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March 19, 2009

Mr. Christopher Meyer
Project Manager
Attn: Docket No. 08-AFC-5
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: SES Solar Two (08-AFC-5)
Draft Review of Federal and State Surface Waters
URS Project No. 27657106.00400

Dear Mr. Meyer:

On behalf of SES Solar Two, LLC, URS Corporation Americas (URS) hereby submits the Draft Review of Federal and State Surface Waters in Response to CEC and BLM Data Request 1 (SES Solar Two 08-AFC-5).

I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to submit the Draft Review of Federal and State Surface Waters on behalf of SES Solar Two, LLC.

Sincerely,

Angela Leiba
Project Manager

AL:ml

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Draft Federal and State Surface Waters Review In Response to CEC & BLM Data Request 1 Application for Certification (08-AFC-5)

SES Solar Two, LLC

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

Submitted to:
California Energy Commission
1516 9th Street , MS 15, Sacramento, CA 95814-5504

Submitted by:
SES Solar Two, LLC
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URS With Support From:
URS Corporation

March 2009

R E P O R T

REVIEW OF FEDERAL AND STATE SURFACE WATERS FOR THE STIRLING ENERGY SYSTEMS SOLAR 2 PROJECT

Prepared for

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February 23, 2009

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Appendices

CDFG	California Department of Fish and Game
Corps	U.S. Army Corps of Engineers
CRAM	California Rapid Assessment Method
EPA	Environmental Protection Agency
HSA	Hydrologic Subarea
I-8	Interstate 8
IID	Imperial Irrigation District
msl	mean sea level
OHWM	ordinary high water mark
Porter Cologne	Porter Cologne Water Quality Control Act
RPW	Relatively Permanent Waters
SES	Stirling Energy Systems
TNW	Traditional Navigable Waters
U.S.	United States
URS	URS Corporation
USGS	United States Geologic Survey

SECTION 1 INTRODUCTION

This report describes the results of a field investigation and assessment to determine the potential presence of waters of the United States (U.S.) (*i.e.*, Federal waters), streams or lakebeds subject to regulation by the California Department of Fish and Game (CDFG) pursuant to Section 1600 of the Fish and Game Code, and surface waters of the State subject to the Porter Cologne Water Quality Control Act (Porter Cologne) within the boundaries of an area currently designated as the Stirling Energy Systems (SES) Solar 2 site. Section 2.0 of this report describes the vegetation, hydrology, and geomorphology of the project site and surrounding areas. Section 3.0 describes potential waters of the U.S., Section 4.0 describes potential CDFG jurisdiction, and Section 5.0 describes potential waters of the State.

The Solar 2 site is located approximately 14 miles west of El Centro, California near Plaster City, CA, north of Interstate 8 (I-8) (Figure 1). The overall boundary of the Solar 2 site is shown on Figure 2.

SECTION 2 VEGETATION, HYDROLOGY, AND GEOMORPHOLOGY

2.1 VEGETATION

The project site supports Sonoran creosote bush scrub with disturbance patterns along roads used by off-road vehicles. Sonoran creosote bush scrub is common to the Colorado Desert region and the specific Yuha Desert subregion that the project lies within. This is a very xeric habitat type and the site is dominated by upland plant species that are sparsely distributed as is typical of this type of desert habitat. There has been some irrigated farming to the east of the project site, east of Dunaway Road. The Imperial Irrigation District (IID) Westside Main Canal is located approximately 1.5 miles east of the site relative to Dunaway Road, and the Dixie Drain runs parallel to the Westside Main Canal on the east site of the Westside Main Canal. Some arrow-weed (*Pluchea sericea*: FACW) occurs in areas along the canal and drain system, but not on the project site. Arrow-weed is a halophyte, but will also occur near moist areas. Other than right at the water's edge along the canals and drains off site, wetland indicators for soils and hydrology are generally absent where arrow-weed is located, and do not occur on the project site, or between the project site at Dunaway Road and the Westside Main Canal.

2.2 HYDROLOGY

The project site lies within the Yuha Desert, which is a subregion of the Sonoran Desert. The project site is located on a gently sloping alluvial surface that was within or at the edge of the historic Lake Cahuilla. Average annual rainfall on site is approximately 3 inches. Most of the area is relatively flat, although some older terrace formations with badland topography occur on site. Several drainage paths flow through the site and these paths generally have slopes of less than 2 percent with much of the area having slopes less than 1 percent. The general path of flow on the project site is northward toward the northern boundary of the site near the railroad and Evan Hewes Highway. Flow then continues northward, but bends back to the east and then south and east back onto the site before reaching Dunaway Road. Flow paths and drainage features on site are characterized by discontinuous ephemeral channels with some areas bearing water marks and some areas lacking water marks. Figure 3 shows drainage features from U.S. Geological Survey (USGS) topographic maps that indicate the discontinuous ephemeral channels on site, and also shows flow paths off site for areas lacking USGS mapped drainages, including areas not defined by water marks.

Water flows on site consist of sheet flow and shallow concentrated flows during small to moderate events with more stream-like flows during larger flood-scale events. It is uncertain if water flows occur on site in most years in parts of the flow paths, or if water flow is restricted to larger storm events such as 10-year or greater storms. Observations of several channels during a site visit on January 8, 2009 indicated that wetting of flow paths on site occurred during rain storms in late December, 2008; however, it is uncertain whether surface flows actually occurred during those rain events. One ephemeral channel observed on January 8, 2009 located near Dunaway Road showed remnant patterns suggestive of recent water flow; however, observations of channels further upgradient (*i.e.,* "upstream") on site clearly showed a lack of recent water flow. Therefore, it is uncertain if surface water flow occurred on site during the December, 2008 rains or not. Hydrologic modeling at a focused level appropriate to accurately predict potential surface flows associated with smaller scale storm events (*e.g.,* 1- to 5-year storms) has not been performed at this time.

Figure 4 shows drainage features east of the site, east of Dunaway Road in the vicinity of Dixieland at the Westside Main Canal and Dixie Drain. A flow path with apparent water marks extends from the project site eastward across Dunaway Road towards the Westside Main Canal. This flow path with water marks from the project site collects the entire drainage basin watershed from the project site (Figure 5). Apparent water marks vanish at a distance of approximately 0.75 to 1.0 miles from the Westside Main Canal and there are no channels connecting to the Westside Main Canal from the project site.

URS conducted a site visit with the Corps on January 8, 2009, and the Corps noted indication of flooding on lands and buildings at Dixieland, which is located east of the Westside Main Canal/Dixie Drain systems, and at the intersection with Evan Hewes Highway. Laurie Monarres from the Corps indicated that she had talked to some field staff from the IID, who stated that flooding occurred in this area. Figure 4 shows that there is a distinct change in topographic elevation from the west side to the east side of the canal and drain. Elevations east of the canal and drain are approximately 5 to 6 feet lower that elevations west of the canal and drain. The canal is at a higher elevation than the drain, which is immediately east of the canal. IID canals distribute water from the All American Canal to agricultural fields throughout the IID service area. The canals are protected from intercepting water flows from adjacent lands to protect the quality of water delivered by the canals to agricultural lands for application on uplands. Drains are ditches constructed at elevations lower than canals and lower than agricultural fields that collect water that infiltrates the agricultural fields. The drains transport the water toward natural drainage features that eventually lead to the Salton Sea at greater than 30 miles from the vicinity of the project site. The Westside Main Canal is not directly connected to flow paths or channels from the project site. Several constructed surge basins that are part of the canal distribution system were observed immediately west of the Westside Main Canal. The Dixie Drain is not directly connected to the Westside Main Canal. The areas of apparent flooding at Dixieland are the result of direct rainfall and/or possible flooding from the Dixie Drain. The elevation of the Westside Main Canal is above the levels of flooding and the Dixie Drain observed at Dixieland. Flooding at Dixieland is not the result of overland flows from the project site that may occur during extreme storm events.

2.3 GEOMORPHOLOGY

The project site is within the Yuha Desert, and, at least in part, the bed of historic Lake Cahuilla. Soils on site consist of alluvium, colluvium, and lake bed deposits from the Holocene, Pleistocene, and Pliocene. Soils on site range from gravelly soils through sands, silts, and clays. The overall site is relatively flat, with some badland topography. Elevations on site range from approximately 325 feet above mean sea level (msl) at the western portion of the project site to near mean sea level at Dunaway road. Elevations continue to decrease below mean sea level east of Dunaway Road from levels of approximately -30 to -32 feet msl on the west side of the Westside Main Canal to -36 to -37 feet msl immediately to the east of the Westside Main Canal and Dixie Drain (Figure 4). The soils on site range from excessively well drained to well drained with low to medium runoff. Drainage paths bearing water marks are present as discontinuous ephemeral channels located in limited areas on site. Water marks in drainages from episodic flows tend to persist for many years in arid regions (Corps 2001), such as the Yuha Desert, and such water marks may or may not be representative of recent water flows.

Rosgen (1996) provides a stream classification system that is widely accepted in the United States. The Rosgen stream classification system results in classifications based on channel morphology and

hydrologic considerations. Only discontinuous ephemeral channels occur on site. The path of shallow concentrated flow in these discontinuous ephemeral channels during rain events on the site does not exhibit substantial erosion in most years, and this flow path is vegetated in some areas with upland vegetation. URS has attempted to apply the Rosgen stream classification system to objectively evaluate the drainage features on site. The Rosgen system defines hydrogeomorphological features, many of which can be measured in the field to apply the classification. These features include consideration of bankfull depth, bankfull width, bankfull discharge, floodprone width, entrenchment ratio, sinuosity, and slope (Rosgen 1996). However, it is not possible to accurately determine some features used in the Rosgen system to define stream types because detailed modeling of low flow events has not been performed that would allow us to quantify some of the features. Therefore, estimates have been applied based on field observations of physical features, and ranges of potential values have been used.

Bankfull depth, bankfull width, and bankfull discharge are associated with the bankfull stage of a stream. Dunne and Leopold (1978) define the bankfull stage of a stream as "*The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which moving sediment, forming or removing bars, forming or changing bends and meanders, and generally doing work that results in the average morphologic characteristics of channels.*" Rosgen (1996) equates the bankfull stage with the U.S. Army Corps of Engineers (Corps) definition of the ordinary high water mark (OHWM). The drainage paths on site generally exhibit relatively straight paths with surface flows absent in most years and are only ephemeral in nature during extreme rain events sufficient enough to produce shallow concentrated flow. There are insufficient features on site to define the bankfull stage relative to the start of floodprone areas based on guidance provided by Rosgen (1996). The discontinuous ephemeral channels on site do not demonstrate clear low flow paths, active floodplains, and patterns of subsequent terraces common to Rosgen or as described in the Corps recent field guide to indentifying the ordinary high water mark in arid regions of the western United States (Corps 2008a). Rather, the discontinuous ephemeral channels demonstrate a single, rather flat bottom in most locations with a single bank or terrace on each side. This pattern observed on site indicates that the banks or terraces on site contain higher level flood events, such as floods in the 5- to 10-year and likely much higher range. URS currently assumes, in the absence of low flow modeling, that water flow in these ephemeral channels could range from the zero during 2- to 5-year rain events to levels that may spread across the bottom width of the ephemeral channels for the sake of assessment using Rosgen.

Bankfull depth is estimated to range from zero to a maximum of 6 inches based on observed channel cuts and water marks located at the edges of the floodprone areas. Bankfull width is estimated to range from zero to approximately 6 feet for most channels on site based on observed channel cuts and water marks. Bankfull discharges have not been estimated on site. The floodprone width of the drainage features based on field observations is estimated to range from zero to 6 feet for most channels on site. This results in entrenchment ratios estimated to range from zero to 1. The width to depth ratio is estimated to be 12. The field observations suggest that the channels observed on site are actually representative of the floodprone areas and that the banks observed with these channels are really the floodplain terraces, and that the bankfull stage and OHWM, if present as a result of water flow in most years, would be well contained within these observed terraces. Sinuosity on site along each drain feature approaches 1.0 with respect to the general paths of gradient and topography on site. The uncertainty of whether flows occur in most years in these ephemeral channels creates some problems in trying to apply the Rosgen system. If flows do not occur in most years and bankfull depths and widths are zero, then the discontinuous ephemeral

channels cannot be classified as streams using Rosgen. If flows do occur in most years, then the ephemeral channels on site would be best classified as Rosgen D-type streams.

We also evaluated the features on site using the California Rapid Assessment Method (CRAM) (Collins *et al.* 2008). CRAM includes procedures for evaluating existing drainage features, and URS attempted to apply those procedures on site. The ephemeral drainage channels on site are most closely associated with confined riverine features in CRAM. However, the applicability of CRAM to this type of system is limited as stated in Collins *et al.* (2008): *"There may be a limit to the applicability of CRAM in low order (i.e., headwater) streams in very arid environments that tend not to support species-rich plant communities with complex horizontal and vertical structure."* This is certainly the case for the discontinuous ephemeral channels on site because they do not support riparian vegetation communities or aquatic life. These discontinuous ephemeral channels on site are simply erosion features created by runoff from large scale flood events over time, and are not representative of riverine features supporting aquatic life or aquatic functions, other than mass wasting in the form of focused erosion that occurs on an infrequent basis during episodic storm events, and not in most years. As such, the discontinuous ephemeral channels on site to not represent streams relative to CRAM.

SECTION 3 DETERMINATION OF WATERS OF THE U.S.

3.1 METHODS

The project study area has the potential to contain waters of the U.S. consisting of non-wetland other waters of the U.S. subject to jurisdiction pursuant to Section 404 of the Federal Clean Water Act. Waters of the U.S. were evaluated based on the presence of an OHWM or the boundary of adjacent wetlands defining their limits as provided at 33 CFR 328.3 and 328.4:

Section 328.3 - Definitions.

For the purpose of this regulation these terms are defined as follows:

*a. The term **"waters of the United States"** means*

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands;

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

iii. Which are used or could be used for industrial purpose by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States under the definition;

5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;

6. The territorial seas;

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

*b. The term "**wetlands**" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.*

*c. The term "**adjacent**" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."*

*d. The term "**high tide line**" means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.*

*e. 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.*

*f. The term "**tidal waters**" means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.*

Section 328.4 - Limits of jurisdiction.

*a. **Territorial Seas.** The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)*

*b. **Tidal Waters of the United States.** The landward limits of jurisdiction in tidal waters:*

1. Extends to the high tide line, or

2. When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.

c. ***Non-Tidal Waters of the United States.*** *The limits of jurisdiction in non-tidal waters:*

1. *In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or*

2. *When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.*

3. *When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.*

Guidance from the Corps (2001), *Final Summary Report: Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest*, was also used. Guidance of relevance to this delineation includes consideration that: *"In dryland fluvial systems typical of the desert areas, the most common physical characteristics indicating the OHWM for a channel usually include, but are not limited to: a clear natural scour line impressed on the bank; recent bank erosion; destruction of native terrestrial vegetation; and the presence of litter and debris. For many small desert wash systems, the presence of continuous well-developed upland vegetation in the stream channel is a good indicator that it only conveys surface flow during extremely large storm events and, as a result, would not usually constitute a jurisdictional water of the United States."* This guidance has been further elaborated by the Corps (2004 and 2008a), and that elaboration is implemented herein. Also, Regulatory Guidance Letter 88-06 states that: *"For rivers and streams, the OHWM is meant to mark the within-channel flows, not the average annual flood elevation that generally extends beyond the channel."*

The potential for Federal wetlands was evaluated based on the presence of wetland hydrology, wetland vegetation, and hydric soils pursuant to guidance from the Federal Manual for Delineating Wetlands (Corps 1987) as augmented by the Corps (2008b). The project area does not exhibit features demonstrative of wetland hydrology, wetland vegetation, and/or hydric soils. Therefore, no wetland data points were selected and no wetland datasheets were recorded.

3.2 RESULTS

The several discontinuous ephemeral channels on site have water marks that may or may not be indicative of OHWMs. The Corps (2008a) guidance on identifying OHWMs in the arid western U.S. emphasizes the importance of considering hydrology relative to the distribution of low flow channels relative to an active floodplain. The guidance suggests that the active floodplain may correspond to modeled outputs from 5- to 10-year storm events, with low flow channels more closely related to the 1-year event (which would be consistent with Regulatory Guidance Letter 88-06 where the OHWM corresponds to the banks that contain the flows, excluding overbank flows, that occur in most years). The discontinuous ephemeral channels on site do not demonstrate clear low flow channels. The cut banks of these channels correspond to the Rosgen (1996) limits of the floodprone area, which in this case, appears to correspond to the Corps (2008a) active floodplain. If flows do not occur in most years on site and there are no low flow channels, then it is unlikely that the discontinuous ephemeral channels on site represent waters bound by an OHWM. However, URS currently lacks more definitive modeling to determine if water flows occur in most years, and concede that water flows may occur in most years and an OHWM may be present within

the flood terraces that define the limits of the discontinuous ephemeral channels on site. Fluvial water features bearing an OHWM are potentially regulable pursuant to the Federal Clean Water Act.

The distances separating the segments of discontinuous ephemeral channels on site and in the vicinity of the site range from approximately one to several miles. The bottom of the watershed basins for the project site occurs at the east end of the project site along a discontinuous ephemeral channel that flows across Dunaway Road eastward. However, this discontinuous ephemeral channel vanishes approximately 0.75 to 1.0 miles from the Westside Main Canal. No channels bearing an OHWM or other water marks indicative of a potentially regulable stream or wash connect to the Westside Main Canal, Dixie Drain, or natural other drainage features, and no wetlands occur in this area (Figure 4). Therefore, the system of discontinuous ephemeral channels on site are not directly connected via waters of the U.S. to the IID canals or drains, or natural drainages that connect to the Salton Sea. The discontinuous ephemeral channels on site are isolated in nature, with the closest approach to the Westside Main Canal and/or Dixie Drain being approximately 1.0 mile.

The discontinuous ephemeral channels on site do not support aquatic life or other aquatic uses. The nature of the Westside Main Canal system design limits the potential for flows from the discontinuous ephemeral channels that may occur during very extreme storm events from reaching the canal. This also applies to the Dixie Drain and natural drainage features that occur farther to the east, beyond the canal and drain. Additionally, the distance to the Salton Sea is over 30 miles. Therefore, it is unlikely that a pollutant transported from the discontinuous ephemeral channels on site could be transported to the Salton Sea. There is no apparent or readily conceivable nexus to foreign or interstate commerce from the discontinuous ephemeral channels on the project site.

3.3 EVALUATION OF CONSIDERATIONS ON THE CORPS' JURISDICTIONAL DETERMINATION FORM

URS finds that the discontinuous ephemeral channels on the project site do not meet the definition of waters of the U.S. found at 33 CFR 328.3, including consideration of additional guidance from the Corps:

- There is no evidence that potential waters on site are currently used, were used in the past, or may be used in the future in interstate or foreign commerce.
- These discontinuous ephemeral channels are not interstate waters.
- These discontinuous ephemeral channels are not and cannot be used by interstate or foreign travelers for recreational or other purposes, there are no fish or shellfish, and there is no use or potential use for industrial purpose of such waters for interstate commerce.
- There are no impoundments of waters of the U.S.
- The discontinuous ephemeral channels on site are not tributaries to waters of the U.S.
- There are no territorial seas or wetlands on the site, or prior converted croplands on the site.

The discontinuous ephemeral channels on the project site consist of swales and erosional features including gullies and potential small washes characterized by low volume, infrequent, or short duration flow. The EPA and Corps issued a joint memorandum on December 2, 2008 stating that "the agencies

generally will not assert jurisdiction over the following features: Swales or erosional features (*e.g.,* gullies, small washes characterized by low volume, infrequent, or short duration flow). …" Therefore, the discontinuous ephemeral channels on the project site are within the class of drainage features that the agencies will generally not assert jurisdiction over. Furthermore, there is no direct or reasonably conceivable indirect nexus to foreign or interstate commerce that would or could significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters, including the Salton Sea, in consideration of hydrologic and ecologic factors.

The discontinuous ephemeral channels on site also do not meet the criteria for regulable waters of the U.S. provided in the Corps Jurisdictional Determination Form Instruction Guidebook. These channels are not traditional navigable waters (TNWs), relatively permanent waters (RPWs), or tributaries to RPWs with seasonal flow or tributaries to non-RPWs. There are no wetlands. The distance of 0.75 to 1.0 miles of separation from the end of the discontinuous ephemeral channel flowing off site to the Westside Main Canal is a substantial measure of isolation, and clearly supports a determination that potential waters on site are Federal non-jurisdictional isolated waters. It is important to consider that even if there was potential for a pollutant from the project site to flow off the site via the discontinuous channels and enter the Westside Main Canal, the effect would not be significant with regard to potential for adverse environmental effect, and it would not reach the Salton Sea in this geologic epoch because it would be substantially diluted by the canal water, transported to land application, and unlikely to reach the drain system in a measurable quantity. Furthermore, such unmeasurable quantities would have to travel through the multiple drain systems to natural drainage over 30 miles to reach the Salton Sea.

URS finds that the discontinuous ephemeral channels on the project site may not be defined by an OHWM, and even if they are, they are isolated. URS further finds that consideration relative to Rapanos also indicates no significant nexus to foreign or interstate commerce. Therefore, URS finds that no jurisdictional waters of the U.S. occur on the project site.

SECTION 4 DETERMINATION OF SECTION 1600 STREAMBEDS

4.1 METHODS

Areas subject to jurisdiction pursuant to Section 1600 of the California Fish and Game Code were delineated. Section 1602(a) describes areas subject to its jurisdiction within the following text:

> *"1602 (a) An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless all of the following occur…"*

Section 1602(a) is based on Title 14 CCR 720:

> *"For the purpose of implementing Sections 1601 and 1603 of the Fish and Game Code which requires submission to the department of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct or change the natural flow or bed of any river, stream or lake designated by the department, or will use material from the streambeds designated by the department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds which may have intermittent flows of water, are hereby designated for such purpose".*

Streams, including creeks and rivers, are defined at Title 14 CCR 1.72 as:

> *"A stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."*

Lakes are defined at Title 14 CCR 1.56 as:

> *"Lakes: Includes natural lakes or man-made reservoirs."*

URS understands that these State regulations define the jurisdiction of CDFG for the purpose of administering Section 1600 of the Fish and Game Code as within the bed, bank, and channel of stream, including intermittent streams, which are equivalent to the areas within the OHWM of a stream or watercourse. URS also understands that the CDFG routinely asserts jurisdiction on areas that may be adjacent to a stream with an OHWM that demonstrate: a dominance of hydrophytic vegetation, hydric soils, and/or wetland hydrology. Therefore, URS has evaluated all such conditions as potentially subject to CDFG jurisdiction.

4.2 RESULTS

As discussed in Sections 2.0 and 3.0, no well defined streams in consideration of Rosgen (1996) or CRAM (Collins *et al*., 2008) occur on site. Also, no fish or aquatic life are known to occur on site. Surface water flow is not expected to occur on site in most years, and such flows will be ephemeral when they occur. There are no bodies of water on site that flow at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life, including a watercourse having a surface or subsurface flow that supports or has supported riparian vegetation. No lakes occur on site. Therefore, lakes or streams subject to jurisdiction by the CDFG pursuant to Section 1600 of the California Fish and Game Code have not been found to occur on site. If the CDFG were to assert jurisdiction on site, it would have to be on the sole basis of water marks on the flood terraces at the limit of the floodprone area in the absence of fish or aquatic life.

SECTION 5 DETERMINATION OF SURFACE WATERS OF THE STATE

5.1 METHODS

Waters of the State include surface and ground waters pursuant to Porter Cologne. The following definitions of waters of the State and related items from Porter Cologne (§13050 Definitions) have been used in this report include:

(d) "Waste" includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

(e) "Waters of the state" means any surface water or groundwater, including saline waters, within the boundaries of the state.

(f) "Beneficial uses" of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

(g) "Quality of the water" refers to chemical, physical, biological, bacteriological, radiological, and other properties and characteristics of water which affect its use.

(h) "Water quality objectives" means the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

(k) "Contamination" means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

(l)(1) "Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:

(A) The waters for beneficial uses.

(B) Facilities which serve these beneficial uses.

(2) "Pollution" may include "contamination."

Additionally, potential beneficial uses that may occur on site have also been evaluated. These beneficial uses are taken from the Lahontan Regional Water Quality Control Board Basin Plan.

5.2 RESULTS

5.2.1 Waters potentially subject to Section 401 Water Quality Certification Requirements

As discussed in Section 3.0, no waters of the U.S. occur on site. In the absence of waters of the U.S., no waters subject to Section 401 water quality certification requirements exist on site.

5.2.2 Surface Waters of the State

As discussed in Sections 2.0 and 3.0, no well defined streams in consideration of Rosgen (1996) or CRAM (Collins *et al.*, 2008) occur on site. Also, no aquatic life is known to occur on site. Surface water flow is not expected to occur on site in most years, and such flows will be ephemeral when they occur. If the State Water Resources Control Board asserts jurisdiction on the discontinuous ephemeral channels on site, it would be on the sole basis of water marks on the flood terraces at the limit of the floodprone area in the absence of fish or aquatic life. Discharge of waste in these areas may be regulable pursuant to the Porter Cologne. Stormwater runoff and flows from flash floods on site would represent surface water potentially regulable pursuant to Porter Cologne.

5.2.3 Evaluation of potential Beneficial Uses

The project site is within the Imperial Valley Planning Area of the Colorado River Basin – Region 7 Water Quality Control Plan (State Water Resources Control Board 2006). Colorado River water, imported via the All American Canal, is the predominant water supply used for irrigation, industrial, and domestic purposes. The Water Quality Control Plan lists very few beneficial uses for washes (ephemeral streams) and all are listed as intermittent uses. Freshwater replenishment is listed as an intermittent beneficial use only for tributaries to the Salton Sea. The discontinuous ephemeral channels on the project site are not tributaries to the Salton Sea. Groundwater recharge that may occur on site or via the discontinuous ephemeral channels on the project site would be limited to the rare episodic flows that occur during extreme storm events and is not significantly present on site. Non-contact water recreation is not present on the project site. Warm freshwater habitat is not present on the project site. Wildlife habitat on site is not supported by water associated with the discontinuous ephemeral channels on site. No other beneficial uses are listed as potentially occurring on site and no other beneficial uses occur on site. Therefore, no potential beneficial uses are present on site that would be adversely affected by the project.

SECTION 6 REFERENCES

Collins, J.N., E.D. Stein, M. Sutula, R. Clark, A.E. Fetscher, L. Brenier, C. Grosso, and A. Wiskind. 2008. California Rapid Assessment Method (CRAM) for Wetlands and Riparian Areas. Version 4.2.3.

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Corps, 2004. Review of Ordinary High Water Mark Indicators for Delineating Arid Streams in the Southwestern United States. Edited by Robert W. Lichvar and James S. Wakeley. ERDC TR-04-1. January 2004.

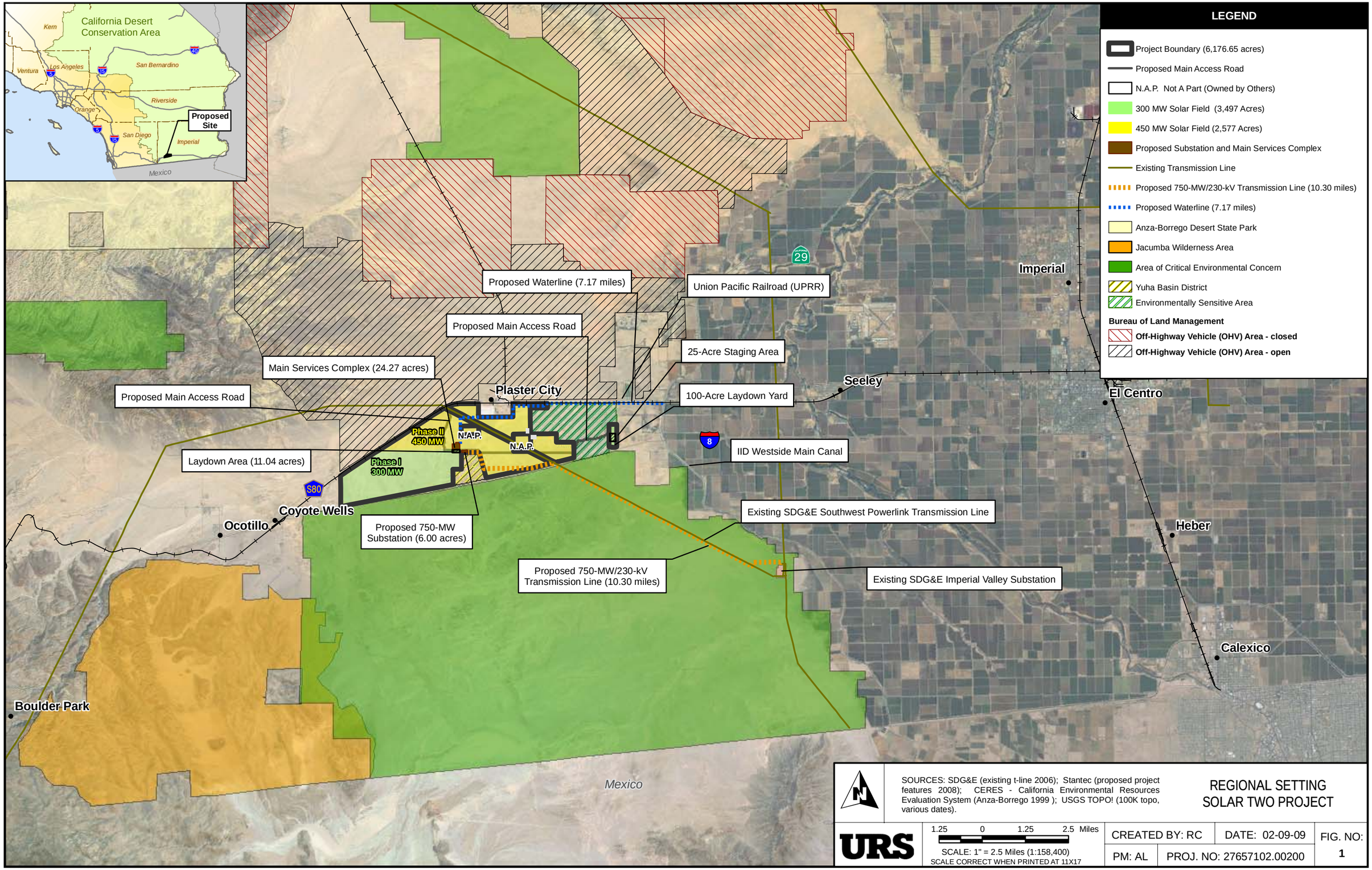
Corps, 2008a. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. Robert W. Lichvar and Shawn M. McColley. ERDC/CRREL TR-08-12. August 2008.

Corps, 2008b. Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). ERDC/EL TR-08-28. September 2008.

Dunne, T. & L.B. Leopold. 1978. Water in Environmental Planning. W.H. Freeman and Co., San Francisco, CA 818 p.

Rosgen, D. 1996. Applied River Morphology. Wildland Hydrology. Pagosa Springs, Colorado.

State Water Resources Control Board. 2006. Water Quality Control Plan, Colorado River Basin – Region 7.



SOURCES: SDG&E (existing t-line 2006); Stantec (proposed project features 2008); CERES - California Environmental Resources Evaluation System (Anza-Borrego 1999); USGS TOPO! (100K topo, various dates).

REGIONAL SETTING
SOLAR TWO PROJECT

URS

1.25 0 1.25 2.5 Miles

SCALE: 1" = 2.5 Miles (1:158,400)

SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: RC	DATE: 02-09-09	FIG. NO: 1
PM: AL	PROJ. NO: 27657102.00200	

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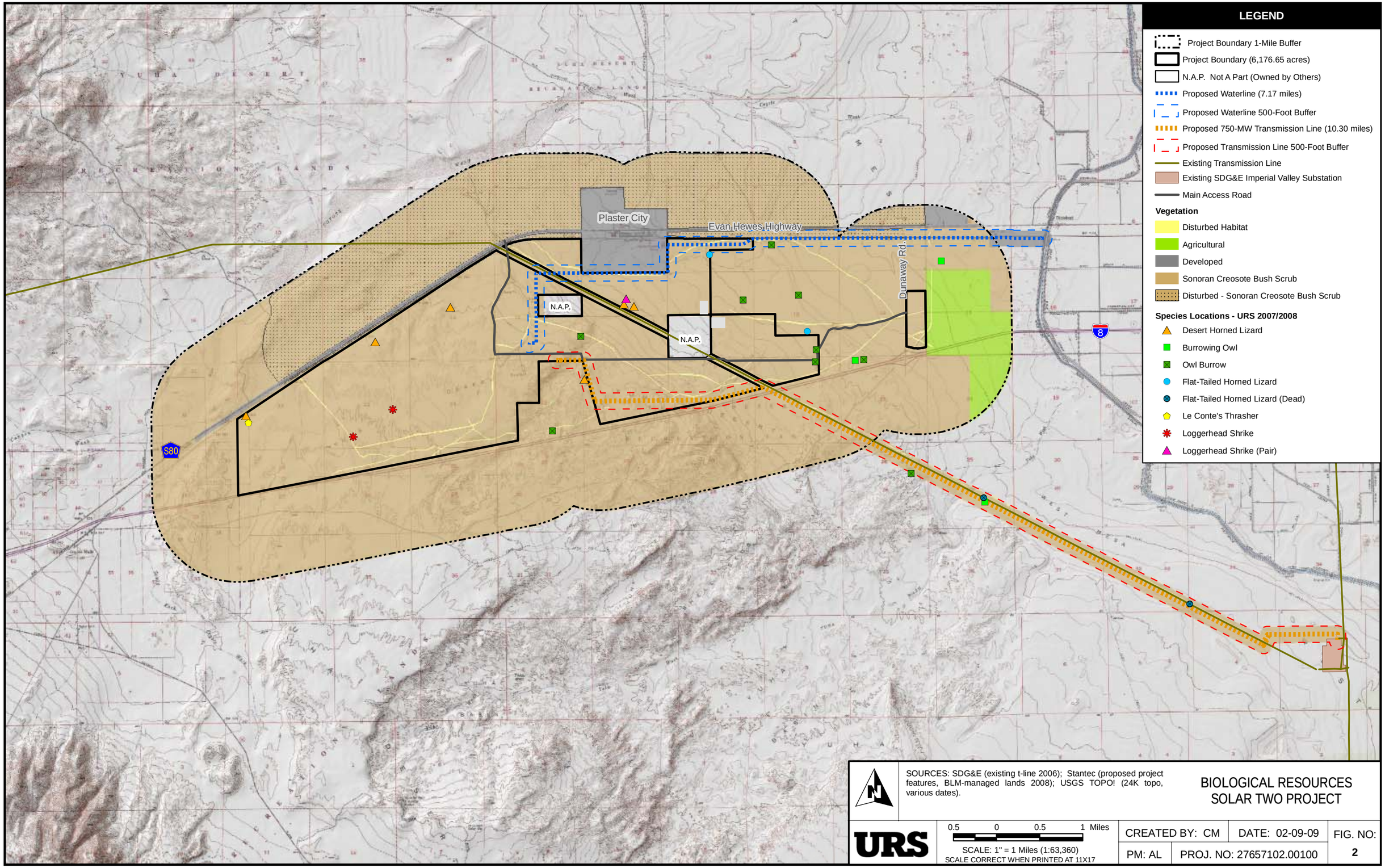

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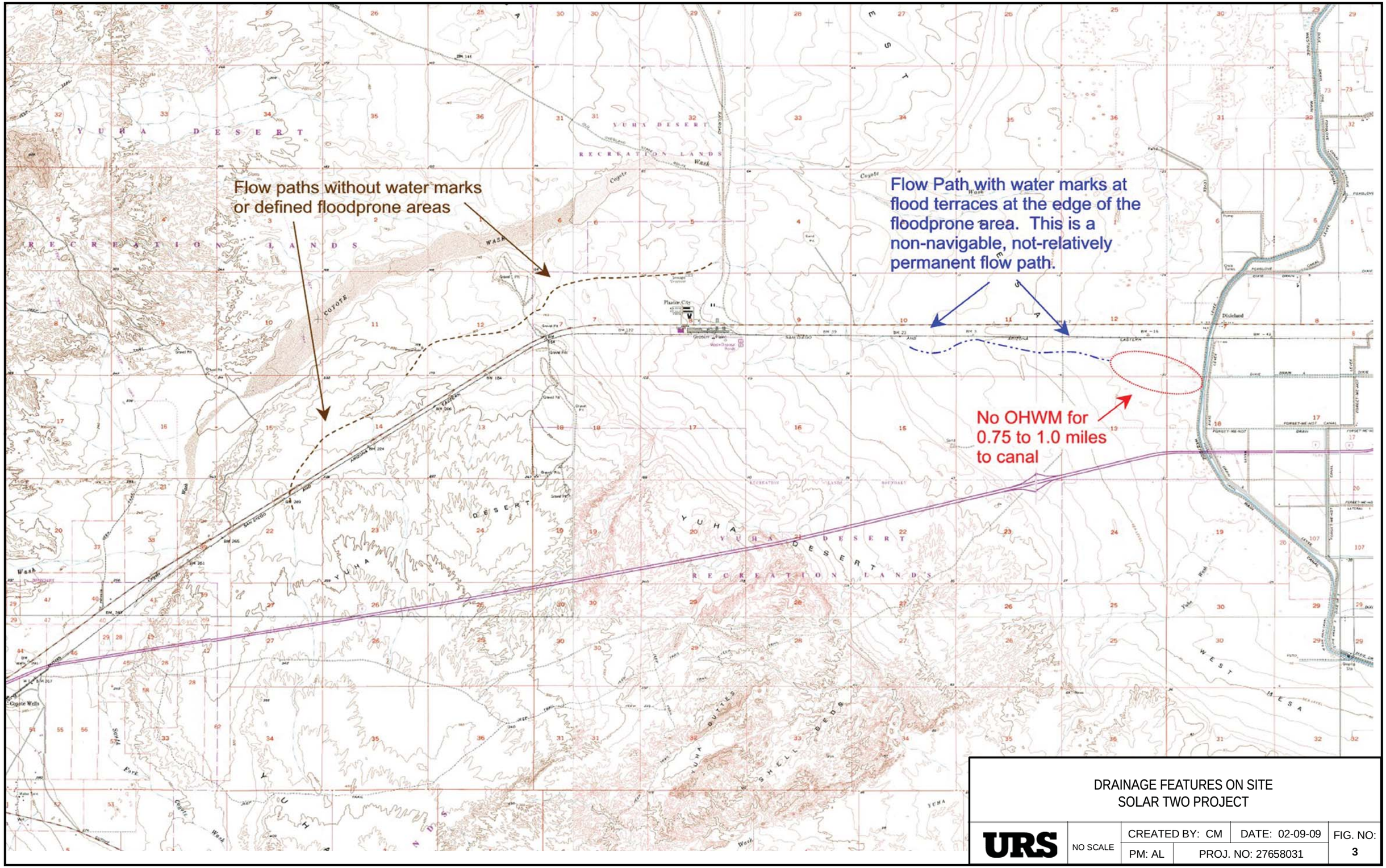

DRAINAGE FEATURES ON SITE
SOLAR TWO PROJECT

URS	NO SCALE	CREATED BY: CM	DATE: 02-09-09	FIG. NO: 3
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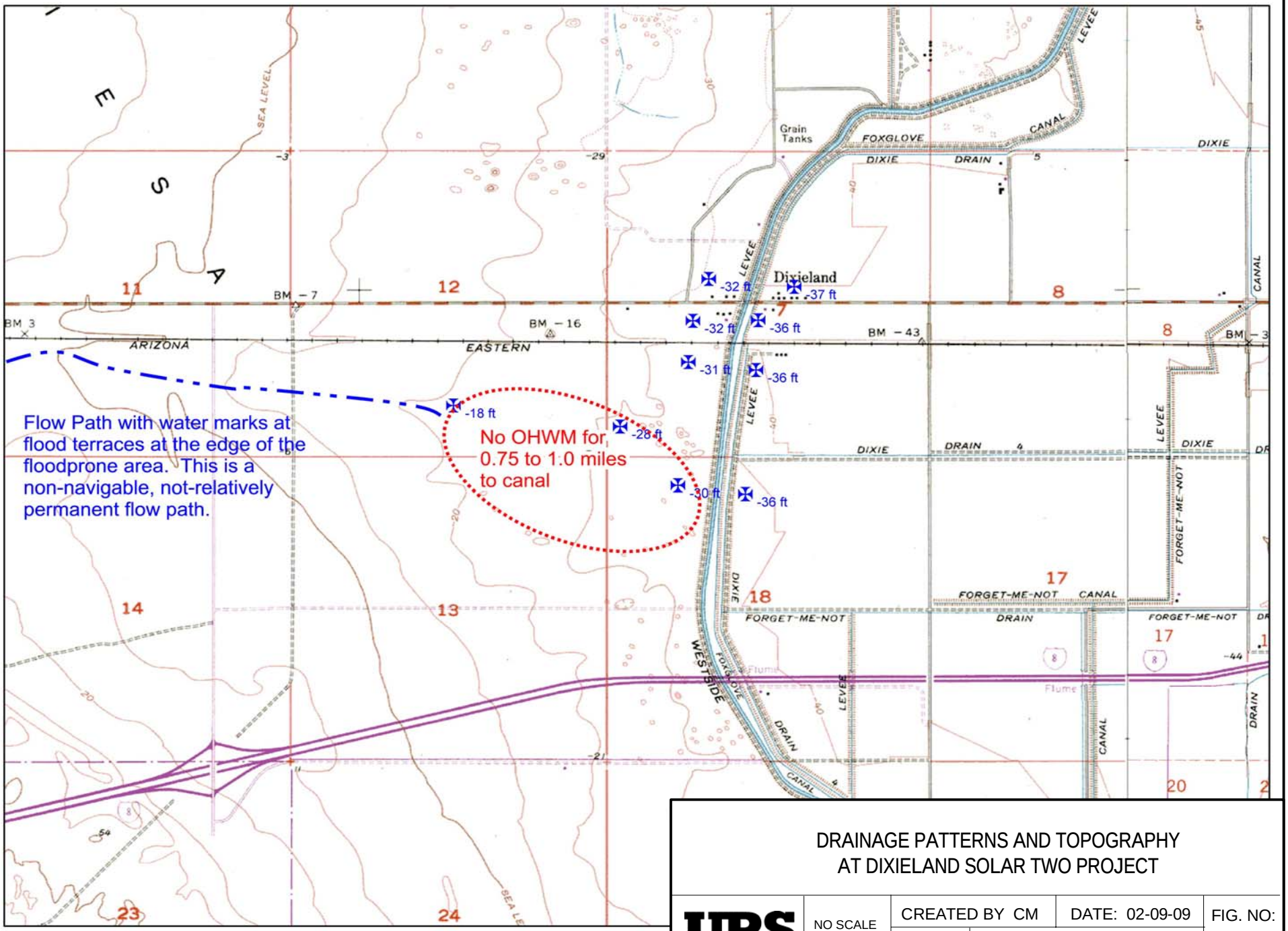

DRAINAGE PATTERNS AND TOPOGRAPHY
AT DIXIELAND SOLAR TWO PROJECT

URS	NO SCALE	CREATED BY CM	DATE: 02-09-09	FIG. NO: 4
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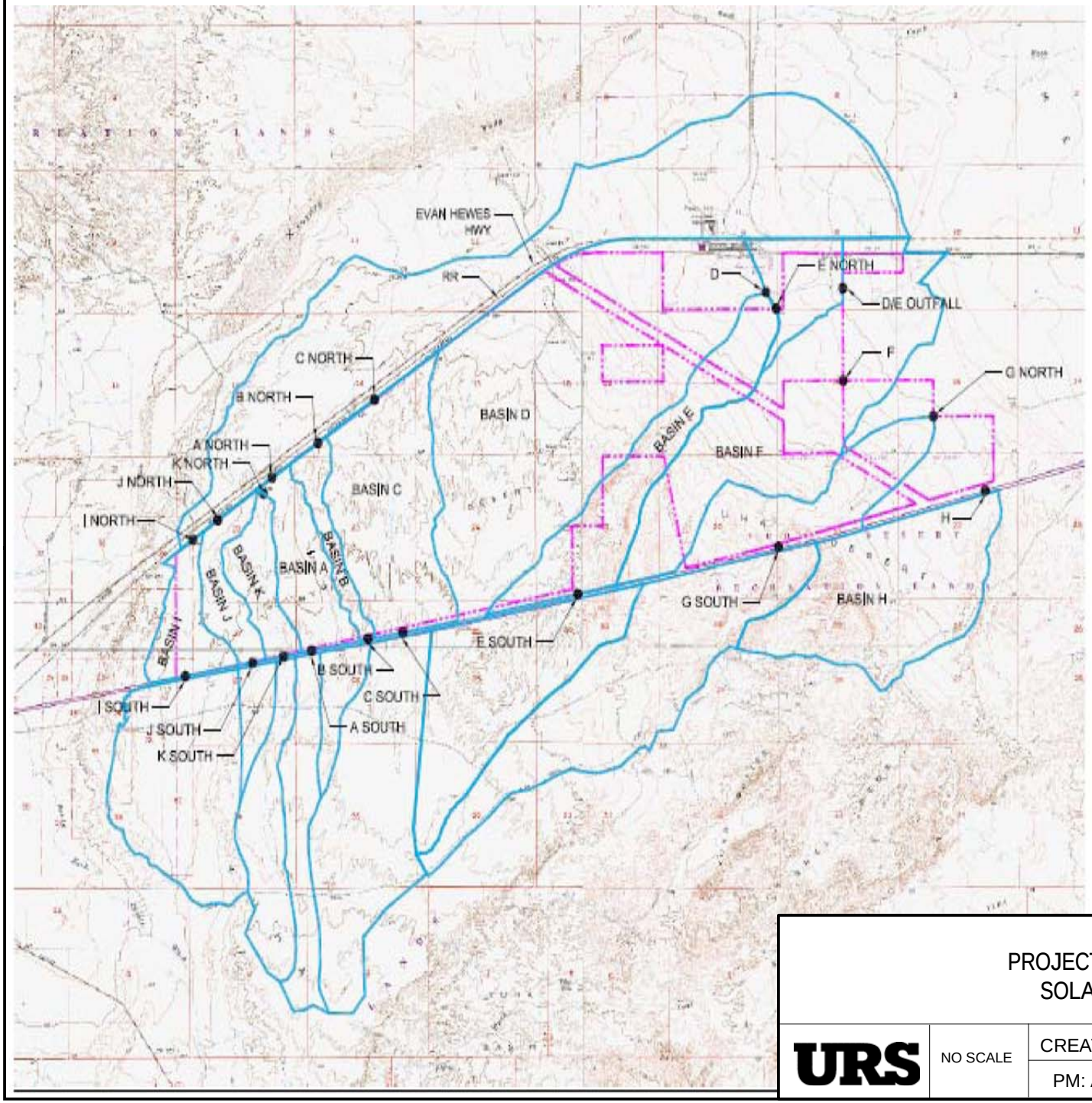

FIGURE 5-1

PROJECT DRAINAGE BASINS

PROJECT DRAINAGE BASINS
SOLAR TWO PROJECT

URS	NO SCALE	CREATED BY CM	DATE: 02-09-09	FIG. NO: 5
		PM: AL	PROJ. NO: 27658031.00500	

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, SES Solar Two, SPL-2008-0XXXX-LAM

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State:CA County/parish/borough: Imperial City: Plaster City
Center coordinates of site (lat/long in degree decimal format): Lat. 32.7925584° **N**, Long. -115.8586183° **W**.
Universal Transverse Mercator:
Name of nearest waterbody: No connection to other water body, Coyote Wash occurs north of project area, Yuha Wash occurs south of project area, Imperial Irrigation District Westside Main Canal and Dixie Drain occur east of the project area.
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Not applicable - no connection to TNW
Name of watershed or Hydrologic Unit Code (HUC): Imperial Hydrological Unit
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: TBS
☒ Field Determination. Date(s): TBS

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. Waters of the U.S.
a. Indicate presence of waters of U.S. in review area (check all that apply): [1]
☐ TNWs, including territorial seas
☐ Wetlands adjacent to TNWs
☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
☐ Non-RPWs that flow directly or indirectly into TNWs
☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
☐ Impoundments of jurisdictional waters
☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: **Pick List**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]
☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: **A field visit was conducted by Corps staff on January 8, 2009. The drainage features on the project site flow northward off site, and then eastward and to the south east back onto the site, and then east of Dunaway Road. Drainage features on site are discontinuous ephemeral channels. Water marks are present on these channels, whose**

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

banks indicate flood terraces at the limits of the floodprone area as described by Rosgen (1996). No other flood terraces are indicated adjacent to these discontinuous ephemeral channels, and the limits of these channels are expected to contain the active floodplain and much high flood events in excess of flows from 10-year storms. There is no connection to TNWs, RPWs, or non-RPWs by the discontinuous ephemeral washes on site via channels with defined banks, OHWMs, or other water marks, or wetlands. The closest water feature to the lower terminous of the discontinous ephemeral washes onsite is 0.75 to 1.0 miles, and the closest water feature is the Imperial Irrigation District Westside Main Canal. The Westside Main Canal distributes water from the All American Canal to land application of irrigation water on fields throughout the region. The canal is designed to avoid discharges from natural drainage features to the canal to protect water quality in the canal. There is no direct connection to this canal. The Salton Sea is located approximately 30 miles away and there is no connection to the Salton Sea or via tributaries to the Salton Sea from the discontinuous ephemeral channels on the project site. There is no connection to waters of the U.S. and the discontinous ephemeral channels on the project site are isolated, and there is no opportunity for transport of pollutants from these channels on site to the Salton Sea. There is no significant nexus to foreign or interstate commerce.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: undetermined.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: 2 feet
Average depth: 1 feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): 2 %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: none.

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: fractional.
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Identify water body and summarize rationale supporting determination: A field visit was conducted by Corps staff on January 8, 2009. The drainage features on the project site flow northward off site, and then eastward and to the south east back onto the site, and then east of Dunaway Road. Drainage features on site are discontinuous ephemeral channels. Water marks are present on these channels, whose banks indicate flood terraces at the limits of the floodprone area as described by Rosgen (1996). No other flood terraces are indicated adjacent to these discontinuous ephemeral channels, and the limits of these channels are expected to contain the active floodplain and much high flood events in excess of flows from 10-year storms. There is no connection to TNWs, RPWs, or non-RPWs by the discontinuous ephemeral washes on site via channels with defined banks, OHWMs, or other water marks, or wetlands. The closest water feature to the lower terminous of the discontinous ephemeral washes onsite is 0.75 to 1.0 miles, and the closest water feature is the Imperial Irrigation District Westside Main Canal. The Westside Main Canal distributes water from the All American Canal to land application of irrigation water on fields throughout the region. The canal is designed to avoid discharges from natural drainage features to the canal to protect water quality in the canal. There is no direct connection to this canal. The Salton Sea is located approximately 30 miles away and there is no connection to the Salton Sea or via tributaries to the Salton Sea from the discontinuous ephemeral channels on the project site. There is no connection to waters of the U.S. and the discontinous ephemeral channels on the project site are isolated, and there is no opportunity for transport of pollutants from these channels on site to the Salton Sea. There is no significant nexus to foreign or interstate commerce.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:**A field visit was conducted by Corps staff on January 8, 2009. The drainage features on the project site flow northward off site, and then eastward and to the south east back onto the site, and then east of Dunaway Road. Drainage features on site are discontinuous ephemeral channels. Water marks are present on these channels, whose banks indicate flood terraces at the limits of the floodprone area as described by Rosgen (1996). No other flood terraces are indicated adjacent to these discontinuous ephemeral channels, and the limits of these channels are expected to contain the active floodplain and much high flood events in excess of flows from 10-year storms. There is no connection to TNWs, RPWs, or non-RPWs by the discontinuous ephemeral washes on site via channels with defined banks, OHWMs, or other water marks, or wetlands. The closest water feature to the lower terminous of the discontinous ephemeral washes onsite is 0.75 to 1.0 miles, and the closest water feature is the Imperial Irrigation District Westside Main Canal. The Westside Main Canal distributes water from the All American Canal to land application of irrigation water on fields throughout the region. The canal is designed to avoid discharges from natural drainage features to the canal to protect water quality in the canal. There is no direct connection to this canal. The Salton Sea is located approximately 30 miles away and there is no connection to the Salton Sea or via tributaries to the Salton Sea from the discontinuous ephemeral channels on the project site. There is no connection to waters of the U.S. and the discontinous ephemeral channels on the project site are isolated, and there is no opportunity for transport of pollutants from these channels on site to the Salton Sea. There is no significant nexus to foreign or interstate commerce. Note that migratory birds do not use these waters and there never would have been a migratory bird nexus.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☒ Non-wetland waters (i.e., rivers, streams): **Discontinuous ephemeral channels 71,467** linear feet**Discontinuous ephemeral channels ranging from 4 to 12 feet** width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☒ Non-wetland waters (i.e., rivers, streams): **Discontinuous ephemeral channels 71,467** linear feet, **Discontinuous ephemeral channels ranging from 4 to 12 feet** width (ft).

☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24000 scale of Painted Gorge, Plaster City, Seeley, Coyote Wells, Yuha Basin Quadrangle Maps.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:Soils Survey of Imperial County, CA, Imperial Valley Area, California.
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☐ Photographs: ☐ Aerial (Name & Date): .
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):The California Department of Water Resources Hydrologic Region Colorado River; California Regional Water Quality Control Board, Colorado River Basin. 2006. Wateer Quality Control Plan, Colorado River Basin; URS Corporation provided maps and photos.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
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APPLICATION FOR CERTIFICATION
For the SES SOLAR TWO PROJECT

Docket No. 08-AFC-5

PROOF OF SERVICE
(Revised 2/25/09)

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DECLARATION OF SERVICE

I, Angela Leiba, declare that on March 19, 2009, I served and filed copies of the attached Draft Federal and State Surface Waters Review. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: **[www.energy.ca.gov/sitingcases/solartwo]**. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

_**X**___sent electronically to all email addresses on the Proof of Service list;

_**X**___by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__**X**___sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed By:
Angela Leiba