

Jurisdictional Delineation

Victorville Landfill Solar Project

10 MW AC Photovoltaic Solar Array

(57.6 Acres; APN #472-011-34)

**Victorville 7.5 Minute Quadrangle,
Section 23, Township 6 N, Range 4 W
San Bernardino County, California**

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ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
District	Snowline Joint Unified School District
EPA	Environmental Protection Agency
FAC	Facultative
FACU	facultative upland
FACW	facultative wetland
GIS	Geographic Information System
NL	not listed
NWI	National Wetlands Inventory
OBL	Obligate
OHWM	ordinary high water mark
Rapanos	Rapanos v. U.S. and Carabell v. U.S.
RPW	relatively permanent waterway
RWQCB	Regional Water Quality Control Board
SWANCC	Solid Waste Agency of Northern Cook County v. USACE
TNW	traditionally navigable waterway
UPL	Upland
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture, Natural Resources Conservation Service
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
WSC	Waters of the State of California
WUS	Waters of the United States

1.0 SUMMARY

At the request of EPD Solutions, Inc, Phoenix Biological Consulting (Phoenix) initiated a jurisdictional delineation (JD) within the phase 3 portion of the Victorville Sanitary Landfill (VSL). Lilburn Corporation prepared a jurisdictional delineation for the VSL that included all three phases of the project site (Lilburn, 2008). The original jurisdictional delineation (JD) has since expired and Phoenix was contracted to complete a new JD. The original JD identified 30.26 acres of waters of the US & state within the entire landfill footprint. 11.52 acres of jurisdictional water were originally identified to be impacted by the development of the landfill. The County of San Bernardino completed a land transfer to the Bureau of Land Management (BLM) of 23 acres of drainages to cover the mitigation requirements. Twenty-three acres were mitigated specifically for desert wash habitat as mandated by the Biological Opinion (BO) from the United States Fish and Wildlife Service (USFWS) which fulfilled the permit requirements. The 23 acres were part of a larger 2,251 acres transfer known as the Black Hills Mitigation Land Transfer of October 19, 1999. VSL was one of several landfills included in this mitigation package.

SunEdison is proposing to build a photovoltaic solar energy plant on 57.6 acres, within the phase 3 portion of the landfill (Figure I). The site has been previously fenced and the County previously certified an Environmental Impact Report (EIR) for a multiphase expansion of the VSL (Lilburn, 2004), including the Phase 3 area where the proposed solar facility is located. A 404 permit was obtained for the Phase 1 portion of the landfill (ACOE Permit # SPL-2009-00910-GS; ACOE, 2011). The 404 permit covered approximately 2.41 acres of waters of the U.S. Additionally, a 1600 Streambed Alteration Agreement (SAA) and a 401 Regional Water Quality Control Board (RWQCB) permit were obtained. Both the 401 and 1600 permit included the entire landfill site. However, the permits did not cover the change in use. Therefore, the project proponent will seek an amendment to both the 401 and 1600 permit to cover the change in use category for these existing permits. Additionally, the project proponent will seek a 404 permit to cover the impacts within the solar footprint (5.14 acres).

The site is located in an unincorporated area of the County of San Bernardino, adjacent to the northern boundary of the City of Victorville and west of Interstate 15 (I-15). The vegetation at the landfill is considered Mojave Creosote Bush Scrub. Various drainages traverse the site and will be permanently impacted by solar project. Based on this JD report, the phase 3 portion of the landfill has 7.64 acres of Department of Fish and Wildlife (CDFW), United States Army Corps of Engineers (ACOE), and the RWQCB jurisdictional drainages of which 5.14 acres will be impacted by solar project (Figure F).

2.0 INTRODUCTION

2.1. Project Location

The Victorville solar project is located in an unincorporated area of the County of San Bernardino, adjacent to the northern boundary of the City of Victorville and west of Interstate 15 (I-15). The site is located within Section 23, Township 6 North, Range 4 West as identified on the US Geological Survey Victorville 7.5 Minute Quadrangle. The site is situated along the southern slope of Quartzite Mountain which is approximately one mile to the north. Bell Mountain wash is situated between the site and Interstate 15, to the south. The main access point to the site is a 1,500-foot paved road from the southeast, off Stoddard Wells Road (see Figures A & F).

The solar site is enclosed in a perimeter fence, with tortoise fencing, that is within the future phase 3 portion of the VSL. The phase 3 portion consists of approximately 90 acres. Of the 90 acres, approximately 57.6 acres are within the solar project boundary. The remaining 32.4 acres of the phase 3 portion of the landfill will not be impacted during the lifetime of the solar installation.

2.2. Project Description

SunEdison is intent on constructing a 10-Megawatt MW AC photovoltaic (PV) solar energy generation facility (the "Victorville Solar Project") on approximately 57.6 acres, within the assessor parcel (APN 472-011-34) located in the County of San Bernardino. The Victorville Landfill Solar project will utilize polycrystalline silicon (P-Si) PV modules and a flat tracker mounting system. The project is sited on land owned by San Bernardino County adjacent to the Victorville Sanitary Landfill (VSL). The site will be enclosed with a 6 ft tall chain link fence with a perimeter road around the site, inside the fence. A 33 KV gen-tie transmission line consisting of two utility poles will connect the site at the northwest corner with the transmission line located near the railroad tracks along the northwestern edge of the site. Approximately 925 feet of new paved entry road will also be installed at the northwest corner of the site to connect via Quarry Road.

2.3. Purpose of Assessment

The purpose of performing a formal jurisdictional delineation is to identify the absence or presence (with their types, location, boundaries, and acreages) of potential jurisdictional waters of the U.S. and state (including wetlands) occurring within the project area. Once the presence or absence of potential jurisdictional waters is identified through this formal

delineation, the results of this JDLR will be verified by the requisite federal and state agencies (e.g., USACE, CDFW, and RWQCB) of which these resource agencies will assert their regulatory administration over. This jurisdictional delineation report is intended to support and provide agency documentation in the process of obtaining the following:

- Jurisdictional determination (JD) of “Geographic Isolation” (e.g., non-jurisdictional waters of the U.S.) or authorization under Section 404 of the CWA (as regulated by USACE and USEPA) (as applicable).
- Certification of compliance under Section 401 of the CWA, (as regulated by the RWQCB [as applicable]). Issuance of Waste Discharge Requirements (WDRs) or waiver under Article 4 of Porter-Cologne (as regulated by the RWQCB [as applicable]).
- CFGC Chapter 6 Section 1600 *et seq.* (as regulated by CDFW [as applicable]¹³).

Additionally, this jurisdictional determination for the Victorville solar project provides:

1. Update of the jurisdictional delineation extent since the previous delineation which was prepared by Lilburn Corporation in 2008 (Lilburn, 2008).
2. Determine the extent of state or federal jurisdictional waters that are present within the project property;
3. Determine if the solar project will have any impacts on jurisdictional waters;
4. Determine if the solar project will need to obtain state or federal permits to impact jurisdictional waters;
5. Recommend mitigation measures to offset impacts to state or federal jurisdictional waters.

3.0. REGULATORY FRAMEWORK

3.1. California Department of Fish and Wildlife Streambed Alteration Agreement

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning an activity that will substantially modify a river, stream, or lake. If the CDFW determines that the activity could substantially adversely affect an existing fish and wildlife resource, a Section 1602 Lake or Streambed Alteration Agreement is required.

For the purposes of clarification a “stream” is defined by the state as: *“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 water courses having a surface or subsurface flow that supports or has supported riparian vegetation.”

Pursuant to Section 1600 *et seq.* of the California Fish and Game Code (CFGC), the California Department of Fish and Wildlife (CDFW) regulates activities of an applicant’s project that would *substantially* alter the flow, bed, channel, or bank of streams or lakes unless certain conditions outlined by CDFW are met by the applicant. The limits of CDFW jurisdiction are defined in CFGC Section 1600 *et seq.* as the “bed, channel, or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit.” However, in practice, CDFW usually extends its jurisdictional limit and assertion to the top of a bank of a stream, the bank of a lake, or outer edge of the riparian vegetation, whichever is wider.

For desert aquatic features, CDFW provides specific guidance concerning their regulatory administration in California Code of Regulations Title 14 Section 720 (Designation of Waters of Department Interest), which states:

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 (italics added).

3.2. Regional Water Quality Control Board 401 Certification/Waste Discharge Requirements

Pursuant to Section 13000 *et seq.* of the California Water Code (CWC) (the 1969 Porter-Cologne Water Quality Act [Porter-Cologne]), the RWQCB is authorized to regulate any activity that would result in discharges of waste and fill material into waters of the state, including “isolated” waters and wetlands. Waters of the state include any surface or groundwater within the boundaries of the state (CWC Section 13050[e]). Porter-Cologne authorizes the State Water Resources Control Board (SWRCB) to adopt, review, and revise policies for all

waters of the state and directs the RWQCB to develop regional Basin Plans. CWC Section 13170 also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Water Quality Control Plan for the Lahontan Region North and South Basins (RWQCB Region 6) (1995, as amended RWQCB 2013a) is designed to preserve and enhance the quality of water resources. The purpose of the plan is to designate beneficial uses of the surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives within RWQCB Region 6.

3.3. United States Army Corps of Engineers Clean Water Act 404 Permit

The United States Army Corps of Engineers (ACOE) regulates discharge of dredged or fill material into wetlands and waters of the United States, which includes tidal waters, interstate waters, and all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide (33 C.F.R. 328.3(a)), pursuant to provisions of Section 404 of the Clean Water Act.

The ACOE requires that the 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratories, 1987) be used for delineating wetlands and waters of the United States. To qualify for wetlands status; vegetation, soils, and hydrologic parameters must all be met. "Waters" of the U.S. are delineated based upon the "ordinary high water mark" as determined by erosion, the deposition of vegetation or debris, and changes in vegetation within rivers and streams.

4.0. PROJECT SETTING

4.1 Environmental Setting

The area surrounding the landfill consists of private and public vacant land that is owned and/or administered by Bureau of Land Management and Cemex Cement Corporation. The majority of the surrounding land is undeveloped Mojave Desert scrub. There are roads to the north of the site (Quarry Road) and Stoddard Wells Road, to the south. A railroad line lies parallel to Quarry Road which receives two to three trains per day. There is some light industrial development located approximately 1,500 south of the facility boundary. The city limits for the City of Victorville lie just to the south of the landfill but the site is within the sphere of influence for the City. The Victorville Water District is adjacent to the south of the site. There has been minimal amount of modification to the phase 3 portion of the landfill

since the landfill came into operation. A review of aerial imagery from Google Earth photos (1994 to 2009) shows increased runoff from the landfill due to culverts and channeling of surface runoff from the landfill. The runoff has modified some of the drainages along the eastern portion of the phase 3 landfill, as depicted in **Figure E**.

4.2 Vegetation Community

The plant communities observed during the site visit on May 6-9, 2014 consist of Mojave Creosote Bush Scrub (Holland 1986), which covers extensive areas of the Mojave Desert from Death Valley to the Little San Bernardino Mountains. It is the dominant plant community below 4,000 feet elevation in this region. Widely spaced shrubs, from 0.5 to 3 meters tall, characterize this plant community with bare ground dominating the space between shrubs. Growth is limited by cold in the winter and by drought during other seasons. Many species of ephemeral herbs may flower in late March and April if winter rains are sufficient. The dominant species of this plant community are creosote (*Larrea tridentata*) and burrobush (*Ambrosia dumosa*) with other characteristic species including cheesebush (*Hymenoclea salsola*), senna (*Cassia armata*), and Mormon tea (*Ephedra nevadensis*). Scattered throughout the site are small numbers of Joshua trees (*Yucca brevifolia*), Mojave yucca (*Yucca schidigera*) and several species of cactus.

4.3 Hydrology

The site is located in an area characterized by isolated mountains surrounded by alluvial fans and broad alluvial plains. Quartzite Mountain is located just north of the site. No continuously flowing streams or water bodies are currently located within one mile of the site. The drainages on the site flow south and southeast to Bell Mountain Wash. The drainages are small and braided along the northern boundary. As the slope increases and the elevation on site drops towards Bell Mountain Wash the drainages become more incised and wider. At the southern end of the parcel boundary, some of the drainages are 15-20 feet wide and 5-20 feet deep. The Bell Mountain Wash drainage basin is a tributary of the Mojave River located approximately three miles southwest of the site. Surface water flowing in the vicinity of the site is normally ephemeral, occurring in intermittent washes during and immediately following precipitation events. Blue-line drainages are present on site, as depicted on the USGS topographic map for the area. Additionally, the USFWS National Wetlands Inventory was queried and the database indicates riverine-type drainages are located on the site (Figure B). The site is located in the Southern Lahontan Hydrologic Region and is part of the Bell Mountain Wash – Mojave River watershed (Mohave Hydrologic Unit 628, Upper Mohave Hydrologic Area) which drains into the Mojave River (**Figure C**). The average annual rainfall in the Victor Valley is less than five inches. The greatest

accumulation of rainfall occurs during the months of January, February and March.

4.4 Soils

The soils mapped by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) are representative of an arid environment, and the alluvial characteristics of the Mojave River Valley (Figure D). These tend to be sandy and well to very well-drained. The site is located on a middle bajada and slopes to the southeast from Quartzite Mountain at a four to six percent grade toward Bell Mountain Wash. The old alluvial fan surface contains a one to two-foot thick zone of caliche (alluvium that has been cemented by porous calcium carbonate) cementing exposed soils approximately one foot below the surface along some drainage areas. Caliche was observed along several of the drainages. The older portion of the fan surface is cut by numerous arroyos, showing unconsolidated sand and gravel at their base. The soils consist of cobble, sand and caliche within the drainages. Outside of the drainages the surface soils are desert pavement and cobble. No hydric soils are present.

The soil types on site consist of:

Nebona-Cuddeback Complex, 2 to 9 percent slopes. The Nebona units occur in fan remnants and consist of sandy loam and moderate-strongly alkaline (0-2 inches). These soils are well drained and occur between 1,800 to 3,400 feet with a mean annual precipitation of 3 to 5 inches. The Cuddeback unit occur in inset fans and consist of sandy loam and moderately alkaline (0-3 inches). Depth to water table is more than 80 inches for both units. Neither soil unit is prime farmland.

Cajon-Arizo Complex, 2 to 15 percent slopes. The Cajon unit is gravelly sand with moderately alkaline properties (0-60 inches). These soils are somewhat excessively drained and occur between 2,800 and 3,300 feet, in alluvial fans, with a mean annual precipitation of 3 to 6 inches. The composition is gravelly surface. Arizo soils are moderately alkaline, gravelly loamy sand (0-6 inches) and extremely gravelly loamy coarse sands (6-60 inches). Depth to water table is more than 80 inches for both units. Neither soil unit is prime farmland

5.0 METHODOLOGY

5.1. PRE-SURVEY INVESTIGATIONS

Prior to conducting delineation fieldwork, the following literature and materials were reviewed:

- Aerial photographs (from 1992 to 2014) of the project site at a scale of 1:480 with 1-foot elevation contours to determine the potential locations of USACE, RWQCB, and CDFW jurisdictional waters or wetlands;
- USGS topographic map (Figure G) to determine the presence of any “blue line” drainages or other mapped water features;
- USFWS NWI maps to identify areas mapped as wetland features; and
- Natural Resource Conservation Service (NRCS) Soils Website (NRCS 2014b)
- National Wetlands Inventory (NWI) Interactive Wetlands Mapper (USFWS 2014)
- California Environmental Resources Evaluation System, California Wetlands Information System Wetland Databases and Inventories (CERES 2014)
- California Soil Resource Lab (U.C. Davis 2014b)
- California Watershed Portal (Cal/EPA 2014)
- California Watershed Network (CWN 2014)
- Office of Water Programs, Water Quality Planning Tool (CSUS 2014)
- Digital Watershed (USEPA 2014)
- Western Regional Climate Center (WRCC 2014)
- National Weather Service Climate Office (NOAA 2014)

5.2. Field Surveys

Field surveys of the study area were conducted by Phoenix biologist Ryan Young on May 6-8, 2014. Mr. Young has conducted over twenty-four delineations and has completed the ACOE Wetland Delineation Training in 2004 through Richard Chinn Environmental Training, Inc. Boulder, CO. The field effort consisted of walking the entire study area and identifying potential jurisdictional water features. Visual observations of vegetation types and changes in hydrology were used to locate areas for evaluation. Drainages were recorded using a Trimble GeoExplorerHXTM 6000 series sub-meter accuracy GPS device. Data was later post-processed for increased 5-15 cm accuracy. Weather conditions during delineation fieldwork were conducive for surveying with generally clear skies.

USACE regulated WUS, including wetlands, and RWQCB WSC were delineated according to the methods outlined in and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE, 2008a). The

extent of WUS was determined based on indicators of an OHWM. The OHWM width was measured at points wherever clear changes in width occurred.

Evaluation of CDFW jurisdiction followed guidance in the Fish and Game Code and A Field Guide to Lake and Streambed Alteration Agreements (California Department of Fish and Game, 1994). Specifically, CDFW jurisdiction was delineated by measuring the outer width and length boundaries of on-site streambeds which consisted of either the top of bank measurement (bankfull width) or the extent of associated riparian vegetation.

To determine jurisdictional boundaries, the surveyor walked the length of the drainage within the project area and recorded the centerline with a Trimble GeoXH global positioning system. The width of the drainage was determined by the OHWM and bankfull width measurements at locations where transitions were apparent. Other data recorded included bank height and morphology, substrate type, and all vegetation within the streambed and riparian vegetation adjacent to the streambed. Upon completion of fieldwork, all data collected in the field were incorporated into a Geographic Information System (GIS) along with basemap data. The GIS was then used to quantify the extent of jurisdictional waters.

5.2.1. Jurisdictional drainages

Jurisdictional drainages were identified by looking for features such as a bed, bank or channel. Furthermore, the presence of an ordinary high water mark (OHWM) was recorded. Measurements were taken with a tape measure from the top of the bank to the opposite top of bank. Where riparian vegetation was present, the drip line of the outer edge of the vegetation was used as the measuring criteria. Where the presence of an OHWM was evident, a second measurement was taken for the width of the OHWM and recorded. The OHWM is defined as: "on non-tidal rivers, the line on the shore established by the fluctuations of water and indicated by the physical characteristics such as a 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 area." Areas measured were also recorded using hand-held GPS for accurate location reference. OHWM indicators were used to delineate the lateral jurisdictional extent of potential non-wetland waters of the U.S. Lateral jurisdictional limits were established for all drainage features/channels occurring within the project survey area in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits. The OHWM of the drainage features/channels was identified on the basis of the following:

Water marks within their respective channel banks established by the fluctuations of water and indicated by physical characteristics such as clear, natural lines impressed on the banks;

- Scour and shelving, local deposition, distinct and indistinct terraces, and changes in the character of soil;
- The presence of developed longitudinal bars within channel margins;
- Type, abundance, and relative age of vegetation and/or destruction of terrestrial vegetation, exposed roots, and the presence and absence of litter and debris within the ephemeral channels;
- Ephemeral channel configuration, estimated stream flow behavior, and other subtle geomorphic evidence indicative of regular flow levels;
- Consideration of precipitation patterns and lack of consistent flow;
- Geomorphic OHWM indicators (e.g., surface relief, cobblebars, benches, crested ripples, particle size distribution, mudcracks, gravel sheets, desert pavement, and dunes); and
- Pattern and location of relictual channels and discontinuous drainage features.

The criteria for frequency and duration of the OHWM have not been defined under the CWA or under any guidance from USACE for field delineators; therefore, identifiable field indicators and characteristics of OHWM, best professional judgment, interpretation of 33 CFR 328.3(e), and appropriate RGLs were applied to determine the potential jurisdictional extent of OHWM within the project survey area. Fluvial channels occurring within the arid western region of the U.S. have recently been described as “ordinary” when they typically correspond to a 5- to 8-year event and typically have an active floodplain with sparse vegetation cover, shifts in soil texture, and occasional alignment with distinctive bed and bank features (USACE 2007a). However, modeling has shown that slightly larger events (5- to 10-year recurrence) may be necessary to engage the active floodplain in arid systems (USACE 2006).

OHWM and the limits of jurisdiction are discussed in the preamble to the USACE November 13, 1986, Final Rule, Regulatory Programs of the Corps of Engineers, Federal Register Volume 51, No. 219, page 41217, which discusses the proper interpretation of 33 CFR Part 328.4 (c)(1) as follows:

Section 328.4: *Limits of Jurisdiction*. Section 328.4 (c)(1) defines the lateral limit of jurisdiction in nontidal waters as the OHWM provided that the jurisdiction is not extended by the presence of wetlands. Therefore, it should be concluded that in the absence of wetlands the upstream limit of Corps jurisdiction also stops when the OHWM is no longer perceptible. In addition, RGL 88-

06, issued June 27, 1988, discussed the OHWM as follows: OHWM: The OHWM is the physical evidence (shelving, debris lines, etc.) established by normal fluctuations of water level. For rivers and streams, the OHWM is meant to mark the within-channel high flows, not the average annual flood elevation that generally extends beyond the channel. RGL 05-05, issued December 7, 2005, discusses the field practice and practicability of identifying, determining, and applying the OHWM for nontidal waters under Section 404 of the CWA (and under Sections 9 and 10 of the Rivers and Harbors Act of 1899), and states the following:

Where the physical characteristics are inconclusive, misleading, unreliable, or otherwise not evident, districts may determine OHWM by using other appropriate means that consider the characteristics of the surrounding areas, provided those other means are reliable. Such other reliable methods that may be indicative of the OHWM include, but are not limited to, lake and stream gage data, elevation data, spillway height, flood predictions, historic records of water flow, and statistical evidence.

Many stream channels in arid regions are dry for much of the year and, at times, may lack hydrology indicators entirely or exhibit relic OHWM features from exceptional hydrological events. RGL 05-05 further states the following:

When making OHWM determinations, districts should be careful to look at characteristics associated with ordinary high water events, which occur on a regular or frequent basis. Evidence resulting from extraordinary events, including major flooding and storm surges, is not indicative of OHWM. For instance, a litter or wrack line resulting from a 200-year flood event would in most cases not be considered evidence of an OHWM.

Jurisdictional Determination for Potential Waters of the U.S.

Therefore, all potential waters formally delineated (utilizing the latest federal protocol and guidance) within the project area are considered as “geographically isolated” waters (e.g., potential nonjurisdictional waters of the U.S. [including final acreages and types]). Prior to an Approved or Preliminary JD performed by USACE (with potential oversight by USEPA depending on the relationship of the delineated feature toward traditionally navigable waters [TNW]), the final JD may remove portions of delineated waters from being considered as jurisdictional and/or may include additional waters not initially considered as jurisdictional during the field delineation (and, thus, not included in this JDLR).

Determining whether the delineated nonwetland waters occurring within the project site are in fact nonjurisdictional and outside the regulatory administration of USACE, including the final acreages and types of jurisdictional waters occurring within the project area, is primarily based on the procedural changes and guidance outlined by the following:

A) The June 5, 2007, USACE/USEPA Memorandum Re: Jurisdiction Following the U.S. Supreme Court Decision In *Rapanos v. United States* on the interpretation of the *Rapanos* Supreme Court case for making a JD for waters of the U.S. (including wetlands) (USEPA/USACE). This memorandum provides guidance to USEPA and USACE on implementing the *Rapanos* Supreme Court decision.

B) The June 5, 2007, USEPA/USACE Memorandum for the Field: Coordination on JDs under the CWA in light of *SWANCC* and *Rapanos* Supreme Court decisions. This memorandum outlined procedures that replace the coordination procedures contained in the January 2003 USEPA/USACE guidance implementing the *SWANCC* decision (but leaves the remainder of that guidance unaffected) and articulates new coordination procedures for JDs affected by *Rapanos* (USEPA/USACE).

C) The May 5, 2007, *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (USACE 2007b) and the Approved JD Form.

D) The June 5, 2007, USACE RGL 07-01. Practices for Documenting Jurisdiction under CWA Section 404 (and Rivers and Harbors Act CWA Sections 9 & 10) This RGL provides coordination requirements for Approved JDs and outlines a consistent approach for making, documenting, and approving JDs in a timely manner by USACE. This RGL also outlines the differences between Approved JDs and Preliminary JDs. The January 28, 2008, Coordination Memorandum. This memorandum outlined the process for coordinating JDs with USEPA and USACE.

E) The June 26, 2008, USACE RGL 08-02. This RGL primarily explains the goals of a Preliminary JD and differences between Approved JDs and Preliminary JDs. This RGL provides guidance on when an Approved JD is required and when a landowner, permit applicant, or other “affected party” can decline to request and obtain an Approved JD and elect to use a Preliminary JD instead. This RGL also outlines that it is the goal of USACE that every JD requested by an affected party should be completed within 60 calendar days of receiving the request.

F) The December 2, 2008, USACE Guidance Memorandum Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States* and *Carabell v. United States*. This guidance incorporates revisions to the USEPA/USACE Memorandum originally issued on June 6, 2007, after careful consideration of public comments received and based on the agencies' experience in implementing the *Rapanos* decision.

G) The December 2, 2008, USACE Response to Comments "Clean Water Act Jurisdiction Following the Supreme Court's Decision in *Rapanos v. United States* & *Carabell v. United States* Guidance" issued June 5, 2007.

H) The December 2, 2008, USACE Questions and Answers Regarding the Revised *Rapanos* & *Carabell* Guidance.

As of this writing, this jurisdictional delineation presents 5.14 acres of potential jurisdictional waters of the U.S. The final acreages of jurisdictional waters of the U.S. delineated within the project survey area will be based on the JD process per the USACE/USEPA Guidance and procedure for *Rapanos* (see above).

5.2.2. Wetlands

Where changes in plant community composition were apparent, the area was examined for the possibility of wetlands. Whether or not adjacent to "waters of the U.S." the potential wetland area is evaluated for the presence of the three wetland indicators: Hydrology, hydric soils and hydrophytic vegetation. The guidelines followed are the ones established in the 1987 Army Corps of Engineers Manual.

5.2.3. Impact evaluation

Jurisdictional drainages and wetlands were evaluated for impacts associated with the project. The site plan (or any other information regarding project impacts), is referenced to quantify the area to be impacted by the solar project. The construction footprint, vegetation, wildlife, hydrology, and water quality impacts are all determined and recorded. The jurisdictional drainages and wetlands are also evaluated for their conductivity to "navigable waters" as described in "The Clean Water Act".

6.0 RESULTS

6.1. Drainages Occurring Within the Solar Project Footprint (PLEASE SEE FIGURE F & H).

Table 1 - Drainages Occurring On-site

Drainage	Subgroup Drainage	Square Feet	Acres	Linear Feet	Jurisdiction
3	3A.1	2,013	0.046	336	CDFW, RWCQB, ACOE
4	4A.1	1,759	0.04	281	CDFW, RWCQB, ACOE
5	5A	6,743	0.155	526	CDFW, RWCQB, ACOE
5	5B	17,092	0.392	1278	CDFW, RWCQB, ACOE
5	5C.1	12,416	0.285	788	CDFW, RWCQB, ACOE
6	6A.1	3,457	0.079	474	CDFW, RWCQB, ACOE
7	7A	4,960	0.114	347	CDFW, RWCQB, ACOE
7	7B	875	0.02	207	CDFW, RWCQB, ACOE
7	7C	9,849	0.226	724	CDFW, RWCQB, ACOE
7	7D	6,568	0.151	615	CDFW, RWCQB, ACOE
7	7E	6,677	0.153	1579	CDFW, RWCQB, ACOE
7	7F	41,997	0.964	1212	CDFW, RWCQB, ACOE
8	8A	38,047	0.873	335	CDFW, RWCQB, ACOE
8	8B	16,677	0.383	1008	CDFW, RWCQB, ACOE
8	8C	946	0.022	123	CDFW, RWCQB, ACOE
9	9A.1	53,746	1.234	2068	CDFW, RWCQB, ACOE
TOTAL		223,822	5.138	11901	

6.2. EXISTING RIPARIAN, STREAM OR WETLAND HABITAT

Drainage 1: An ephemeral, braided wash dominated by Mojave Creosote Bush Scrub. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 1 empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 1 has an average width of 8 feet and a length of 370 feet within the Phase 3 parcel boundary. 0.06 acres occur within the parcel boundary. None of the drainage is within the solar footprint.

Dominant vegetation for Drainage 1 is creosote (*Larrea tridentata*) and cheesebush (*Hymenoclea salsola*).

Drainage 2: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 2 empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 2 has an average width of 6 feet and a length of 241 feet within the Phase 3 parcel boundary. 0.03 acres occur within the parcel boundary. None of the drainage is within the solar footprint.

Dominant vegetation for Drainage 2 is cheesebush (*Hymenoclea salsola*) and Mormon tea (*Ephedra nevadensis*). Other associates include creosote (*Larrea tridentata*) and burrobrush (*Ambrosia dumosa*).

Drainage 3: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 3 empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 3 is comprised of three subgroups:

3A.1 – 336 linear feet. 5 feet wide. **0.046 acres within the solar footprint.**

3A.2 – 496 linear feet. 8 feet wide. 0.085 acres outside the solar footprint but within the Phase 3 parcel boundary.

3B.2 – 1,610 linear feet. 30 feet wide. 0.898 acres outside the solar footprint but within the fenced Phase 3 parcel boundary.

Dominant vegetation for Drainage 3 is creosote (*Larrea tridentata*) and burrobrush (*Ambrosia dumosa*), cheesebush (*Hymenoclea salsola*), senna (*Cassia armata*), and Mormon tea (*Ephedra nevadensis*).

Drainage 4: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub which gradually becomes more incised and distinguished towards the southern end. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 4 empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 4 is comprised of two subgroups:

4A.1 – 281 linear feet. 5 feet wide. **0.040 acres within the solar footprint.**

4A.2 – 1,431 linear feet. 20 feet wide. 0.441 acres outside the solar footprint but within the fenced Phase 3 parcel boundary.

Dominant vegetation for Drainage 4 is creosote (*Larrea tridentata*), cheesebush (*Hymenoclea salsola*) and Mormon tea (*Ephedra nevadensis*).

Drainage 5: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub which becomes more incised and prominent towards the southern end. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 5 empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 5 is comprised of four subgroups:

5A – 526 linear feet. 12 feet wide. **0.155 acres within the solar footprint.**

5B – 1,278 linear feet. 12 feet wide. **0.392 acres within the solar footprint.**

5C.1 – 788 linear feet. 15 feet wide. **0.285 acres within the solar footprint.**

5C.2 – 750 linear feet. 18 feet wide. 0.413 acres outside the solar footprint but within the fenced Phase 3 parcel boundary.

Dominant vegetation for Drainage 5 is creosote (*Larrea tridentata*), cheesebush (*Hymenoclea salsola*) and Mormon tea (*Ephedra nevadensis*).

Drainage 6: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub which becomes more incised and prominent towards the southern end. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 6 empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 6 is comprised of two subgroups:

6A.1 – 474 linear feet. 6 feet wide. **0.079 acres within the solar footprint.**

6A.2 – 334 linear feet. 18 feet wide. 0.126 acres outside the solar footprint but within the fenced Phase 3 parcel boundary.

Dominant vegetation for Drainage 6 is creosote (*Larrea tridentata*), cheesebush (*Hymenoclea salsola*) and Mormon tea (*Ephedra nevadensis*).

Drainage 7: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub which becomes more incised and prominent towards the southern end. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 7 combines with drainage 8 & 9 and empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 7 is comprised of six subgroups:

7A – 347 linear feet. 3 feet wide. **0.114 acres within the solar footprint.**

7B – 207 linear feet. 3 feet wide. **0.020 acres within the solar footprint.**

7C – 724 linear feet. 6 feet wide. **0.226 acres within the solar footprint.**

7D – 615 linear feet. 5 feet wide. **0.151 acres within the solar footprint**

7E – 1,579 linear feet. 12 feet wide. **0.153 acres within the solar footprint**

7F – 1,212 linear feet. 12 feet wide. **0.964 acres within the solar footprint**

Dominant vegetation for Drainage 7 is creosote (*Larrea tridentata*) and burrobrush (*Ambrosia dumosa*), cheesebush (*Hymenoclea salsola*), Winterfat (*Krashinnikovia lanata*) and Mormon tea (*Ephedra nevadensis*).

Drainage 8: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub which becomes more incised and prominent towards the southern end. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 8 combines with drainage 7 & 9 and empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 8 is comprised of three subgroups:

8A – 335 linear feet. 15 feet wide. **0.873 acres within the solar footprint.**

8B – 1,008 linear feet. 8 feet wide. **0.383 acres within the solar footprint.**

8C – 123 linear feet. 5 feet wide. **0.022 acres within the solar footprint.**

Dominant vegetation for Drainage 8 is creosote (*Larrea tridentata*), cheesebush (*Hymenoclea*

salsola) and Mormon tea (*Ephedra nevadensis*).

Drainage 9: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub which becomes more incised and prominent towards the southern end. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition, scoured banks and changes in vegetation. Drainage 9 is fed by drainages 7 & 8 and runoff from the landfill. Drainage 9 empties into Bell Mountain Wash which is a tributary of the Mojave River. Drainage 9 has become more incised and wider due to culverts that feed into it from the existing landfill. Changes in the drainages are evident on Figure E.

Drainage 9 is comprised of two subgroups:

9A.1 – 2,068 linear feet. 15 feet wide. **1.234 acres within the solar footprint.**

9A.2 – 183 linear feet. 10 feet wide. 0.247 acres outside of the solar footprint but within the fenced portion of Phase 3 parcel boundary.

Dominant vegetation for Drainage 9 is burrobush (*Ambrosia dumosa*) and cheesebush (*Hymenoclea salsola*).

Drainage 10: An ephemeral braided wash dominated by Mojave Creosote Bush Scrub. The bed and bank is easily distinguishable. The “ordinary high water mark” was delineated by areas of sand deposition and scoured banks. Drainage 10 empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 10 has an average width of eight feet and a length of 300 feet within the phase 3 property boundary for a total of 0.134 acres. No impacts are anticipated to drainage 10.

Dominant vegetation for Drainage 10 is creosote (*Larrea tridentata*) and cheesebush (*Hymenoclea salsola*).

Drainage 11 & 12: Drainage 11 & 12 are two ephemeral braided washes dominated by Mojave Creosote Bush Scrub. The bed and banks are easily distinguishable. The ordinary high water mark was delineated by areas of sand deposition and scoured banks. Drainage 11 & 12 are located north of the project boundary and were considered due to their proximity to the 33KV gen-tie transmission line. Both drainages combine into drainage 7 which empties into Bell Mountain Wash which is a tributary of the Mojave River.

Drainage 11 & 12 has an average width of 5 feet and a length of 20 feet within the disturbance area for a total of 0.007 acres. No impacts are associated with either of these drainages since the transmission pole locations will be outside of the drainages (Figure H).

Dominant vegetation for Drainage 11 & 12 is creosote (*Larrea tridentata*) and burrobush (*Ambrosia dumosa*) with other characteristic species including cheesebush (*Hymenoclea salsola*), senna (*Cassia armata*), and Mormon tea (*Ephedra nevadensis*).

6.3 AGENCY JURISDICTION

6.3.1 Drainage 1

CDFW: Drainage 1 would fall under the jurisdiction of the California Department of Fish and Game's Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 1 does have a definable bed and bank and directly connects to the Mojave River. Drainage 1 is outside the solar project footprint and should not require notification under Section 1602 of the Fish and Game Code.

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and "waters of the United States", which includes "tidal waters", "interstate waters", and "all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide" pursuant to provisions of Section 404 of the Clean Water Act. Drainage 1 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a "Traditional Navigable Water." Drainage 1 will not be impacted by the solar project and therefore would not require a 404 permit for any impacts.

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. Drainage 1 would not require Section 401 Certification from the RWQCB since the drainage is outside the solar array footprint.

6.3.2 Drainage 2

CDFW: Drainage 2 would fall under the jurisdiction of the California Department of Fish and Game's Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 2 does have a definable bed and bank and directly connects to the Mojave River. Drainage 2 is outside the solar project footprint and should not require notification under Section 1602 of the Fish and Game Code.

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and "waters of the United States", which includes "tidal waters", "interstate waters", and "all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use,

degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide” pursuant to provisions of Section 404 of the Clean Water Act. Drainage 2 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a “Traditional Navigable Water.” Drainage 2 will not be impacted by the solar project and therefore would not require a 404 permit for any impacts.

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. Drainage 2 would not require Section 401 Certification from the RWQCB since the drainage is outside the solar array footprint.

6.3.3 Drainage 3

CDFW: Drainage 3 would fall under the jurisdiction of the California Department of Fish and Game’s Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 3 does have a definable bed and bank and directly connects to the Mojave River. **A portion of drainage 3 is within the solar project footprint (Drainage #3A.1; 0.046 acres) and would require notification under Section 1602 of the Fish and Game Code.**

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and “waters of the United States”, which includes “tidal waters”, “interstate waters”, and “all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide” pursuant to provisions of Section 404 of the Clean Water Act. Drainage 3 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a “Traditional Navigable Water.” **A portion of drainage 3 is within the solar project footprint (Drainage #3A.1; 0.046 acres) will be impacted by the solar project and therefore would not require a 404 permit for any impacts.**

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. **A portion of drainage 3 is within the solar project footprint (Drainage #3A.1; 0.046 acres) and would require Section 401 Certification from the RWQCB.**

6.3.4 Drainage 4

CDFW: Drainage 4 would fall under the jurisdiction of the California Department of Fish and Game's Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 4 does have a definable bed and bank and directly connects to the Mojave River. **A portion of drainage 4 is within the solar project footprint (Drainage #4A.1; 0.040 acres) and would require notification under Section 1602 of the Fish and Game Code.**

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and "waters of the United States", which includes "tidal waters", "interstate waters", and "all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide" pursuant to provisions of Section 404 of the Clean Water Act. Drainage 4 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a "Traditional Navigable Water." **A portion of drainage 4 is within the solar project footprint (Drainage #4A.1; 0.040 acres) will be impacted by the solar project and therefore would not require a 404 permit for any impacts.**

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. **A portion of drainage 4 is within the solar project footprint (Drainage #4A.1; 0.040 acres) and would require Section 401 Certification from the RWQCB.**

6.3.5 Drainage 5

CDFW: Drainage 5 would fall under the jurisdiction of the California Department of Fish and Game's Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 5 does have a definable bed and bank and directly connects to the Mojave River. **A portion of drainage 5 is within the solar project footprint (Drainages #5A & #5B; 0.677 acres) and would require notification under Section 1602 of the Fish and Game Code.**

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and "waters of the United States", which includes "tidal waters", "interstate waters", and "all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are

tributaries to waters subject to the ebb and flow of the tide” pursuant to provisions of Section 404 of the Clean Water Act. Drainage 5 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a “Traditional Navigable Water.” **A portion of drainage 5 is within the solar project footprint (Drainages #5A & #5B; 0.677 acres) will be impacted by the solar project and therefore would not require a 404 permit for any impacts.**

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. **A portion of drainage 5 is within the solar project footprint (Drainages #5A & #5B; 0.677 acres) and would require Section 401 Certification from the RWQCB.**

6.3.6 Drainage 6

CDFW: Drainage 6 would fall under the jurisdiction of the California Department of Fish and Game’s Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 6 does have a definable bed and bank and directly connects to the Mojave River. **A portion of drainage 6 is within the solar project footprint (Drainage #6A.1; 0.079 acres) and would require notification under Section 1602 of the Fish and Game Code.**

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and “waters of the United States”, which includes “tidal waters”, “interstate waters”, and “all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide” pursuant to provisions of Section 404 of the Clean Water Act. Drainage 6 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a “Traditional Navigable Water.” **A portion of drainage 6 is within the solar project footprint (Drainage #6A.1; 0.079 acres) will be impacted by the solar project and therefore would not require a 404 permit for any impacts.**

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. **A portion of drainage 6 is within the solar project footprint (Drainage #6A.1; 0.079 acres) and would require Section 401 Certification from the RWQCB.**

6.3.7 Drainage 7

CDFW: Drainage 7 would fall under the jurisdiction of the California Department of Fish and Game's Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 7 does have a definable bed and bank and directly connects to the Mojave River. **All of drainage 7 is within the solar project footprint (Drainages #7A-#7F, 1.628 acres) and would require notification under Section 1602 of the Fish and Game Code.**

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and "waters of the United States", which includes "tidal waters", "interstate waters", and "all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide" pursuant to provisions of Section 404 of the Clean Water Act. Drainage 7 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a "Traditional Navigable Water." **All of drainage 7 is within the solar project footprint (Drainages #7A-#7F, 1.628 acres) will be impacted by the solar project and therefore would not require a 404 permit for any impacts.**

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. **All of drainage 7 is within the solar project footprint (Drainages #7A-#7F, 1.628 acres) and would require Section 401 Certification from the RWQCB.**

6.3.8 Drainage 8

CDFW: Drainage 8 would fall under the jurisdiction of the California Department of Fish and Game's Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 8 does have a definable bed and bank and directly connects to the Mojave River. **All of drainage 8 is within the solar project footprint (Drainages #8A-#8C, 1.278 acres) and would require notification under Section 1602 of the Fish and Game Code.**

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and "waters of the United States", which includes "tidal waters", "interstate waters", and "all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are

tributaries to waters subject to the ebb and flow of the tide” pursuant to provisions of Section 404 of the Clean Water Act. Drainage 8 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a “Traditional Navigable Water.” **All of drainage 8 is within the solar project footprint (Drainages #8A-#8C, 1.278 acres) will be impacted by the solar project and therefore would not require a 404 permit for any impacts.**

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. **All of drainage 8 is within the solar project footprint (Drainages #8A-#8C, 1.278 acres) and would require Section 401 Certification from the RWQCB.**

6.3.9 Drainage 9

CDFW: Drainage 9 would fall under the jurisdiction of the California Department of Fish and Game’s Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 9 does have a definable bed and bank and directly connects to the Mojave River. **A portion of drainage 9 is within the solar project footprint (Drainage #9A.1, 1.234 acres) and would require notification under Section 1602 of the Fish and Game Code.**

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and “waters of the United States”, which includes “tidal waters”, “interstate waters”, and “all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide” pursuant to provisions of Section 404 of the Clean Water Act. Drainage 9 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a “Traditional Navigable Water.” **A portion of drainage 9 is within the solar project footprint (Drainage #9A.1, 1.234 acres) will be impacted by the solar project and therefore would not require a 404 permit for any impacts.**

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. **A portion of drainage 9 is within the solar project footprint (Drainage #9A.1, 1.234 acres) and would require Section 401 Certification from the RWQCB.**

6.3.10 Drainage 10

CDFW: Drainage 10 would fall under the jurisdiction of the California Department of Fish and Game's Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 10 does have a definable bed and bank and directly connects to the Mojave River. Drainage 10 is outside the solar project footprint and should not require notification under Section 1602 of the Fish and Game Code.

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and "waters of the United States", which includes "tidal waters", "interstate waters", and "all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide" pursuant to provisions of Section 404 of the Clean Water Act. Drainage 10 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a "Traditional Navigable Water." Drainage 10 will not be impacted by the solar project and therefore would not require a 404 permit for any impacts.

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. Drainage 10 would not require Section 401 Certification from the RWQCB since the drainage is outside the solar array footprint.

6.3.11 Gen-Tie Transmission Corridor Drainage 11 & 12

CDFW: Drainage 11 & 12 would fall under the jurisdiction of the California Department of Fish and Game's Streambed Alteration Agreement, Section 1602 of the California Fish and Game Code. Drainage 11 & 12 does have a definable bed and bank and directly connects to the Mojave River. Drainage 11 & 12 are outside the area of impact. The two transmission poles are not anticipated to impact either drainage and should not require notification under Section 1602 of the Fish and Game Code.

ACOE: The ACOE regulates discharge of dredged or fill material into wetlands and "waters of the United States", which includes "tidal waters", "interstate waters", and "all other waters, interstate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce or which are

tributaries to waters subject to the ebb and flow of the tide” pursuant to provisions of Section 404 of the Clean Water Act. Drainage 11 & 12 is a tributary to Bell Mountain Wash which is a tributary to the Mojave River which is a “Traditional Navigable Water.” Drainage 11 & 12 are outside the area of impact. The two transmission poles are not anticipated to impact either drainage and therefore would not require a 404 permit for any impacts.

RWQCB: Section 401 of the CWA specifies that certification from the State is required for any project requesting a federal license or permit to conduct any activities including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters. Drainage 11 & 12 are outside the area of impact. The two transmission poles are not anticipated to impact either drainage 11 & 12. Therefore a Section 401 Certification from the RWQCB would not be required.

6.4. PROJECT IMPACTS TO JURISDICTIONAL AREAS

6.4.1. Permanent impacts to jurisdictional drainages

The project proposes to fill 5.138 acres of ephemeral washes during the development of the solar project site located within the Phase 3 landfill expansion area.

6.4.2. Project impacts to wetlands

There are no wetlands on site.

6.4.3. Summary of Agency Jurisdiction and Permanent Impacts (please see Figure H).

7.0 DISCUSSION

7.1. PERMITS

7.1.1 Streambed Alteration Notification

The Victorville solar project will substantially alter the bed, bank, and channel of 5.138 acres of ephemeral washes in the vicinity of the City of Victorville. The solar project is necessary to reduce greenhouse emissions and provide renewable energy as mandated by the State of California. **An amendment of the existing 1602 Streambed Alteration Agreement will be prepared and submitted to the California Department of Fish and Game.**

7.1.2 Army Corps of Engineers 404 permit

The Victorville solar project will place fill within the “ordinary high water mark” of 5.138 acres of “waters of the U.S.” **A Clean Water Act, Section 404 Permit will be necessary from the U.S. Army Corps of Engineers before any fill is placed within “water of the U.S.” associated with the Victorville solar project.**

7.1.3 Regional Water Quality Control Board 401 Certification

The Victorville solar project **will amend the existing 401 Certification from the Regional Water Quality Control Board.** The ACOE will not issue a 404 permit without the project complying with state water quality standards.

7.2. AVOIDANCE AND MINIMIZATION RECOMMENDATIONS

To minimize impacts associated with the solar project on resources associated with the drainages, the following avoidance and minimization measures are recommended:

- 1.1 Permittee shall have an approved Designated Biologist(s) (DB) on-site during all Project activity to ensure Agreement conditions are being met and impacts to wildlife habitat are minimized. Permittee shall obtain CDFW approval of Designated Biologist(s) in writing before commencement of project activities, and shall also obtain approval in advance in writing if a Designated Biologist must be changed. Permittee shall ensure that the Designated Biologist(s) is knowledgeable and experienced in the biology, natural history, collecting, and handling of appropriate species, and shall provide. When construction activities have progressed to the point where biological resources are no longer present, as determined by the DB, biological monitoring in the area may be reduced or discontinued with written from approval CDFW. To protect wildlife resources the DB shall have the authority to immediately stop any Project activity. If a State listed Species

of Special Concern, or threatened or endangered species are found within the Project work area the DB shall immediately stop work within the Project work area and notify CDFW in writing. Consultation with CDFW is required prior to cancellation of a stop work order.

- 1.2 Qualified biologist trained in desert tortoise detection/monitoring work shall be required on-site during clearing, grubbing, grading and installation of solar panels. Desert tortoise-proof fencing shall be maintained around project boundaries and areas inside the fencing shall be surveyed to detect and remove/relocate any desert tortoise.
- 1.3 Prior to any construction activities on the Project site, the Permittee will implement a Worker Environmental Awareness Program (WEAP) to educate on-site workers about sensitive environmental issues associated with the Project. The program will be administered to all on-site personnel, including the Applicant's personnel, contractors, and all subcontractors, prior to the employee's commencing work on the site. The WEAP will include but not be limited to protected species that have potential to occur within the Victorville Solar site; burrowing owl, Mojave ground squirrels, desert tortoises, nesting birds, plants, and other wildlife species. All personnel will sign the WEAP training to provide a record of compliance.
- 1.4 At the end of each workday, the Permittee shall place an escape ramp at each end of any open trenches or pits to allow any animals that may have become entrapped in the trench to climb out overnight. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees.
- 1.5 A Nesting Bird Plan (NBP) shall be submitted to CDFW for review and approval. CDFW shall approve the NBP prior to vegetation clearing or ground disturbance associated with construction or grading that would occur during the nesting/ breeding season (February through August, unless determined otherwise by a qualified biologist based on observations in the region). The NBP shall include project specific measures to ensure that impacts to nesting birds do not occur and that the project complies with all applicable law related to nesting birds and birds of prey. The NBP shall include at a minimum: monitoring protocols; survey timing and duration; the creation, maintenance, and submittal to CDFW of a bird nesting log; and project-specific avoidance and minimization measures. Avoidance and minimization measures shall include, at a minimum: project phasing and timing, monitoring of project-related noise, sound walls, and buffers, where appropriate. In project areas where nesting birds may occur, the applicant: 1) shall avoid removing potential nesting riparian vegetation from March 15 through July 30, or 2) shall survey all potential nesting riparian vegetation within the project site for active bird nests. If an active bird nest is located, the nest site shall be

flagged or staked a minimum of 50 meters in all directions, and this flagged zone shall not be disturbed until the nest becomes inactive.

- 1.6 The Burrowing Owl is protected under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13) and Sections 3503, 3503.5 and 3513 of the FGC, which prohibit take of all birds and their-nests including raptors. Habitat assessments, surveys, impact assessments, and all associated reports for burrowing owl shall be completed following the recommendations and guidelines provided within the *Staff Report on Burrowing Owl Mitigation* (Department of Fish and Game, March 2012). It is the responsibility of the Permittee to ensure compliance with these laws for the entire Project site. The Permittee shall conduct a Burrowing Owl preconstruction take avoidance survey prior to ground disturbance. The survey shall be conducted within fourteen (14) days of ground disturbance and it will be conducted by a biologist knowledgeable of Burrowing Owl habitat, ecology, and field identification of the species and burrowing owl sign and in accordance with the attached *Staff Report on Burrowing Owl Mitigation* (Department of Fish and Game, March 2012). The survey shall consist of walking 20 meter belt transects throughout the entire Project site and adjoining areas within 150 meters, including areas that may be indirectly impacted by the Project, to identify the presence of Burrowing Owl habitat. A report summarizing the results of the survey shall be submitted to CDFW within 30 days following the completion of the survey and shall include all information as outlined in Appendix C of the *Staff Report on Burrowing Owl Mitigation* (Department of Fish and Game, March 2012). The previous field surveys have detected burrowing owls on site. If surveys confirm additional owls on site the CDFW will be notified to discuss recommended options to assist in the development of avoidance, minimization, and mitigation measures, prior to commencing Project activities.
- 1.7 A pair of burrowing owls have been detected on site. The project proponent will need to submit a burrowing owl mitigation and relocation plan to the CDFW prior to ground disturbance. The plan will specify passive relocation methodology, the receiver site and habitat enhancements at the receiver site.
- 1.8 Spoil sites shall not be located within a wash or locations that may be subjected to high storm flows, where spoil may be washed back into washes, or where it may impact streambed habitat, aquatic or riparian vegetation.
- 1.9 Permittee and all contractors, subcontractors, and employees shall not dump any litter or construction debris within the washes, or where it may pass into the washes.
- 1.10 Storm water pollution prevention program (SWPPP) and Best Management Practices (BMP) will be adhered to minimize silt-laden water and hazardous materials from entering any drainages. Specific BMP may include straw bales, gravel bags, straw fiber

rolls, silt fencing along any drainages that will be disturbed. Additionally hazardous fuels will have secondary containment and no refueling of vehicles will occur within 100 feet from a drainage.

- 1.11 Permittee shall pick up all debris and waste daily and dispose of in a legal manner. In addition, the Permittee shall remove all Project generated debris, building materials and rubbish from the stream and from areas within one hundred and fifty (150) feet of the high water mark where such materials could be washed into the stream following completion of Project activities.
- 1.12 Water containing mud, silt, or other pollutants from equipment washing, panel washing or other activities, shall not be allowed to enter a wash or placed in locations that may be subjected to high storm flows.
- 1.13 No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from construction, or associated activity of whatever nature shall be allowed to enter into or placed where it may be washed by rainfall or runoff into a wash or any other jurisdictional feature. When construction is completed, excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of a wash.
- 1.14 No equipment maintenance or fueling shall be done within or near any wash where petroleum products or other pollutants from the equipment may enter these areas under flow.
- 1.15 Mitigation for the removal of vegetation associated with the drainage shall include re-vegetation of suitable areas with desirable vegetation native to the area wherever applicable. Hydro-seeding, jute netting and/or straw fiber rolls will be used to stabilize temporary impacts to any drainages after the project is complete.
- 1.16 Work areas within jurisdictional drainages shall be flagged as to assure work activities and impacts do not exceed those permitted.
- 1.17 All areas of disturbed soils with slopes towards a wash shall be stabilized to reduce erosion potential. Where possible, stabilization shall include the re-vegetation of stripped or exposed areas with vegetation native to the area. Where suitable vegetation cannot reasonably be expected to become established, non-erodible materials may be used for such stabilization.
- 1.18 Structures and associated materials, including debris, not designed to withstand high seasonal flows shall be relocated to areas above the high water mark before such flows occur.
- 1.19 All debris, bark, slash, sawdust, rubbish, silt, cement or concrete or washings thereof, asphalt, paint or other coating materials, oil or other petroleum products, or

any other substance resulting from project-related activities which would be hazardous to aquatic life or waters of the state, shall be prevented from contaminating the soil and/or entering the waters of the state. None of these materials shall be allowed to enter into or be placed within or where they may be washed by rainfall or runoff into waters of the state. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream.

- 1.20 Any project-disturbed portions of drainages not permanently impacted by this project will be restored to as near pre-project conditions as possible.
- 1.21 Precautions to minimize turbidity/siltation shall be taken into account during project planning and implementation. This will include the work site to be isolated and/or the construction of silt catchment basins, so the silt or other deleterious materials are not allowed to pass to the downstream reaches. BMP and SWPPP measures will be installed along drainages where newly cut slopes and sediment/siltation may flow into drainages. These may include straw fiber rolls, straw bales, silt fencing, gravel bags, jute netting and catchment basins.
- 1.22 Spoil sites shall not be located within a wash, where spoil can be washed back into a stream, or where it will cover aquatic or riparian vegetation. The applicant will remove all human-generated debris.

2. Reporting Measures

- 2.1 If any sensitive species are observed on or in proximity to the Project site, or during Project surveys, Permittee shall submit California Natural Diversity Data Base (CNDDB) forms and maps to the CNDDB within five working days of the sightings, and provide the regional CDFW office with copies of the CNDDB forms and survey maps. The CNDDB form is available online at: www.DFW.ca.gov/whdab/pdfs/natspec.pdf. This information shall be mailed within five days to: Department of Fish and Wildlife, Natural Diversity Data Base, 1807 13th Street, Suite 202, Sacramento, CA 95814, Phone (916) 324-3812. A copy of this information shall also be mailed within five days to Department of Fish and Wildlife, Inland Deserts Region at the address below under Contact Information.
- 2.2 Permittee shall notify CDFW, in writing, at least five (5) days prior to initiation of Project activities and within five (5) days of completion of Project activities.
- 2.3 Permittee shall provide a final report to CDFW no later than one month after construction activities are complete. This report shall summarize Project activities, and shall include site photos, a written description of Project activities, and the results of preconstruction surveys for nesting birds and burrowing owl, and a summary of any species observed by the designated biologist.

7.3. EXISTING MITIGATION AND PERMITS

The County of San Bernardino Solid Waste Management Division has previously mitigated the impacts for the permanent loss of 11.52 acres of desert wash habitat with a 480 acre land transfer with the Bureau of Land Management (BLM) for the Victorville Landfill and expansion area. Twenty-three acres were mitigated specifically for desert wash habitat as mandated by the Biological Opinion (BO) from the United States Fish and Wildlife Service (USFWS) which fulfilled the ACOE 404 permit requirements for the Phase 1 portion of the project site. The desert wash habitat is located on Sections 31 and 33 of Township 31S, Range 44E, approximately 27 miles northwest of the City of Barstow, California.

The County also obtained a 401 permit (WDID # 6B360901004; May 12, 2010) and 1600 permit (SAA # 1600-2009-0007-R6; February 11, 2010) which covered the entire project site. However, neither of these permits included the change in use from a landfill to solar project. Therefore, the project proponent will apply for amendment on both permits to include this change in use. The project proponent will also apply for a new 404 ACOE permit to cover impacts associated with the removal of 5.14 acres of waters of the US.

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This concludes the jurisdictional delineation report for the Victorville Solar Project; APN #472-011-34) within San Bernardino County, California.

Certification: *I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project. Any federally and/or state threatened/endangered species cannot be taken under State and Federal law. The report and recommended mitigation measures included in this report do not constitute authorization for incidental take for any sensitive species.*

Field work conducted by

Date: May 19, 2014

Signature: _____

Ryan Young, Senior Biologist & Principal

Report Prepared by

Date: September 24, 2014

Signature: _____

Ryan Young, Senior Biologist & Principal

Table 2: Jurisdictional Delineation Results – Impacted Drainages within the Victorville Solar Plant

Drainage	Subgroup Drainage	Square Feet	Acres	Linear Feet	Permanent Impact	Photo Points	Dominant Vegetation ¹	Wetland Vegetation or Hydric Soils	Soil Type within Drainage.	Dimensions	Jurisdiction
3	3A.1	2,013	0.046	336.0	Yes	11	HYSA, AMDU	None	Gravelly-sand alluvium	5 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
4	4A.1	1,759	0.040	281.0	Yes	N/A	LATR, HYSA, EPNE	None	Sandy alluvium.	5 ft wide by 1 ft deep	CDFW, RWCQB, ACOE
5	5A	6,743	0.155	526.0	Yes	18	HYSA, EPNE, KRLA	None	Gravelly-sand alluvium	12 ft wide by 2 ft deep	CDFW, RWCQB, ACOE
5	5B	17,092	0.392	1278.0	Yes	19	HYSA, LATR	None	Sandy alluvium	12 ft wide by 3 ft deep	CDFW, RWCQB, ACOE
5	5C.1	12,416	0.285	788.0	Yes	N/A	HYSA, LATR	None	Sandy alluvium	15 ft wide by 10 ft deep	CDFW, RWCQB, ACOE
6	6A.1	3,457	0.079	474.0	Yes	N/A	LATR, HYSA, EPNE	None	Sandy alluvium.	6 ft wide by 1 ft deep	CDFW, RWCQB, ACOE
7	7A	4,960	0.114	347.0	Yes	22	LATR, AMDU	None	Sandy, gravelly alluvium	3 ft wide by 1 ft deep	CDFW, RWCQB, ACOE
7	7B	875	0.020	207.0	Yes	21	LATR, AMDU	None	Caliche, Hard-packed sand	3 ft wide by 1 ft deep	CDFW, RWCQB, ACOE
7	7C	9,849	0.226	724.0	Yes	32	LATR, AMDU	None	Sandy alluvium.	6 ft wide by 1 ft deep	CDFW, RWCQB, ACOE
7	7D	6,568	0.151	615.0	Yes	23	EPNE, KRLA	None	Sandy alluvium-cobble sand.	5 ft wide by 1 ft deep	CDFW, RWCQB, ACOE
7	7E	6,677	0.153	1579.0	Yes	24	LATR, EPNE, AMDU	None	Sandy alluvium	12 ft wide by 2 ft deep	CDFW, RWCQB, ACOE
7	7F	41,997	0.964	1212.0	Yes	25	EPNE, AMDU, LATR	None	Sandy alluvium	12 ft wide by 3 ft deep	CDFW, RWCQB, ACOE
8	8A	38,047	0.873	335.0	Yes	26, 31	EPNE, LATR	None	Sandy alluvium	15 ft wide by 2 ft deep	CDFW, RWCQB, ACOE
8	8B	16,677	0.383	1008.0	Yes	27	HYSA, LATR	None	Sandy alluvium	8 ft wide by 1 ft deep	CDFW, RWCQB, ACOE
8	8C	946	0.022	123.0	Yes	28	HYSA, LATR	None	Sandy alluvium	5 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
9	9A.1	53,746	1.234	2068.0	Yes	29-30	HYSA, AMDU	None	Cobble-sand	15 ft wide by 5 ft deep	CDFW, RWCQB, ACOE
TOTAL		223,822	5.138	11,901	Additional Photo Points						
Drainage entry points. North of site along Quarry Road. Upslope.							3,4,5,6,7,8,9,10				
Bell Mountain Wash. South of Site. Downslope.							17.A, 17.B				
Pre-existing road on site. Southeast corner							1, 2				
¹ HYSA-Hymenoclea salsola, LATR-Larrea tridentata, EPNE-Ephedra nevadensis, AMDU-Ambrosia dumosa, KRLA-Krashinnikovia lanata,											

Table 3: Jurisdictional Delineation Results – Drainages Located Within the Phase 3 Landfill Parcel - Outside the Victorville Solar Plant (No Impact)

Drainage	Subgroup Drainage	Square Feet	Acres	Linear Feet	Impact	Photo Points	Dominant Vegetation ¹	Wetland Vegetation or Hydric Soils	Soil Type in Drainage.	Dimensions	Jurisdiction
1	1	2,604	0.060	370.0	None	N/A	LATR, HYSA	None	Cobbly alluvium	8 ft wide by 15 ft deep	CDFW, RWCQB, ACOE
2	2	1,406	0.032	241.0	None	N/A	HYSA, EPNE	None	Cobble & Caliche	6 ft wide by 6 ft deep	CDFW, RWCQB, ACOE
3	3A.2	3,715	0.085	496.0	None	12	HYSA, AMDU	None	Gravelly-sand alluvium	8 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
3	3B.2	39,137	0.898	1610.0	None	13	LATR, HYSA	None	Cobbly-sand alluvium	30 ft wide by 20 ft deep	CDFW, RWCQB, ACOE
4	4A.2	19,216	0.441	1431.0	None	14	LATR, HYSA, EPNE	None	Sandy alluvium.	20 ft wide by 15 ft deep	CDFW, RWCQB, ACOE
5	5C.2	17,978	0.413	750.0	None	20	HYSA, LATR	None	Sandy alluvium	18 ft wide by 10 ft deep	CDFW, RWCQB, ACOE
6	6A.2	5,486	0.126	334.0	None	15	LATR, HYSA, EPNE	None	Sandy alluvium.	15 ft wide by 10 ft deep	CDFW, RWCQB, ACOE
9	9A.2	10,779	0.247	183.0	None	N/A	HYSA, AMDU	None	Cobbly sand	10 ft wide by 5 ft deep	CDFW, RWCQB, ACOE
10	10	5,838	0.134	300.0	None	N/A	LATR, HYSA	None	Sandy alluvium.	8 ft wide by 2 ft deep	CDFW, RWCQB, ACOE
11	11A.2	680	0.016	241.0	None	N/A	HYSA, LATR	None	Sandy alluvium	5 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
11	11A.3	877	0.020	N/A	None	N/A	HYSA, LATR	None	Sandy alluvium	5 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
12	12A.2	870	0.020	N/A	None	16	HYSA, LATR	None	Sandy alluvium	5 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
12	12A.3	205	0.005	N/A	None	16	HYSA, LATR	None	Sandy alluvium	5 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
11	11A.1	190	0.004	20.0	None	16	HYSA, LATR	None	Sandy alluvium	5 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
12	12A.1	115	0.003	20.0	None	16	HYSA, LATR	None	Sandy alluvium	5 ft wide by <1 ft deep	CDFW, RWCQB, ACOE
TOTAL		109,096	2.504	5,996							
¹ HYSA-Hymenoclea salsola. LATR-Larrea tridentata. EPNE-Ephedra nevadensis. AMDU-Ambrosia dumosa. KRLA-Krashinnikovia lanata											

Figure A: Regional Setting

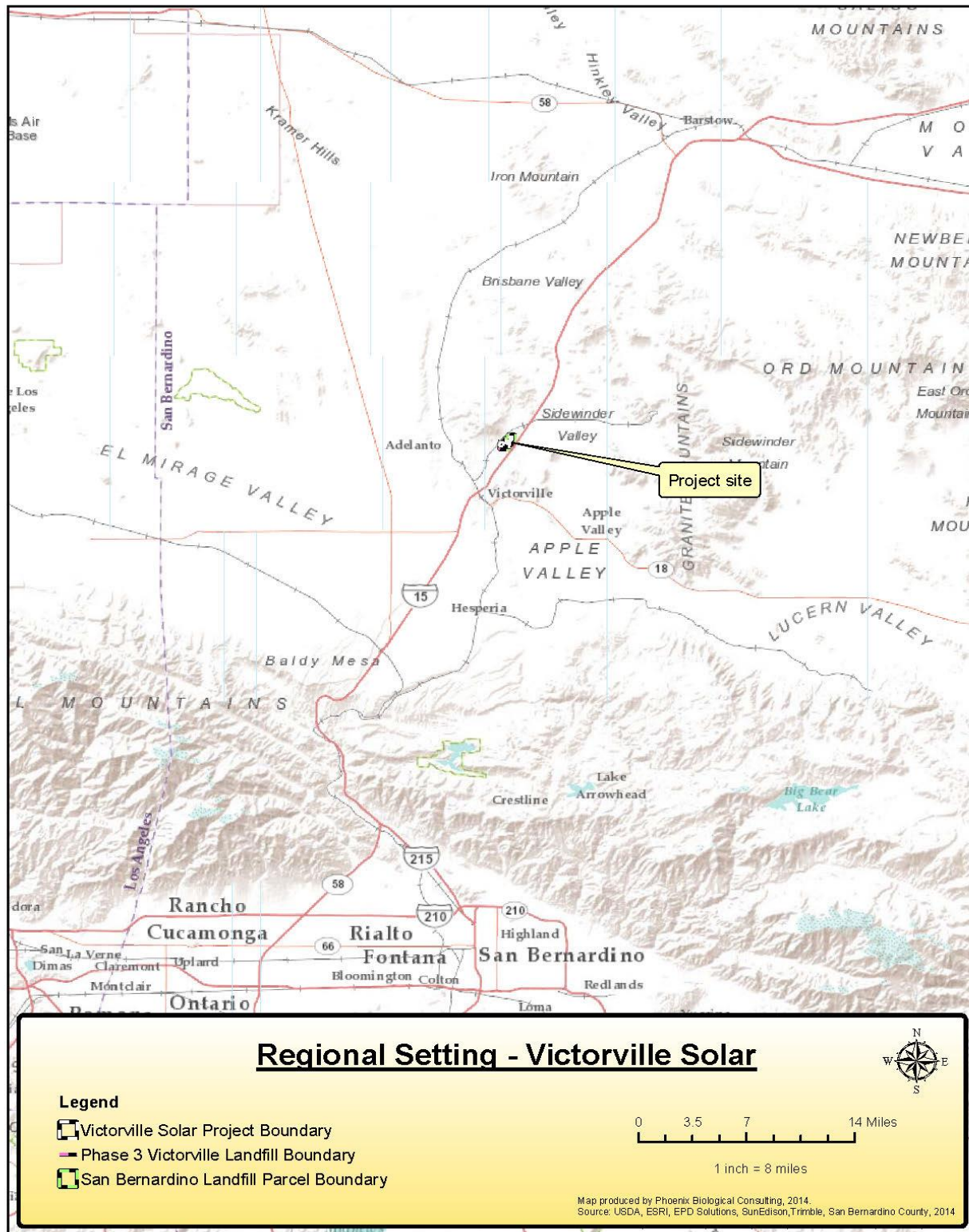


Figure B: USFWS National Wetlands Inventory of Victorville Landfill Area

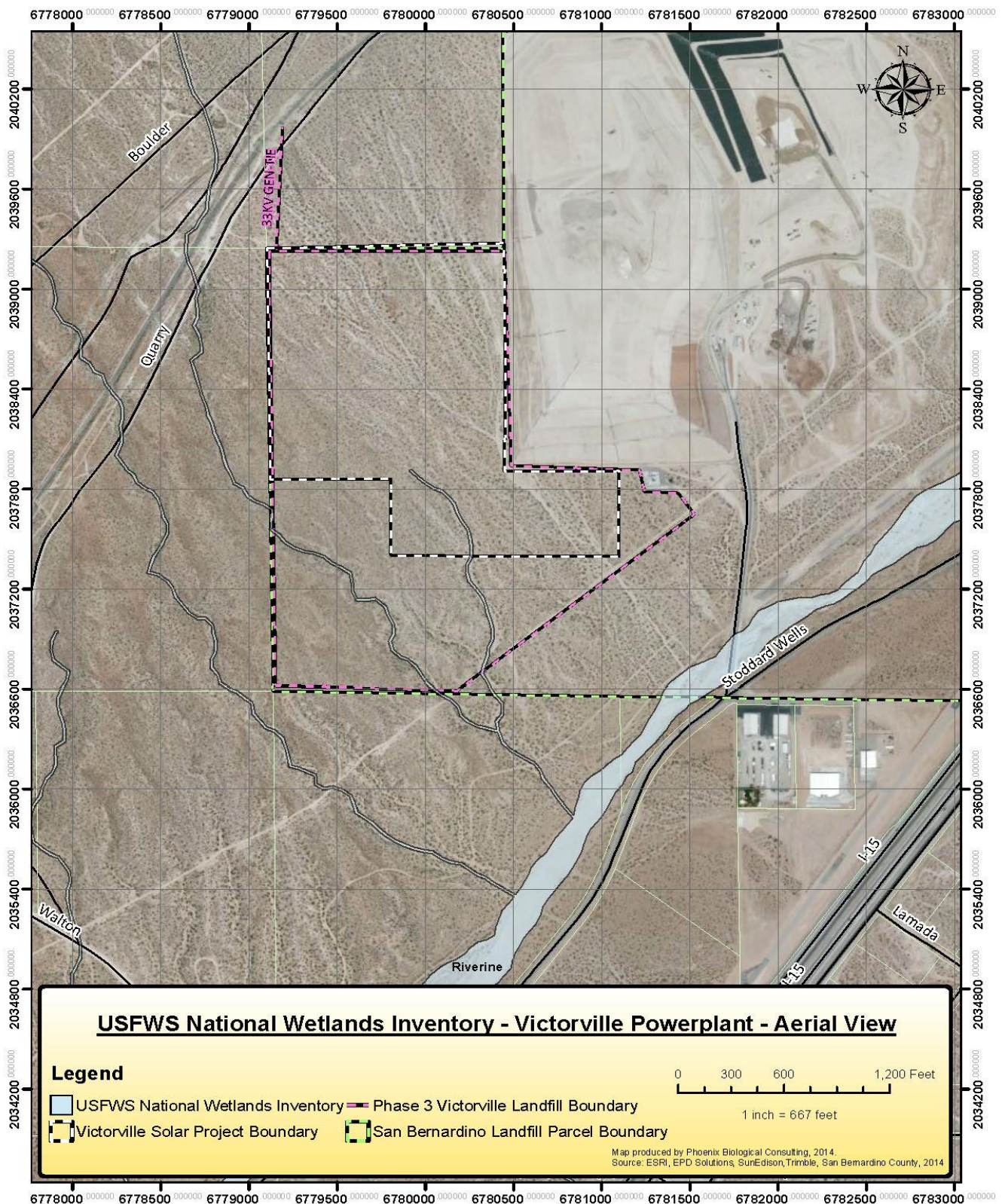


Figure C: Bell Mountain Wash – Upper Mojave River Watershed

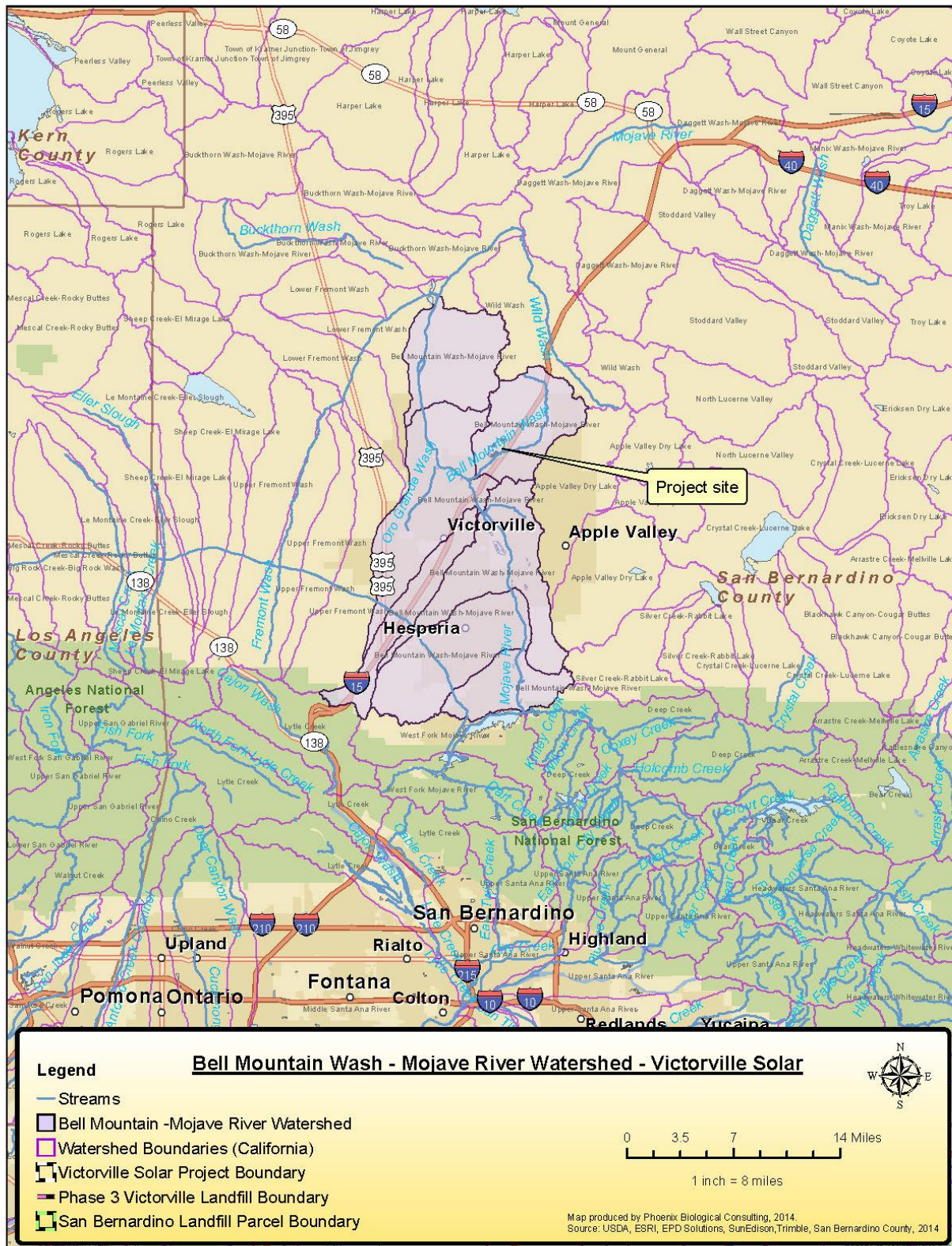


Figure D: Soil Map for Victorville Solar Project

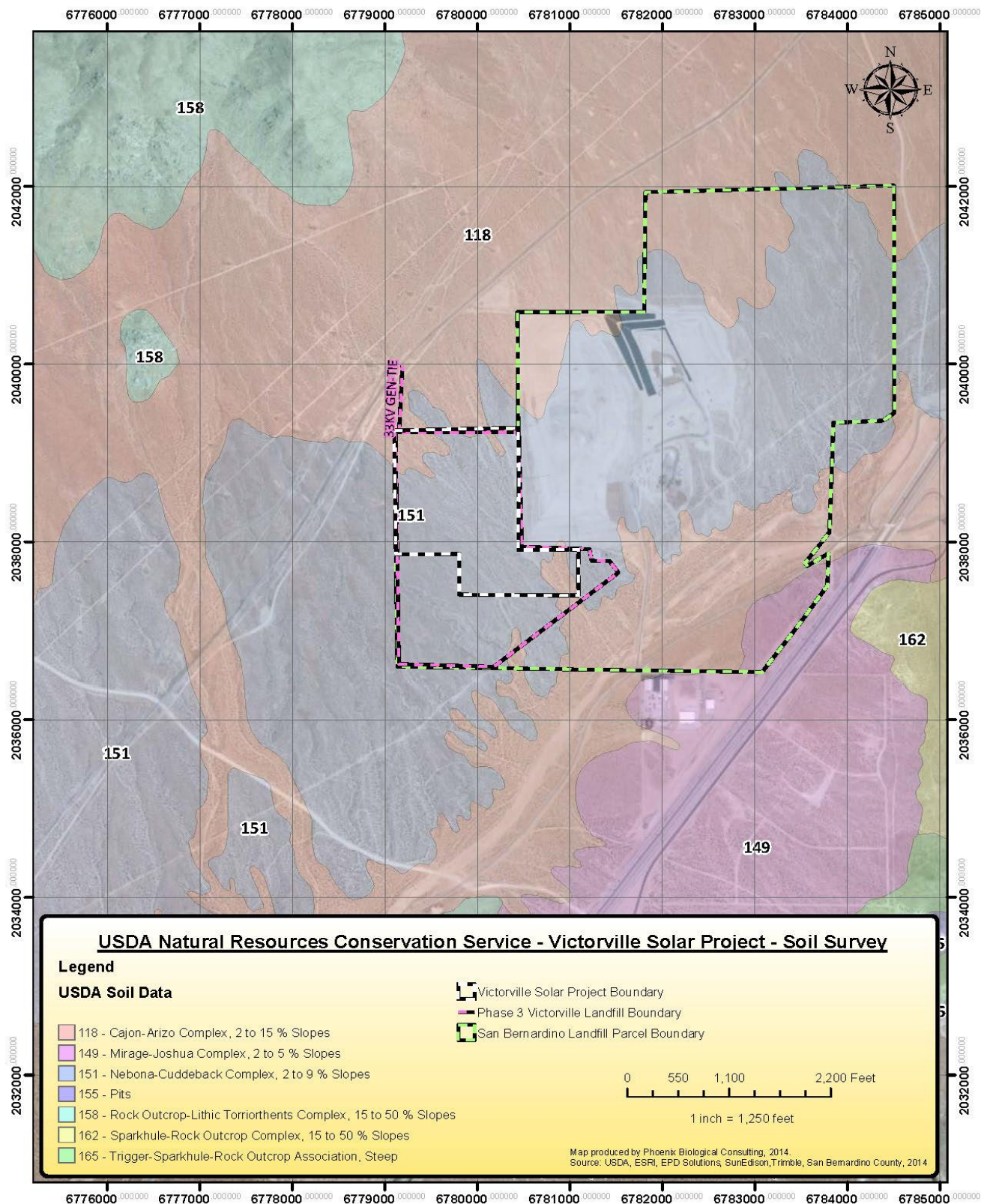


Figure E: Victorville Landfill Aerial View Comparison 1994-2009

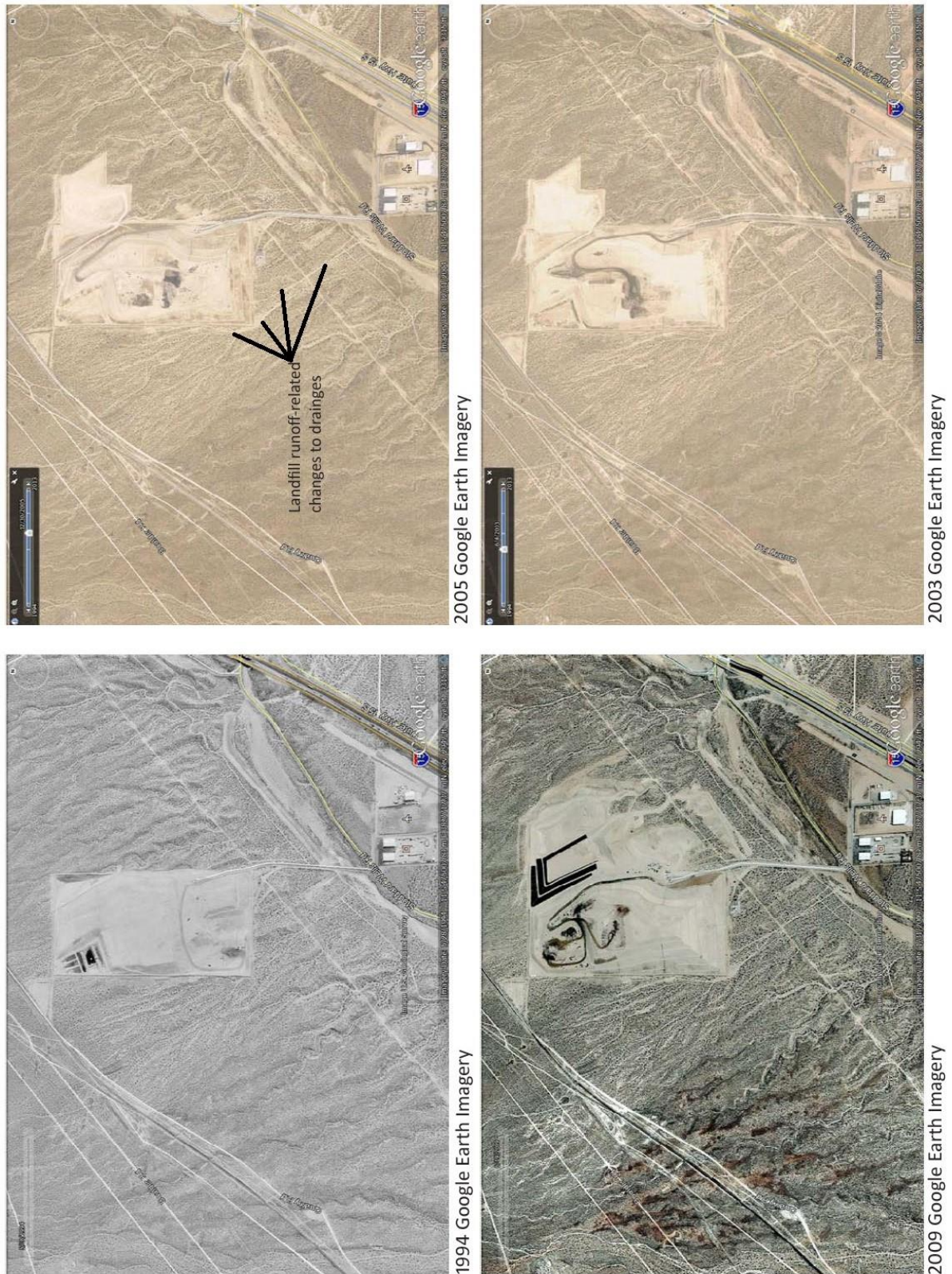


Figure F: Jurisdictional Delineation Aerial View

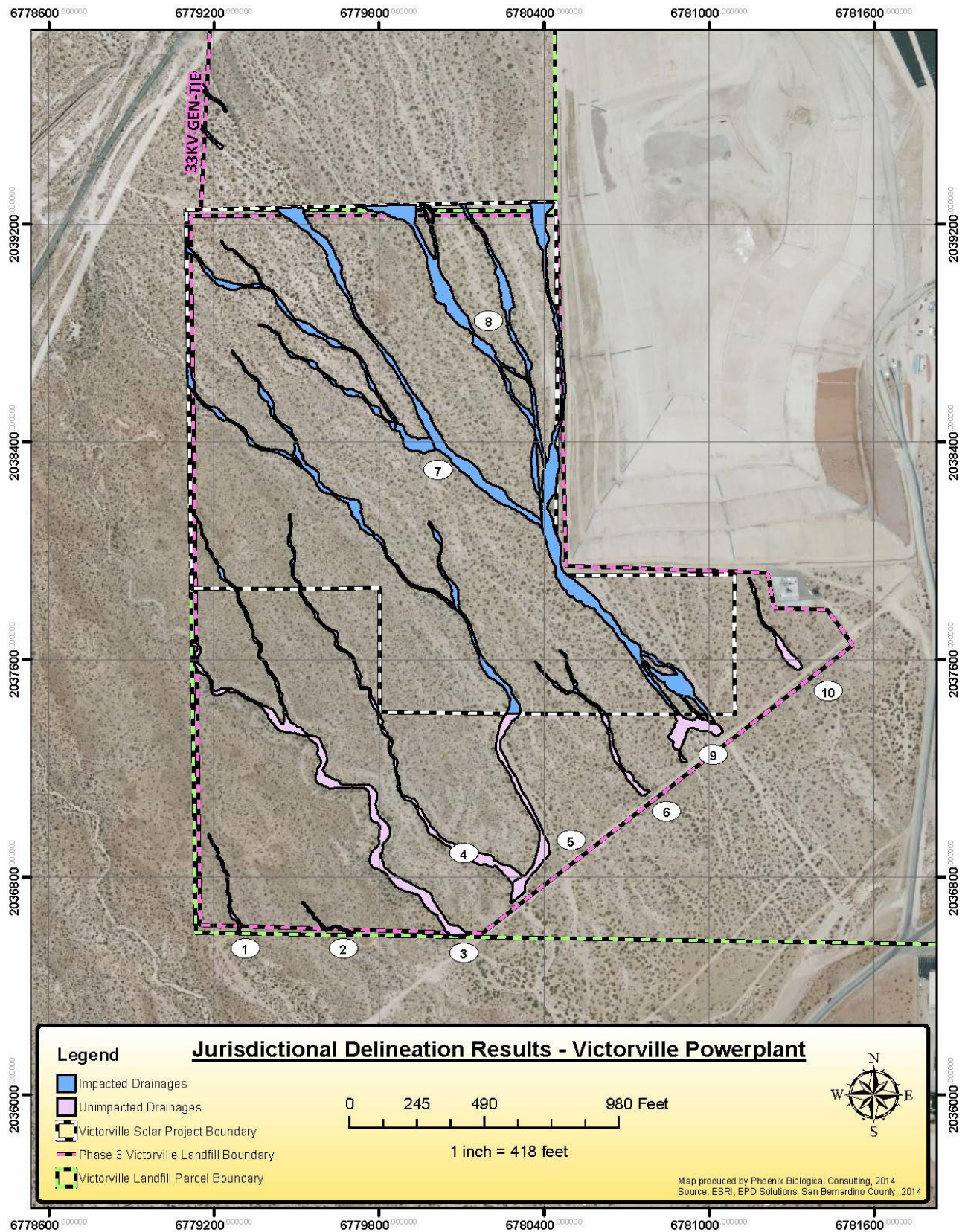


Figure G: Photo Points – Topographic View

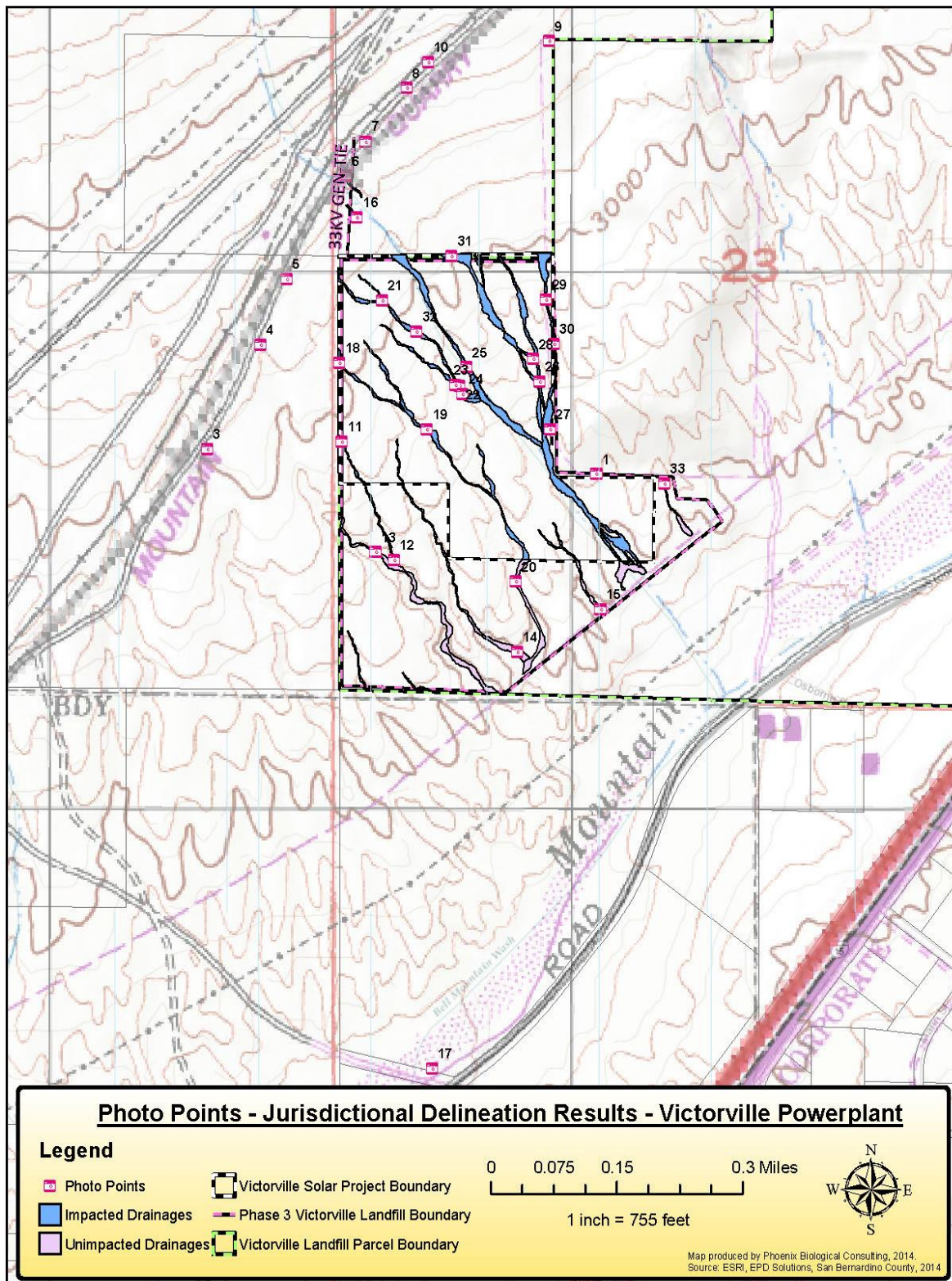


Figure H: Jurisdictional Delineation and Permanent Impacts - Aerial View

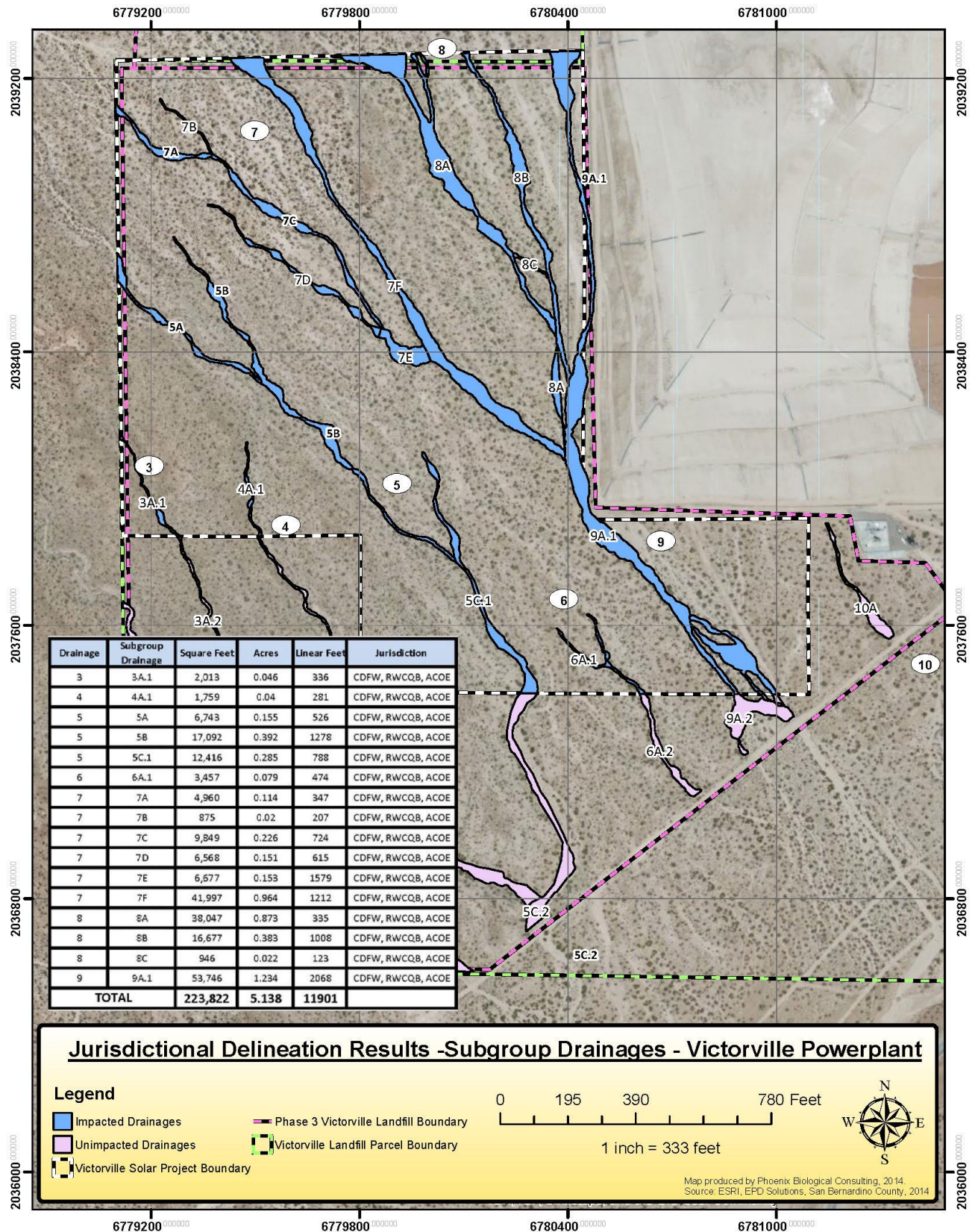


Figure I: Gen-Tie Transmission Line - Victorville Solar

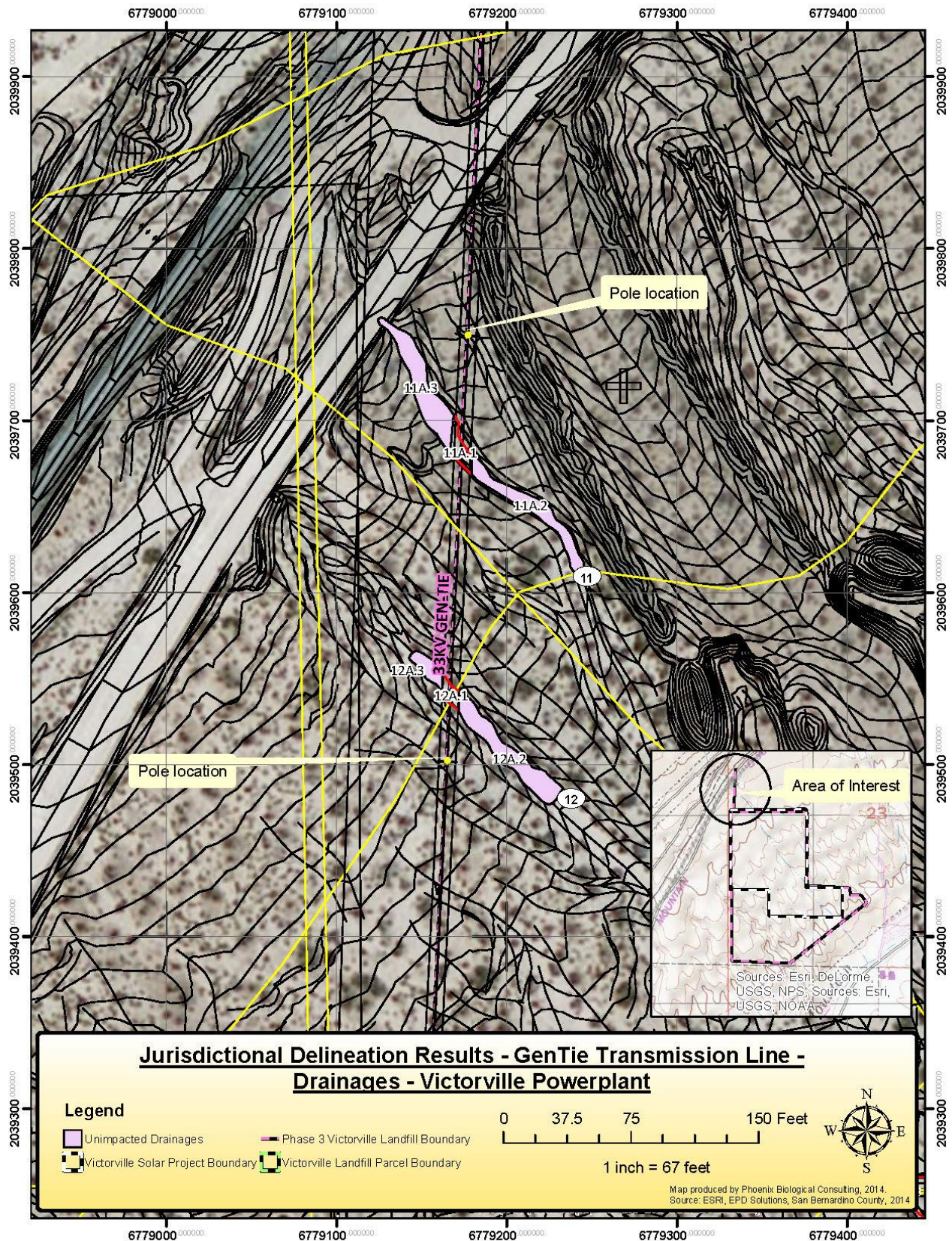


Figure J: Victorville Solar Site Plan

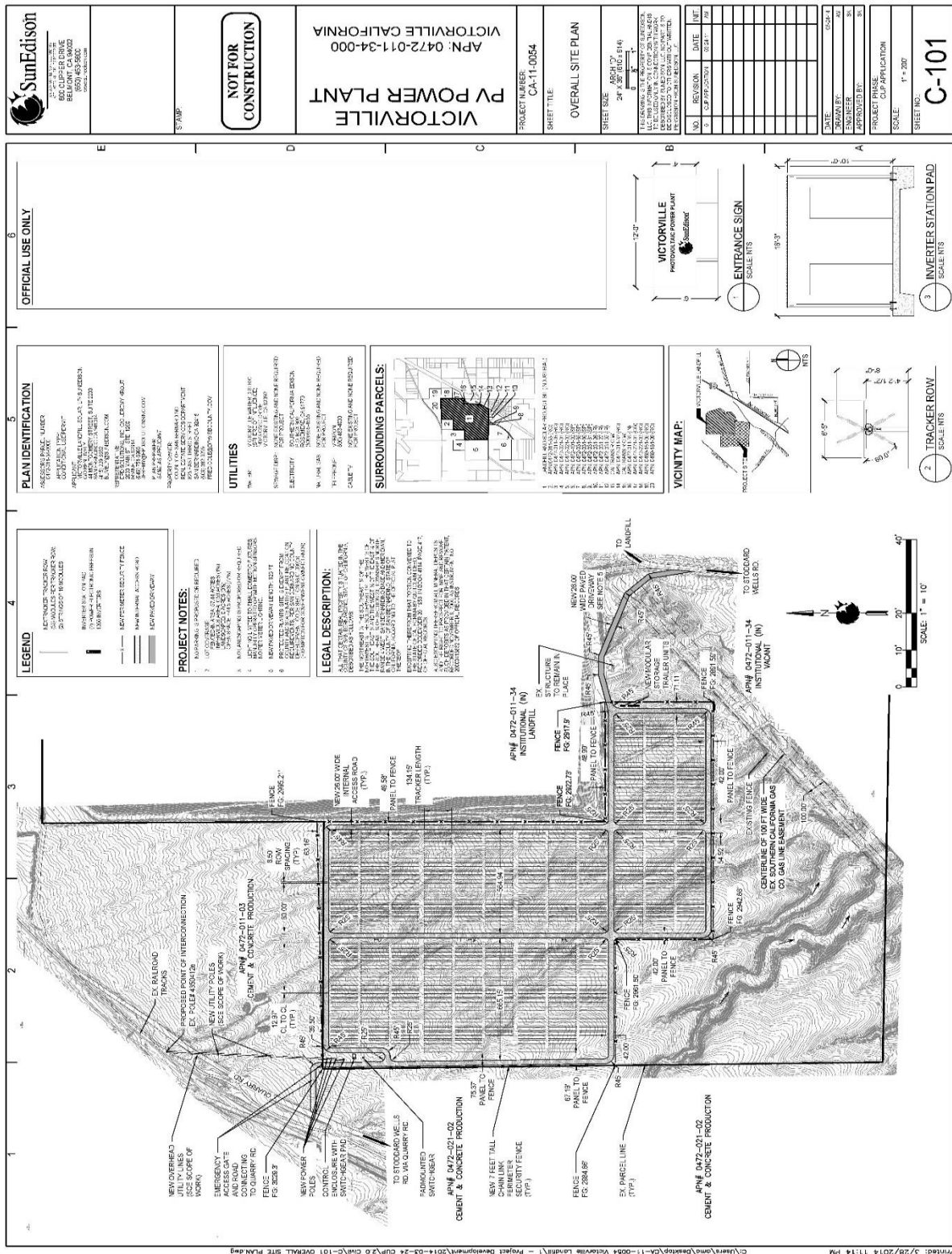


Figure K: Drainage Photos



Photo #3. Quarry Rd. Upstream of site. Drainage not on site.



Photo #6. Drainage #7. Quarry Rd. Upstream of site.



Photo #9. Channelization/runoff from landfill. Facing South.



Photo #1. Monitoring well. Access Rd in background.



Photo #5. Quarry Rd. Upstream of site. Drainage #5.



Photo #8. Quarry Rd. Drainage #8. Upstream of site.



Photo #10. Drainage #8. Quarry Rd. Upstream of site.



Photo #4. Quarry Rd. Upstream of Site. 3 ft wide culvert. Drainage #3.



Photo #7. Quarry Rd. Drainage #7. Upstream of site.

Figure L: Drainage Photos



Photo #12. Drainage #3A.2. Facing north.



Photo #15. Drainage #6. Facing north.



Photo 17.B. Bell Mtn Wash. West Facing.



Photo #11. Drainage #3. Facing north.



Photo #14. Drainage #4. Facing north.



Photo #17.A. Bell Mountain Wash. Landfill in top left corner.



Photo #18. Drainage # 5. Deposition along perimeter fence.



Photo #13. Drainage #3B.2. Facing North.



Photo #16. Gen-tie transmission corridor drainage.

Figure M: Drainage Photos



Photo #21. Drainage 7B. Facing North.



Photo #24. Drainage #7E. Facing North.



Photo #27. Drainage #8B.



Photo #20. Drainage #5C.2. Facing South.



Photo #23. Drainage #7D. Facing North.

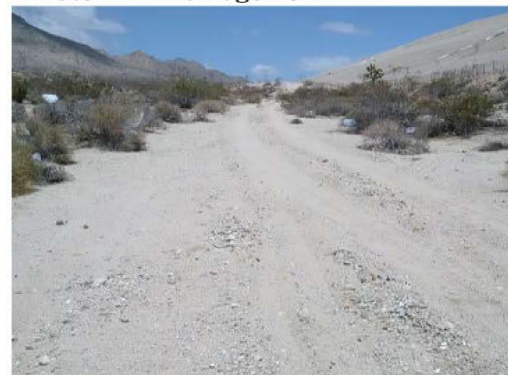


Photo #26. Drainage #8A. Facing North.



Photo #19. Drainage #5B. Facing South.



Photo #22. Drainage 7A. Facing South.



Photo #25. Drainage #7F. Facing North.

Figure N: Drainage Photos



Photo #30. Drainage #9A.1. Landfill culvert.



Photo #33. Drainage #10. Facing North.



Photo #29. Drainage #9A.1. Facing North.



Photo #32. Drainage #7C. Facing North.



Photo #28. Drainage #8C. Facing North.



Photo #31. Drainage #8A. Deposition at perimeter fence.