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): July 29, 2013

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Wright Solar Park LLC, SPK-2012-01241

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **California** County/parish/borough: **Merced** City: **N/A**
Center coordinates of site (lat/long in degree decimal format): Lat. **37.0106907277892°**, Long. **-120.957655238721°**
Universal Transverse Mercator: **10 681705.05 4098008.26**
Name of nearest waterbody: **San Joaquin River**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **N/A**
Name of watershed or Hydrologic Unit Code (HUC): **Middle San Joaquin-Lower Chowchilla. California., 18040001**
☒ 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: **July 15, 2013**
☐ Field Determination. Date(s):

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, wide, 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: **The 2,270-acre review area contains 2.81 acres of wetlands and 5.19 acres of other waters, consisting of two wetlands (2.81 acres), 13 man-made ponds (2.60 acres), four man-made ditches (0.25), and eight ephemeral swales (2.34 acres, 20,408 linear feet). The features flow to the northeast and exit the site into three drainages. Each drainage flows northeast, crossing under Interstate-5, and terminate prior to reaching the California Aqueduct, approximately 0.5 miles further to the east (Figure A). The USGS Volta, Ca 15 minute quadrangle, dated 1960, photorevised 1971, was drawn prior to the construction of the aqueduct and shows the northern drainage continuing past the California Aqueduct and terminating at the Delta Mendota Canal (Figure B). The other two drainages are shown as terminating prior to the location of the California Aqueduct. Under current conditions, all aerial**

[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.

signatures terminate prior to reaching the aqueduct and a review of aerial imagery failed to find any crossings under the aqueduct (Figure C).

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:

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW[5]:
Tributary stream order, if known:

(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: feet
Average depth: 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): %

(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:

[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.
[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:
☐ 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, wide, 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 wide.
   - ☐ 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):

[8]See Footnote # 3.

☐ Tributary waters: linear feet, wide.
☐ 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:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet, wide.
☐ 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).

[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.*

☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☐ 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): **2.59** acres.
☒ Lakes/ponds: **2.59** acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☒ Wetlands: **2.82** 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): linear feet, wide.
☐ 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: **Figure 3a. Wright Solar Project Wetland Delineation Index Map, and Figures 4-9. Wright Solar Project Delineation Map, dated June 6, 2013, prepared by Ecology and Environment, Inc.**
- ☐ 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: **1:24K; CA-VOLTA and CA-Ortigalita Peak**
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ 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): **Figure 3b. Wright Solar Project Photo Observation Points, dated May 10, 2013, and Appendix C, dated June 16, 2013**
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

The 2,270-acre review area contains 2.81 acres of wetlands and 5.19 acres of other waters, consisting of two wetlands (2.81 acres), 13 man-made ponds (2.60 acres), four man-made ditches (0.25), and eight ephemeral swales (2.34 acres, 20,408 linear feet). The features have an ephemeral to intermittent flow to the northeast and exit the site into three drainages. Each drainage flows northeast, crossing under Interstate-5, and terminate prior to reaching the California Aqueduct, approximately 0.5 miles further to the east (Figure A). The USGS Volta, Ca 15 minute quadrangle, dated 1960, photorevised 1971, was drawn prior to the construction of the aqueduct and shows the northern drainage continuing past the California Aqueduct and terminating at the Delta Mendota Canal (Figure B). The other two drainages are shown as terminating prior to the location of the California Aqueduct. Under current conditions, all aerial signatures terminate prior to reaching the aqueduct and a review of aerial imagery failed to find any crossings under the aqueduct (Figure C).

The San Joaquin River is the nearest navigable water, located approximately 14.5 miles to the northeast of the termination of the three drainages. The drainages leaving the review area do not connect to the San Joaquin River or to other waterways prior to terminating. There are two waters located within six miles of the review area that have been determined jurisdictional. Los Banos Creek is located approximately one mile south of the southern drainage. Los Banos Creek is a relatively permanent water tributary is the San Joaquin River, flowing northeast parallel to the drainages. The San Louis Reservoir is located approximately 5.9 miles northwest of the northern drainage. This is an offstream reservoir of the California Aqueduct system which has been determined

navigable-in-fact. The review area is located at the base of the foothills and is geographically isolated by low hills from these two waters.

The eastern slope of the Coast Range is within a rain shadow, causing this area to be drier than the eastern side of the Central Valley. The drainages that exit the coastal range are generally small ephemeral to intermittent features that terminate in the valley prior to connecting to the other waters. There are few larger creek systems that carry enough flow to seasonally connect to the San Joaquin River or valley lakebeds. The groundwater within the Central Valley is fed from snowmelt from the Sierra Nevada Range to the east. Little water is contributed from the Coast Range and the water that enters the valley from the smaller drainages percolates without reaching larger drainages or connecting the San Joaquin River of valley lakebeds. There is no indication that flows from these drainages continue underground to other waters.

The waters within the review area are limited to a small watershed, approximately five square miles, contained almost exclusively within the review area. A ridge to the west and south of the review area isolates the watershed from the Coast Range and Los Banos Creek (Figure D). Topography to the north creates several small drainages between the review area and The San Louis Reservoir.

A portion of the drainage at the vicinity of the California Aqueduct is covered by lidar data prepared by the California Department of Water Resources (Figure E). The data show a remnant depressional signature for the northern and middle drainages on the east side of the California Aqueduct. These signatures terminate completely at the Delta Mendota Canal approximately ½ mile further east of the aqueduct and are not present in the farmed fields to the east of the canal.

-120.991589 -120.982596 -120.973603 -120.964609 -120.955616 -120.946623 -120.937630 -120.928637

37.024375 37.015381 37.006388 36.997395

Billy Wright Rd
Bonita Rd
Volta Rd
PIPELINE
Salt Spring
Canyon Rd
LOS BANOS
AREA
RECREATION

Volta 7.5' Quad
Ortigalita Peak NW 7.5' Quad

Date of Preparation: 03/15/2013
Prepared by: Travis Whitney

ecology and environment, inc.
Global Environmental Specialists

T.10S, R.9E Sections 34 and 35
T.11S, R.9E Sections 1, 2, 3, 11, and 12
Mount Diablo Base Meridian
UTM Zone 10 N

Main Base Map: National Geographic Society 2010.
Inset Base Map: ESRI 2009.

Figure 1
Wright Solar Project
Merced County, California
Vicinity Map

Wright Solar Project Area
7.5' Quad Boundary

N

1 in = 0.3 miles

0 0.5 1 Miles

Potentially Jurisdictional Wetlands		
Feature	Acres	Length (ft)
Wetland 1 (W-001)	1.67	N/A
Wetland 2 (W-002)	1.15	N/A
Total	2.82	N/A

Other Potentially Jurisdictional Waters of the U.S.		
Feature	Acres	Length (ft)
Ephemeral Swale 1a	0.09	818.9
Ephemeral Swale 1b	0.51	4482.2
Ephemeral Swale 1c	0.62	5374.2
Ephemeral Swale 2a	0.13	1105.5
Ephemeral Swale 2b	0.05	395.4
Ephemeral Swale 2c	0.02	223.0
Ephemeral Swale 2d	0.34	2973.7
Ephemeral Swale 3	0.58	5036.0
Ditch 1 (OTH-001)	0.07	N/A
Ditch 2 (OTH-002)	0.05	N/A
Ditch 3 (OTH-003)	0.10	N/A
Ditch 4 (OTH-008)	0.03	N/A
Pond 1 (PO-001)	0.08	N/A
Pond 2 (PO-002)	0.09	N/A
Pond 3 (PO-003)	1.16	N/A
Pond 4 (PO-004)	0.17	N/A
Pond 5 (PO-003)	0.13	N/A
Pond 6 (PO-006)	0.11	N/A
Pond 7 (PO-007)	0.21	N/A
Pond 8 (PO-008)	0.07	N/A
Pond 9 (PO-009)	0.35	N/A
Pond 10 (PO-010)	0.09	N/A
Pond 11 (PO-011)	0.07	N/A
Pond 12 (PO-012)	0.04	N/A
Pond 13 (PO-013)	0.02	N/A
Total	5.18	20408.9

Ephemeral Swale (2.34 acres total)

Pond (PO-XXX) / Ditch (OTH-XXX) (2.83 acres total)

Wetland (W-XXX) (2.82 acres total)

Wright Solar Project Area (2,719.2 acres)

Base Map Source: NAIP 2012.

Figure 7
PO-009
PO-010
Ephemeral Swale 3
PO-013
Figure 6
OTH-008
PO-012
Figure 8
Ephemeral Swale 2d
PO-001
PO-002
OTH-001
PO-003
Ephemeral Swale 2c
PO-006
OTH-003
PO-005
OTH-002
PO-004
Ephemeral Swale 2b
Ephemeral Swale 2a
Figure 9
Figure 4
Ephemeral Swale 1c
W-002
PO-011
PO-008
PO-007
Ephemeral Swale 1a
Ephemeral Swale 1b
W-001
Figure 5
5
Volta Rd
Canyon Rd

Date of Initial Preparation: 03/04/2013; revised 05/10/2013; 06/06/13
Prepared by: Travis Whitney

ecology and environment, inc.
Global Environmental Specialists

Delineator: Jennifer Siu
Surveyor: Travis Whitney

Figure 3a
Wright Solar Project
Wetland Delineation Index Map

1 in = 1,500 feet

0 0.5 1 Miles

WDS-002-1

Ephemeral Swale 1c

W-002

WDS-002-2

400

-120 56.3102 37 0.5928

300

PO-007

Ephemeral Swale 1c

PO-011

PO-008

Ephemeral Swale 1b

350

Unpaved Roads

Ephemeral Swale 1a

-120 57.1563 37 0.1705

Transmission Line

WDS-001-1

UDS-001

Ephemeral Swale 1b

W-001

UDS-001-2

WDS-001-2

Project Area

Map Extent

Feature	Acres	Length (ft)
Wetland 1 (W-001)	1.67	N/A
Wetland 2 (W-002)	1.15	N/A
Ephemeral Swale 1a	0.09	818.9
Ephemeral Swale 1b	0.51	4482.2
Ephemeral Swale 1c	0.62	5374.2
Pond 7 (PO-007)	0.21	N/A
Pond 8 (PO-008)	0.07	N/A
Pond 11 (PO-011)	0.07	N/A
Total	4.39	10675.3

Base Map Source: NAIP 2012.

Inset Map: Copyright:© 2009 ESRI

Date of Preparation: 03/04/2013; revised: 05/10/13
Prepared by: Travis Whitney

Delineator: Jennifer Siu
Surveyor: Travis Whitney

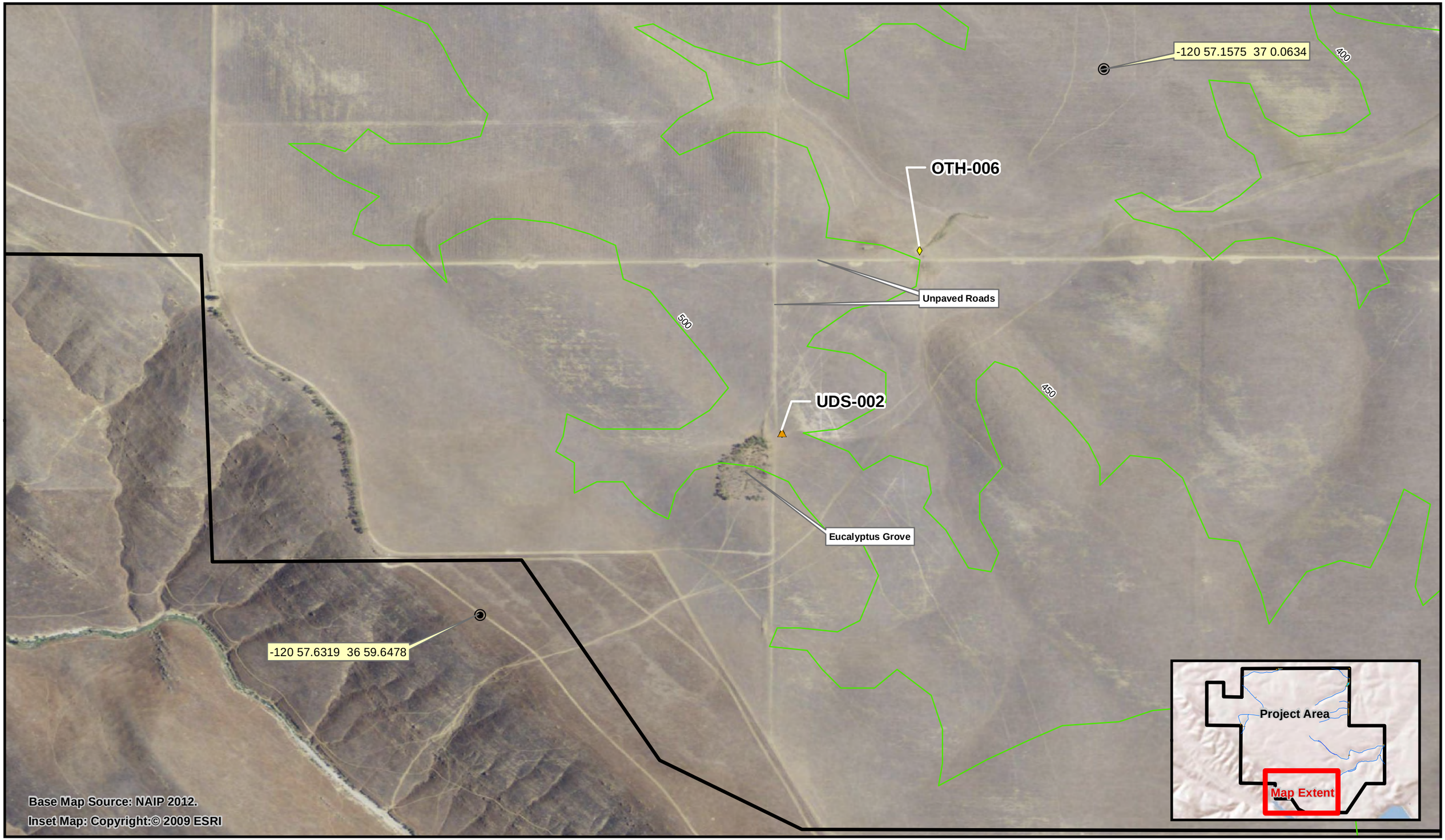
ecology and environment, inc.
Global Environmental Specialists

Figure 4
Wright Solar Project
Delineation Map
(Wetlands 1 and 2; Ephemeral Swales 1a, 2a, and 3a)

Wright Solar Project Area
Pond
Wetland
Upland Data Sheet Point
Wetland Data Sheet Point
Ephemeral Swale
Topography (Feet of Elevation)

1 in = 400 feet

0 250 500 750 1,000 Feet



Date of Preparation: 03/04/2013; revised: 05/13/2013
Prepared by: Travis Whitney

ecology and environment, inc.
Global Environmental Specialists

Delineator: Jennifer Siu
Surveyor: Travis Whitney

Figure 5
Wright Solar Project
Delineation Map
(Upland Data Sheet 2)

Wright Solar Project Area
Upland Data Sheet
Cattle Trough
Topography (Feet of Elevation)

N

1 in = 400 feet

0 250 500 750 1,000 Feet

-120 58.6932 37 0.9816

Unpaved Roads

Ephemeral Swale 3
(see Figure 7)

PO-013

Transmission Line

-120 58.6932 37 0.9816

500

450

OTH-008

PO-012

Unpaved Road

450

Map Extent

Project Area

Feature	Acres	Length (ft)
Pond 12 (PO-012)	0.04	N/A
Pond 13 (PO-013)	0.02	N/A
Ditch 4 (OTH-008)	0.03	N/A
Total	0.09	N/A

Base Map Source: NAIP 2012.

Inset Map: Copyright:© 2009 ESRI

Date of Preparation: 03/04/2013; revised: 05/13/2013; 06/06/2013
Prepared by: Travis Whitney

Delineator: Jennifer Siu
Surveyor: Travis Whitney

ecology and environment, inc.
Global Environmental Specialists

Figure 6
Wright Solar Project
Delineation Map
(Ponds 12 and 13; Ditch 4)

Wright Solar Project Area
Pond/Ditch
Ephemeral Swale
Topography (Feet of Elevation)

N

1 in = 400 feet

0 250 500 750 1,000 Feet

Feature	Acres	Length (ft)
Ephemeral Swale 3	0.58	5036.0
Pond 9 (PO-009)	0.35	N/A
Pond 10 (PO-010)	0.09	N/A
Total	1.46	8919.1

Unpaved Roads

Pumping Station/
Concrete Reservoir

350

PO-010

PO-009

-120 57.377 37 1.680

400

Ephemeral Swale 3

-120 58.225 37 1.375

450

Unpaved Road

PO-013 (see Figure 6)

Base Map Source: NAIP 2012.

Inset Map: Copyright:© 2009 ESRI

450

Map Extent

Project Area

Date of Preparation: 03/04/2013; revised: 05/13/2013; 06/06/2013
Prepared by: Travis Whitney

Delineator: Jennifer Siu
Surveyor: Travis Whitney

ecology and environment, inc.
Global Environmental Specialists

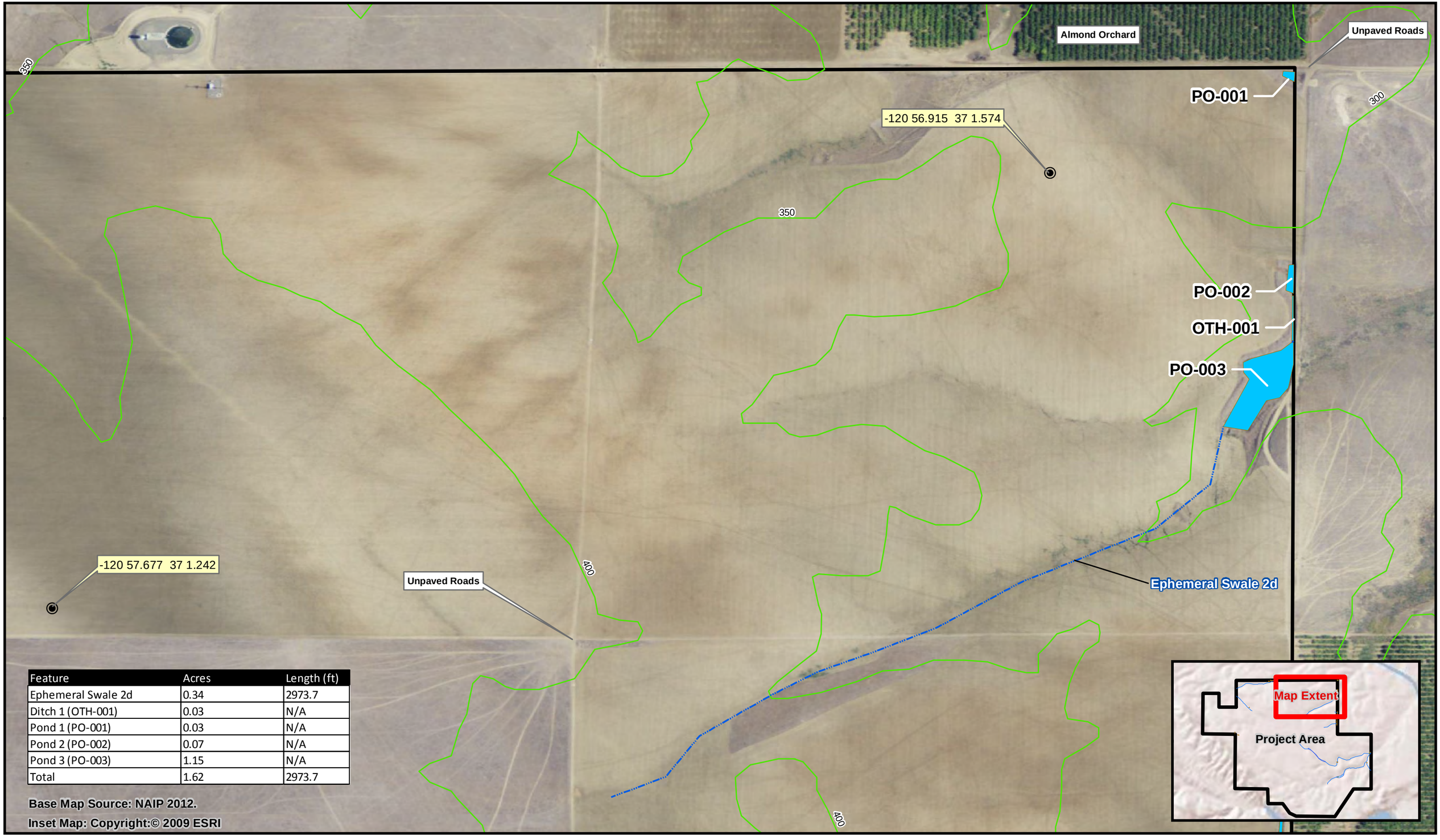
Figure 7
Wright Solar Project
Delineation Map
(Ephemeral Swale 3;
Ponds 9 and 10)

Wright Solar Project Area
Pond
Ephemeral Swale
Topography (Feet of Elevation)

N

1 in = 400 feet

0 250 500 750 1,000 Feet



Feature	Acres	Length (ft)
Ephemeral Swale 2d	0.34	2973.7
Ditch 1 (OTH-001)	0.03	N/A
Pond 1 (PO-001)	0.03	N/A
Pond 2 (PO-002)	0.07	N/A
Pond 3 (PO-003)	1.15	N/A
Total	1.62	2973.7

Base Map Source: NAIP 2012.

Inset Map: Copyright:© 2009 ESRI

Date of Preparation: 03/04/2013; revised: 05/13/2013; 06/06/2013
Prepared by: Travis Whitney

Delineator: Jennifer Siu
Surveyor: Travis Whitney

ecology and environment, inc.
Global Environmental Specialists

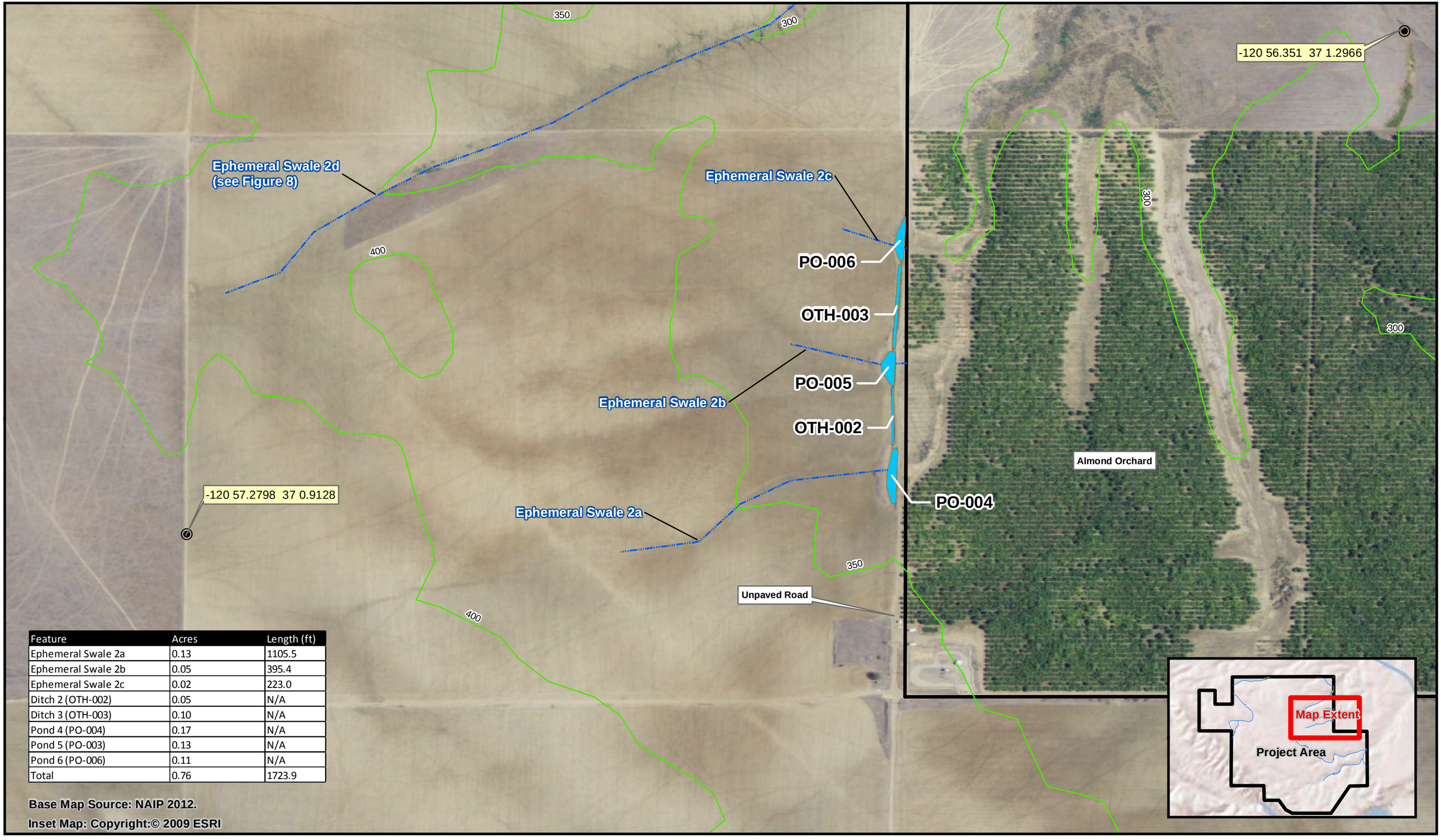
Figure 8
Wright Solar Project
Delineation Map
(Ephemeral Swale 2d;
Ponds 1, 2, and 3; Ditch 1)

Ephemeral Swale
Topography (Feet of Elevation)
Pond/Ditch
Wright Solar Project Area

N

1 in = 400 feet

0 250 500 750 1,000 Feet



Feature	Acres	Length (ft)
Ephemeral Swale 2a	0.13	1105.5
Ephemeral Swale 2b	0.05	395.4
Ephemeral Swale 2c	0.02	223.0
Ditch 2 (OTH-002)	0.05	N/A
Ditch 3 (OTH-003)	0.10	N/A
Pond 4 (PO-004)	0.17	N/A
Pond 5 (PO-003)	0.13	N/A
Pond 6 (PO-006)	0.11	N/A
Total	0.76	1723.9

Base Map Source: NAIP 2012.

Inset Map: Copyright:© 2009 ESRI

Date of Preparation: 03/04/2013; revised: 05/13/2013; 06/06/2013
Prepared by: Travis Whitney

ecology and environment, inc.
Global Environmental Specialists

Delineator: Jennifer Siu
Surveyor: Travis Whitney

Figure 9
Wright Solar Project
Delineation Map
(Ephemeral Swales 2a, 2b, and 2c; Ponds 4, 5, and 6; Ditches 2 and 3)

Wright Solar Project Area
Pond/Ditch
Ephemeral Swale
Topography (Feet of Elevation)

N

1 in = 400 feet

0 250 500 750 1,000 Feet

Wright Solar Park, SPK-2012-01241

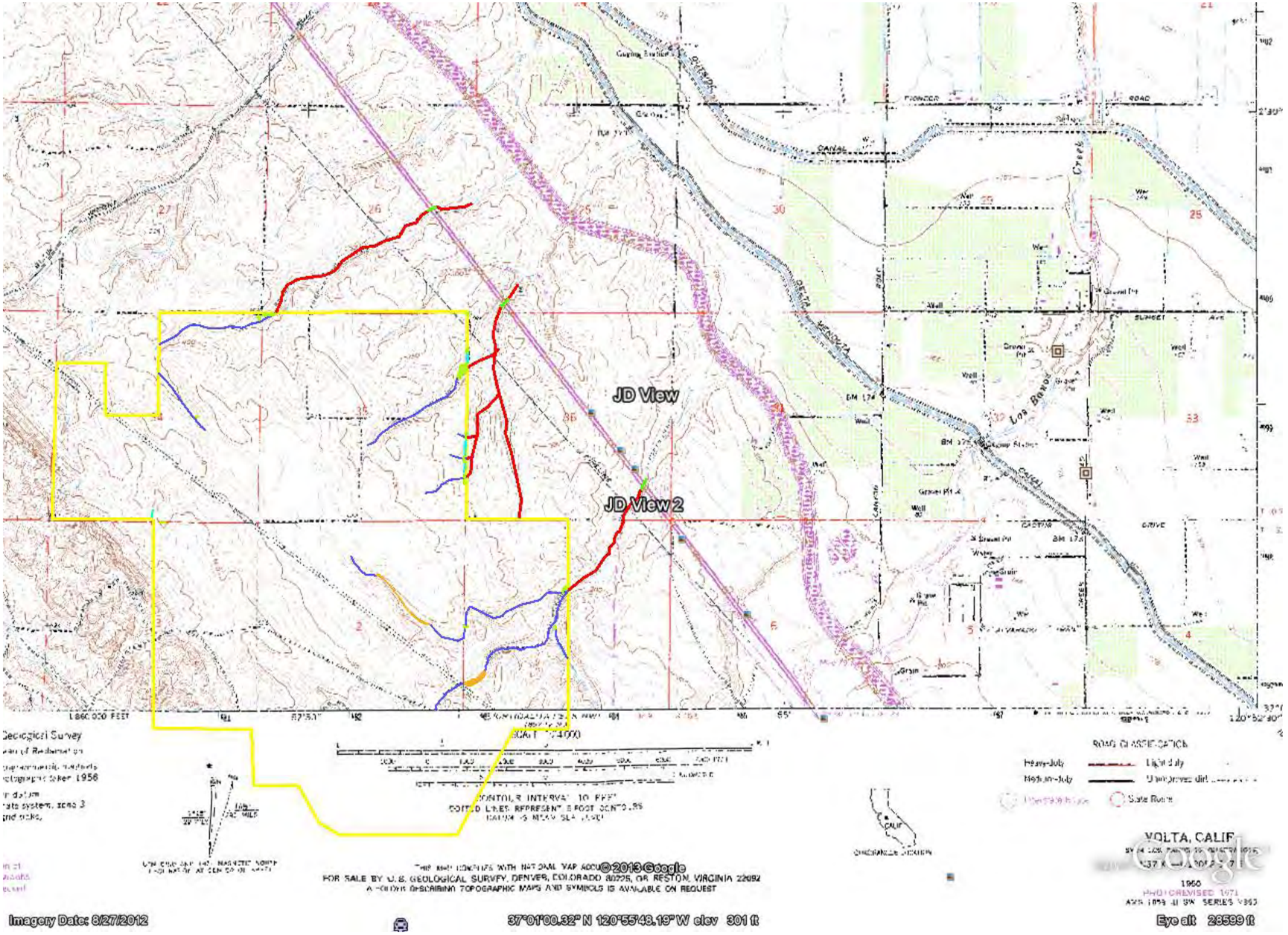


Figure A.
Project boundary overlayed on the USGS Volta Quadrangle, showing drainages crossing Interstate-5. Extent of drainages is based on current aerial signatures. Image downloaded from Google Earth on 7/15/2013.

Wright Solar Park, SPK-2012-01241

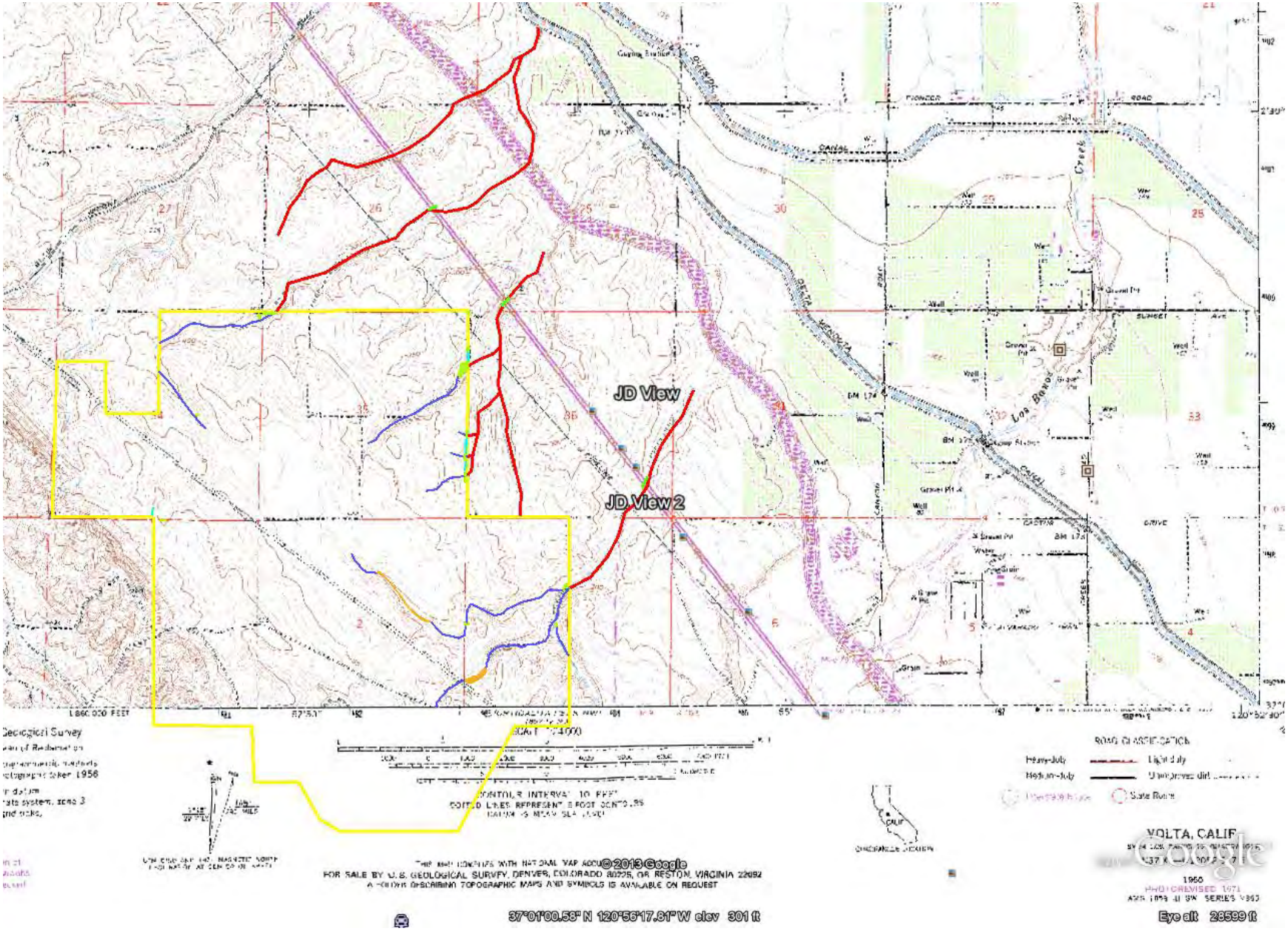


Figure B.
Project boundary overlayed on the USGS Volta Quadrangle, showing maximum extent of drainages as identified in the topographic map. Image downloaded from Google Earth on 7/15/2013.

Wright Solar Park, SPK-2012-01241

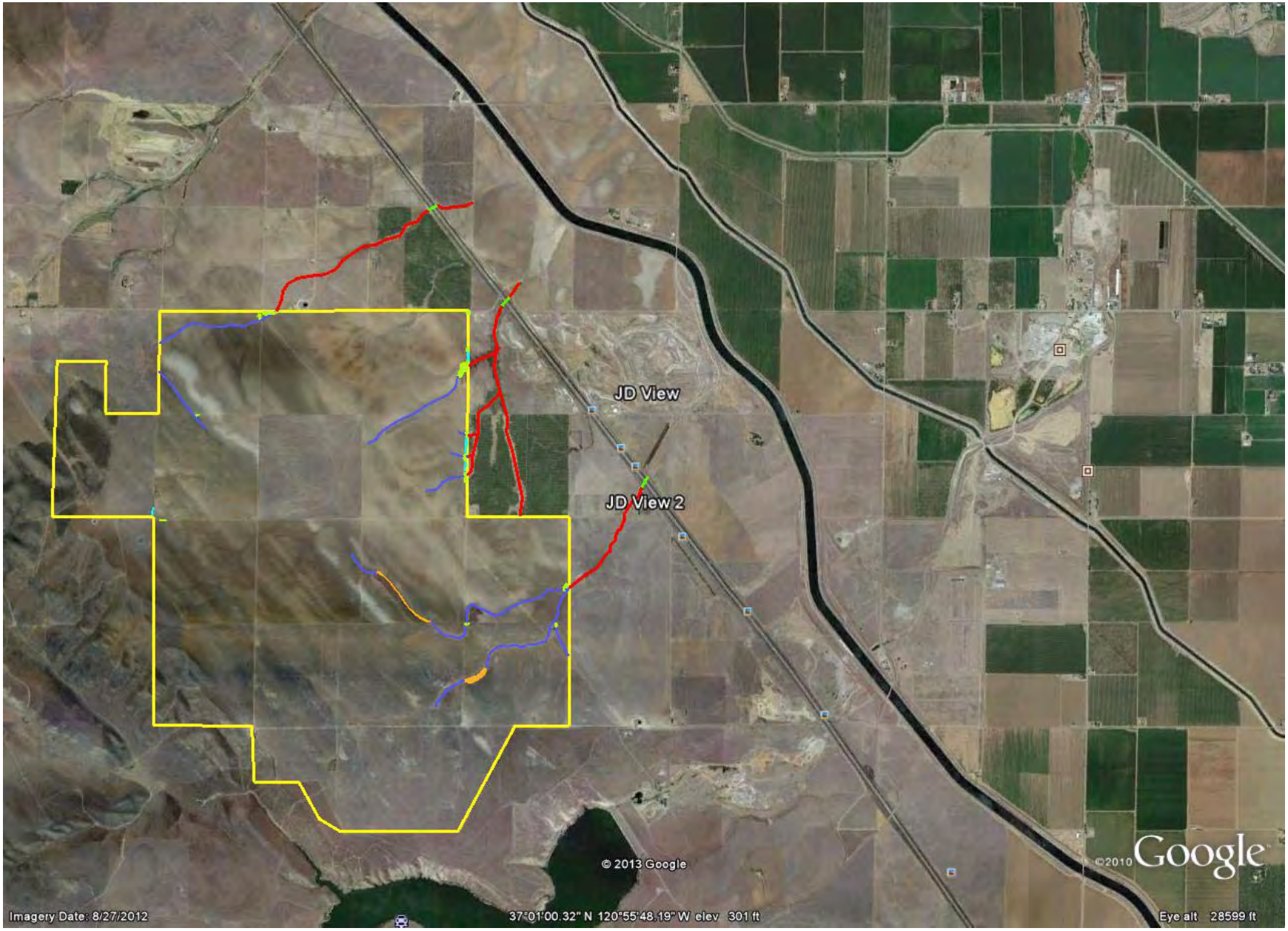


Figure C.
Aerial of project showing drainages crossing Interstate-5. Extent of drainages is based on current aerial signatures. Aerial dated 8/27/12, downloaded from Google Earth on 7/15/2013.

Wright Solar Park, SPK-2012-01241

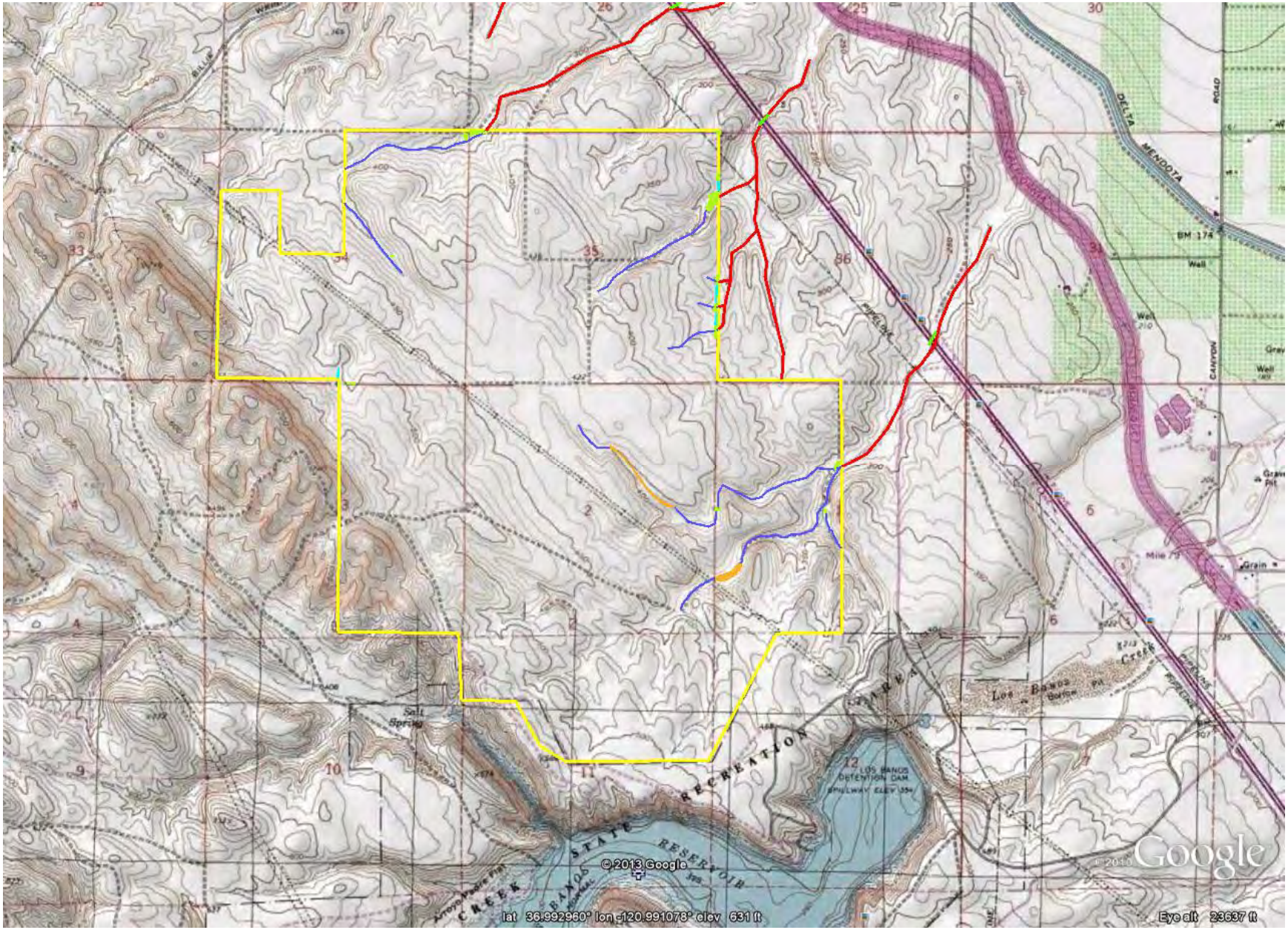


Figure D.
National Geographic topographic map showing the topography to the west and south. Image downloaded from Google Earth on 7/29/2013.

Wright Solar Park, SPK-2012-01241

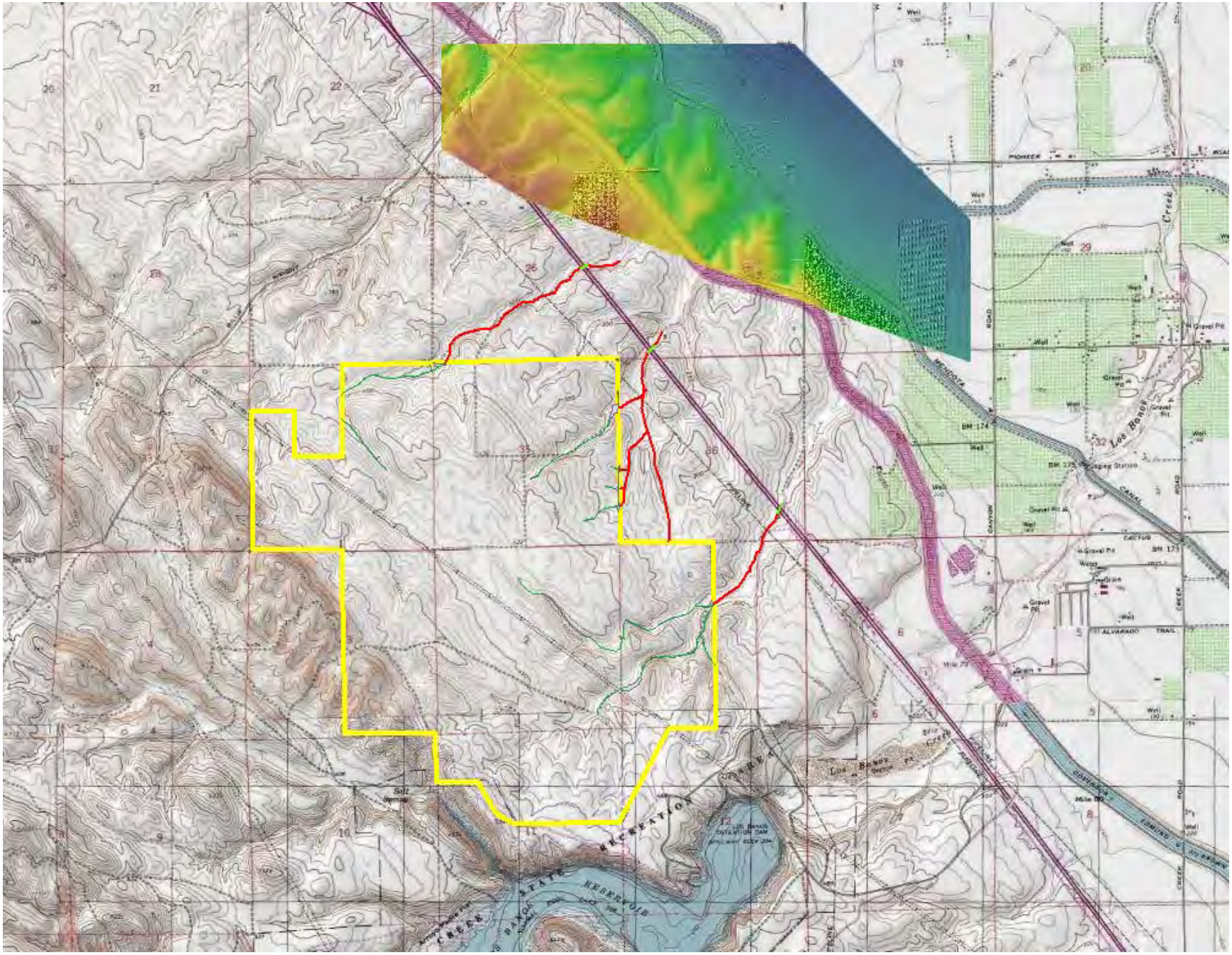


Figure E.
Lidar data showing continuation of features between California Aqueduct and Delta Mendota Canal. Created in ArcMap on 7/29/2013.