B is the Biological Assessment for the Section 7 Consultation with USFWS.

Block 19:

The access road is part of the larger Carrizo Energy Solar Farm project on the adjacent Section (28), and will provide access to the laydown area during construction and a turn-around for large trucks during operations of the project (see Attached Draft Biological Assessment). The access road is necessary to access the entire construction laydown area and must be sufficient to support large trucks during all weather conditions including large storm events. Work is expected to start in the 2nd Quarter of 2009 and be completed in the 1st Quarter of 2012. The proposed Carrizo Energy Solar Farm (CESF or Project) and its ancillary systems will be adjacent the laydown area.

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT (33 CFR 325)		OMB APPROVAL NO. 0710-003	
Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-003), Washington, DC 20503. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.			
PRIVACY ACT STATEMENT			
Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in, or affecting, navigable waters of the United States; the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.			
One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the proposed activity. An application that is not completed in full will be returned.			
(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)			
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED
(ITEMS BELOW TO BE FILLED BY APPLICANT)			
5. APPLICANT'S NAME Ausra CA II, LLC (dba Carrizo Energy, LLC); P.Fop		8. AUTHORIZED AGENT'S NAME & TITLE (an agent is not required) URS Corporation, Attn: Theresa Miller, Biologist	
6. APPLICANT'S ADDRESS 2585 East Bayshore Road Palo Alto, CA 94303		9. AGENT'S ADDRESS 1615 Murray Canyon Road, Suite 1000 San Diego, CA 92109	
7. APPLICANT'S PHONE NUMBERS WITH AREA CODE a. Residence b. Business 650-353-9785		10. AGENT'S PHONE NUMBERS WITH AREA CODE a. Residence b. Business 619-294-9400	
11. STATEMENT OF AUTHORIZATION			
I hereby authorize <u>URS Corporation</u> to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.			
 APPLICANT'S SIGNATURE			9/24/07 DATE
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY			
12. PROJECT NAME OR TITLE (see instructions) Carrizo Energy Solar Farm (CESF)			
13. NAME OF WATERBODY, IF KNOWN (if applicable) Unnamed Drainage		14. PROJECT STREET ADDRESS (if applicable)	
15. LOCATION OF PROJECT San Luis Obispo COUNTY CA STATE			
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) The 380-acre CESF construction laydown area is located in one section of land adjacent and to the south and west of California State Route (SR) 58, in an un-incorporated area of San Luis Obispo County near the towns of Simmler and			
17. DIRECTIONS TO THE SITE CA Hwy 101 to SR 58 East. Continue on SR58 East approximately 50 miles east to the CESF site. Or, I-5 to SR 58 West. Continue on SR 58 west for approximately 60 miles to the CESF site.			

18. NATURE OF ACTIVITY (Description of project, include all features)

see attached sheet.

19. PROJECT PURPOSE (Describe the reason or purpose of the project, see instructions)

see attached sheet.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. REASON(S) FOR DISCHARGE

Installation of 48" culverts to create two channel crossings for new access road.

21. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS

Sand, gravel, road base, culvert pipe.

Crossing 1: 4.4cy of fill

Crossing 2: 11.1cy of fill

22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (see instructions)

Crossing 1: 0.001 acre of unvegetated waters of US

Crossing 2: 0.003 acre of unvegetated waters of US

23. IS ANY PORTION OF THE WORK ALREADY COMPLETE? YES NO IF YES, DESCRIBE THE WORK

24. ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC. WHOSE PROPERTY ADJOINS THE WATERBODY. (If more than can be entered here, please attach a supplemental list)

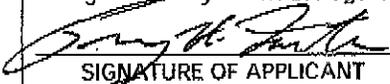
APNs 072-091-009 and 072-091-010: John Lowery (Peter G. Lowery Family Trust); 633 18th St., Santa Monica, CA 90402
APN 072-301-015: Joseph Brolin, Jessie Converse, George and Margorie Paquette; Star Rte 1, Santa Margarita, CA 93453

25. LIST OF OTHER CERTIFICATIONS OR APPROVALS/DENIALS RECEIVED FROM OTHER FEDERAL, STATE, OR LOCAL AGENCIES FOR WORK DESCRIBED IN THIS APPLICATION

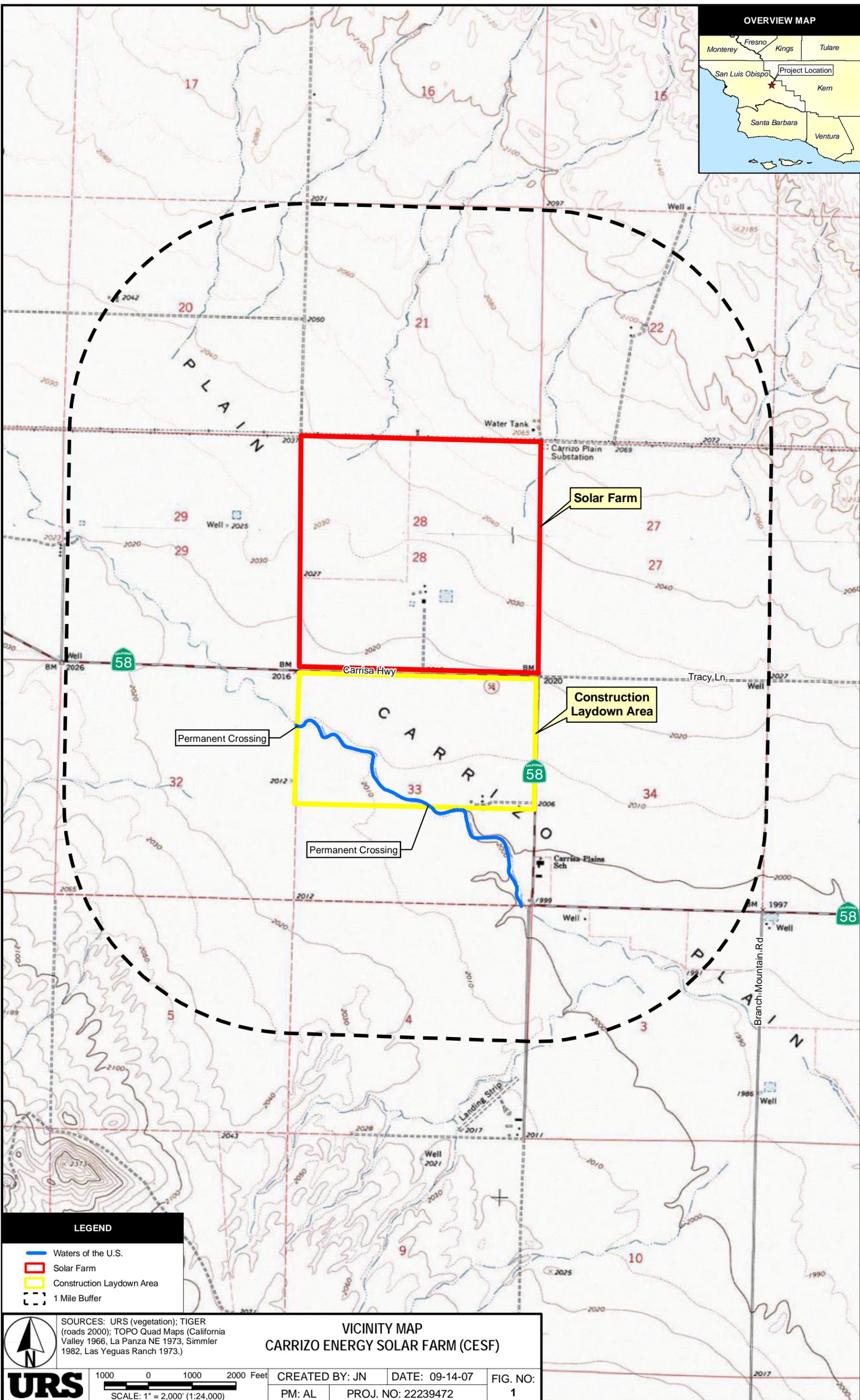
AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
USFWS	Section 7 Consultation	ACOE to initiate			
CDFG	Streambed Alteration Agreement	Application to be Submitted			
RWQCB	401 WQ Certification	Application to be Submitted			

* Would include but is not restricted to zoning, building and flood plain permits.

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

 _____ 9/24/07 _____
SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.
18 U.S.C. Section 1001 provides that: Whoever, in any manner, within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, factitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.



LEGEND

- Waters of the U.S.
- Solar Farm
- Construction Laydown Area
- 1 Mile Buffer

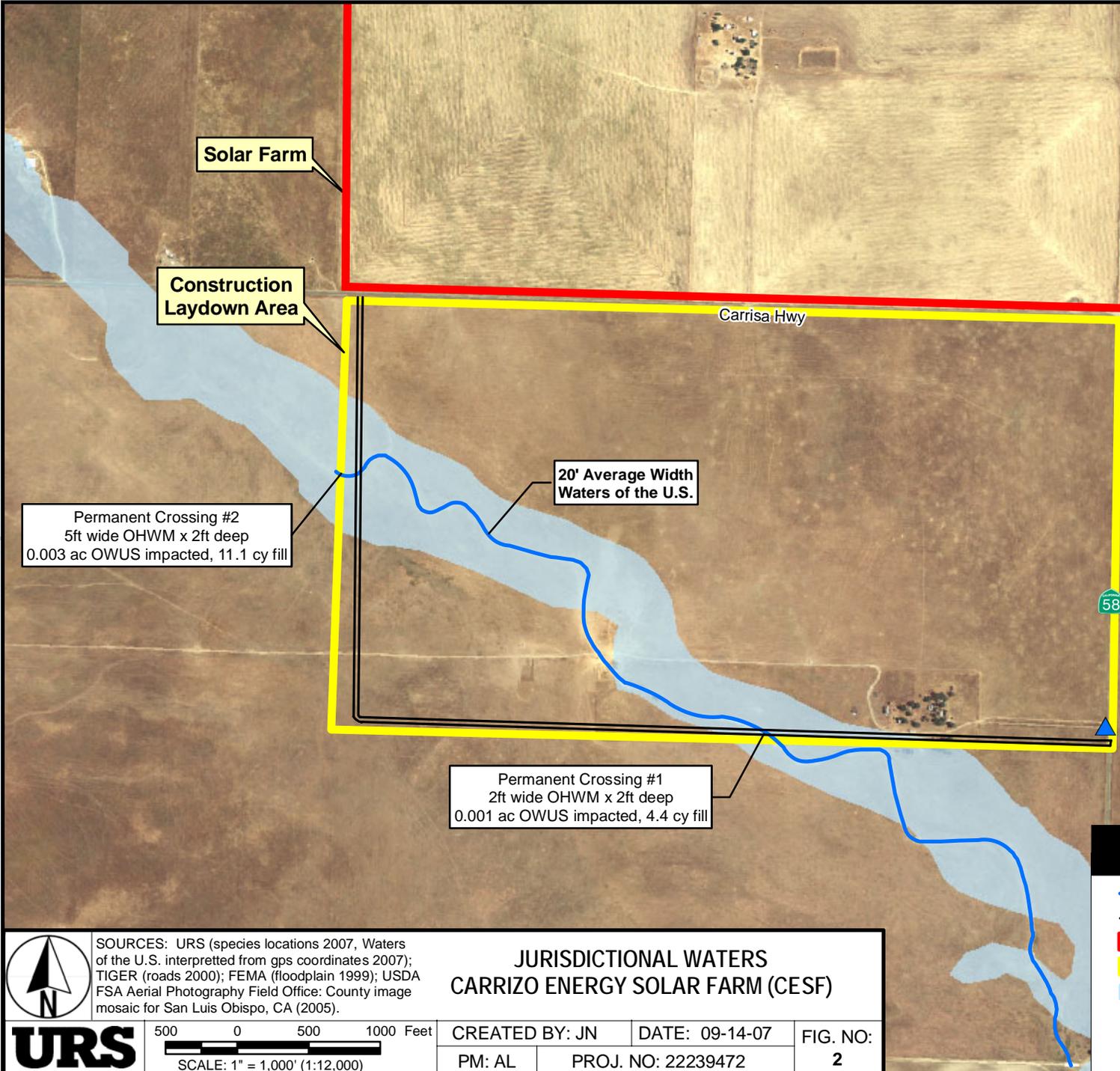
SOURCES: URS (vegetation); TIGER (roads 2000); TOPO Quad Maps (California Valley 1966, La Panza NE 1973, Simmler 1982, Las Yeguas Ranch 1973.)

**VICINITY MAP
CARRIZO ENERGY SOLAR FARM (CESF)**

	1000 0 1000 2000 Feet	CREATED BY: JN	DATE: 09-14-07	FIG. NO:
	SCALE: 1" = 2,000' (1:24,000)	PM: AL	PROJ. NO: 22239472	1

G:\gis\projects\1577\22239472\mxd\hca_permit_vicinity_map.mxd

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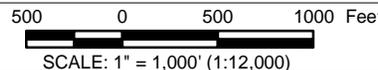
LEGEND

- Waters of the U.S.
- Proposed Roadway
- Solar Farm
- Construction Laydown Area
- FEMA Zone A (100-Year) Floodplain
- Species Locations - URS 2007
- ▲ Kit fox



SOURCES: URS (species locations 2007, Waters of the U.S. interpreted from gps coordinates 2007); TIGER (roads 2000); FEMA (floodplain 1999); USDA FSA Aerial Photography Field Office: County image mosaic for San Luis Obispo, CA (2005).

**JURISDICTIONAL WATERS
CARRIZO ENERGY SOLAR FARM (CESF)**



CREATED BY: JN	DATE: 09-14-07	FIG. NO:
PM: AL	PROJ. NO: 22239472	2



Photograph #1

Comments:
Carrizo Energy
Solar Farm Project.

Crossing #1
road/culvert
installation at
southern boundary
of Project site in
Section 3. OHHW
is approximately 2
feet wide, 2 feet
deep, with 14 foot
wide banks.



Photograph #2

Comments:
Carrizo Energy
Solar Farm Project.

View toward
northwest at
Crossing #1 in
Laydown Area of
CESF Project in
Section 33.



Photograph #3

Comments:
Carrizo Energy
Solar Farm Project.

View to southeast at
Crossing #2 on
western boundary of
Section 33. OHWM
is 5 feet wide, 2 feet
deep, with 18 foot
wide banks.



Photograph #4

Comments:
Carrizo Energy
Solar Farm Project.

View to
east/southeast at
OWUS feature on
project. OHWM at
this location is 24
feet wide with 3 foot
high banks.



Photograph #5

Comments:
Carrizo Energy
Solar Farm Project.

View of channel as
it meanders south.
OWHM is
approximately 2 feet
wide at this location.



Photograph #6

Comments:
Carrizo Energy
Solar Farm Project.

Cottonwood tree
(*Populus fremontii*)
along channel.
OHWM is 3 feet
wide and bank –to
bank width is
approximately 18
feet.



Photograph #7

Comments:
Carrizo Energy
Solar Farm Project.

Area of deeper cuts
within channel.
Deposition of bones
and other debris
apparently caused
by high-energy
water flows.



Photograph #8

Comments:
Carrizo Energy
Solar Farm Project.

View of channel
toward northwest.
Note diking
through channel.



Photograph #9

Comments:
Carrizo Energy
Solar Farm Project.

Wide portion of
channel with alluvial
riverwash substrate
and evidence of
disking through
channel, which
likely affects the
natural flow regime.



Photograph #10

Comments:
Carrizo Energy
Solar Farm Project.

18-foot wide
OWHM with
riverwash alluvial
substrate.



Photograph #11

Comments:

Carrizo Energy
Solar Farm Project.

Arizona Crossing at
southern end of
Section 33.



Terry Tamminnen
Secretary for
Environmental
Protection

State Water Resources Control Board

Division of Water Quality, Water Quality Certification Unit

1001 I Street, 15th Floor, Sacramento, CA 95814



Arnold Schwarzenegger
Governor

CLEAN WATER ACT §401 WATER QUALITY CERTIFICATION APPLICATION FORM

(Use only for multi-regional projects, otherwise use the appropriate Regional Board application form)

1. APPLICANT/AGENT INFORMATION

a) Applicant: Ausra CA II, LLC (dba Carrizo Energy, LLC)	b) Agent ¹ : URS Corporation; Attn: Theresa Miller
Address: Attn Perry Fontana 2585 East Bayshore Road Palo Alto, CA 94303	Address: 1615 Murray Canyon Road Suite 1000 San Diego, CA 92108
Phone No. 650-353-9785	Phone No. 619-294-9400
Fax No. 650-494-3893	Fax No. 619-293-7920
E-mail Address: perry@ausra.com	E-mail Address: Theresa_miller@urscorp.com
Have you previously contacted the Regional Board staff regarding this project? If 'yes' provide information on date, person, and brief summary of subject matter. No	

STATEMENT OF AUTHORIZATION

I hereby authorize URS Corporation to act in my behalf as my agent in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.

9/25/07

Applicant's Signature

Date

¹Complete only if applicable

2. PROJECT DESCRIPTION

a) Project Title: Carrizo Energy Solar Farm (CESF); Access Road and associated culverts within jurisdictional OWUS.
Project Purpose: The access road is necessary to access the entire construction 380-acre laydown area and must be sufficient to support large trucks during all weather conditions including large storm events. This access road will also be used as a turn-around onto SR 58 for large construction vehicles, and will remain in use after construction of the CESF has been completed (see Attached Draft Biological Assessment). Two permanent crossings will be required along the access road as shown in Figure 2. The permanent crossings will consist of 48-inch culverts

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

able to support the large construction machinery associated with the Project. Work is expected to start in the 2nd Quarter of 2009 and be completed in the 1st Quarter of 2012. The proposed Carrizo Energy Solar Farm (CESF or Project) and its ancillary systems will be adjacent the laydown area.

The 640-acre CESF Project site is located on one section of land adjacent to California State Route (SR) 58, in an un-incorporated area of San Luis Obispo County near the towns of Simmler and California Valley, California. The proposed CESF and its ancillary systems will consist of approximately one hundred and ninety-five Compact Linear Fresnel Reflector (CLFR) solar concentrating lines; associated steam drums; steam turbine generators (STGs); air cooled condensers (ACCs); and infrastructure producing a nominal 163 net megawatts (MWs).

c) Project Activities:

Installation of 48-inch culverts in 2 permanent crossing locations for a 9 m (30 ft) access road in the construction laydown area that is part of the larger CESF project.

Crossing No. 1 will consist of 4.4cy of fill, 0.001 acre of impact to unvegetated OWUS and Crossing No. 2 will consist of 11.1cy of fill, 0.003 acre of impact to unvegetated OWUS. Figure 2 shows details of culvert locations, Attachment A shows photographs of the drainage at crossing locations, and Attachment B is the Biological Assessment for the Section 7 Consultation with USFWS.

d) Proposed Schedule (start-up, duration, and completion dates):

Construction of the CESF, from site preparation and grading to full commercial operation, is expected to take approximately 35 months. Construction is expected to begin in the 2nd Quarter of 2009, and will continue in different phases through the 1st quarter of 2012. The solar facility is expected to begin operation no later than October 31, 2010.

Heavy construction will be scheduled to occur between 7:00 am and 7:00 pm, Monday through Friday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. Some activities will continue 24 hours per day, 7 days per week. These activities include, but are not limited to, refueling equipment, staging material for the following day's construction activities, quality assurance/control, and commissioning.

3. FEDERAL LICENSES/PERMITS

a) Federal Agency(ies)/File Number(s):
 U.S. Army Corps of Engineers Other
 File No.(s) (if known) **PENDING**

b) Permit Type(s) (please provide permit number(s) if known):
 Nationwide Permit No.(s) **14** _____ Regional General Permit No.(s) _____
 Individual Permit _____ Other _____

c) Does the project require any Federal Application(s), Notification(s) or Correspondence?
 Yes X (attach copy[ies]) No _____ (attach detailed explanation)

d) Provide copies of the license/permit/application.

4. OTHER LICENSES/PERMITS/AGREEMENTS

a) Please list all other required, including local regulatory approvals (submit final or draft copy if available). Include information on any De-watering, NPDES, and Storm Water permits.

Agency	License/Permit/Agreement	Permit No.	Approval Date
CDFG	Streambed Alteration Agreement	Application to be Submitted	
USACE	Nationwide 14 Notification	Application Submitted	
USFWS	Section 7 Consultation	ACOE to Initiate	

b) Does the project require a Federal Energy Regulatory Commission (FERC) license or amendment to a FERC license?
 No X Yes _____ (attach application copy)

5. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Indicate CEQA Document (submit final or draft copy if available*):

Type of CEQA Document	Date of filing of Notice of Exemption/ Preparation and Name of Lead Agency
Statutory Exemption/Class Title	
Categorical Exemption/Class Title	
Negative Declaration	
Mitigated Negative Declaration	
Environmental Impact Report	October, 2007 – Draft CEC AFC document

Note: Ample time must be provided to the certifying agency to properly review a final copy of valid CEQA documentation before certification can occur.

6. APPLICATION FEE

Provide an initial deposit of \$500.00 for the application. Please write a check made out to the State Water Resources Control Board.
 Is a check enclosed? Yes No. _____ Check Number _____ Amount \$ _____

7. PROJECT SITE DESCRIPTION – GENERAL (Include areas outside of US waters)

a) Project Location (attach map of suitable quality and detail):
 City or Area **Carrizo Plain, SR 58** _____ County **San Luis Obispo**

Longitude/Latitude **UTM Zone 10 WGS84: Crossing No. 1: Easting 0768170, Northing 3916728 and Crossing No. 2: Easting 07672284, Northing 3917244**

b) Total Project Size: **1020** acres _____ linear feet (if appropriate)

c) Site description of the entire project area (including areas outside of jurisdictional water of the US):
The entire Project site currently consists primarily of disturbed ranchland. The site is generally flat and slopes gently to the southwest with elevations ranging from approximately 629 m (2064 ft) to 614 m (2014 ft) above mean sea level (MSL). The project area that includes the jurisdiction water of the US is 380 acres in size.

8. WATER BODY IMPACT

a) **Water Body Name(es)**²:
 Clearly indicate on a published map of suitable detail, quality, and scale (1:24K) to allow the certifying agency to easily identify the area(s) and water body(ies) receiving any discharge.

b) **Fill and Excavation:** Indicate in ACRES and/or LINEAR FEET the proposed waters to be impacted, and identify the impacts(s) as permanent and/or temporary for each water body type listed below:

Water Body Type	Permanent Impact		Temporary Impact	
	Acres	Linear Feet	Acres	Linear Feet
Wetland ³	0		0	
Streambed (total for both crossings)	0.004		0	
Lake/Reservoir	0		0	
Ocean/Estuary/Bay	0		0	
Riparian	0		0	
Isolated Waters ⁴	0		0	

Provide the name, title, and affiliation of person that carried out wetland delineation.
Patrick Mock, PhD, Principal Scientist,; Theresa Miller, Wildlife Biologist, URS Corporation

c) **Dredging:** Volume (cubic yards) of dredged material to be discharged in waters of the United States.
Crossing No. 1: 4.4cy; Crossing No. 2: 11.1cy.

e) **SWANCC:** Is the water body isolated (SWANCC-relater)? Yes _____ No



d) Provide information on the Q₂, Q₁₀, Q₁₀₀ for pre- and post-project implementation. N/A

e) Indicate type(s) of material proposed to be discharged in waters of the United States: sand, gravel, road base, and pipe/culvert material.

² Both US Army Corps of Engineer's jurisdictional- and non-jurisdictional or isolated waters (SWANCC).

³ Per US Army Corps of Engineer's wetland delineation protocol.

⁴ SWANCC-related (isolated) water body.

9. COMPENSATORY MITIGATION (Please complete attached Mitigation Checklist)

- a) Is compensatory mitigation proposed? Yes X No
- b) Indicate in ACRES and LINEAR FEET (where appropriate) the total quantity of **waters of the United States** proposed to be Created, Restored and/or Enhanced for purposes of providing Compensatory Mitigation:

Water Body Type	Created	Restored	Enhanced	Set Aside for Protection
Wetland				
Streambed				.04
Lake/Reservoir				
Ocean/Estuary/Bay				
Riparian				
Isolated Waters				

- c) If contributing to a Mitigation Bank provide the following: **If a bank is available, then it will be utilized.**

Mitigation Bank Name:

Name of Mitigation Bank Operator:

Office Address of Operator/Phone Number:

Mitigation Bank Location (Latitude/Longitude, County, and City):

Mitigation Bank Water Body Type(s):

Mitigation Area (acres or linear feet) and cost (dollar):

- d) Provide/attach a map with suitable detail, quality, and scale (1:24K) that will easily provide information as to the location(s) and water body(ies) of the mitigation area.

10. THREATENED/ENDANGERED SPECIES

- a) Does the project require coordination with the US Fish and Wildlife Service or National Marine Fisheries Service under the Federal Endangered Species Act?

Yes X (provide copies of Biological Report) No _____ (provide basis of determination)



b) Does the project require coordination with the State of California Department of Fish and Game under the California Endangered Species Act?

Yes (provide copies of Biological Report) No (provide basis of determination)

11. OTHER ACTIONS/BEST MANAGEMENT PRACTICES (BMPs)

Briefly describe other actions/BMPs to be implemented to Avoid and/or Minimize impacts to waters of the United States, including preservation of habitats, erosion control measures, project scheduling, flow diversions, etc.

BMPs will include, but are not limited to:

- **Temporary Soil Stabilization (SS) techniques such as scheduling construction sequences to minimize land disturbance during the rainy and non-rainy seasons and employing BMPs appropriate for the season; preservation of existing vegetation by marking areas of preservation with temporary orange propylene fencing; use of geotextiles, mats, plastic covers or erosion control blankets to stabilize disturbed areas and protect soils from erosion by wind or water; use of earth dikes, drainage swales and lined ditches to intercept, divert and convey surface runoff to prevent erosion; use of outlet protection devices and velocity dissipation devices at pipe outlets to prevent scour and erosion from storm water flows, and/or use of slope drains to intercept and direct surface runoff or groundwater to a stabilized water course or retention area.**
- **Sediment Control (SC) techniques including use of silt fences, straw bales, and/or fiber rolls to intercept and slow the flow of sediment laden runoff such that sediment settles before runoff leaves the site.**
- **Wind Erosion (WE) control by applying water or dust palliatives as required to prevent or alleviate wind blown dust.**
- **Tracking Control (TC) techniques to limit track-out include stabilized points of entering and exiting the site and stabilized construction roadways on the site.**

12. PAST/FUTURE PROPOSALS BY THE APPLICANT

Briefly list/describe any projects carried out in the last 5 years or planned for implementation in the next 5 years that are in any way related to the proposed activity or may impact the same receiving body of water. Include estimated adverse impacts.

None planned.

Applicant's Signature (or Agent)

Date

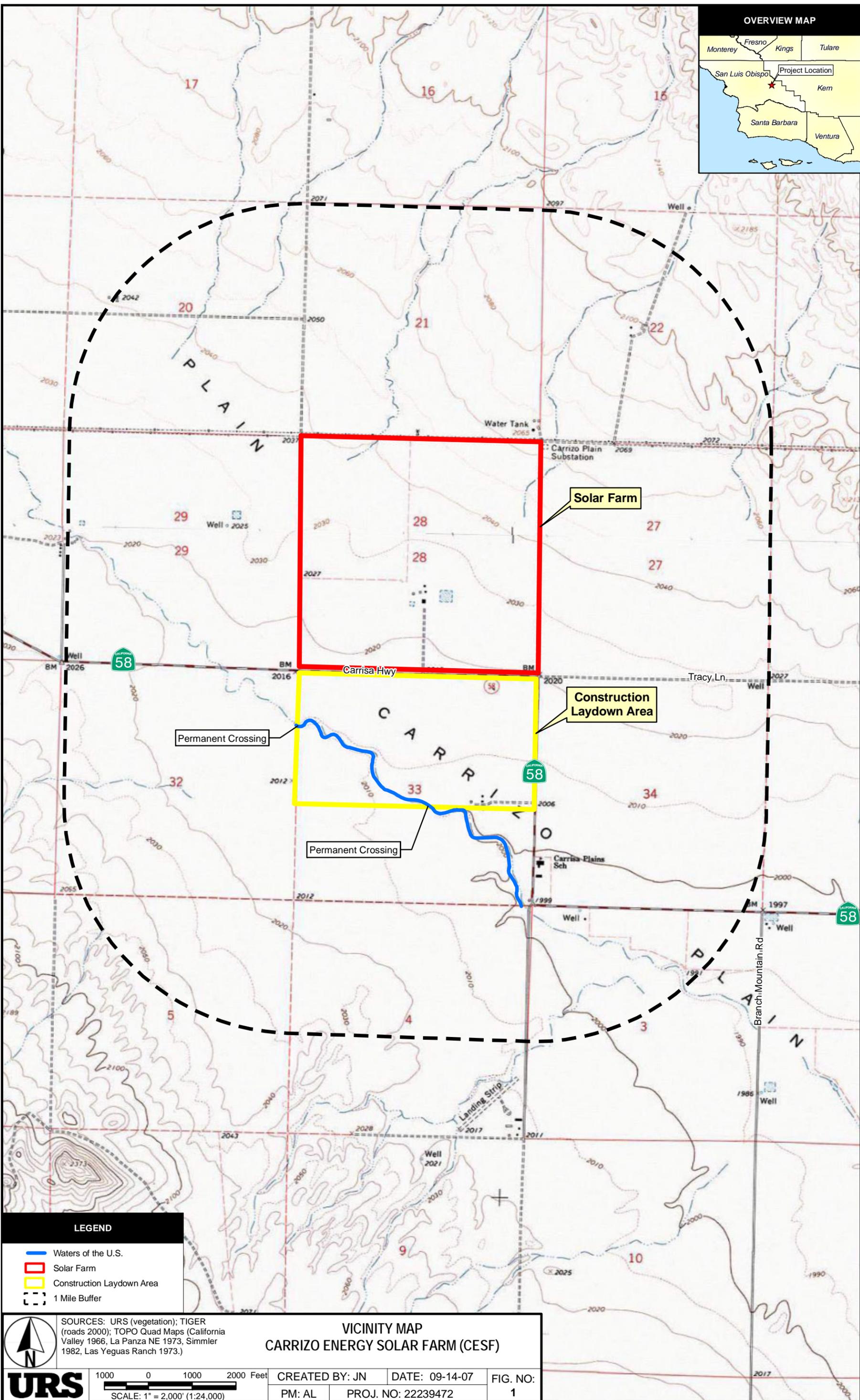
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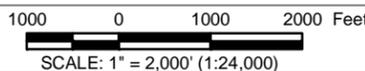


LEGEND

-  Waters of the U.S.
-  Solar Farm
-  Construction Laydown Area
-  1 Mile Buffer

SOURCES: URS (vegetation); TIGER (roads 2000); TOPO Quad Maps (California Valley 1966, La Panza NE 1973, Simmler 1982, Las Yeguas Ranch 1973.)

**VICINITY MAP
CARRIZO ENERGY SOLAR FARM (CESF)**

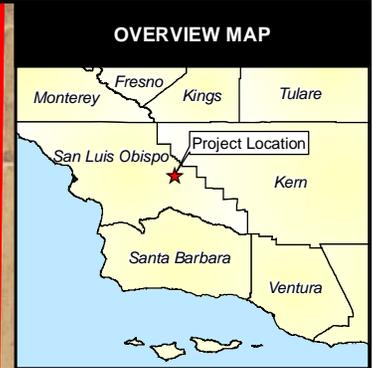
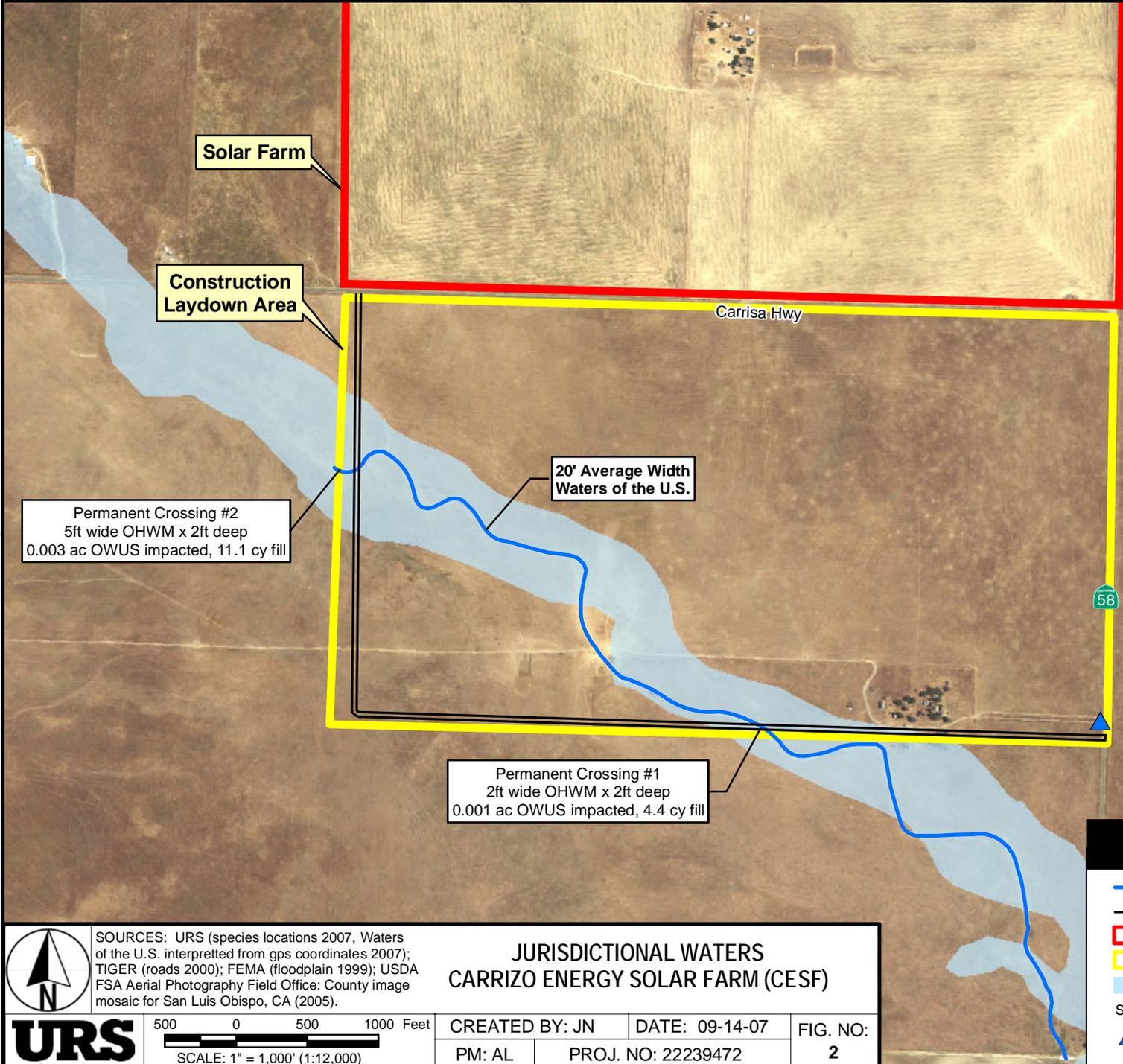


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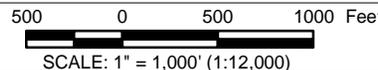
LEGEND

- Waters of the U.S.
- Proposed Roadway
- Solar Farm
- Construction Laydown Area
- FEMA Zone A (100-Year) Floodplain
- Species Locations - URS 2007
- ▲ Kit fox



SOURCES: URS (species locations 2007, Waters of the U.S. interpreted from gps coordinates 2007); TIGER (roads 2000); FEMA (floodplain 1999); USDA FSA Aerial Photography Field Office: County image mosaic for San Luis Obispo, CA (2005).

**JURISDICTIONAL WATERS
CARRIZO ENERGY SOLAR FARM (CESF)**



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This Biological Assessment and Wetland Delineation was submitted to the United States Army Corps of Engineers as part of the Section 404 Permit Application (see Appendix L-5) and to the Regional Water Quality Control Board as part of the Section 401 Certification Application (see Appendix L-6). The Carrizo Energy Solar Farm Project was confidential at the time of these submittals and the original Biological Assessment and Wetland Delineation was watermarked as such; however, the information contained within Appendix L-7 is no longer confidential and is therefore not under separate cover.

DRAFT BIOLOGICAL ASSESSMENT
AND WETLAND DELINEATION

CARRIZO ENERGY SOLAR FARM
PROJECT

Prepared for

U.S. Fish and Wildlife Service
Sacramento, California

URS Project No. 22239472.01300



Theresa Miller
Project Biologist



Patrick Mock, PhD
Senior Biologist

September 24, 2007

URS

1615 Murray Canyon Road, Suite 1000
San Diego, CA 92108-4314
619.294.9400 Fax: 619.293.7920

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Appendices

Appendix A	Results of USFWS and CNDDDB Queries
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ACC	Air cooled condenser
AFC	Application for Certification
APN	Assessor's Parcel Number
BA	Biological Assessment
BNLL	Blunt-nosed Leopard Lizard
CEC	California Energy Commission
CESF	Carrizo Energy Solar Farm
CLFR	Compact linear Fresnel reflector
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
ESA	Endangered Species Act
I-5	Interstate 5
LORS	Laws, Ordinances, Regulations, Standards
mph	miles per hour
MW	Megawatt
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
OWS	Oil Water Separator
PG&E	Pacific Gas & Electric
sf	Square feet
SJKF	San Joaquin kit fox
STG	Steam Turbine Generator
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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SECTION 1 INTRODUCTION

This Biological Assessment (BA) has been prepared for the Carrizo Energy Solar Farm (CESF or Project) and its ancillary systems pursuant to Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S. Code 1531 *et seq.*). The BA evaluates the potential direct, indirect, and cumulative effects of the proposed action on the San Joaquin kit fox (SJKF, *Vulpes macrotis mutica*), a federal endangered species. Blunt-nosed leopard lizard (BNLL, *Gambelia sila*), California condor (*Gymnogyps californianus*), giant kangaroo rat (*Dipodomys ingens*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), all federal endangered species that have the potential to occur within the Project vicinity, are absent from the Project. Vernal pool fairy shrimp (*Branchinecta lynchi*), a Federally threatened species with potential to occur within the Project vicinity is also absent from the site due to a lack of suitable habitat. A federal candidate plant species, Parish's checkerbloom (*Sidalcea hickmanii* ssp. *Parishii*) is absent due to a lack of suitable habitat.

Section 7 of the ESA directs all Federal agencies to use their existing authorities to conserve threatened and endangered species and, in consultation with the Secretary (i.e., U.S. Fish and Wildlife Service [USFWS] and/or National Marine Fisheries Service [NMFS]) to ensure that any action authorized, funded, or carried out by such agency does not jeopardize listed species or destroy or adversely modify critical habitat. Section 7 applies to management of Federal lands as well as other Federal actions that may affect listed species such as Federal approval of private activities through the issuance of Federal permits, licenses, or other actions. This document identifies the potential environmental biological effects that may result from implementation of the construction and operation of the proposed Project.

1.1 PROJECT DESCRIPTION

1.1.1 Facility Location

The Project area comprises a total of approximately 1,020 acres and is located in the Carrizo Plain area of the South Coast Ranges, within central eastern San Luis Obispo County. More specifically, the Project area is located entirely within Sections 28 and 33 of Township 29 South, Range 18 East of the California Valley and La Panza NE United States Geological Survey (USGS) 7.5-minute series quadrangle maps. The Project area lies within the San Joaquin Valley Bioregion, near the eastern boundary of the Central Coast Bioregion. The Project area and vicinity is dominated by agricultural land uses including grazing and cultivation of crops. The proposed CESF site and laydown areas consist primarily of chronically disturbed rangeland with abandoned farm structures in Sections 28 and 33 (Figure 1). The topography of the site is generally flat, gently sloping northwest to southwest with elevations ranging from approximately 2065 feet to 2016 feet above mean sea level (MSL).

1.1.2 Facility Description

The proposed solar farm will incorporate Ausra's proprietary Compact Linear Fresnel reflector (CLFR) technology to concentrate solar energy onto water pipes in an elevated receiver. The concentrated solar energy boils water within a row of specially coated stainless steel pipes in an insulated cavity to produce saturated steam. The steam produced in the receivers is collected in a series of pipes, routed to steam

drums, and then to the two steam turbine generators (STGs). Steam used by the steam turbines is condensed in two air cooled condensers (ACCs) and returned to the solar field.

The Project will include the construction of a new 230 kV switchyard located between the two STGs. Untreated raw water for the Project will be obtained from groundwater via an existing on-site well. The design of the Project minimizes use and maximizes the recovery of process water. Blowdown and oil water separator (OWS) clear discharge are routed to the on-site raw water storage tank for reuse. Stormwater will be collected on site and directed to swales and detention areas for percolation into the ground. The sanitary system will consist of a buried septic tank and sanitary leach field.

The STGs will generate electricity at 13.8 kV. To provide transmission level capability, the electricity generated will be stepped up using two (2) 13.8/230 kV Generator Step-Up (GSU) transformers. A new single-circuit 230 kV overhead transmission line will interconnect the facility with PG&E's existing Midway Substation by looping into the existing Morro Bay – Midway 230 kV line located north and adjacent to the CESF site. Total generating capacity for the Project is a nominal 163 net megawatts (MWs).

1.2 PURPOSE AND NEED

The goal and objective of this Project is to generate and sell clean, renewable, solar-powered electricity in accordance with the contractual requirements of the utility purchasing the power and the legal and regulatory requirements of the state of California.

To remain in compliance with renewable portfolio standards (RPS) set forth under California law (SB 1078, Sher, Chapter 516, Statutes of 2002), California utilities must procure 20 percent of the energy they provide customers in 2010 from qualifying renewable energy sources. Currently, the Public Utilities Commission is considering ways to achieve 33 percent renewable energy by 2020. The RPS program requires the California Public Utilities Commission (CPUC) to work collaboratively with the California Energy Commission to implement the RPS and assigns specific roles to each commission. To achieve this challenging target, California utilities have recently undertaken several parallel renewable power procurement processes (e.g., competitive bidding, bilateral negotiations, joint venture development, expansion of existing facilities, etc.) to obtain renewable power at the most advantageous price and terms available. History of Consultation to Date

Consultation with the USFWS has been limited to meetings and discussions between the Project Applicant and Service staff as part of the CEC Application for Certification (AFC) process. The ACOE must consult as part of their Section 404 permitting process.

SECTION 2 PROPOSED ACTION

2.1 FACILITIES DESCRIPTION

2.1.1 Overview

The CESF will consist of CLFR solar concentrators, steam drums and two STGs, and associated air cooling systems. When completed, the CESF will produce 1.14 million kg/h (2.52 million lbm/h) of 49.6 bar (720 psia) dry saturated steam, sufficient to power the two 93 MW (gross) steam turbines.

2.1.1.1 Proposed CESF site on Section 28

The CESF solar farm site will be situated on approximately 640 acres within Section 28 of Township 29 South, Range 18 East of the California Valley and La Panza NE USGS 7.5-minute series quadrangle maps. The CESF includes the construction and operation of a solar power generating facility and its ancillary systems and will consist of approximately one hundred ninety-five Compact Linear Fresnel reflector (CLFR) solar lines, associated steam drums, steam turbine generators (STGs), air cooled condensers, and infrastructure producing a nominal 163 net megawatts (MWs). The entire CESF site will be fenced. The CESF site is located north of California State Route 58 (SR 58)/Carrisa Highway, approximately 26 miles west of Interstate 5, and approximately 39 miles east of Highway 101.

Access Road: The CESF site will utilize Tracy Lane, an existing dirt road, as an access road. Tracy Lane is located south of Section 27 and north of Section 34. Access to the proposed CESF site will be provided by one new gate located at the northeastern corner of Section 28.

Linear Facility Route: The Project site is adjacent to an existing 230 kilovolt (kV) transmission line operated by Pacific Gas & Electric (PG&E). The CESF transmission system will require construction of approximately 850 ft of 230 kV transmission line. The CESF transmission line extends from the Project site switchyard to a point along PG&E's Morro Bay–Midway right-of-way (ROW). The overhead line is approximately 850 ft long, beginning at the dead-end structure in the switchyard. The line continues east along the northern edge of Section 28 for approximately 700 ft, then north for 150 ft to interconnect with the existing PG&E Morro Bay–Midway 230 kV Transmission Line 1. The transmission line is within the Project site boundary except for a 90 ft long segment that connects to the PG&E tower. The existing transmission lines traverse east-west along the northern boundary of Section 28 of Township 29 South, Range 18 East of the La Panza NE USGS 7.5-minute series quadrangle maps.

2.1.1.2 Construction Laydown Area on Section 33

The 380-acre (5,280 ft x 3,000 ft) primary construction laydown and parking areas will be adjacent to the Project site south of SR 58 on the northern half of Section 33. The southeastern portion of the construction laydown area will consist of several temporary construction facilities, including site offices, restrooms, meal rooms, and conference rooms, employee parking, vehicle marshalling area, and an access road that twice crosses a drainage bisecting the laydown area. These facilities are located in proximity to the southeastern entrance to the laydown area from SR 58 to provide ease of access to employees and site visitors from the highway.

Fueling Station: A temporary fueling station will be constructed in the southwestern portion of the laydown area. Vehicles to be refueled will park on a paved surface adjacent to the temporary storage tank. For those few vehicles unable to traverse to the designated refueling location, a refueling truck will be used. The refueling truck will be equipped with spill prevention and cleanup items.

Staging Areas: The northwestern portion of the construction laydown area will contain a staging area, located adjacent to the northwestern entrance to the laydown area from SR 58 and in proximity to the solar farm to the north. Material storage areas, including storage for mirrors, steel, and footings will be constructed around the staging area. Equipment storage areas will be constructed south of the material storage areas. A restroom facility will also be located in the staging area. The northeastern portion of the construction laydown area will contain a large assembly area to accommodate assemblage of the components of the CESF. Each row of reflectors is composed of four segments of six 16 m x 2.25-m (52.5 ft x 7.5 ft) reflectors that are assembled together. The assembly area is located near the staging area to facilitate transportation of the rows to the solar farm as they are completed.

Workers Parking: The CESF site will utilize a workers construction parking area within the construction laydown area. However, the majority of construction workers will be transported to the site via bus.

Access Road: A 9 m (30 ft) wide access road will extend along the western and southern sides of the construction laydown area to provide access to the various areas within the construction laydown area. This access road will also act as a turn-around onto SR 58 for large construction vehicles. Two permanent crossings of an OWUS that bisects the construction laydown area will be required along the access road. The permanent all-weather crossings will consist of 48-inch culverts able to support the large construction machinery associated with the Project. The crossings are discussed further in Section 3.8.2.

Site preparation: The primary construction laydown area is nearly level and thus requires little grading. Pads will be prepared for setting the trailers housing the temporary construction facilities (offices, restrooms, meal rooms, meeting and conference rooms, etc.). The soil in the laydown area will be covered with protective gravel along the access roadways, parking, and vehicle marshalling areas or with construction material on dunnage in the material storage areas so that soil losses will be negligible. In the areas to be restored after their use as temporary construction access and laydown areas, geotech fabric and gravel will be removed and shallow swales and/or depressions will be created for revegetation.

2.2 PROJECT CONSTRUCTION

Construction of the CESF, from site preparation and grading to full commercial operation, is expected to take approximately 35 months. Major milestones are listed in Table 1. Heavy construction will be scheduled to occur between 7:00 am and 7:00 pm, Monday through Friday. Additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. Some activities will continue 24 hours per day, 7 days per week. These activities include, but are not limited to, refueling equipment, staging material for the following day's construction activities, quality assurance/control, and commissioning.

Table 1
Project Schedule Major Milestones

Activity	Date
Begin Construction	2 nd Quarter 2009
Start Up and Commissioning: Steam Field #1	1 st Quarter 2011
Start Up and Commissioning: Power Block #1	3 rd Quarter 2011
Start Up and Commissioning: Steam Field #2 & Power Block #2	1 st Quarter 2012

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SECTION 3 ENVIRONMENTAL BASELINE

3.1 METHODS FOR EVALUATION

Biological field surveys were conducted by URS Corporation Americas (URS) and Live Oak Associates (LOA) biologists between April and September, 2007, according to California Energy Commission (CEC) regulations (CEC, 2000, revised 2007), California Department of Fish and Game (CDFG), and United States Fish and Wildlife Service (USFWS) protocols for surveys of special-status species. The Project area is defined as the area that could potentially be directly or indirectly impacted during Project construction and operation, and includes the solar plant site, construction laydown and parking areas, access road construction, and transmission line connection. The Project survey area includes the Project area and an assessment buffer of a one-mile radius surrounding the CESF and 90-foot long transmission line segment where field surveys were conducted for botanical and wildlife resources.

Prior to conducting field surveys, a review of literature was performed, including a query of the California Native Plant Society (CNPS), Inventory of Rare Plants Database, and the CDFG California Natural Diversity Database (CNDDDB) to identify special-status species previously documented within the Project survey area and vicinity. The CNDDDB was queried for records of special-status species in the California Valley and La Panza NE USGS 7.5-minute quadrangles (CDFG, 2007), and the species list for the County of San Luis Obispo was obtained from the Ventura USFWS office website (USFWS, 2007). The results of the query and the USFWS List are provided in Appendix A. The federal listed species with potential to occur in the Project study area are discussed below and in Table 2. In addition, the USFWS Recovery Plan for Upland Species of the San Joaquin Valley (USFWS, 1998) was reviewed.

Table 2
Federal Listed Species Potentially Occurring at the CESF Site and Vicinity

Common Name	Scientific Name	Status ¹	Potential for Occurrence on CESF
Wildlife			
Blunt-nosed leopard lizard	<i>Gambelia sila</i>	FE, SE, CDFG Fully Protected	Absent. Habitat is marginal; closest record is greater than 9 miles away. Species not detected during adult and juvenile protocol surveys in 2007.
California condor	<i>Gymnogyps californianus</i>	FE, SE	Absent. No roosting or foraging habitat in CESF Project survey area and vicinity.
Giant kangaroo rat	<i>Dipodomys ingens</i>	FE, SE	Absent. Habitat is marginal; no sign or burrows found during intensive transects surveys of both Sections 28 and 33.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE, ST	Detected in CESF Project study area and vicinity. No den habitat present onsite or vicinity.
Tipton kangaroo rat	<i>Dipodomys nitratooides nitratooides</i>	FE, SE	Absent. Habitat is marginal. No sign or burrows found during intensive transect surveys of both Sections 28 and 33.

Table 2
Federal Listed Species Potentially Occurring at the CESF Site and Vicinity
(Continued)

Common Name	Scientific Name	Status ¹	Potential for Occurrence on CESF
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	Absent. No habitat present on CESF site.
Plants			
Parish's checkerbloom	<i>Sidalcea hickmanii</i> ssp. <i>Parishii</i>	Federal Candidate; State Rare; CNPS - 1B.2	Absent. Site is disturbed with chronic agricultural use including disking.

Notes:

¹ U.S. Fish and Wildlife Service (federal).

FE = Endangered (in danger of becoming extinct throughout all or a significant portion of its range).

FT = Threatened (likely to become endangered in the foreseeable future in the absence of special protection).

FC = Federal Candidate (candidate for FT or FE listing).

FSC = Species of Concern (sufficient information exists which warrants concern over that species' status and warrants study).

CDFG = California Department of Fish and Game (State).

SE = Endangered (in danger of becoming extinct throughout all or a significant portion of its range).

SC = State Candidate (candidate for SE or State threatened [likely to become endangered in the foreseeable future in the absence of special protection]).

CSC = Species of Concern (information exists which warrants concern over that species' status and warrants study).

3.2 ENVIRONMENTAL SETTING

The Project area is characterized by ranching activities for cattle (e.g., grazing, rangeland) and the cultivation of agricultural products such as wheat. All of the Project study area and surrounding landscape has been chronically disturbed by extensive dry-land agricultural practices, including seasonal plowing and disking, and the landscape/topography does not generally resemble a natural condition. Both sections within the Project study area have extensive fencing to control movement of cattle and to control public access to the properties.

3.3 VEGETATION COMMUNITIES

No native plant communities are present within the Project. The observed habitats in the Project study area are disturbed in nature and include developed, disturbed and agricultural vegetation communities as defined by Holland. The plant species on the Project are primarily non-native annuals such as low-growing redstem filaree (*Erodium cicutarium*), popcorn flower (*Plagiobothrys* sp.), mustards (*Hirschfeldia* sp., *Brassica* sp.), and chess (*Bromus* sp.) species present throughout the Project study area except where it is bare due to recent plowing activities. Few native individuals such as needlegrass (*Nasella cernua*) and California poppy (*Eschscholzia californica*) are interspersed with the disturbance-adapted non-native species on the CESF.

3.4 FEDERAL PLANT SPECIES

No federal listed plant species were observed during the field survey and there are no records in the CNDDDB or USFWS databases within the Project survey area. A federal candidate plant species, Parish's checkerbloom (*Sidalcea hickmanii* ssp. *Parishii*), is absent due to a lack of suitable habitat.

3.5 COMMON WILDLIFE DETECTED

The CESF project study area provides limited habitat to support wildlife species as a result of the chronic disturbance caused by the historical and current extensive dry-land agricultural and grazing activities. Within the 1,020 acres of the CESF site study area, nineteen species of birds, four reptile species and six mammal species were observed or their sign was detected. Typical bird species observed included house finch (*Carpodacus mexicanus*), western kingbird (*Tyrannus verticalis*), western meadowlark (*Stunella neglecta*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), turkey vulture (*Cathartes aura*), and American kestrel (*Falco sparverius*). Coyote (*Canis latrans*), California ground squirrel (*Spermophilous beecheyi*), cottontail rabbit (*Sylvilagus audubonii*), and American badger (*Taxidea taxus*) were common mammals observed or detected throughout the CESF site. Cattle (*Bos taurus*) were grazing on Section 33 during the survey period. Pronghorn (*Antilocapra americana*) are common in the vicinity and were observed in the southern portion of Section 33. A red-tailed hawk nest was observed in a cottonwood tree (*Populus fremontii*) along the drainage located in Section 33 near the highway. Common raven nests were observed on the power line towers along the northern boundary of Section 28, and barn owls were observed and most likely nesting in an abandoned structure in Section 28.

3.6 FEDERAL WILDLIFE SPECIES

The CNDDDB and USFWS queries listed 6 federally-listed wildlife species as historically present and potentially occurring in the overall Project vicinity. Figure 2 displays the results of the CNDDDB database query. Those species are: giant kangaroo rat, Tipton kangaroo rat (Federal), California condor (Federal Endangered), blunt-nosed leopard lizard (Federal Endangered), San Joaquin kit fox (Federal Endangered), and vernal pool fairy shrimp (Federal Threatened). Most of these federal listed species records are located south and north of the CESF Project study area within the undisturbed natural habitat areas of the Carrizo Plain, and are not expected to occur in the Project study area due to lack of suitable habitat. Blunt-nosed leopard lizard have been recorded nearly 10 miles from the CESF project vicinity and thus have a low to moderate potential to occur in the Project study area. Intensive protocol surveys for blunt-nosed leopard lizard that were conducted from April 2007 – September 2007 were negative. A carcass of a San Joaquin kit fox was detected in the construction laydown area of the Project during the BNLL surveys. SJKF is the only federal listed species detected during the Project surveys. Therefore, only SJKF will be discussed further in this document.

3.7 ENDANGERED SPECIES DESCRIPTION

3.7.1 San Joaquin Kit Fox (*Vulpes macrotis mutica*)

Status: SJKF was listed as Federally Endangered on March 11, 1967 (32 CFR 4001) and listed as State Threatened on June 27, 1971. Critical habitat has not been designated. A Recovery Plan was developed in

1983 (UFSWS 1983). This species is also addressed in the Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998).

The San Joaquin kit fox historically ranged throughout the San Joaquin Valley from Contra Costa County in the north to northern Santa Barbara County in the south. Currently the kit fox still has a wide distribution; however, kit fox numbers are greatly reduced, and populations are isolated from one another. Kit foxes primarily live in grassland and to a lesser extent, shrub, and agricultural habitats. Kit foxes predominantly eat rodents, ground squirrels, rabbits and hares, and ground-nesting birds. Kit fox pups are born in late winter and early spring, and the male provides most of the food for the female while she is nursing. Kit foxes change dens frequently, and often enlarge existing ground squirrel burrows in order to make new dens. Predation or competitive exclusion of kit foxes may occur in the presence of coyotes, introduced red foxes, domestic dogs, bobcats, and large raptors. Human threats to kit fox include destruction of habitat, habitat degradation, predators, pest control programs, and accidents caused by proximity to humans such as electrocution, roadkill, and suffocation from accidental burial in dens. Finally, natural factors such as drought, flooding, and rabies cause a significant percent of kit fox deaths. The San Joaquin kit fox is currently listed as an endangered species by both the federal government and the state of California (USFWS, 1998). The nearest CNDDDB record of San Joaquin kit fox to the Project area is less than 1 mile west of the Project area. A road-killed kit fox was observed within Section 33 near the highway in August 2007. Kit fox apparently move through the project vicinity; however, no kit fox dens were detected in the Project study area during the 2007 surveys. California ground squirrel are present on the CESF project site and are most likely important prey for kit fox in the area.

3.8 JURISDICTIONAL WATERS

A formal jurisdictional waters delineation per Army Corps of Engineers (ACOE) protocols was conducted as part of this assessment. Waters of the United States (U.S.), including wetlands, subject to jurisdiction pursuant to Section 404 of the Clean Water Act (CWA) were identified using methods describe by the ACOE (1987). Non-wetland waters of the U.S. were delineated based on the presence of an ordinary high water mark (OHWM) as defined at 33 CFR 328.3(e). The OHWM is defined as:

“The term ‘ordinary high water mark’ means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”

3.8.1 Methodology

A formal jurisdictional waters delineation for the Project was conducted by URS biologists Dr. Patrick Mock and Ms. Theresa Miller on June 18, 2007, to document the extent of jurisdictional waters on the CESF. Hydrological and vegetation conditions were evaluated along the length of an identified drainage channel (indicated as a “blue-line stream” on the USGS topo map), in Section 33 of the Project study area. Width measurements were taken at periodic points within the channel, drawn onto an aerial map, and recorded using a handheld GPS unit. Channel measurements were also taken at the specific locations of the proposed road-crossings.

3.8.2 Jurisdictional Delineation Results

An OHWM was observed along the entire length of the drainage channel located in the center of Section 33, as depicted on Figure 3. This channel has a well-defined streambed and banks with an approximate average width of 20 feet, (range: 3 feet to 24 feet wide). In addition, the channel is located within the FEMA 100-year floodplain (Figure 3). It is apparent that the entire channel has been disturbed by the agricultural practices of disking, plowing, and seeding over the decades (see site photos); however, the channel path is apparent throughout its length and maintains a distinct OHWM through Section 33 of the Project area. There are distinct areas along the channel that show evidence of scour, pooling, and high flow during large storm events, as well as deposition of alluvial soils and debris from these heavy flows. This channel does not support wetland vegetation as defined by the ACOE or CDFG, nor does it support wetland characteristics (i.e., hydric soils are absent) at any point within or adjacent to the OHWM.

Two channel crossings are proposed.

- The width of the OHWM of Crossing No. 1 at the southern boundary of the Project site in Section 33 is 5 feet wide with banks that are 18 feet across and 2 feet deep. This portion of the channel is more distinct than Crossing No. 2, which is located at the western boundary of Section 33.
- The width of the OHWM Crossing No. 2 is 2 feet, with a bank-to-bank width of 14 feet and 2 feet deep.

Table 3
Details of Jurisdictional Waters to be Disturbed on CESF Construction Laydown Site

Channel Feature	Crossing No. 1	Crossing No. 2
Length	30 feet	30 feet
Width of OHWM	5 feet	2 feet
Bank-to-bank Width	18 feet	14 feet
Depth	2 feet	2 feet
Cubic Yards of Fill	4.4	11.1
Acreage of Disturbance to Jurisdictional Waters	0.001	0.003

SECTION 4 EFFECTS DETERMINATION

4.1 FACTORS CONSIDERED

This section includes the analysis of the direct, indirect, and cumulative effects of the proposed action on SJKF. The analysis identifies the Project features and/or activities that are anticipated to adversely impact the species, and when feasible, quantifies such impacts. Direct effects are defined as actions that may cause an immediate effect on the species or its habitat, including the effects of interrelated actions and interdependent actions. Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the proposed project. Permanent impacts were calculated as the physical ground disturbance area covered by new fill or cut sections that result from project implementation and construction.

The permanent loss of 640 acres of disturbed agricultural lands likely utilized by San Joaquin kit fox in the CESF project site is considered significant and would be mitigated per the USFWS and San Luis Obispo County guidelines.

Construction of the temporary facilities in Section 33 will result in temporary impacts to 380 acres of agricultural land utilized by SJKF. Effects of the construction activities include displacement (temporary or permanent) from suitable habitat within the Project area; potential incidental mortality (roadkill), disturbance from noise, vibration, air emissions, and light; and modification of localized movement and foraging opportunities.

4.1.1 Cumulative Impacts

Federal regulations implementing the National Environmental Policy Act (NEPA) (40 CFR 1508.7) define a cumulative impact as “the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” However, unlike NEPA, under Section 7 of the ESA, cumulative effects analyses are limited to future State and private actions that are reasonably certain to occur within the action area prior to the completion of the Federal project. For Section 7 consultations, the cumulative impacts should not include future Federal actions (e.g., undertakings that require federal authorization or federal funding) because they are actions that themselves would be subject to the restraints of Section 7 at some later date. Indicators of “reasonably certain” projects must show more than the possibility that the non-federal project would occur. They must demonstrate with reasonable certainty that it would occur. Accordingly, only those State or private projects that satisfy all major land use requirements and that appear to be economically viable are considered. Cumulative effects involve only future non-Federal actions: past and present impacts of non-Federal actions are part of the environmental baseline. The following subsections identify and describe potential cumulative effects that could result from the CESF project in combination with other reasonably foreseeable future non-Federal actions or natural events in or near the project area.

The CESF and other projects in the vicinity are not expected to result in significant cumulative impacts to environmental resource areas, including, but not limited to, air quality, land use, cultural resources, water

resources, or traffic during the construction or operation phases. All existing and proposed projects can be characterized primarily as residential development (i.e., new single-family dwellings and mobile homes). Of the 41 projects with permit applications submitted since January 2000, only 6 projects proposed new residential construction (i.e., single-family dwellings). The remaining 35 projects include minor construction projects such as individual manufactured and mobile home permits, mobile home foundations, carport additions, roof replacements, deck additions, and residential renovations. Further, some of the listed projects have permits that have since expired since their issuance and thus, can be dismissed from this cumulative impact analysis.

The closest permitted project is located approximately 0.5-mile to the west of the CESF site and includes the addition of a mobile home. In addition, all permitted projects within 2.0-miles of the CESF site include manufactured and mobile home permits and/or mobile home foundations. All other proposed projects are located over 2.0-miles from the Project site. Thus, as mentioned above, no significant cumulative impacts have been identified as a result of the construction, operation, maintenance, or long-term presence of the CESF and other projects in the area. For further discussion of cumulative impacts, see section 5.18, Cumulative Impacts.

Potential cumulative impacts to SJKF caused by the construction of one solar farm in the area will include loss of habitat. Because the surrounding area is either disturbed grassland habitat or existing agricultural land uses, no disruptions to movement corridors of SJKF are expected to occur. In addition, because the CESF is located within a large area of disturbed habitat, cumulative impacts to SJKF would not cause significant adverse effects on SJKF.

4.1.2 Determination of Effect

In summary, construction and long-term operations will cause permanent loss of 640 acres of movement and foraging habitat for SJKF within the Project vicinity. In addition, 380 acres of SJKF habitat would be temporarily lost in the construction laydown area. In consideration of the aforementioned analysis, USFWS has determined the proposed Project will adversely affect the San Joaquin Kit Fox. Potential incidental take would include the harassment of an unknown number of individuals of SJKF and the potential for incidental mortality due to roadkill events.

4.2 MITIGATION/CONSERVATION MEASURES

To compensate for the potential impacts to 640 acres of SJKF-occupied agricultural lands, CESF will either purchase land suitable for kit fox and burrowing owl to be set aside as a conservation easement, or purchase 640 conservation credits, where one credit equals one acre, at a Service-approved mitigation bank that includes the CESF facility in its service area.

Standard Construction Best Management Practices would include:

1. Project-related vehicles should observe a 20-miles per hour (mph) speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction should be minimized. Off-road traffic outside of designated project areas should be prohibited.

2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 12 of this section must be followed.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. To prevent harassment, no pets should be permitted on project site.
7. Use of rodenticides and herbicides in project area should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of proven lower risk to kit fox.
8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped individual. The representative will be identified during the employee education program. The representative's name and telephone number shall be provided to the Service.
9. An employee education program should be conducted for any project that has expected impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and agency personnel involved in the project. The program should include the following: a description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the ESA; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet

conveying this information should be prepared for distribution to the above-mentioned people and anyone else who may enter the project site.

10. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for advice.
11. Any contractor, employee, or military or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the USFWS immediately in the case of a dead, injured or entrapped kit fox. They will contact the local warden or biologist.
12. The Sacramento Fish and Wildlife Office will be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Assistant Field Supervisor of the Division of Endangered Species.

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SECTION 5 PREPARERS AND REVIEWERS

URS prepared this BA for, and under direction of the USFWS. A list of the professional members on the BA team is provided below.

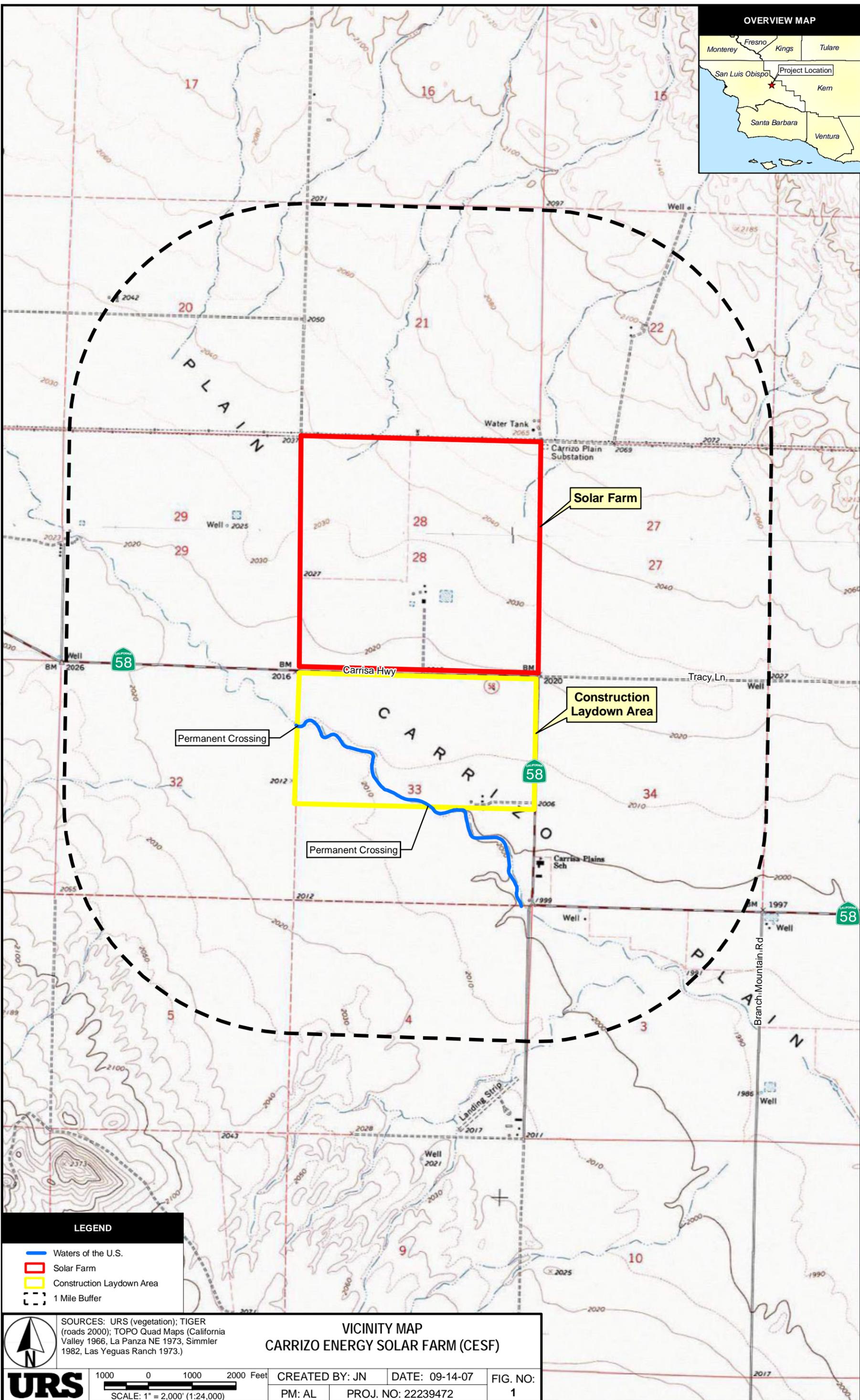
<u>URS Corporation</u>	
Patrick Mock, PhD	Senior Biologist 28 years of experience
Theresa Miller	Biologist 8 years of experience

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SECTION 6 REFERENCES

- California Department of Fish and Game (CDFG). 2007. California Natural Diversity Data Base. Internet website: <http://www.dfg.ca.gov/bdb/html/cnddb.html>.
- California Energy Commission. 2007. Rules of Practice and Procedure and Plant Site Certification Regulations.
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- U. S. Geological Survey, 7.5 Minute Topographic Maps for California Valley and La Panza NE, California Quadrangles.
- Warrick, G.D. and B.L. Cypher. 1998. Factors affecting the spatial distribution of a kit fox population. *Journal of Wildlife Management* 62:707-717.

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LEGEND

-  Waters of the U.S.
-  Solar Farm
-  Construction Laydown Area
-  1 Mile Buffer

SOURCES: URS (vegetation); TIGER (roads 2000); TOPO Quad Maps (California Valley 1966, La Panza NE 1973, Simmler 1982, Las Yeguas Ranch 1973.)

**VICINITY MAP
CARRIZO ENERGY SOLAR FARM (CESF)**



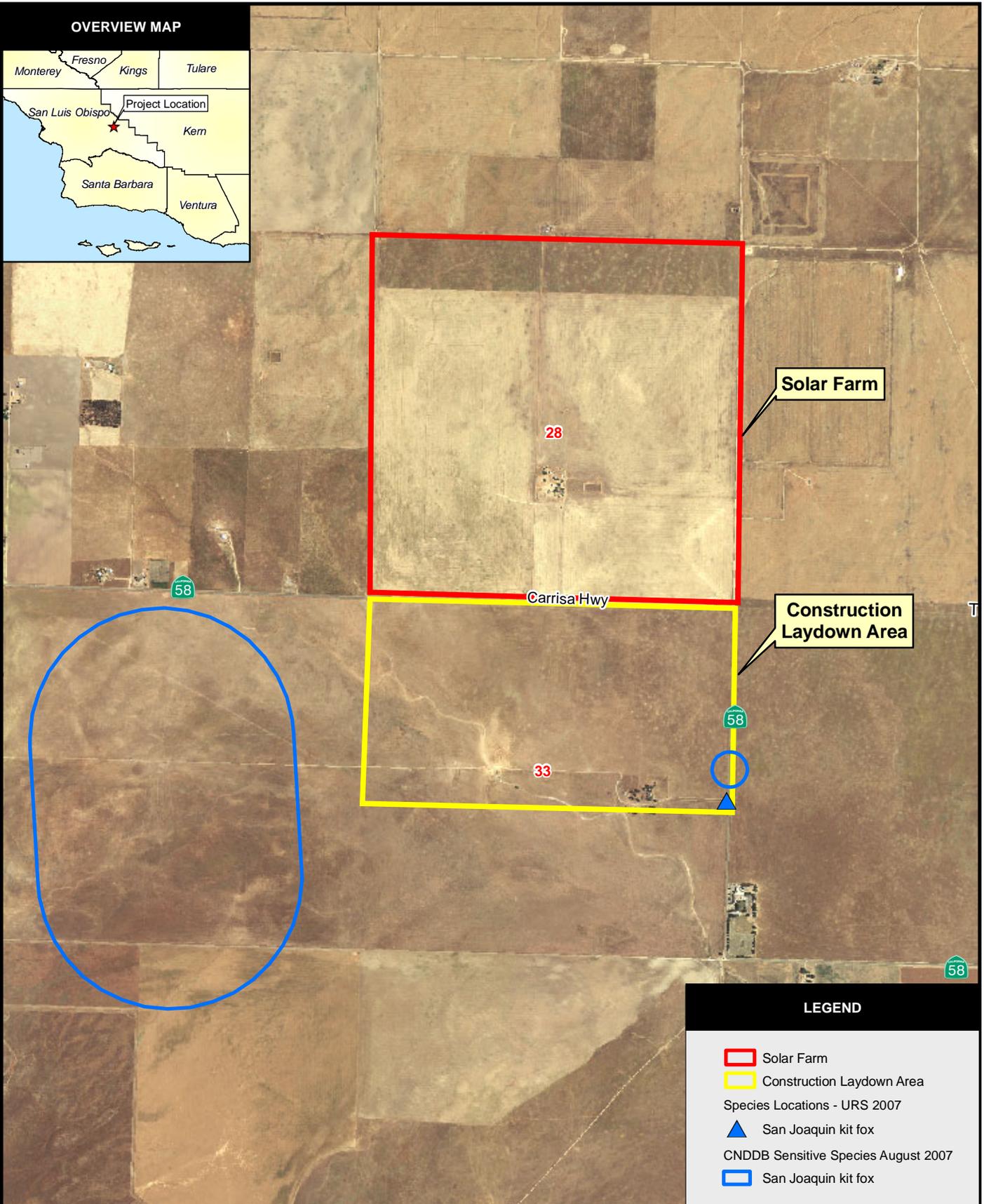
1000 0 1000 2000 Feet
SCALE: 1" = 2,000' (1:24,000)

CREATED BY: JN
PM: AL

DATE: 09-14-07
PROJ. NO: 22239472

FIG. NO:
1

OVERVIEW MAP



Solar Farm

Construction Laydown Area

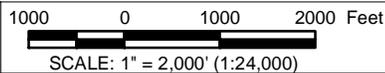
LEGEND

- Solar Farm
- Construction Laydown Area
- Species Locations - URS 2007
- ▲ San Joaquin kit fox
- CNDDDB Sensitive Species August 2007
- San Joaquin kit fox



SOURCES: CNDDDB (sensitive species August 2007); USDA FSA Aerial Photography Field Office: County image mosaic for San Luis Obispo, CA (2005).

**SPECIAL-STATUS SPECIES LOCATIONS
CARRIZO ENERGY SOLAR FARM (CESF)**



CREATED BY: JN

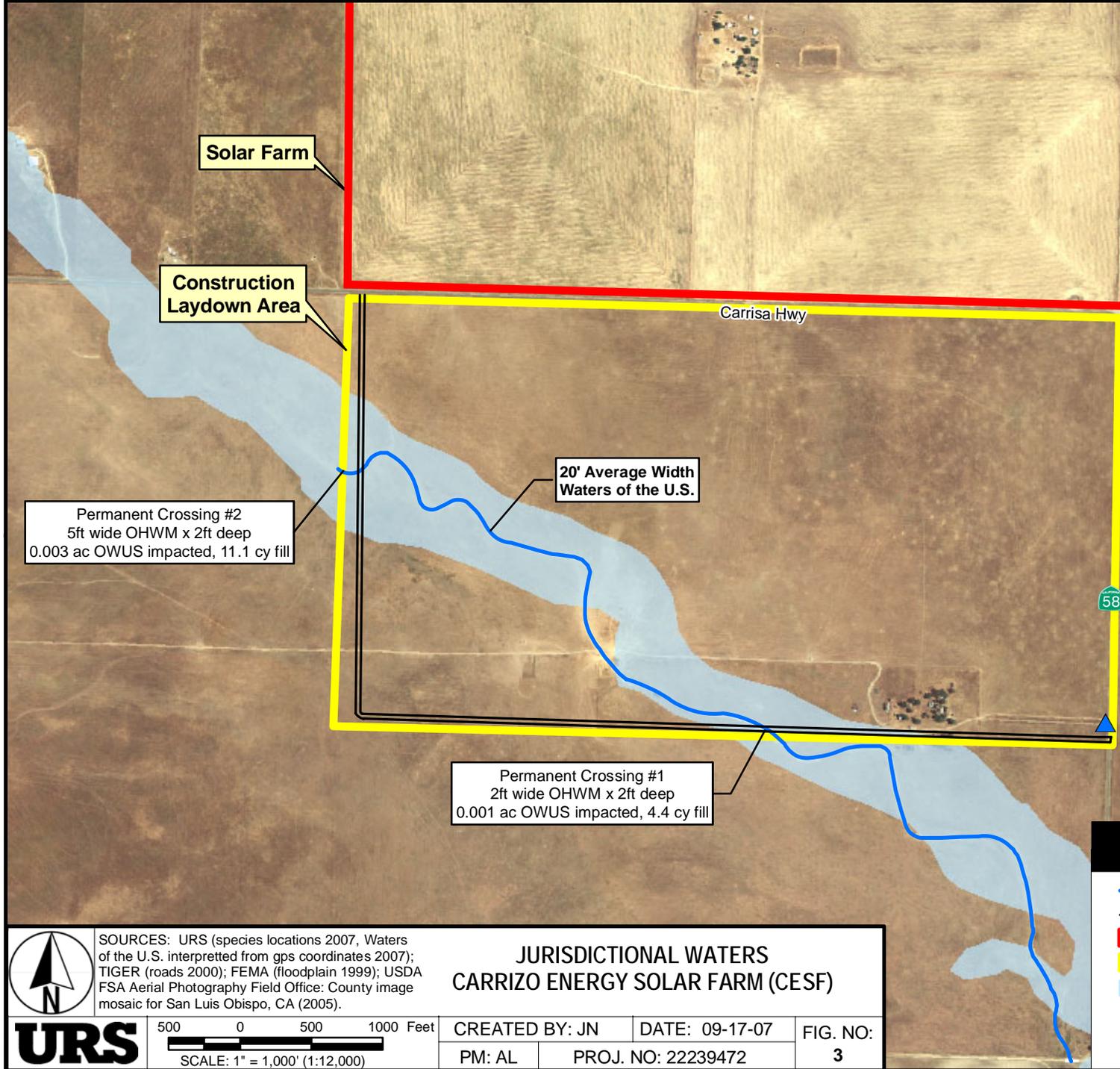
DATE: 09-14-07

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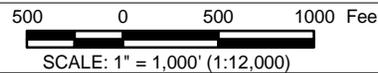
LEGEND

- Waters of the U.S.
- Proposed Roadway
- Solar Farm
- Construction Laydown Area
- FEMA Zone A (100-Year) Floodplain
- Species Locations - URS 2007
- ▲ Kit fox



SOURCES: URS (species locations 2007, Waters of the U.S. interpreted from gps coordinates 2007); TIGER (roads 2000); FEMA (floodplain 1999); USDA FSA Aerial Photography Field Office: County image mosaic for San Luis Obispo, CA (2005).

**JURISDICTIONAL WATERS
CARRIZO ENERGY SOLAR FARM (CESF)**



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California Department of Fish and Game
Natural Diversity Database
Selected Elements by Common Name - Portrait
ACSF Project - La Panza NE and California Valley Quads, and GIS Query Results

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 American badger <i>Taxidea taxus</i>	AMAJF04010			G5	S4	SC
2 California condor <i>Gymnogyps californianus</i>	ABNKA03010	Endangered	Endangered	G1	S1	
3 Coulter's goldfields <i>Lasthenia glabrata ssp. coulteri</i>	PDAST5L0A1			G4T3	S2.1	1B.1
4 Hall's tarplant <i>Deinandra halliana</i>	PDAST4R0C0			G1	S1.1	1B.1
5 Indian Valley spineflower <i>Aristocapsa insignis</i>	PDPGN0U010			G2	S2.2	1B.2
6 Jared's pepper-grass <i>Lepidium jaredii ssp. jaredii</i>	PDBRA1M0G1			G1T1	S1.2	1B.2
7 Lemmon's jewelflower <i>Caulanthus coulteri var. lemmonii</i>	PDBRA0M0E0			G4T2	S2.2	1B.2
8 Lost Hills crownscale <i>Atriplex vallicola</i>	PDCHE04250			G1	S1.1	1B.2
9 Munz's tidy-tips <i>Layia munzii</i>	PDAST5N0B0			G1	S1.1	1B.2
10 Nelson's antelope squirrel <i>Ammospermophilus nelsoni</i>	AMAFB04040		Threatened	G2	S2	
11 Parish's checkerbloom <i>Sidalcea hickmanii ssp. parishii</i>	PDMAL110A3	Candidate	Rare	G3T1	S1.2	1B.2
12 San Joaquin kit fox <i>Vulpes macrotis mutica</i>	AMAJA03041	Endangered	Threatened	G4T2T3	S2S3	
13 San Joaquin pocket mouse <i>Perognathus inornatus inornatus</i>	AMAFD01061			G4T2T3	S2S3	
14 San Luis Obispo mariposa lily <i>Calochortus simulans</i>	PMLIL0D170			G2	S2.3	1B.3
15 Tipton kangaroo rat <i>Dipodomys nitratooides nitratooides</i>	AMAFD03152	Endangered	Endangered	G3T1	S1	
16 Tulare grasshopper mouse <i>Onychomys torridus tularensis</i>	AMAFF06021			G5T1T2	S1S2	SC
17 blunt-nosed leopard lizard <i>Gambelia sila</i>	ARACF07010	Endangered	Endangered	G1	S1	
18 burrowing owl <i>Athene cunicularia</i>	ABNSB10010			G4	S2	SC
19 diamond-petaled California poppy <i>Eschscholzia rhombipetala</i>	PDPAP0A0D0			G1	S1.1	1B.1
20 dwarf calycadenia <i>Calycadenia villosa</i>	PDAST1P0B0			G2	S2.1	1B.1
21 giant kangaroo rat <i>Dipodomys ingens</i>	AMAFD03080	Endangered	Endangered	G2	S2	
22 heartscale <i>Atriplex cordulata</i>	PDCHE040B0			G2?	S2.2?	1B.2
23 pale-yellow layia <i>Layia heterotricha</i>	PDAST5N070			G1	S1.1	1B.1

California Department of Fish and Game
 Natural Diversity Database
 Selected Elements by Common Name - Portrait
 ACSF Project - La Panza NE and California Valley Quads, and GIS Query Results

Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 pallid bat <i>Antrozous pallidus</i>	AMACC10010			G5	S3	SC
25 prairie falcon <i>Falco mexicanus</i>	ABNKD06090			G5	S3	SC
26 recurved larkspur <i>Delphinium recurvatum</i>	PDRAN0B1J0			G2	S2.2	1B.2
27 round-leaved filaree <i>Erodium macrophyllum</i>	PDGER01070			G4	S2.1	2.1
28 showy madia <i>Madia radiata</i>	PDAST650E0			G2	S2.1	1B.1
29 vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened		G3	S2S3	
30 western spadefoot <i>Spea (=Scaphiopus) hammondii</i>	AAABF01030			G3	S3	SC



United States Department of the Interior



**FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003**

**Listed, Proposed, And Candidate
Species Which May Occur in San
Luis Obispo County
(38 Species)**

Type	Common Name	Scientific Name	Status	Date Listed	CH	CH Date
Amphibian	ARROYO TOAD	<i>Bufo microscaphus californicus</i>	Endangered	16-Dec-94	Yes	13-Apr-05
Amphibian	CALIFORNIA RED-LEGGED FROG	<i>Rana aurora draytonii</i>	Threatened	23-May-96	Yes	13-Apr-06
Amphibian	CALIFORNIA TIGER SALAMANDER	<i>Ambystoma californiense</i>	Threatened	04-Aug-04	Yes	23-Aug-05
Bird	BALD EAGLE	<i>Haliaeetus leucocephalus</i>	Threatened	11-Mar-67	No	
Bird	BROWN PELICAN	<i>Pelicanus occidentalis</i>	Endangered	02-Jun-70	No	
Bird	CALIFORNIA CLAPPER RAIL	<i>Rallus longirostris obsoletus</i>	Endangered	13-Oct-70	No	
Bird	CALIFORNIA CONDOR	<i>Gymnogyps californianus</i>	Endangered	11-Mar-67	Yes	22-Sep-77
Bird	CALIFORNIA LEAST TERN	<i>Sterna antillarum browni</i>	Endangered	02-Jun-70	No	
Bird	LEAST BELL'S VIREO	<i>Vireo bellii pusillus</i>	Endangered	02-May-86	Yes	02-Feb-94
Bird	WESTERN SNOWY PLOVER	<i>Charadrius alexandrinus nivosus</i>	Threatened	05-Mar-93	Proposed	
Bird	YELLOW-BILLED CUCKOO	<i>Coccyzus americanus</i>	Candidate	25-Jul-01	No	
Fish	SOUTHERN CALIFORNIA STEELHEAD	<i>Oncorhynchus mykiss</i>	Endangered	17-Jun-98	Proposed	
Fish	TIDEWATER GOBY	<i>Eucyclogobius newberryi</i>	Endangered	07-Mar-94	No	
Invertebrate	LONGHORN FAIRY SHRIMP	<i>Branchinecta longiantenna</i>	Endangered	19-Sep-94	Yes	10-Feb-06
Invertebrate	MORRO SHOULDERBAND SNAIL	<i>Helminthoglypta walkeriana</i>	Endangered	15-Dec-94	Yes	07-Feb-01
Invertebrate	SMITH'S BLUE	<i>Euphilotes enoptes</i>	Endangered	01-Jun-	No	

	BUTTERFLY	smithi		76		
Invertebrate	VERNAL POOL FAIRY SHRIMP	Branchinecta lynchi	Threatened	19-Sep-94	Yes	10-Feb-06
Mammal	GIANT KANGAROO RAT	Dipodomys ingens	Endangered	05-Jan-87	No	
Mammal	MORRO BAY KANGAROO RAT	Dipodomys heermanni morroensis	Endangered	13-Oct-70	Yes	11-Aug-77
Mammal	SAN JOAQUIN KIT FOX	Vulpes macrotis mutica	Endangered	11-Mar-67	No	
Mammal	SOUTHERN SEA OTTER	Enhydra lutris nereis	Threatened	14-Jan-77	No	
Plant	CALIFORNIA JEWELFLOWER	Caulanthus californicus	Endangered	19-Jul-90	No	
Plant	CALIFORNIA ORCUTT GRASS	Orcuttia californica	Endangered	03-Aug-93	No	
Plant	CALIFORNIA SEABLITE	Suaeda californica	Endangered	15-Dec-94	No	
Plant	CAMATTA CANYON AMOLE	Chlorogalum purpureum var. reductum	Threatened	20-Mar-00	Yes	24-Aug-02
Plant	CHORRO CREEK BOG THISTLE	Cirsium fontinale var. obispoense	Endangered	15-Dec-94	No	
Plant	GAMBEL'S WATERCRESS	Rorippa gambellii	Endangered	03-Aug-93	No	
Plant	INDIAN KNOB MOUNTAINBALM	Eriodictyon altissimum	Endangered	15-Dec-94	No	
Plant	LA GRACIOSA THISTLE	Cirsium loncholepis	Endangered	20-Mar-00	Yes	17-Mar-04
Plant	MARSH SANDWORT	Arenaria paludicola	Endangered	03-Aug-93	No	
Plant	MORRO MANZANITA	Arctostaphylos morroensis	Threatened	15-Dec-94	No	
Plant	NIPOMO MESA LUPINE	Lupinus nipomensis	Endangered	20-Mar-00	No	
Plant	PARISH'S CHECKERBLOOM	Sidalcea hickmanii ssp. parishii	Candidate	28-Feb-96	No	
Plant	PISMO CLARKIA	Clarkia speciosa var. immaculata	Endangered	15-Dec-94	No	
Plant	PURPLE AMOLE	Chlorogalum purpureum var. purpureum	Threatened	20-Mar-00	Yes	24-Oct-02
Plant	SALT MARSH BIRD'S-BEAK	Cordylanthus maritimus ssp.	Endangered	28-Sep-78	No	

maritimus					
Plant	SAN JOAQUIN WOOLY- THREADS	Lembertia congdonii	Endangered	19-Jul- 90	No
Reptile	BLUNT-NOSED LEOPARD LIZARD	Gambelia silus	Endangered	11-Mar- 67	No
<p>DISCLAIMER NOTICE</p> <p>The information provided on this page should not be considered an OFFICIAL species list. If you have a proposed project and are in need of an official species list, please mail a detailed request to the address listed at the top of the page.</p>					
				<input type="button" value=" << Back"/>	<input type="button" value=" Print"/>