

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

TABLE OF CONTENTS

TABLE OF CONTENTS 1

INTRODUCTION..... 3

STIPULATIONS..... 7

I. DEFINITIONS..... 7

II. AREA OF POTENTIAL EFFECTS 9

III. IDENTIFICATION AND EVALUATION..... 11

IV. ASSESSMENT OF EFFECTS..... 13

V. TREATMENT AND MANAGEMENT OF HISTORIC PROPERTIES..... 14

VI. DISCOVERIES AND UNANTICIPATED EFFECTS..... 16

VII. TREATMENT OF HUMAN REMAINS OF NATIVE AMERICAN ORIGIN 16

VIII. STANDARDS AND QUALIFICATIONS 17

IX. REPORTING REQUIREMENTS 18

X. IMPLEMENTATION OF THE UNDERTAKING 18

XI. AMENDMENTS TO THE AGREEMENT..... 19

XII. DISPUTE RESOLUTION..... 19

XIII. TERMINATION 20

XIV. ADDITION/WITHDRAWAL OF PARTIES FROM/TO THE AGREEMENT ... 20

XV. DURATION OF THIS AGREEMENT 21

XVI. EFFECTIVE DATE..... 21

SIGNATORY PARTIES..... 23

INVITED SIGNATORY PARTIES..... 24

CONCURRING PARTIES	27
APPENDIX A: IDENTIFICATION AND EVALUATION.....	43
I. IDENTIFICATION	43
II. EVALUATION.....	43
APPENDIX B: HISTORIC PROPERTIES TREATMENT PLAN(S).....	45
I. HISTORIC PROPERTIES TREATMENT PLAN(S) provide for the resolution or mitigation of effects to historic properties as a result of the project.	45
II. COORDINATION WITH ENERGY COMMISSION MEASURES UNDER CEQA	46
III. PERFORMANCE STANDARDS FOR NHPA SECTION 106 AND CEQA MITIGATION	46
IV. HISTORIC PROPERTY TREATMENT PLANS (HPTP).....	50
APPENDIX C: HISTORIC PROPERTIES MANAGEMENT PLAN.....	51
APPENDIX D: PROJECT DESCRIPTION	52
APPENDIX E: PROJECT MAPS AND ILLUSTRATIONS	55
3. Photograph of Parabolic Solar Collector Arrays (SCAs).....	58
APPENDIX F: SUMMARY OF CULTURAL RESOURCES INVESTIGATIONS	59
APPENDIX G: AGENCY FINDINGS AND DETERMINATIONS.....	64
APPENDIX H: CULTURAL RESOURCES IDENTIFIED WITHIN THE APE	66
APPENDIX I: DOCUMENTATION OF TRIBAL CONSULTATION.....	70
APPENDIX J: EXAMPLE MONITORING AND DISCOVERY PLAN	83
APPENDIX K: EXAMPLE NAGPRA PLAN OF ACTION	129

INTRODUCTION

The purpose of this Programmatic Agreement (Agreement) is to provide the processes whereby the Bureau of Land Management (BLM), in consultation with the California State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), Indian Tribes and other consulting parties, take into account the effects of the Genesis Solar, LLC - Genesis Solar Energy Project on historic properties and provide the ACHP a reasonable opportunity to comment as required by Section 106 of the National Historic Preservation Act (Section 106). The California Energy Commission (Energy Commission) intends to use this Agreement to satisfy the requirements of the California Environmental Quality Act.

The BLM, in consultation with the consulting parties to this Agreement, will consider and incorporate within the Section 106 consultation process the performance standards (desired future condition), range of mitigation measures and commitment to mitigate, and monitoring requirements of the Energy Commission's Staff Assessment for the Genesis Solar, LLC - Genesis Solar Energy Project (Application for Certification 09-AFC-8). The BLM and the Energy Commission will endeavor to make the historic properties treatment and management provisions of this Agreement as it applies to the project as consistent as possible with the objectives and terms of the Staff Assessment within the context of the consultation process required by Section 106.

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

Appendices to this Agreement provide additional information about the Project or guidance. The Appendices can also include examples or drafts of planning documents that may be required and tiered from this Agreement and for which Section 106 consultation will continue to develop a final version.

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

WHEREAS, the BLM has determined that since it requires the issuance of a ROW to Genesis Solar, LLC in accordance with the Federal Land Policy and Management Act (FLPMA) (Public Law 940-579; 43 U.S.C 1701), the Project is an Undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470(f), and its implementing regulations under 36 CFR Part 800 (2004) (Section 106); and

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

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

WHEREAS, the BLM, in consultation with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP), pursuant to 36 C.F.R. 800.4(b)(2), seek to phase final identification and evaluation of historic properties for the project pursuant to 36 C.F.R. 800.4(b)(2) because the alternatives under consideration consist of large land areas. In accordance with the requirements of 36 C.F.R. 800.4(b)(2), the BLM is preparing this Agreement to set forth the process for completing phased compliance with Section 106 of the NHPA; and

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

WHEREAS, in accordance with regulations at 36 CFR 800.14(b)(3) BLM has notified and invited the ACHP per 36 CFR 800.6(a)(1)(C) to participate in consultation to resolve the potential effects of the Undertaking on Historic Properties, and as per their letter dated March 11, 2010, the ACHP has elected not to participate in this Agreement; and

WHEREAS, the California Energy Commission (Energy Commission) may certify the Project located on both public and private lands pursuant to Section 25519, subsection (c) of California's Warren-Alquist Act of 1974 and, for the purposes of consistency, proposes to manage all historical resources in accordance with the stipulations of this Agreement, and has participated in this consultation and is an Invited Signatory to this Agreement; and

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

WHEREAS, the Applicant has participated in this consultation per 36 C.F.R. 800.2(c)(4) and, will be the entity to whom the BLM may grant a ROW related to Project activities, and has the responsibility for carrying out the specific terms of this Agreement under the oversight of the BLM, and therefore is an Invited Signatory to this Agreement; and

WHEREAS, pursuant to the special relationship between the Federal government and Indian tribes, and Section 101(d)(6)(B) of the NHPA, 36 C.F.R. 800.2(c)(2)(ii), the American Indian Religious Freedom Act (AIRFA), Executive Order 13175, and Section 3(c) of the Native American Graves Protection and Repatriation Act (NAGPRA), the BLM is responsible for government-to-government consultation with federally recognized Indian Tribes and is the lead federal agency for all Native American consultation and coordination; and

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

WHEREAS, through consultation, Tribes have expressed their views and concerns about the importance and sensitivity of specific cultural resources to which they attach religious and cultural significance. Tribes have expressed the connection of these resources to the broader cultural landscape within and near the Project area; and

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

WHEREAS, the California Unions for Reliable Energy has been invited to consult on this undertaking and this Agreement, has been afforded consulting party status pursuant to 36 C.F.R. 800.3(f)(4), and has been invited to be a Concurring Party to this Agreement. The BLM will continue to consult with any consulting party that request such consultation regardless of their decision to concur by signature in this Agreement. BLM shall continue to consult throughout the implementation of this Agreement, however only consulting parties that have concurred in this Agreement by signature shall have rights with regard to implementation of the terms of this Agreement; and

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

WHEREAS, the BLM has defined the APE in which the Project may directly or indirectly adversely affect historic properties pursuant to the definition of APE at 36 C.F.R. 800.16(d). The basis of the APE is described in greater detail in Stipulation II of this Agreement; and

WHEREAS, the Applicant has retained an archaeological consultant to complete all of the investigations necessary to identify and evaluate the National Register of Historic Places (NRHP) eligibility for cultural resources located within the APE for both direct and indirect effects. The consultant has completed a review of the existing historic, archaeological and

ethnographic literature and records to ascertain the presence of known and recorded cultural resources in the APE and buffered study area; conducted an intensive field survey for 5,188 acres of land, including all of the lands identified in APE for direct effects for all Project alternatives; and completed intensive field surveys for alternatives on lands that are no longer part of the Project. The consultant has also submitted a cultural resources inventory report (*Class II and Class III Cultural Resources Inventories for the Proposed Genesis Solar Energy Project, Riverside County, California*, prepared by Tetra Tech, May 2010) that presents the results of identification efforts and was submitted to the BLM and Energy Commission. The BLM has provided the report to the interested parties and Tribes for review and comment; and

NOW, THEREFORE, the BLM and SHPO (hereinafter “Signatories”) and the Energy Commission and Applicant (hereinafter “Invited Signatories”), agree that the Project shall be implemented in accordance with the following stipulations in order to take into account the adverse effect of the undertaking on historic properties, resolve such adverse effects through the process set forth in this Agreement, and provide the ACHP with a reasonable opportunity to comment in compliance with Section 106.

STIPULATIONS

The BLM shall ensure that the following measures are implemented:

I. DEFINITIONS

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

- a) **Area of Potential Effect.** The APE is defined as the total geographic area or areas within which the Project may directly or indirectly cause alterations in the character or use of historic properties per 36 C.F.R. 800.16(d). The APE is influenced by the scale and nature of an undertaking and includes those areas which could be affected by a project prior to, during and after construction.
- b) **Concurring Parties.** Collectively refers to consulting parties with a demonstrated interest in the Project, who agree, through their signature, with the terms of this Agreement. Concurring Parties may propose amendments to this Agreement.
- c) **Cultural Resource.** A cultural resource is an object or definite location of human activity, occupation, use, or significance identifiable through field inventory, historical documentation, or oral evidence. Cultural resources are prehistoric, historic, archaeological, or architectural sites, structures, buildings, places, or objects and locations of traditional cultural or religious importance to specified social and/or culture groups. Cultural resources include the entire spectrum of objects and places, from artifacts to cultural landscapes, without regard to eligibility for inclusion on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR).
- d) **Consulting Parties.** Collectively refers to the Signatories, Invited Signatories and Concurring Parties who have signed this Agreement.

- e) **Historic Properties.** Properties (cultural resources) that are included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior and per the NRHP eligibility criteria at 36 CFR60.4 and may include any prehistoric or historic district, site, building, structure, traditional cultural property or object. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the NRHP criteria. The term “eligible for inclusion in the NRHP” refers both to properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the NRHP criteria.
- f) **Historical Resources.** Historical resources are cultural resources that meet the criteria for listing on the CRHR as provided at California Code of Regulations Title 14, Chapter 11.5, Section 4850 and may include, but are not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.
- g) **Invited Signatories.** Invited Signatories are parties that have specific responsibilities as defined in this Agreement. Those Invited Signatories who actually sign this Agreement have the same rights with regard to seeking amendment or termination of this Agreement as the Signatory Parties, but whose signatures are not required for execution of the Agreement. Invited Signatories to this Agreement are the Energy Commission and Applicant.
- h) **Lands Administered by the U.S. Department of Interior, Bureau of Land Management (BLM)** means any federal lands under the administrative authority of the BLM.
- i) **Literature Review.** A literature review is one component of a BLM class I inventory, as defined in BLM Manual Guidance 8100.21(A)(1), and is a professionally prepared study that includes a compilation and analysis of all reasonably available cultural resource data and literature, and a management-focused, interpretive, narrative overview, and synthesis of the data. The overview may also define regional research questions and treatment options.
- j) **Records Search.** A records search is one component of a BLM class I inventory and an important element of a literature review. A records search is the process of obtaining existing cultural resource data from published and unpublished documents, BLM cultural resource inventory records, institutional site files, State and national registers, interviews, and other information sources.
- k) **Signatories.** Signatories are parties that have the sole authority to execute, amend or terminate this Agreement. Signatories to this Agreement are the BLM and SHPO.
- l) **Traditional Cultural Property.** A traditional cultural property is defined generally as a property that is important to a living group or community because of its association with cultural practices or beliefs that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. It is a place, such as a traditional gathering area, prayer site, or sacred/ceremonial location, that may figure in important community traditions. These places may or may not contain features, artifacts, or physical evidence, and are usually identified through consultation. A traditional cultural property may be eligible for inclusion in the NRHP and the CRHR.

- m) **Tribes.** The federally recognized Indian Tribes that BLM is consulting with on this Project.
- n) **Tribal organizations.** The non Federally recognized Indian tribes and Native American organizations that BLM is consulting with on this Project.
- o) **Windshield Survey.** A windshield survey is the driving or walking of surveyors along streets and roads of a community in order to observe and record the buildings, structures, and landscape characteristics seen from those vantage points. A windshield survey is a method commonly utilized in reconnaissance surveys to identify built-environment resources, such as buildings, objects, and structures.

II. AREA OF POTENTIAL EFFECTS

- a) The BLM has defined the APE for the Project based on both the direct and indirect impacts, to be a 15 mile radius around the block area of the Project. Below is a discussion about the APE and the methodology used to so define, and the survey methodology utilized within each APE. See Appendix E for APE map and Project illustrations.
 - i) The area within which historic properties could sustain direct effects as a result of the Project is defined to include:
 - (1) The block area of installation of the proposed components of the Project, which includes approximately 4,640 acres of public lands. The area is located approximately 25 miles west of the city of Blythe, California, and is generally bounded by the Palen/McCoy Wilderness Area to the north, and Ford Dry Lake and Interstate 10 to the south. Per Energy Commission requirements, a 200-foot wide buffer around the APE was included in the survey for cultural resources within the block area. This buffer is deemed sufficient to include any Project-related activity conducted near the edge of the Project footprint.
 - (2) All linear elements of the Project including:
 - (a) A ROW for the 230 kV transmission line is approximately 100-foot wide and 6.5 miles long and extends from the Project area to adjoin with the Transmission Lines being constructed as part of the Blythe Solar Power Energy Project and ultimately reaching the Colorado River Substation. The survey corridor for cultural resources for this linear element was established as a 200-foot wide buffer on either side of the center line (400-foot wide corridor) to allow for changes in the ROW to avoid cultural resources.
 - (b) The ROW for the transmission line will also contain a natural gas pipeline that will tie into an existing Southern California Gas natural gas pipeline south of and adjacent to Interstate 10.
 - (c) The ROW for the transmission line will also contain all temporary or permanent access roads required outside the plant footprint.

- ii) The area within which historic properties could sustain indirect effects, including visual, auditory, atmospheric, and contextual, as a result of the Project includes:
 - (1) Historic properties or cultural resources within a 15 mile radius of the direct effects APE that are identified through a review of existing literature and records search, information or records on file with the BLM or at the Eastern Information Center (EIC), interviews or discussions with local professional or historical societies and local experts in history or archaeology. For example, specific areas of concern or cultural resources that were identified include:
 - (a) McCoy Spring Archaeological Site CA-RIV-132.
 - (b) Numerous, wide-spread, previously recorded, historic and prehistoric trail segments in the area.
 - (2) Historic properties or cultural resources within a 15 mile radius of the direct effects APE that are included in the Native American Heritage Commission Sacred Lands Files, identified through a literature review or records search, or identified by a Tribe or Tribal organization, through consultation as having religious or cultural significance. Specific places or cultural resources that have been identified through tribal consultation include:
 - (3) Historic properties or cultural resources within a 15 mile radius of the direct effects APE that have been identified by a consulting party, organization, governmental entity, or individual through consultation or the public commenting processes as having significance or being a resource of concern. Areas identified through consultation to date include:
 - (a) Desert Training Center (DTC) Archeological Sites and Landscape
 - (b) McCoy Spring Archaeological Site CA-RIV-132
 - (4) Built-environment resources located within one-half mile of the Project footprint,
 - (a) whose historic settings could be adversely affected. Specific areas of concern or cultural resources have been identified both south and north of the Project location and include:
 - (b) On private property, historic properties or cultural resources within one-half mile of the direct effects APE that are identified through surveys, where access was granted, and windshield surveys, where access was not granted.
- b) The APE, as currently defined, encompasses an area sufficient to accommodate all of the proposed and alternative Project components under consideration as of the date of the execution of this Agreement. If it is determined in the future that the Project may directly or indirectly affect historic properties located outside the currently defined APE, then the

BLM, in consultation with the Signatories, Invited Signatories, and Concurring Parties, shall modify the APE using the following process:

- i) Any consulting party to this Agreement may propose that the APE established herein be modified. The BLM shall notify the other Signatories, Invited Signatories, and Concurring Parties of the proposal and consult for no more than 15 days to reach agreement on the proposal.
- ii) If the Signatories agree to the proposal, then the BLM will prepare a description and a map of the modification to which the Signatories agree. The BLM will keep copies of the description and the map on file for its administrative record and distribute copies of each to the other Signatories, Invited Signatories and Concurring Parties within 30 days of the day upon which agreement was reached.
- iii) Upon agreeing to a modification to the APE that adds a new geographic area, the BLM shall follow the processes set forth in Stipulation III to identify and evaluate historic properties in the new APE, assess the effects of the undertaking on any historic properties in the new APE, and provide for the resolution of any adverse effects to such properties, known or subsequently discovered, per Stipulations IV and V.
- iv) If the Signatories cannot agree to a proposal for the modification of the APE, then they will resolve the dispute in accordance with Stipulation XII.

III. IDENTIFICATION AND EVALUATION

- a) The BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this undertaking including, but not limited to, a literature review, records search, cultural resources surveys, ethnographic studies, and geo-morphological studies to identify historic properties that might be located within applicable specific APE.
 - i) The Applicant has prepared and submitted a cultural resources inventory report (Tetra Tech 2010) to the BLM and the Energy Commission that presents the results of the Applicant's identification efforts. The report is currently under review by the BLM and Energy Commission to assess whether the report conforms with the field methodology and site description template required under BLM Fieldwork Authorization 66.24 10-05 and Fieldwork Authorization 66.24 09-16 and Energy Commission transaction number Data Requests ##254 – 256, #260 and #280, Docket number 09-AFC-8.
 - ii) The BLM, in consultation with the Energy Commission, may require additional field investigations to be conducted by the Applicant to ensure the accuracy of site recordation and to provide additional information to support site evaluations and the

assessment of effects. However, the BLM and Energy Commission, separately or together, have the right and the discretion, under this Agreement, to request additional field studies.

- iii) The BLM is consulting with interested Tribes, Tribal organizations or tribal individuals regarding the identification of historic properties within the APE to which they attach religious or cultural significance and shall respond to any additional request to consult with Tribes, Tribal organizations or tribal individuals.
- b) The BLM shall make determinations of eligibility consistent with 36 C.F.R. 800.4 prior to the Record of Decision (ROD) to the extent practicable, and will make any remaining determinations as soon as possible afterwards, on those cultural resources within the APE, and make the agency's determinations available to the consulting parties, Tribes and the public for a 45 day review and comment period.
 - i) The BLM will respond to any request for consultation on its determinations from a consulting party to this Agreement or a Tribe.
 - ii) A consulting party may provide its comments directly to the SHPO with a copy to the BLM within the 45 day comment period.
 - iii) The BLM will forward to the SHPO all comments regarding its determinations received during the 45 day comment period.
 - iv) After the 45 day comment period, the BLM may request SHPO concurrence for those determinations and findings for which there is no disagreement.
 - (1) SHPO will have 15 days in which to comment.
 - (2) Should SHPO not comment, BLM shall document that SHPO has elected not to comment and may proceed in accordance with its proposed determinations.
 - (3) If the BLM and SHPO disagree on a determination, BLM shall seek a determination from the Keeper of the National Register.
 - v) Where a consulting party or Tribe objects to the BLM's determination for a specific cultural resource within the 45 day review period, the BLM shall consult with the objecting party and the SHPO regarding the nature of the objection and reconsider its determinations.
 - (1) If the objection is not resolved, the BLM shall further consult with the SHPO and follow the processes provided at 36 C.F.R. 800.4(c)(2).
 - (2) The BLM may proceed with determinations for all cultural resources not subject to objection.
 - vi) The BLM and the Energy Commission shall coordinate to the extent feasible and practicable on determinations of eligibility for the NRHP and CRHR.

- vii) If adverse effects to a cultural resource can be avoided, the BLM may choose to prescribe avoidance without making an eligibility determination of that cultural resource.
- c) In only the following circumstances, the BLM may defer the final evaluation of significance of cultural resources
 - i) where BLM has determined significance is limited to scientific, prehistoric, historic or archaeological data and where testing or limited excavation is recommended to determine whether a site would be eligible under Criterion D for inclusion on the NRHP.
 - ii) where additional evaluation efforts are required to assess the scientific, prehistoric, historic or archaeological data values of a property, the BLM and Energy Commission shall ensure that such properties located within the APE are evaluated for the NRHP and CRHR pursuant to Stipulation III and the guidelines provided in Appendix A of this Agreement.

IV. ASSESSMENT OF EFFECTS

- a) The BLM shall make determinations of effect consistent with 36 C.F.R. 800.4(d) and identify the type of adverse effect for each affected property in accordance with the criteria established in 36 C.F.R. 800.5(a)(1) and (2)(i)-(vii) prior to the ROD to the extent practicable on those cultural resources within the APE that are listed on or determined eligible for the NRHP, and provide the SHPO, Tribes, and the consulting parties with the results of this finding.
 - iii) The Applicant shall submit to the BLM:
 - (1) a list of the cultural resources that the Project appears likely to affect.
 - (2) a list of the cultural resources that the Project has no potential to affect.
 - (3) a list of the cultural resources that the Applicant commits to avoiding through the implementation of formal avoidance measures.
 - (4) a list of the cultural resources that cannot be avoided and will need to be evaluated and/or treated by implementing the prescriptions of the Historic Properties Treatment Plan (HPTP) required in Stipulation V of the Agreement.
- b) The BLM shall issue a finding of effect, based on the BLM's own evaluation of the Applicant's analysis, and provide Tribes and consulting parties to this Agreement an opportunity to review the BLM's finding and the analysis to support its finding.
 - i) The BLM shall attempt to make its determinations and findings to the extent possible in a single consolidated decision and may submit findings of effect to the SHPO

concurrently with its determinations of eligibility per Stipulation III(b), otherwise, the consulting parties shall have 30 days to comment on BLM findings of effect.

- ii) The BLM will forward to the SHPO all comments regarding its findings of effect received during the comment period.
- iii) After the comment period, the BLM may request SHPO concurrence for those findings for which there is no disagreement.
 - (1) SHPO will have 15 days in which to comment.
 - (2) Should SHPO not comment, BLM shall document that SHPO has elected not to comment and may proceed in accordance with its proposed determinations.
 - (3) Should SHPO disagree with BLM's finding, they shall continue to consult to resolve the disagreement within a 30 day review period.
 - (4) If the SHPO and BLM are not able to resolve the disagreement within the review period, BLM will request ACHP review of the finding pursuant to 36 C.F.R. 800.5(c)(3)(i).
- iv) Where a consulting party or Tribe objects to the BLM's findings, the BLM shall consult with the objecting party and the SHPO regarding the nature of the objection and reconsider its findings.
 - (1) If the objection is not resolved, the BLM shall further consult with the SHPO and follow the processes provided at Stipulation IV(b)(iii).
- c) The Applicant, at the direction of the BLM and Energy Commission, may prepare the analysis required above in phases that correspond to the proposed sequence of development for the Project, provided that analyses are ultimately prepared for the entirety of the APE.
- d) If adverse effects to such cultural resources will not be avoided, the BLM must resolve the adverse effect by implementing the prescriptions of the HPTP. When developing these HPTPs, BLM does not need to consider those cultural resources that it has evaluated and determined are not eligible for inclusion in the NRHP consistent with the process under 36 C.F.R. 800.4.
- e) Where additional identification and evaluation efforts are required due to changes in the project and the APE, the BLM and Energy Commission shall ensure that cultural resources located within the APE are identified and evaluated for the NRHP and CRHR pursuant to Stipulation III of this Agreement.

V. TREATMENT AND MANAGEMENT OF HISTORIC PROPERTIES

- a) BLM will ensure the resolution of identified adverse effects to historic properties through avoidance, minimization, or mitigation and shall be described in one or more HPTP(s) that shall be written and finalized as described below and included in Appendix B.
- i) The BLM and Applicant, in consultation with the consulting parties and Tribes, shall develop a draft HPTP(s), prior to the ROD if feasible, or as soon as possible thereafter.
- (1) Prior to the issuance of any Notice to Proceed by the BLM to initiate the Project or any component of it that may affect historic properties, the Applicant shall develop and submit to the BLM one or more HPTPs for the BLM's approval.
 - (2) The HPTP(s) will be implemented after the ROW is granted by the BLM and prior to the issuance of a Notice to Proceed for construction in those portions of the Project addressed by the HPTP. The process for developing the HPTPs is further described below in this stipulation.
 - (3) The BLM may authorize the phased implementation of the HPTP(s) (per Stipulation X), or if appropriate, the development of HPTPs for individual cultural resources, or HPTPs that are related to specific issues or geography.
- ii) The BLM and Energy Commission, consistent with the guidelines provided in Appendix B(2), shall make every effort within the legal limits imposed on each party to incorporate into the Historic Properties Management Plan (HPMP) and any HPTP the intent of the treatment or mitigation measures in the Energy Commission's Conditions of Certification and BLM's ROD. The purpose of this effort is to evidence that due consideration of the intent inherent in the Energy Commission's Conditions of Certification were fully considered and incorporated when possible. If the BLM and Energy Commission cannot agree to proposed treatment measures, then they will resolve the dispute in accordance with Stipulation XII(c)(iii).
- iii) The BLM shall submit the HPTP(s) to the consulting parties and Tribes for a 30-day review period. BLM will consider timely comments when finalizing the HPTP(s). A consulting party may provide its comments directly to the SHPO with a copy to the BLM within the 30-day comment period. The BLM will forward to the SHPO all comments regarding the HPTP(s) received during the comment period.
- (1) Where an HPTP specifically addresses treatment for adverse effects to historic properties to which Tribes attach religious or cultural significance, the BLM shall submit the HPTP to the Tribes and seek their views and comments through consultation, regardless of the status of a Tribe as a Concurring party to this Agreement. BLM shall consult with involved Tribe(s) on the distribution to other consulting parties of any HPTP(s) that specifically addresses treatment for adverse effects to historic properties to which the Tribes attach religious or cultural significance. Such a specific HPTP(s) shall be governed by the consultation time frames as provided in Section V(a)(iii) and (iv).

- iv) BLM will provide the consulting parties with written documentation indicating whether and how the draft HPTP will be modified in response to any timely comments received. If the HPTP is revised in response to comments received within that 30 day period, BLM shall submit the revised HPTP to all parties for a final, 15 day review period. BLM will consider any timely comments in finalizing the HPTP and provide the consulting parties and Tribes with a copy.
- b) BLM shall ensure that any HPTP developed in accordance with this Stipulation and Appendix B of this Agreement is completed and implemented. A finalized HPTP will be included in Appendix B of this Agreement
- c) BLM shall ensure that a HPMP, which provides for the protection and management of historic properties during the operational life and decommissioning of the solar energy power plant, is developed and implemented in accordance with Appendix C of this Agreement. A finalized HPMP will be included in Appendix C of this Agreement.
- d) An amendment to an HPTP or HPMP will go into effect when agreed to in writing by the Signatories. If the Signatories do not agree on an HPTP or HPMP amendment proposed by another Signatory, the disagreement will be resolved pursuant to the procedures in Stipulation XII of this Agreement.

VI. DISCOVERIES AND UNANTICIPATED EFFECTS

- a) The BLM, in consultation with the consulting parties and Tribes, will seek to develop a monitoring and discovery plan for the Project pursuant to 36 C.F.R. 800.13(a)(1). A finalized monitoring and discovery plan will be included as Appendix J to this Agreement.
- b) If the BLM determines that implementation of the Project or a HPTP will affect a previously unidentified property that may be eligible for the NRHP, or affect a known historic property in an unanticipated manner, and a monitoring and discovery plan has not been finalized, the BLM, in coordination with the Energy Commission, will address the discovery or unanticipated effect by following the procedures at 36 C.F.R. 800.13(b)(3) where a process has not been yet been agreed to pursuant to 36 C.F.R. 800.13(a)(1).
- c) The BLM at its discretion may assume any discovered property to be eligible for inclusion in the NRHP. The BLM's compliance with this stipulation shall satisfy the requirements of 36 C.F.R. 800.13(a)(1).

VII. TREATMENT OF HUMAN REMAINS OF NATIVE AMERICAN ORIGIN

- a) The BLM shall ensure that any that Native American burials and related items discovered on BLM administered lands during implementation of the terms of the Agreement will be treated in accordance with the requirements of the NAGPRA. The BLM will consult with concerned Tribes, Tribal organizations, or individuals in accordance with the

requirements of Sections 3(c) and 3(d) of the NAGPRA and implementing regulations found at 43 C.F.R. Part 10 to address the treatment of Native American burials and related cultural items that may be discovered during implementation of this Agreement.

- b) In consultation with the Tribes, the BLM shall seek to develop a written plan of action pursuant to 43 C.F.R. 10.5(e) to manage the inadvertent discovery or intentional excavation of human remains, funerary objects, sacred objects, or objects of cultural patrimony. The finalized plan of action shall be included as Appendix K to this Agreement.
- c) The BLM shall ensure that Native American burials and related cultural items on private lands are treated in accordance with the applicable requirements of the California Public Resources Code at Sections 5097.98 and 5097.991 , and of the California Health and Human Safety Code at Section 7050.5(c).

VIII. STANDARDS AND QUALIFICATIONS

- a) **PROFESSIONAL QUALIFICATIONS.** All actions prescribed by this Agreement that involve the identification, evaluation, analysis, recordation, treatment, monitoring, and disposition of historic properties and that involve the reporting and documentation of such actions in the form of reports, forms or other records, shall be carried out by or under the direct supervision of a person or persons meeting, at a minimum, the Secretary of the Interior's Professional Qualifications Standards (PQS), as appropriate (48 Fed. Reg. 44739 dated September 29, 1983). However, nothing in this stipulation may be interpreted to preclude any party qualified under the terms of this paragraph from using the services of persons who do not meet the PQS, so long as the work of such persons is supervised by someone who meets the PQS. Tribal consultants who are available to perform monitoring duties are assigned and approved of by each Tribe.
- b) **DOCUMENTATION STANDARDS.** Reporting on and documenting the actions cited in this Agreement shall conform to every reasonable extent with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Fed Reg. 44716-40 dated September 29, 1983), as well as, the BLM 8100 Manual, the California Office of Historic Preservation's Preservation Planning Bulletin Number 4(a) December 1989, Archaeological Resource Management Reports (ARMR): Recommended Contents and Format (ARMR Guidelines) for the Preparation and Review of Archaeological Reports, and any specific and applicable county or local requirements or report formats.
- c) **CURATION STANDARDS.** On BLM-administered land, all records and materials resulting from the actions cited in Stipulation III, IV, V and VI of this Agreement shall be curated in accordance with 36 C.F.R. Part 79, and the provisions of the NAGPRA, 43 C.F.R. Part 10, as applicable. To the extent permitted under Sections 5097.98 and 5097.991 of the California Public Resources Code, the materials and records resulting from the actions cited in Stipulations III through V of this Agreement for private lands shall be curated in accordance with 36 C.F.R. Part 79. The BLM will seek to have the

materials retrieved from private lands donated through a written donation agreement. The BLM will attempt to have all collections curated at one local facility where possible unless otherwise agreed to by the consulting parties.

IX. REPORTING REQUIREMENTS

- a) Within twelve (12) months after the BLM, in consultation with the Energy Commission, has determined that all fieldwork required by Stipulations III through V has been completed, the BLM will ensure preparation and concurrent distribution to the consulting parties and Tribes a draft report that documents the results of implementing the requirements of each Stipulation. The consulting parties and Tribes will be afforded 45 days following receipt of each draft report to submit any written comments to the BLM. BLM will consider timely comments when making revisions to the draft report. A revised draft will be provided for a 14 day review. The BLM will consider timely comments in making final changes to the report. Thereafter, the BLM may issue the reports in final form and distribute these documents in accordance with Stipulation IX(b).
- b) Unless otherwise requested, the BLM will distribute one copy of final reports documenting the results of implementing the requirements of Stipulations III through V to each consulting party, Tribes and to the California Historical Resources Information System (CHRIS) Regional Information Center.
- c) The BLM shall ensure that any draft document that communicates, in lay terms, the results of implementing Stipulations III through V to members of the interested public is distributed for review and comment concurrently with and in the same manner as that prescribed for the draft technical report prescribed by Stipulation IX(a). If the draft document prescribed is a publication, such as a report or brochure, the BLM shall distribute the publication upon completion to the consulting parties and to other entities that the consulting parties may deem appropriate.

X. IMPLEMENTATION OF THE UNDERTAKING

- a) The BLM may authorize construction activities and manage the implementation of HPTP(s) in phases corresponding to the construction phases of the Project.
 - i) Upon approval of the HPTP(s) and implementation of the components of the HPTP(s) subject to determinations of compliance by the BLM for Phase I of the Project, BLM may authorize a Notice to Proceed for construction activities within the Phase I area only.
 - (1) An HPTP(s) for Phase II or other phases of the Project may be developed and implemented after approval of the HPTP(s) and issuance of the Notice to Proceed described above for the Phase 1 component.

- b) The BLM may authorize construction activities, including but not limited to those listed below, to proceed in specific geographic areas of the Project's APE where there are no historic properties; where there will be no adverse effect to historic properties; where a monitoring and discovery process or plan is in place per Stipulation VI(b); or where an HPTP(s) has been approved and initiated. Such construction activities may include:
 - i) demarcation, set up, and use of staging areas for the Project's construction,
 - ii) conduct of geotechnical boring investigations or other geophysical and engineering activities, and
 - iii) grading, constructing buildings, and installing Solar Collector Assemblies.
- c) Initiation of any construction activities on federal lands shall not occur until after the BLM issues the ROD, ROW grant, and Notice(s) to Proceed.

XI. AMENDMENTS TO THE AGREEMENT

- a) This Agreement may be amended only upon written agreement of the Signatories.
 - i) Upon receipt of a request to amend this Agreement, the BLM will immediately notify the other consulting parties and initiate a 30 day period to consult on the proposed amendment, whereupon all parties shall consult to consider such amendments.
 - ii) If agreement to the amendment cannot be reached within the 30 day period, resolution of the issue may proceed by following the dispute resolution process in Stipulation XII.
- b) This Agreement may be amended when such an amendment is agreed to in writing by all Signatories.
- c) Amendments to this Agreement shall take effect on the dates that they are fully executed by the Signatories.
- d) Modifications, additions, or deletions to the appendices made as a result of continuing consultation among the consulting parties do not require the Agreement to be amended.

XII. DISPUTE RESOLUTION

- a) Should the Signatories or Invited Signatories object at any time to the manner in which the terms of this Agreement are implemented, the BLM will immediately notify the other Signatories and Invited Signatories and consult to resolve the objection.
- b) If the objection can be resolved within the consultation period, the BLM may authorize the disputed action to proceed in accordance with the terms of such resolution.

- c) If the objection cannot be resolved through such consultation, the BLM will forward all documentation relevant to the objection to the ACHP. Any comments provided by the ACHP within 30 days after its receipt of all relevant documentation will be taken into account by the BLM in reaching a final decision regarding the objection. The BLM will notify the other Signatories, Invited Signatories, and Concurring Parties in writing of its final decision within 14 days after it is rendered.
- d) The BLM's responsibility to carry out all other actions under this Agreement that are not the subject of the objection will remain unchanged.
- e) At any time during implementation of the terms of this Agreement, should an objection pertaining to the Agreement be raised by a Concurring Party or a member of the interested public, the BLM shall immediately notify the Signatories, Invited Signatories, and other Concurring Parties, consult with the SHPO about the objection, and take the objection into account. The other consulting parties may comment on the objection to the BLM. The BLM shall consult with the objecting party/parties for no more than 30 days. Within 14 days following closure of consultation, the BLM will render a final decision regarding the objection and proceed accordingly after notifying all parties of its decision in writing. In reaching its final decision, the BLM will take into account all comments from the parties regarding the objection.

XIII. TERMINATION

- a) If any Signatory or Invited Signatory to this Agreement determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation XI above. If within sixty (60) days an amendment cannot be reached;
 - i) a Signatory or Invited Signatory may terminate the Agreement upon written notification to the other Signatories and Invited Signatories.
- b) If the Agreement is terminated, and prior to work continuing on the Project, the BLM shall continue to follow the process provided at 36 C.F.R. 800.4 – 6 until (a) a new Agreement is executed pursuant to 36 C.F.R. 800.6 or (b) the agencies request, take into account, and respond to the comments of the ACHP under 36 C.F.R. 800.7. The BLM shall notify the Signatories and Invited Signatories as to the course of action it will pursue.

XIV. ADDITION/WITHDRAWAL OF PARTIES FROM/TO THE AGREEMENT

- a) Should conditions of the Project change such that other state, Federal, or tribal entities not already party to this Agreement request to participate, the BLM will notify the other

consulting parties and invite the requesting party to participate in the Agreement. The Agreement shall be amended following the procedures in Stipulation XI.

- b) Should a Concurring Party determine that its participation in the Project and this Agreement is no longer warranted, the party may withdraw from participation by informing the BLM. The BLM shall inform the other consulting parties to this Agreement of the withdrawal.

XV. DURATION OF THIS AGREEMENT

- a) This Agreement will expire if the Project has not been initiated and the BLM ROW grant expires or is withdrawn, or the stipulations of this Agreement have not been initiated, within five (5) years from the date of its execution. This Agreement will also expire 30 years after its execution. At such time, and prior to work continuing on the Project, the BLM shall continue to follow the process provided at 36 C.F.R. 800.4 – 6 until either (a) a new memorandum of agreement or programmatic agreement is executed pursuant to 36 C.F.R. 800.6, or (b) the BLM requests, takes into account, and responds to the comments of the ACHP under 36 CFR 800.7. The BLM shall notify the Signatories as to the course of action they will pursue within 30 days.
- b) The Signatories and Invited Signatories shall consult at year 4 to review this Agreement and every 5 years subsequently. Additionally, the Signatories and Invited Signatories shall consult not less than one year prior to the expiration date to reconsider the terms of this Agreement and, if acceptable, have the Signatories extend the term of this Agreement. Reconsideration may include continuation of the Agreement as originally executed or amended, or termination. Extensions are treated as amendments to the Agreement under Stipulation XI.
- c) Unless the Agreement is terminated pursuant to Stipulation XIII, another agreement executed for the Project supersedes it, or the Project itself has been terminated, this Agreement will remain in full force and effect until BLM, in consultation with the other Signatories, determines that implementation of all aspects of the Project has been completed and that all terms of this Agreement and any subsequent tiering requirements have been fulfilled in a satisfactory manner. Upon a determination by BLM that implementation of all aspects of the undertaking have been completed and that all terms of this Agreement and any subsequent tiered agreements have been fulfilled in a satisfactory manner, BLM will notify the consulting parties of this Agreement in writing of the agency's determination. This Agreement will terminate and have no further force or effect 30 days after BLM so notifies the Signatories to this Agreement, unless BLM retracts its determination before the end of that period.

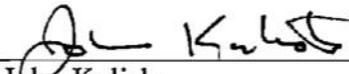
XVI. EFFECTIVE DATE

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

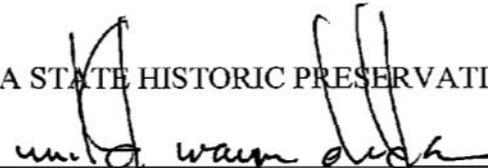
Execution and implementation of this Agreement is evidence that the BLM have taken into account the effect of this Project on historic properties, afforded the ACHP a reasonable opportunity to comment, and that the BLM have satisfied their responsibilities under Section 106. The Signatories and Invited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

SIGNATORY PARTIES

U.S. BUREAU OF LAND MANAGEMENT

BY:  DATE: OCT 05 2010
John Kalish
Manager, Palm Springs-South Coast Field Office

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY:  DATE: 7 OCT 2010
Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

INVITED SIGNATORY PARTIES

California Energy Commission
Genesis Solar, LLC

Invited Signatory

CALIFORNIA ENERGY COMMISSION

BY: _____ DATE: _____

TITLE: _____

Invited Signatory

GENESIS SOLAR, LLC

BY: _____ DATE: _____

TITLE: _____

CONCURRING PARTIES

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

Concurring Party

AGUA CALIENTE BAND OF CAHUILLA INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

AUGUSTINE BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

CABAZON BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

CHEMEHUEVI INDIAN TRIBE

BY: _____ DATE: _____

TITLE: _____

Concurring Party

COCOPAHI INDIAN TRIBE

BY: _____ DATE: _____

TITLE: _____

Concurring Party

COLORADO RIVER INDIAN TRIBES

BY: _____ DATE: _____

TITLE: _____

Concurring Party

FORT MOJAVE INDIAN TRIBE

BY: _____ DATE: _____

TITLE: _____

Concurring Party

FORT YUMA QUECHAN TRIBE

BY: _____ DATE: _____

TITLE: _____

Concurring Party

MORONGO BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

RAMONA BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

SAN MANUEL BAND OF MISSION INDIANS

BY: _____ DATE: _____
TITLE: _____

Concurring Party

SOBOBA BAND OF LUISEÑO INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

TORRES-MARTINEZ DESERT CAHUILLA INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

TWENTY-NINE PALMS BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

CALIFORNIA UNIONS FOR RELIABLE ENERGY

BY: _____ DATE: _____

TITLE: _____

APPENDIX A: IDENTIFICATION AND EVALUATION

I. IDENTIFICATION

- a) The BLM will ensure that all cultural resources identified during cultural resources survey are recorded on new or updated California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the “Instructions for Recording Historical Resources” (Office of Historic Preservation, March 1995).
 - i) Previously unrecorded cultural resources which have religious or cultural significance to Tribes identified during cultural resources investigations and/or through consultations with Tribes may be recorded on the California DPR Form 523, unless a Tribe, Tribal organization, or an individual from a Tribe objects. If such objection arises, the properties may be recorded on a form and in a manner that is in accordance with the recommendations of the Tribe, Tribal organization, or of the individual. If the traditional cultural property is also a historical or archaeological site, those components of site will be recorded on the appropriate DPR form and filed with the California Historical Resources Information System (CHRIS).
- b) The cultural resources contractor will obtain permanent site numbers from CHRIS regional information center.
- c) The BLM, in consultation with the Energy Commission and the SHPO, shall review all site records for accuracy, adequacy of information, and completeness and determine whether they are sufficient to support agency determinations and findings. Final approved site records shall be submitted to the CHRIS. Permanent site numbers shall then be used in all final reports and other documents prepared pursuant to the requirements of this Agreement.
- d) The BLM, in consultation with the Energy Commission will ensure that cultural resources survey reports are responsive to Energy Commission Data Requests.

II. EVALUATION

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

Prehistoric Archaeological Resources

Chipped Stone Deposits

Sparse Lithic Scatters

Chipped and Ground Stone Deposits

Ceramic Deposits

Archaeological Deposits that Include FAR Concentrations

Trail Segments

Historical Archaeological Resources

Surveying Monuments

Historic Refuse Deposits

Pebble and Cobble Concentrations

Transportation and Trail segments

Potential Early Twentieth Century Sand and Gravel Mining Landscape

Unique Archaeological Resources

Desert Training Center (DTC) Archaeological Sites and Landscape

McCoy Spring Archaeological Site CA-RIV-132

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

APPENDIX B: HISTORIC PROPERTIES TREATMENT PLAN(S)

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

- a) Any HPTP tiered from the Agreement shall include but is not limited to:
 - i) A list of the historic properties subject to the HPTP, determined or treated as eligible for project management purposes, in the APE that the construction of the Project will unconditionally avoid,
 - ii) The measures that the Applicant will take to avoid, minimize, or mitigate the adverse effects on historic properties,
 - iii) If a separate monitoring and/or discovery plan is not already in place, provide a plan for monitoring during construction, which would include the treatment of inadvertent discoveries and the participation of tribal cultural specialists. The following shall be considered during development of these plans:
 - (1) Qualifications of archaeological monitors
 - (2) participation of tribal cultural specialists in monitoring
 - (3) areas in the APE requiring monitoring
 - (4) authority of monitors to halt work
 - (5) protective measures for historic properties
 - (6) communication protocols
 - (7) safety and resource training
 - (8) procedures upon discovery
 - (9) evaluation of the inadvertent discoveries
 - (10) implementation of standard treatment measures
 - (11) field protocol upon discovery of human remains
- iv) The proposed disposition of recovered materials and records shall be curated in accordance with Stipulation VIII(c).
- v) The procedures for treatment and disposition of any human remains, funerary objects, sacred objects, and objects of cultural patrimony in accordance with NAGPRA and the California Health and Safety Code 7050.5 as appropriate.
- vi) A research design which addresses significant themes and questions for the types of historic properties to receive treatment.
- vii) A schedule for completing treatment measures, including analysis, reporting and disposition of materials and records, as well as a schedule for completing the draft and final data recovery report(s).

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

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

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

II. COORDINATION WITH ENERGY COMMISSION MEASURES UNDER CEQA

- a) Guidelines for implementation codified in the California Code of Regulations (CCR), Title 14, Chapter 3, Sections 15000 et seq., requires state and local public agencies to identify the environmental impacts of proposed discretionary activities or projects, determine if the impacts will be significant, and identify alternatives and mitigation measures that will substantially reduce or eliminate significant impacts to the environment. Pursuant to 13 CRR Section 15126.4(a)(1), feasible measures which could minimize adverse impacts must be described in the environmental assessment.
 - i) Section 15221(b) provides that because NEPA does not require separate discussion of mitigation measures, these points of analysis will need to be added, supplemented, or identified before the EIS can be used as an EIR.
 - ii) Section 15126.4(a)(1)(B) states that formulation of mitigation measures should not be deferred until some future time, but that measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.

III. PERFORMANCE STANDARDS FOR NHPA SECTION 106 AND CEQA MITIGATION

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

- i) Avoidance
- ii) For cultural resources, the preferred method of mitigation is avoidance of all cultural resources to the maximum extent practicable. Mitigation measures which could include avoidance are normally developed through consultation to reduce impacts to significant cultural resources. The BLM through the consultation process and development of the HPTP(s) will determine which mitigation measures are applied to specific cultural resources.
- iii) Archaeological Data Recovery
 - (1) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken.
 - (2) Data recovery shall not be required for an historical resource if the lead federal agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource.
- iv) Built-Environment Resources
 - (1) Documenting built-environment resources in accordance with the standards and guidelines provided by the Historic American Building Survey (HABS), Historic American Engineering Record (HAER), Historic American Landscapes Survey (HALS).
 - (2) Relocating or moving historic buildings, objects or structures out of the APE.
- v) Properties of Sacred or Cultural Significance to Indian Tribes
 - (1) Cremation/Burial Sites
 - (a) Avoidance of cremation or burial sites is the preferred management alternative.
 - (b) Where avoidance of direct physical effects is not achievable, treatment shall follow the provisions of the NAGRPA Plan of Action as provided in Appendix K.
 - (2) Trails
 - (a) Avoidance of direct physical effects to trails is the preferred management alternative.
 - (b) Where avoidance of direct physical effects is not achievable, treatment shall follow the provisions of the HPTP. A study of trails may be carried out to determine the nature and extent of the trails beyond the APE and may be considered within the context of a HALS study.

- (3) Geological landforms or other places of religious or cultural significance.
 - (a) BLM shall continue to seek information from the Tribe(s) or Tribal organizations to determine the character and use of places of religious or cultural significance.
 - (i) Maintenance of existing access to places of religious or cultural significance is the preferred management alternative.
 - (b) Engineering solutions to eliminate or minimize direct or indirect non-physical effects will be identified, including but not limited to, orienting the parabolic troughs to minimize glare, or erecting screens to eliminate glare.

vi) Discoveries

- (1) Following the discovery of any resources determined by BLM to be eligible to the NRHP, the Applicant shall ensure that the designated cultural resources contractor prepares a research design and a scope of work for any necessary data recovery or additional mitigation. The Applicant shall submit the proposed research design and scope of work to the BLM and Energy Commission's Compliance Project Manager for review and approval.
- (2) The proposed research design and scope of work shall include (but not be limited to): a discussion of the methods to be used to recover additional information and any needed analysis to be conducted on recovered materials; a discussion of the research questions that the materials may address or answer by the data recovered from the Project, and; discussion of possible results and findings.

vii) Monitoring

- (1) Prior to the start of vegetation clearance or earth disturbing activities or Project site preparation, the Applicant shall provide the designated cultural resources monitors and the BLM and/or Energy Commission's CPM with maps and/or drawings showing the footprint of the power plant and all linear facilities. Maps provided will include USGS 7.5-minute topographic quadrangle maps. If the designated cultural resource specialist requests enlargements or strip maps for linear facility routes, the Applicant shall provide them. If the footprint of the power plant or linear facilities changes, the Applicant shall provide maps and drawings reflecting these changes, to the cultural resources specialist within five days. Maps shall show the location of all areas where surface disturbance may be associated with Project-related access roads, and any other Project components.
- (2) The designated cultural resource specialist shall be available at all times to respond within 24 hours after pre-construction or construction activities have been halted due to the discovery of a cultural resource(s). The specialist, or representative of the Applicant shall have the authority to halt or redirect construction activities if previously undiscovered cultural resource materials are encountered during vegetation clearance or earth disturbing activities or project site preparation or construction. If such resources are discovered, the designated

cultural resource specialist shall be notified and the Applicant or Applicant's representative shall halt construction in order to protect the discovery from further damage and the BLM will be notified. Project construction may continue elsewhere on the Project if the BLM determines that it will not affect the cultural resource in question.

viii) Qualifications

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

(2) Training

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

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

IV. HISTORIC PROPERTY TREATMENT PLANS (HPTP)

- a) Finalized HPTPs will be included as an attachment to this Appendix.
- b) In developing the HPTPs, the HPTPs shall consider the following measures:
 - i) Prehistoric Period Historic Properties
 - (1) Avoidance
 - (2) Minimize
 - (a) Strategic placement of transmission towers in areas of a site that would not adversely affect the information values
 - (b) Data recovery for historic properties eligible under Criterion D only
 - (i) Research Design
 - ii) Historic Period Historic Properties
 - (1) Avoidance
 - (2) Minimize
 - (a) Data recovery for historic properties eligible under Criterion D only
 - (i) Research Design
 - (b) Historic built-environment Historic Properties with associative values
 - (i) Desert Training Center (DTC) Archaeological Sites and Landscape
 - (c) Resources of Native American religious and cultural significance and Traditional Cultural Properties
 - (i) Avoidance
 - (ii) Minimize
 - (iii) Monitor
 - (iv) Access

APPENDIX C: HISTORIC PROPERTIES MANAGEMENT PLAN

I. HISTORIC PROPERTIES MANAGEMENT PLAN

- a) A Historic Properties Management Plan (HPMP) will be developed to further manage or prescribe additional treatment to historic properties within the APE during the future operation, long-term maintenance and decommissioning of the Project and consider effects to historic properties in relation to those actions. The HPMP will include but is not limited to monitoring requirements for those cultural resources within the APE that were avoided through project redesign.
- b) The BLM shall submit the HPMP to the consulting parties to the Agreement and Tribes for a 60 day review period. Absent comments within this time frame, the BLM may finalize the HPMP. If comments are received, the BLM will provide the parties with written documentation indicating whether and how the draft HPMP will be modified. If the HPMP is revised in response to comments, the BLM shall submit the revised HPMP to all parties for an additional 30 day review period. Absent comments within this time frame, the BLM will finalize the HPMP. The BLM will provide each of the consulting parties and Tribes a copy of the final HPMP.

APPENDIX D: PROJECT DESCRIPTION

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

The proposed Genesis Solar Energy Project includes the following components:

- a) A solar thermal power plant facility
- b) The proposed project overall site layout and generalized land uses include a 250 MW facility with solar generation facilities, on-site substation, administration, operations and maintenance facilities, surface water control facilities, and evaporation ponds.
- c) The proposed project would require two separate units (125 MW each) consisting of a total of 1,760 Solar Collector Assemblies (SCAs) arrayed in rows, or piping loops, with four assemblies in each loop.
 - (1) Each SCA would consist of individually mounted mirror modules approximately 40 feet long, totaling 492 feet in length creating an approximate mirror area of 8,795 square feet.
 - (2) Each mirror will have an aperture of 18.9 feet and focal length of 5.6 feet.
 - (3) Each SCA is oriented north-south to rotate east-west to track the sun as it moves across the sky during the day, collecting heat by means of linear troughs of parabolic reflectors.
- d) The linear facilities would originate within the 250 MW solar plant site and, for the most part, would share the same 100-foot ROW, although each would terminate in a different location. Approximately 2 miles of the linear route would be within the 1,800-acre main plant site. After leaving the plant, the transmission line would be approximately 6.5 miles long, the natural gas pipeline would be 6 miles long, and the main access road would be 6.5 miles long.

- (1) The 8-inch diameter natural gas pipeline would service an auxiliary boiler for the solar plant site, carrying 60 million BTUs annually from the existing Southern California Gas natural gas pipeline parallel to Interstate 10. The trench for the pipeline would be approximately 48-inches wide and 4-10 feet in depth.
- e) Buildings - The Project will include a common administration building and warehouse between the two 125MW power plants. A control building will be located in each power block. The design and construction of the administration building and warehouse will be consistent with normal building standards. Other plant site “buildings” will include the water treatment building, as well as a number of pre-engineered enclosures for mechanical and electrical equipment. Building columns are supported on reinforced concrete mat foundations or individual spread footings and the structures rest on reinforced concrete slabs. The total square footage of the various Project buildings and pre-engineered enclosures (*e.g.*, control rooms, administration building, warehouse, electrical equipment enclosures, fire pumps, and diesel generators) is approximately 39,000 square feet.
- f) Roads - All vehicular traffic approaching the site will use Interstate 10. Only a small portion of the overall plant site will be paved, primarily the site access road and portions of each power block. The site access road will be 24 feet wide and paved with 3,000 tons of asphalt concrete material. Auxiliary roads will also be 24 feet wide but utilize compacted native materials or gravel surface. If required, new spur roads in the Transmission Line corridor would be approximately 14 feet wide and average 70 feet in length to access pole pad sites.

Water Treatment - Existing ground water wells would supply project water using approximately 1,644 acre feet of ground water per year for operations. The raw water, circulating water, process water, and mirror washing water all require on-site treatment and this treatment varies according to the quality required for each of these uses. The power plant’s design consists of a pre-treatment system upstream of the cooling tower, and a post-treatment system downstream of the cooling tower. Water is cycled in the cooling tower until the concentration of chemical constituents rises to levels where it becomes unusable and it is blown down as a waste stream. The number of cycles undertaken are called cycles of concentration (COC). The number of COCs in the cooling tower is limited by the incoming water chemistry and the behavior of chemistry constituents as the concentration increases. Without any pre-treatment of the raw water (“makeup water”) from groundwater on site, the calcium concentration would limit the process to about five COCs due to the potential to form calcium carbonate (CaCO_3) scale, and silica would limit the process to 10 COCs due to the formation of silica (SiO_2) and magnesium silicate scale. Because of the limitation of these constituents in the process, pre-treatment of the makeup water is desirable to reduce the quantity of makeup water required. The pre-treatment design for the Project takes into account the relatively high concentrations of chloride and sodium present in the makeup water to the site. As aforementioned, there are several tanks on site which will contain the raw water, treated water, and wastewater, which will have the following capacity for each 125 MW facility:

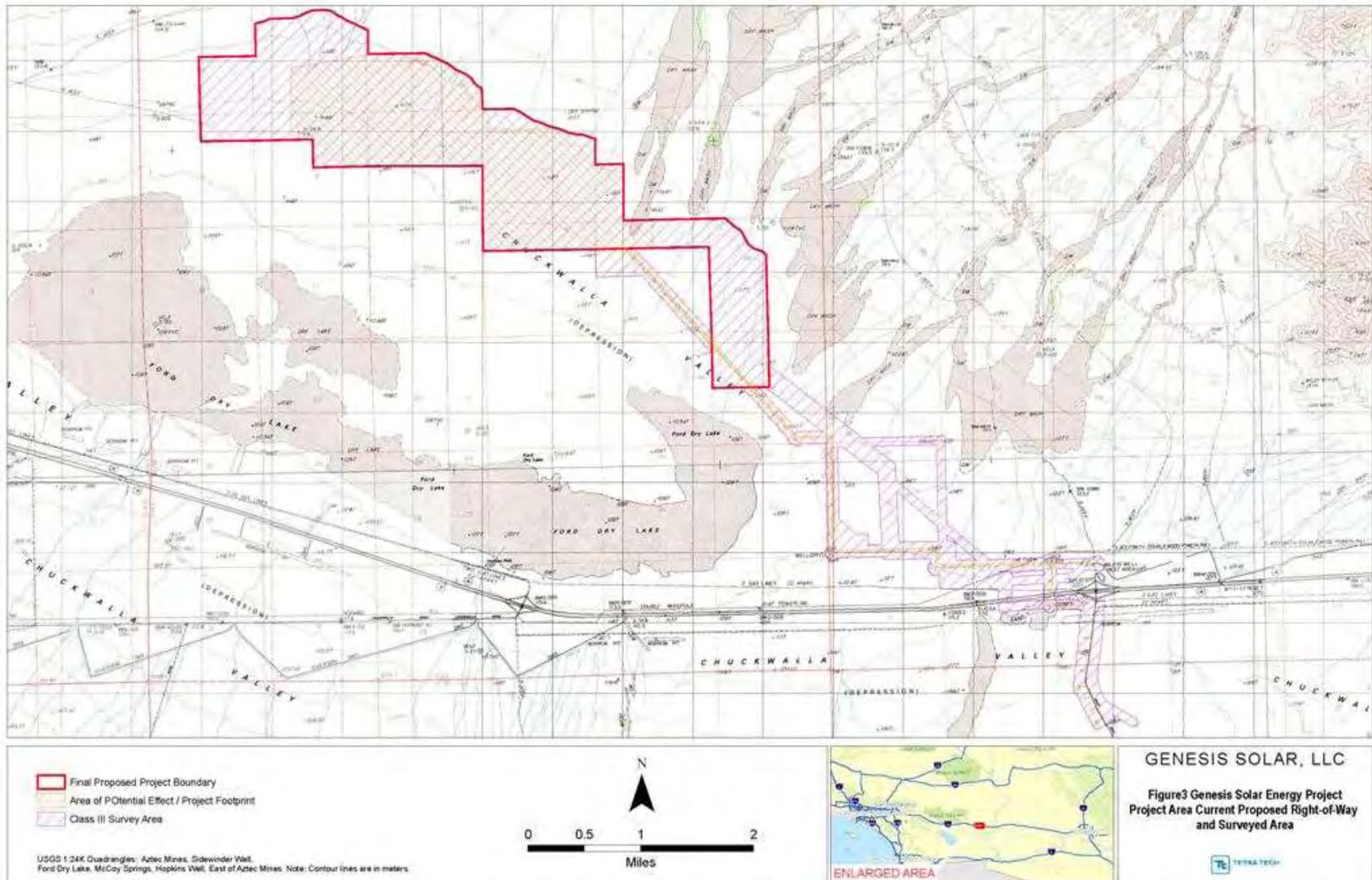
- Raw Water/Fire Water Storage Tank: 700,000gallons
- RO Feed Tank: 265,000 gallons
- Treated Water Storage Tank: 200,000 gallons
- Demineralized Water Storage Tank: 145,000 gallons
- Wastewater Storage Tank: 155,000 gallons

g) Evaporation Ponds - As noted above, it is expected each 125 MW unit will have double-lined evaporation ponds. Each facility will have ponds with a nominal surface area of five acres resulting in a total of ten acres of evaporation ponds for both 125 MW units. The ponds will be designed and permitted as Class II Surface Impoundments in accordance with Colorado River Basin Regional Water Quality Control Board (CRBRWQCB) requirements, as well as the requirements of the California Integrated Waste Management Board (CIWMB). Multiple ponds are planned to allow plant operations to continue in the event a pond needs to be taken out of service for some reason, e.g., needed maintenance. Each pond will have enough surface area so the evaporation rate exceeds the cooling tower blowdown rate at maximum design conditions and annual average conditions. The average pond depth is eight feet and residual precipitated solids will be removed approximately every twenty years to maintain a solids depth no greater than approximately three feet for operational and safety purposes.

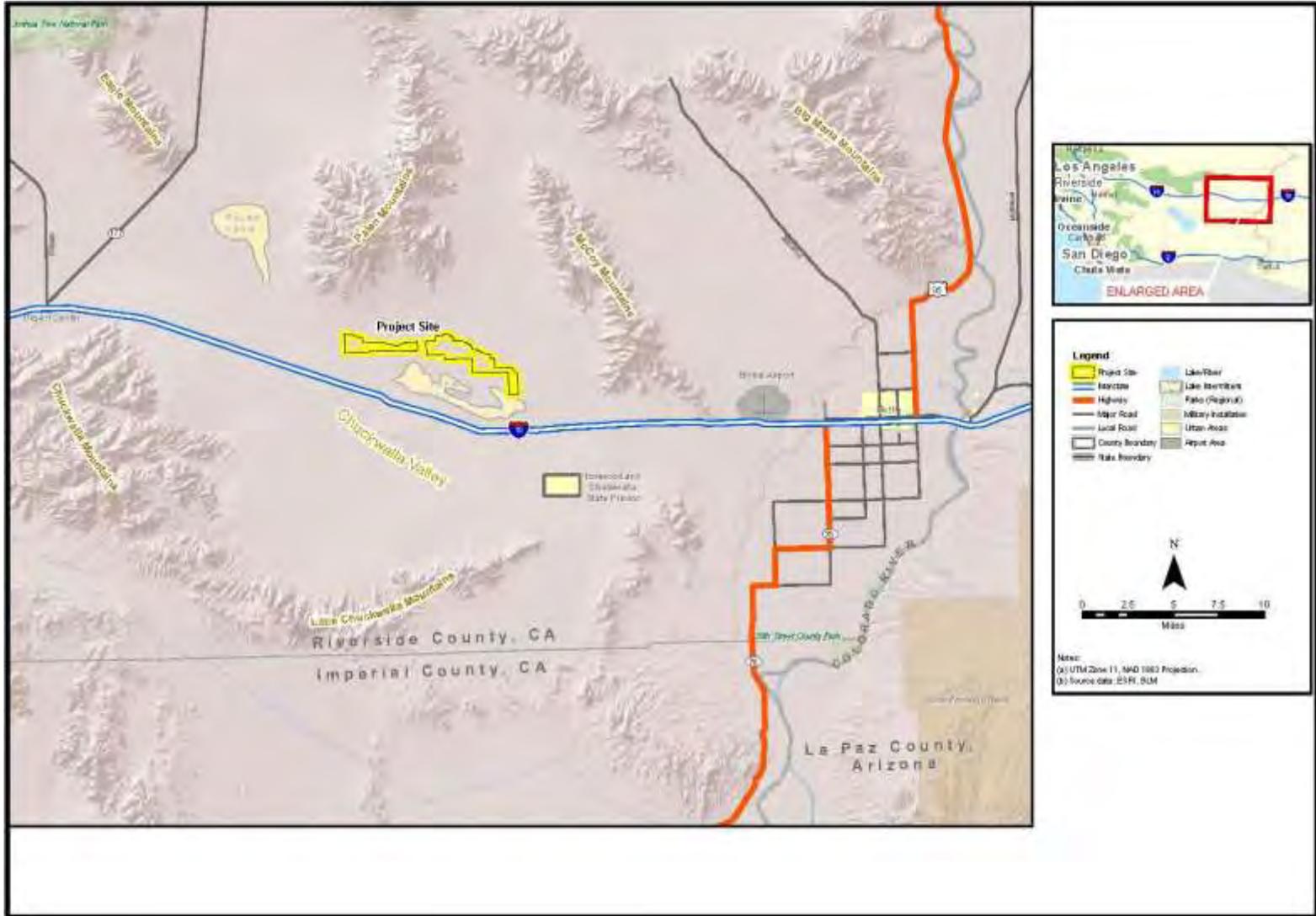
APPENDIX E: PROJECT MAPS AND ILLUSTRATIONS

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

1. Proposed Project Area and Cultural Resources Survey Map



2. Project Overview Location Map



3. Photograph of Parabolic Solar Collector Arrays (SCAs)



Parabolic trough solar thermal technology

APPENDIX F: SUMMARY OF CULTURAL RESOURCES INVESTIGATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

Another Class III survey (590.8 acres) was conducted from January 25 to February 2, 2010, for additional alternatives for the proposed interconnection transmission line ROW. The work was conducted under Tetra Tech's BLM Cultural Use Permit (CA-09-40) and BLM Fieldwork Authorization 66-66-10-09.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX G: AGENCY FINDINGS AND DETERMINATIONS

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

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

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

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

Transmission tower locations may be adjusted to avoid direct effects. If the property cannot be avoided, the BLM would minimize or mitigate the effects through implementation of the HPTP for significant values of the resource.

APPENDIX H: CULTURAL RESOURCES IDENTIFIED WITHIN THE APE

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

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

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

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

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

APPENDIX I: DOCUMENTATION OF TRIBAL CONSULTATION

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

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

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

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

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

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

<u>Date</u>	<u>Tribe</u>	<u>Contact Name</u>	<u>Communicated via</u>	<u>Comments/Actions</u>
4/23/2010	Twenty-Nine Palms Band of Mission Indians	Mr. Anthony Madrigal Jr.	IN PERSON	PA Kick-off Meeting
4/23/2010	Soboba Band of Luiseno Indians	Mr. Joe Ontiveros	IN PERSON	PA Kick-off Meeting
4/23/2010	San Manuel Band of Mission Indians	Ms. Ann Brierty	IN PERSON	PA Kick-off Meeting
5/17/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	EMAIL	Send cultural resource reports via FTP
5/24/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	TELEPHONE & EMAIL	Send cultural resource reports via FTP
5/25/2010	Agua Caliente Band of Cahuilla Indians	Ms. Patricia Garcia-Tuck, THPO	Meeting in Palm Springs BLM office	AECOM/Solar Millennium presentation
6/8/2010	Ft. Yuma Quechan	Bridget Nash	e-mail	Sent Cultural report via U.S. mail.
6/15/2010	Ft. Yuma Quechan	Bridget Nash	e-mail	Received Cult Report requests additional maps
6/17/2010	Morongo BMI	Chmn. Robert Martin	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	Agua Caliente BCI	Chmn. Richard Milanovich	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	San Manuel BMI	Chmn. James Ramos	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	Ft. Mojave Tribal Council	Chmn. Timothy Williams	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	Augustine BMI	Chprsn. Maryann Green	letter	Sent Draft PA and Letter inviting comments.

<u>Date</u>	<u>Tribe</u>	<u>Contact Name</u>	<u>Communicated via</u>	<u>Comments/Actions</u>
6/17/2010	Chemehuevi TC	Chmn. Charles Wood	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	Ramona BMI	Chmn. Manuel Hamilton	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	Torres-Martinez Desert Cahuilla Indians	Chwmn. Mary Resvaloso	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	Cocopah TC	Chprsn. Sherry Cordova	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	Cabazon BMI	Chmn. John James	letter	Sent Draft PA and Letter inviting comments.
6/17/2010	Twenty-Nine Palms BMI	Chmn. Darrell Mike	letter	Sent Draft PA and Letter inviting comments.
6/23/2010	Agua Caliente BCI	Patti Tuck	Pdf via e-mail	Sent Genesis Draft PA electronically
7/20/2010	Agua Caliente BCI	Sean Milanovich	e-mail	Invite to PA Meeting
7/20/2010	Soboba BMI	John Ontiveros	e-mail	Invite to PA Meeting
7/20/2010	Ft. Mojave Tribe	Linda Otero	e-mail	Invite to PA Meeting
7/20/2010	San Manuel BMI	Ann Brierty	e-mail	Invite to PA Meeting
7/20/2010	Ft. Yuma Quechan	Bridget Nash	e-mail	Invite to PA Meeting
7/20/2010	29 Palms BMI	Anthony Madrigal Jr.	e-mail	Invite to PA Meeting

<u>Date</u>	<u>Tribe</u>	<u>Contact Name</u>	<u>Communicated via</u>	<u>Comments/Actions</u>
7/20/2010	San Manuel BMI	Anthony Madrigal Sr.	e-mail	Invite to PA Meeting
7/20/2010	Agua Caliente BCI	Patti Tuck	e-mail	Invite to PA Meeting
8/11/2010	29 Palms BMI	A.Madrigal Jr.	PA Meeting at UCR (Palm Desert)	PA development Progress and Site Eligibilities discussion
8/16/2010	Chemehuevi Tribe	Chmn. Charles Wood	Meeting in Havasu Lk. CA.	Govt. to Govt. consultation re; all solar projects
9/7/2010	Ft. Yuma Quechan	Manfred Scott	Meeting (Blythe)	Discuss all Solar Projects
9/7/2010	Ft. Mojave Tribe	Linda Otero	Meeting Blythe	Discuss all Solar Projects
9/14/2010	Agua Caliente	Patti Tuck	Meeting at Tribal HQ (Palm Springs)	Discuss all Fast-track solar projects. Updates on PAs and Cult Reports.

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

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

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

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

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

06/05/09	Agua Caliente Band of Cahuilla Indians	Meeting with BLM and representatives of the Agua Caliente Band of Cahuilla Indians to discuss various solar projects.
06/09/09	Quechan Tribe	A telephone conversation between Bridget Nash (Quechan Tribe) and Wanda Raschkow (BLM); Ms. Raschkow reports status of project. Ms. Nash requests report. Ms. Raschkow indicates that a data sharing agreement will be necessary before providing archaeological reports and other sensitive data.
11/05/09	Multiple Tribes	Meeting with BLM to discuss various solar projects. Attendees included BLM staff and representatives from the Agua Caliente Band of Cahuilla Indians, Morongo Band of Mission Indians, Cabazon Band of Mission Indians, Torres-Martinez Desert Cahuilla Indians, Pechanga Band of Luiseño Indians, Anza Cahuilla, Ramona Band of Mission Indians, Twentynine Palms Band of Mission Indians, and San Manuel Band of Mission Indians. Tribes request a monthly report regarding all projects. The Agua Caliente Band of Cahuilla Indians requests a site visit.
09/03/09	Quechan Tribe	BLM receives a letter from President Mike Jackson, Sr. commenting on the Programmatic Environmental Impact Statement regarding solar development being developed for the six southwestern states. Concerns expressed over cultural resources and traditional cultural properties.
12/09/09	Chemehuevi Reservation	A telephone conversation between C. Dalu and a representative of the Chemehuevi Reservation expressing concern about the effect of Genesis, Palen, and Blythe solar projects on cultural resources and traditional cultural properties.
12/23/09	La Cuna de Aztlan Sacred Sites Protection Circle	This is a group composed of members from multiple tribes dedicated to the protection of sacred sites in traditional territories in the Colorado and Mojave Deserts. Their comments were included in a formal letter from the Californians for Renewable Energy (CARE) in response to the BLM/CEC request for comments on the GSEP NOT. Concerned about damage to cultural resources such as trails and springs, in particular McCoy Spring.
02/16/10	Quechan Tribe	BLM receives a letter from President Mike Jackson, Sr. commenting on the regulatory approval schedule for the solar "fast-track" projects including Genesis. Concerns expressed about the ability of BLM to consult appropriately with the Tribe in the time frame envisioned. Also suggests that a Section 106 PA is inappropriate for these projects.

APPENDIX J: EXAMPLE MONITORING AND DISCOVERY PLAN

**DRAFT EXAMPLE
MONITORING AND DISCOVERY PLAN**

**IMPERIAL VALLEY SOLAR PROJECT
IMPERIAL COUNTY, CALIFORNIA**

Submitted to:

Bureau of Land Management

1661 South 4th Street

El Centro, CA 92243

Prepared by:

LSA Associates, Inc.

703 Palomar Airport Road Suite 260

Carlsbad, California 92011

(760) 931-5471

May 26, 2010

And

Supplemented by AECOM

1420 Kettner Boulevard, Suite 500

San Diego, CA 92101

(619) 233-1454

August 13, 2010

[table of contents](#)

1.0	INTRODUCTION	87
1.1	<i>PROJECT description</i>	87
1.2	<i>Regulatory Context</i>	88
1.3	<i>PROFESSIONAL QUALIFICATIONS</i>	88
1.4	<i>Key Personnel</i>	89
1.5	<i>DEFINITION OF RESOURCE TYPES</i>	90
2.0	AVOIDANCE AND PRESERVATION	95
2.1	<i>environmentally sensitive areas</i>	95
2.2	<i>Plan of ESA establishment and Designation</i>	95
3.0	monitoring plan	98
3.1	<i>Monitoring</i>	98
4.0	DISCOVERY PLAN	102
4.1	<i>Plan of Treatment of Discoveries</i>	102
5.0	DATA MANAGEMENT and CURATION	107
5.1	<i>TECHNICAL REPORT PREPARATION AND DISSEMINATION</i>	107
5.2	<i>CURATION IN PERPETUITY</i>	107

ATTACHMENTS

- A Specific Field and Analytical Methods
- B Daily Monitoring Log
- C Contact List

LIST OF TABLES

Table 1 Discovery Notification Procedures 100

INTRODUCTION

Tessera Solar is proposing to construct the Imperial Valley Solar Project (IVSP or Project) in Imperial County on lands under the jurisdiction of the Bureau of Land Management (BLM), and cultural resources have been documented in the Project's area of potential effects (APE). Efforts are being made to design the Project to avoid known cultural resources eligible for listing in the National Register of Historic Places (NRHP) and/or the California Register of Historic Resources (CRHR). The following will be discussed in this Monitoring and Discovery Plan:

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

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

PROJECT DESCRIPTION

The IIVSP will construct a proposed 750-megawatt (MW) solar energy plant on approximately 6,500 acres of public lands in California administered by BLM California Desert District and the El Centro Field Office. Imperial Valley Solar will use existing roads and construct new roads in the Project area.

The Project is located in western Imperial County, California, immediately east of the town of Ocotillo, west of the town of Seeley, and north and south of Interstate 8 (I-8). The Project will utilize the SunCatcher technology of Stirling Energy Services. Each SunCatcher consists of a 25-kilowatt solar power electric-generating system. The system is designed to track the sun automatically and to focus solar energy onto a Power Conversion Unit, which generates electricity. The system consists of an approximate 38-foot-high by 40-foot-wide solar concentrator dish that supports an array of curved glass mirror facets. The 300-MW Phase I of the Project will consist of approximately 12,000 SunCatchers. The 450-MW Phase II portion of the Project will include approximately 18,000 SunCatchers.

The Project will include the construction of a new 230-kilovolt (kV) substation approximately in the center of the Project. A Main Services Complex, where key buildings and parking areas will be located, will be constructed at the northeastern end of

the Phase I Project. Main roads will be constructed with a combination of roadway dips and elevated sections across the dry washes on the Project.

The full Phase II expansion of the Project will require the construction of the 500-kV Sunrise Powerlink transmission line that San Diego Gas & Electric (SDG&E) has proposed. A 230-kV transmission line that will be built for Phase I will parallel the current transmission line corridor for the Southwest Powerlink transmission line within the existing right-of-way (ROW). The main entry for truck traffic to the Project during construction will be from I-8 to the Project entrance on Evan Hewes Highway. During Project operation, the secondary and emergency access will be from Dunaway Road.

REGULATORY CONTEXT

The proposed Project requires authorization and issuance of an ROW grant by BLM. The proposed Project is a federal undertaking. Therefore, compliance with 36 Code of Federal Regulations (CFR) Part 800, regulations implementing the National Historic Preservation Act (as amended), is required. In addition, BLM and the California Energy Commission (CEC), together, have prepared the *Staff Assessment and Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment, SES Solar Two Project, and Application for Certification (08-AFC-5) Imperial County (2010)* to identify Project alternatives for purposes of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), and have comparatively examined the relative effects of the alternatives on known historic properties. Therefore, cultural resources on the Project are evaluated subject to criteria of both the federal NRHP and CEQA CRHR. As the Project may have an adverse effect on historic properties (resources eligible for or listed in the NRHP and/or CRHR), BLM prepared a Programmatic Agreement (PA) stipulating measures that will be implemented prior to construction. The preparation of a Monitoring and Discovery Plan is stipulated in the PA.

PROFESSIONAL QUALIFICATIONS

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

ARCHAEOLOGY

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

- At least 1 year of full-time professional experience or equivalent specialized training in archaeological research, administration, or management;
- At least 4 months of supervised field and analytic experience in general North American archaeology; and
- Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archaeology shall have at least 1 year of full-time professional experience at a supervisory level in the study of archaeological resources of the prehistoric period. A professional in historic archaeology shall have at least 1 year of full-time professional experience at a supervisory level in the study of archaeological resources of the historic period.

KEY PERSONNEL

Personnel involved in the archaeological monitoring, testing, and data recovery efforts will be responsible primarily for conducting the monitoring; archaeological fieldwork and laboratory analysis; report preparation; and (as necessary) coordination with BLM, construction contractors, and Native American consultants. The responsibilities of key personnel are outlined below.

PRINCIPAL INVESTIGATOR/CULTURAL RESOURCES SPECIALIST

The Principal Investigator (PI)/Cultural Resources Specialist (CRS) will have overall responsibility for the testing and data recovery investigations and will be the primary point of contact between the archaeological consultant and BLM for these programs. The PI will also be responsible for the analysis and the overall quality of the technical report of these investigations. The PI will meet the Secretary of the Interior's Qualification Standards for Archaeologists and be on the BLM Cultural Resources Use Permit.

MONITORING SUPERVISOR

The Monitoring Supervisor will have overall responsibility for the cultural resources monitoring program and will be the primary point of contact between the archaeological consultant and BLM for this program. The Monitoring Supervisor will also be responsible for the content and the overall quality of the monitoring report. The Monitoring Supervisor will meet the Secretary of the Interior's Qualification Standards for Archaeologists.

FIELD MONITORS

Field monitors will conduct the daily archaeological construction monitoring and will be responsible for making the initial discoveries, subsequent initial notifications, equipment diversions, preparing daily monitoring notes and logs, and recording and mapping for initial discovery documentation.

FIELD DIRECTOR

The Field Director will be responsible for the day-to-day activities of the testing and data recovery investigations, including management of field personnel and coordination of crews. The Field Director will also be responsible for compiling and ensuring the quality of the field data on a daily basis. Additionally, the Field Director will coordinate the work of subconsultants or other contractors participating in the archaeological field investigations, and will be responsible for implementing the requirements of the Health and Safety Plan, including daily safety briefings. The Field Director will also meet the Secretary of the Interior's Qualification Standards for Archaeologists and be on the Cultural Uses Permit.

CREW CHIEFS

The Crew Chiefs will, in consultation with the Field Director, be responsible for implementing the field strategies at individual sites. The Crew Chief will direct field crew, lay out excavations, and compile collections and field documentation on a daily basis. Additionally, the Crew Chief will be responsible for implementing on-site safety procedures.

FIELD CREW

Field crew members will conduct surface examinations and hand excavations, and monitor mechanical test investigation excavations. Each crew member will operate under the direct supervision of the Crew Chief and will conduct basic documentation of field operations, including completing excavation-level records, bag labeling, and trench monitoring forms.

LABORATORY DIRECTOR

The Laboratory Director will be responsible for directing all phases of laboratory processing of the data recovery collections, including check-in, cleaning, sorting, cataloguing, analyzing, distributing special samples, and preparing for curation. The Laboratory Director will coordinate closely with the PI and Monitoring Supervisor to ensure that the appropriate data are documented and compiled.

1.5 DEFINITION OF RESOURCE TYPES

Below are examples of archaeological site types that might be encountered in the Project APE during construction or additional surveys.

PREHISTORIC

HABITATION SITES. Sites have, at a minimum, flaked stone tools and evidence of food processing and fire affected rock/hearths. Sites contain a wide variety of artifacts and materials. Habitation sites within the IVSP area may include flakes, tools, groundstone, ceramics, fire-affected rocks, midden, rock features (domestic and storage), and human remains.

- Temporary camp: flaked stone tools, evidence of food processing, fire affected rock/hearths
- Long-term: multiple artifact categories, evidence of use of fire, midden

RESOURCE EXTRACTION/PROCESSING SITES. Sites contain artifacts associated with specific resource extraction or processing activities. Processing/extraction sites within the IVSP include the following:

- Plant processing: Associated artifacts include groundstone, manos, metates, pestles, bedrock storage facilities, and bedrock milling features. Groundstone was also used to process fish, small animals, and pigments, and for hide-tanning. Flaked lithics were also used for cutting/harvesting plants prior to grinding or for preparing vegetal construction materials.
- Animal processing: associated artifacts include lithics, fish traps, and faunal bone
- Lithic reduction: associated artifacts include lithic tools, flakes, debitage, cores, and blanks
- Lithic processing: evidence of heat treatment; associated artifacts include flakes, debitage, and/or cores
- Groundstone production: associated artifacts or features include sandstone and granite outcrops, basalt boulders, etc.

TRAVEL SITES. Trails/footpaths, including trail markers.

CERAMICS SITES. These sites can include both scatters of ceramics and single pot locales or “pot drops.”

ROCK FEATURES SITES. These sites contain cairns, rock alignments, rock rings, and/or cleared circles.

OTHER. All other prehistoric sites that do not fit into the above categories.

HISTORIC

HABITATION SITES. In addition to food-related refuse, these are sites that contain evidence of domestic activity. Features may include tent pads, cleared areas, campfire rings, foundations, or other evidence of more than casual use.

HISTORIC REFUSE. These sites contain primary or secondary refuse deposit or concentrations of debris.

– Food containers: primarily cans

– Beverage containers: bottles and cans

– Mixed domestic: in addition to food and beverage containers, a variety of materials such as crockery, glassware, buttons, wire, toys, etc.

– Construction: cement, milled lumber, nails, paint, tile, etc.

– Target practice: shell casings, fragmentary bullets, etc.

GRAVEL EXTRACTION/MINING. These sites are characterized by pits, scraping scars, rock piles, and/or access roads.

SURVEYING. These sites consist of trash piles associated with surveying activities and historic survey markers.

TRANSPORTATION. These sites are linear features designed to facilitate the transportation of people.

– Roads: unpaved

– Trails: wagon trails and footpaths

MILITARY. Any site associated with military activities.

ROCK FEATURES. Cairns, rock alignments, and/or rock rings.

WATER CONVEYANCE. Any subsurface feature or device constructed to transport water over a distance (irrigation canals, ditches, flumes, pipes, etc.) not associated or addressed as part of the built environment.

OTHER. All other sites that do not fit into the above categories.

BUILT ENVIRONMENT

HABITATION. Standing residential buildings.

INDUSTRIAL. Standing processing or manufacturing plant.

TRANSPORTATION. Existing linear feature designed to facilitate the transportation of people.

– Roads: paved

– Railroads: with intact crossties and rails

WATER CONVEYANCE. Any existing feature or device constructed to transport water over a distance: irrigation canals, ditches, flumes, pipes, etc.

2.0 AVOIDANCE AND PRESERVATION

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

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

2.1 ENVIRONMENTALLY SENSITIVE AREAS

Newly discovered and previously known prehistoric and historic archaeological sites located within the Project’s APE shall be designated as ESAs. Construction personnel will be instructed on how to avoid ESAs.

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

2.2 PLAN OF ESA ESTABLISHMENT AND DESIGNATION

1. The archaeological consultant shall flag and/or fence cultural resources.
2. The lead Construction Manager and all supervisory personnel shall be informed by the BLM archaeologist and/or its representative of the presence and location of all ESAs within the Project area and the need to maintain integrity of the ESAs.

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

If a resource cannot be avoided, then the resource will be evaluated for eligibility for listing in the NRHP and/or CRHR.

TRAINING

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

1. A summary of the archaeological and cultural sensitivity of the area.
2. The regulatory context and BLM protocols.
3. Project roles and responsibilities for the BLM archaeologist and the archaeological monitors.
4. Authority of archaeological monitors to halt work.
5. Basic artifact recognition.
6. The understanding that if construction personnel observe cultural material or what appears to be a cultural resource, the BLM archaeologist and/or representative shall be contacted immediately. Construction personnel shall have the requisite contact information.
7. The explicit understanding that cultural resources and human remains are not to be disturbed.
8. The procedures to follow if cultural material or human burials are observed:

- Work halts immediately.
- The location is secured and made off-limits to ground-disturbing activities.
- The construction foreman and BLM archaeologist are called immediately.
- Work does not re-commence until authorized by the BLM archaeologist.

3.0 MONITORING PLAN

3.1 MONITORING

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

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

- c. Dates of monitoring
- d. Personnel participating and their qualifications
- e. Resources (ESAs) satisfactorily protected
- f. Damaged resources, including the effects and the significance
- g. Discovered resources and their significance (if any)
- h. Management and treatment measures implemented

The report shall be reviewed and approved by the BLM archaeologist and shall be prepared per *Archaeological Resources Management Reports (ARMR): Recommended Contents and Format* guidelines (OHP 1990).

- 5. Monitors shall maintain the flagging and staking to make sure that all ESAs are avoided and protected. This includes verification that the current conditions of known significant resources do not change as part of this Project. If protected sites exhibit physical changes, then protection measures need to be immediately changed and improved under direction from the BLM archaeologist. Earthmoving within 50 feet of a significant resource may be halted.
- 6. If individual artifacts are exposed during monitoring, they shall be mapped in situ with a submeter accuracy, global positioning system (GPS) unit, collected, analyzed in the consultant's laboratory, cataloged, and curated. A curation agreement shall be established with a curation facility that meets federal standards.
- 7. If a feature (cluster of in situ artifacts, intact hearth, historic foundation, etc.) is exposed during monitoring, construction activities shall be diverted briefly until the Monitoring Supervisor has had the opportunity to assess the find and make appropriate recommendations. Consultant recommendations shall be provided to BLM and in accordance with the *Discovery Treatment Plan* provided later in this document. Avoidance is preferred and, if a resource cannot be avoided, then it first must be evaluated. If the resource is significant, then avoidance must be considered. If a significant resource cannot be avoided, then treatment measures (including possibly data recovery) must be implemented prior to recommencing construction. The details of this process are also discussed in the *Discovery Treatment Plan* provided later in this document. During the field implementation of archaeological studies, earthmoving within 50 feet may be halted.

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

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

9. Notification Procedures

When a potential discovery not involving human remains is made during construction monitoring, the cultural resources monitor shall temporarily halt or redirect the work at that location and create a temporary exclusion area (Table 1). The monitor shall then notify the on-site Native American monitor (if not present) if the find is prehistoric (or potentially prehistoric) and the Monitoring Supervisor, who shall inspect the find and perform an initial assessment. If the find appears to represent a potentially significant cultural resource, the Monitoring Supervisor shall notify BLM. BLM shall then notify the Construction Manager, who will issue a temporary stop work order for the location of the find. A list of contact information is provided in Appendix C.

If human remains or fragmentary bones that are suspected to be human are encountered during construction activities, work at that location shall be suspended. The archaeological monitor shall notify BLM and the Native American monitor on-site (if not present at the discovery location) immediately. This notification will be the initial step in the consultation procedures under the NAGPRA. The remains shall be left in place and exclusionary fencing shall be placed in a 50-foot radius around the discovery. Decisions regarding additional identification procedures and the continuation or permanent suspension of work at the discovery location shall then be made by BLM.

Table 1 Discovery Notification Procedures

Resource Type	Definition (in a 25 m ² area)	Procedure
Isolated find	Fewer than three artifacts	Monitor to record, photograph, map with GPS
Archaeological site	Three or more artifacts; feature	Monitor to redirect construction, contact Monitoring Supervisor, erect exclusionary flagging/fencing, and record; Monitoring Supervisor to assess

Potentially human remains		Monitor to redirect construction, and contact BLM, Native American monitor (if not present), and Monitoring Supervisor; erect exclusionary flagging/fencing
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4.0 DISCOVERY PLAN

4.1 PLAN OF TREATMENT OF DISCOVERIES

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

If human remains are encountered, the course of action will follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols. This includes stopping work in the exclusion area while the consultation requirements of NAGPRA are completed. Work on the undertaking can proceed outside of the exclusion area. Should these BLM NAGPRA Protocols not be followed, a violation of the NAGPRA and ARPA may take place. The ARPA allows the government to assess civil fines and to proceed with criminal prosecution depending on the nature of the violation.

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

MANAGEMENT OF PREVIOUSLY UNKNOWN SITES, SITE COMPONENTS, OR FEATURES

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

Recovery and documentation of cultural materials will, at minimum, include mapping the discovery location and may also include one or more of the following: photographs; illustrations of artifacts, features, or soil profiles; surface artifact collection; and test or data recovery excavations. The procedures outlined below will be adhered to should there be archaeological discoveries during construction monitoring for the Project. A discussion of the disposition and

curation of recovered artifacts is presented later in the section titled *Data Management and Curation*.

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

- The archaeological monitor shall have the authority to halt work in discovery vicinities and redirect heavy equipment away from the discovery site.
- All ground-disturbing activities that would adversely impact a newly discovered cultural resource shall be halted. The horizontal and vertical limits of the resource within the impact area shall be determined. The resource shall be protected by physical barriers and the presence of monitors to ensure that further disturbance to the resource is avoided and to minimize impacts.
- BLM shall apply the criteria for listing in the NRHP:
 - (A) It is associated with events that have made a significant contribution to the broad patterns of history and cultural heritage;
 - (B) It is associated with the lives of persons important in our past;
 - (C) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
 - (D) It has yielded, or may be likely to yield, information important in prehistory or history.

Properties found eligible for the NRHP are assumed to be eligible for the CRHR.

- If the cultural resource is determined by BLM to be a historic property (eligible for the NRHP), consultation shall take place to determine the appropriate treatment measures.
- BLM shall consult with Native American groups or other interested parties regarding the treatment of the find.
- As needed, a data recovery plan shall be developed by the consultant under direction and in coordination with BLM and to recover the significant values contained by newly discovered resources. Recovered data shall be processed, analyzed, and reported concurrent with other sites addressed during the treatment program. Refer to the specific field and laboratory methods in Appendix A.
- If individual non-diagnostic artifacts are exposed during monitoring or construction, they shall be mapped in situ. If diagnostic artifacts are exposed, they shall be mapped using a sub-meter accuracy GPS unit, collected, analyzed in the consultant laboratory, catalogued, and curated.
- If a feature (e.g., cluster of in situ artifacts, intact hearth, or foundation) is exposed during monitoring, construction activities shall be diverted until the find can be assessed and appropriate recommendations made. If excavation is required, it shall be accomplished expediently. Features shall be exposed and recovered using standard excavation techniques,

with care taken to maintain the provenance of the feature as a distinct unit. The feature shall be photographed and mapped in place prior to recovery. Samples shall be recovered for special analyses (e.g., radiocarbon, macrobotanical, palynological, or faunal) as appropriate to the character of the feature. Artifacts collected shall be analyzed in the consultant's laboratory, cataloged, and temporarily curated.

- A determination shall be made as to whether a new discovery is part of an existing site or a previously unknown cultural resource. Based on that determination, either new Department of Parks and Recreation (DPR) forms will be created or the existing DPR forms shall be updated to include the discovery. The potential significance of newly discovered sites or site components shall be evaluated relative to the research design.
- If a new site or significant component of a previously recorded site is discovered, construction activities will be halted in the area until an assessment of the find can be made. If it is determined that the site has the potential to yield important data that can address research questions, a sample of the site area shall be hand-excavated using the standard archaeological procedures described in Appendix A. BLM shall be informed by the consultant as to the estimated time necessary for an NRHP/CRHR eligibility determination. The assessment shall include mapping the locations and elevations of new discoveries. To the extent possible, boundary definition, assessment of content and integrity, and assessment of eligibility shall be accomplished with shovel test pit (STP) excavations. At minimum, the evaluation shall include recording, excavating, and reporting major features or artifact concentrations uncovered, and recovery/curation of a sample of uncovered artifacts where practicable.
- Construction activities in the discovery area shall not resume until the site evaluation is completed. The consultant shall prepare a brief report of the findings and eligibility evaluation, and propose avoidance measures and provisions to minimize impacts specific to that discovery. This shall be submitted to BLM for review and concurrence. If further disturbance cannot be minimized, then the cultural resources contractor shall provide justification and recommendations for data recovery to BLM. If BLM determines that disturbance is justified, then recommendations for data recovery shall be reviewed by BLM for adequacy and to evaluate the cost of treatment versus the cost of Project redesign. Interested Native American community members shall be consulted if the resource contains a Native American context. Only after BLM review and approval of a site-specific data recovery plan shall such excavation be performed. Data recovery shall collect a representative sample of the deposits that would be destroyed.
- The discovery of human remains during Project implementation shall require special procedures, as discussed below.
- If additional cultural material is exposed by construction, after mitigation of site impacts has been performed per the Discovery Treatment Plan, additional hand-excavation will not be required unless the material represents a new type of data. Such new cultural material would consist of artifact classes and features not recovered in previous excavations. However, even if no additional excavation is required, the newly exposed material shall be mapped and collected.
- Discoveries and their treatment relative to the research shall be reported in the final monitoring report for the Project. A separate report of findings and interpretation relative to a research design shall be prepared if data recovery excavations are employed for mitigative site treatment.

MANAGEMENT AND TREATMENT OF HUMAN REMAINS

Human remains may be discovered in situ during the field excavation program, which includes the test unit excavations. Additionally, human remains may be discovered during the laboratory processing and analysis phases of the treatment program. Archaeological monitoring both within and outside site areas is also planned, during which isolated or disarticulated human remains may be uncovered. One of the objectives of archaeological monitoring is to identify such remains while they are still in place so they and their context can be managed in a manner that is sensitive to the Native American community or other ancestors and to address existing regulations.

If human remains are encountered, the course of action will follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols as presented in the NAGPRA Plan of Action. This includes stopping work in the exclusion area for a period of no more than 30 days while the consultation requirements of the NAGPRA are completed. Work on the undertaking can proceed outside of an exclusion area defined by BLM. Should these BLM NAGPRA Protocols not be followed, a violation of the NAGPRA and ARPA may take place. The ARPA allows the government to assess civil fines and to proceed with criminal prosecution depending on the nature of the violation.

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

- For Project construction activities (as described in the Monitoring Section), if definite or suspected human remains are encountered, the archaeological monitor shall halt work in the discovery vicinity and redirect heavy equipment away from the discovery site to avoid ground-disturbing activities that could adversely impact the remains. The monitor shall also immediately contact/notify the on-site Native American monitor, the consultant Monitoring Supervisor, and BLM. BLM shall then direct the procedures for identification and/or verification of the remains as human. The horizontal and vertical extent of occurrence of the remains within the impact area shall be determined. The remains shall be protected by physical barriers and the presence of monitors to ensure that further disturbance to the remains is avoided. Subsequent to verification of the remains, as previously indicated, the course of action shall follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols.
- For archaeological investigations, activities in the discovery area shall cease and the field supervising archaeologist shall notify the on-site Native American monitor and the Principal Investigator, who shall notify BLM. As with a discovery during construction, BLM shall then

direct the procedures for the identification and/or verification of the remains as human. Subsequent to verification of the remains, as previously indicated, the course of action shall follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols.

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

For laboratory situations, where small bone or fragments may be identified as sensitive, similar notification and management procedures to field discovery will be followed, and strict provenance controls will be maintained. As with the field, the initial step is expert identification which shall proceed as directed by the BLM. Subsequent to verification of the remains, the course of action will follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols, including consultation with tribes and preparation of a written plan for management of the remains.

5.0 DATA MANAGEMENT AND CURATION

5.1 TECHNICAL REPORT PREPARATION AND DISSEMINATION

Reports regarding training, monitoring, consulting, evaluating, and data recovery (if necessary), will be responsive to contemporary professional standards. This will include the *Secretary of Interior's Standards for Archaeological Documentation* (NPS 1983).

A comprehensive technical report may be required that will present the results of monitoring, evaluation, and treatment programs completed in relation to the Imperial Valley Solar Project. The production and dissemination of the technical report is the final step in treatment. The consultant is responsible for technical report preparation, with BLM oversight and final document approval. The technical report and ancillary studies will also be responsive to contemporary professional standards and consistent with *ARMR* (OHP 1990). Precise locational data may be provided in a separate appendix if it appears that its release could jeopardize archaeological sites.

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

5.2 CURATION IN PERPETUITY

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

REFERENCES

National Park Service (NPS)

1983 *Secretary of Interior's Standards for Archeological Documentation*. Washington, DC.

Office of Historic Preservation (OHP)

1990 *Archaeological Resources Management Report (ARMR): Recommended Contents and Format*. California Office of historic Preservation, Sacramento, CA.

APPENDIX A
SPECIFIC FIELD AND ANALYTICAL METHODS

ATTACHMENT A

SPECIFIC FIELD AND ANALYTICAL METHODS

Standard archaeological field, laboratory, and analysis methods that are consistent with current scientific and regional procedures will be used for the Imperial Valley Solar Project (IVSP or Project). This appendix addresses newly discovered sites that cannot be avoided by Project construction. Upon unanticipated discovery of intact cultural deposits, including features, these resources will be evaluated for listing in the National Register of Historic Places (NRHP) and/or the California Register of Historic Resources (CRHR).

Strategies will include controlled excavations, which consist primarily of Shovel Test Pits (STPs) that measure 0.5 by 1 meter (m), Test Excavation Units (TEUs) that measure 1 by 1 m, and/or larger block exposures that are hand-excavated with strict provenance controls using shovels, trowels, picks, and other tools. Supervised mechanical excavations may also be used, where appropriate, as well as remote sensing surveys.

Archaeological resources are normally determined eligible under NRHP Criterion D or CRHR Criterion 4, potential for important information. The resource must clearly demonstrate the potential and must exhibit the requisite physical integrity. The presence of diagnostic (datable) material and/or artifacts allowing the opportunity to date the site is imperative. Resources in disturbed contexts with no opportunity to be dated are often ineligible for the NRHP. If a resource is eligible and cannot be avoided by construction, the Bureau of Land Management (BLM) may decide to conduct data recovery and excavate a representative sample of the site employing the excavation strategies below.

FIELD METHODS

SURFACE SCRAPES

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

SHOVEL TEST PITS

STPs are preliminary tests for the presence of subsurface cultural deposits. It is expected that they will be used to delineate the boundaries of previously unknown sites, site components, or large diffuse features, should they be discovered during archaeological fieldwork or monitoring. STPs normally measure approximately 35 centimeters (cm) in diameter and are excavated in incremental 10-cm levels. The number and distribution of STPs depend on the size and geomorphic setting of each site. Each STP is excavated to bedrock or to soil strata that are clearly not of a culturally relevant age, with the ground surface serving as reference for depth

measurements. Excavated soil is reduced by dry-screening through ¼-inch mesh hardware cloth, and recovered artifacts are collected and bagged by level, with reference numbers assigned and typical labeling information provided. Stockpiled dirt is returned to the STP upon completion; shovel test forms are completed for each unit.

TEST EXCAVATION UNITS

Manually excavated TEUs afford larger subsurface exposures than STPs and are used to recover representative samples of subsurface artifacts with controlled depth information. In general, TEUs measure 0.5 square meter (0.5 by 1 m) to 4 square meters (2 by 2 m); however, dimensions may vary according to circumstances, and adjacent units may be excavated in various configurations to develop block exposures. For example, site depth is a determinant for defining unit size. Unit depths greater than 1.5 m (5 feet) require the opening of an adjacent unit for health and safety issues, as well as for facility of excavation and recording. Also, additional exploration and exposure of a feature that extends beyond the boundaries of a TEU may be necessary. Excavation proceeds by 10-cm arbitrary contour levels unless natural or cultural strata are present; then, levels are subdivided to maintain these distinctions. Contour levels are maintained by measuring depth from the existing surface. An excavation level record is completed for each level. As appropriate, other records are completed, including plan views, profiles of test units, and descriptions of features. In addition, test units are selectively photographed during excavation to show artifact and/or stratigraphic associations, profiles, features, or other data.

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

Hand-excavation of test units will normally be accomplished using shovels, trowels, breaker bars, and picks, depending on the composition of the soil and the nature of the cultural deposits. In feature contexts, trowels, brushes, and other small implements may be most appropriate. Special methods are used in the excavation of features, including sample collections suitable for special study. Charcoal (for radiocarbon assay) is collected when present. Depending on excavation context and research design issues, other samples that may be collected include bulk sediment for humate analysis and/or chemical analysis, pollen and/or phytolith, and flotation. Excavated soils are typically dry-screened through ¼-inch mesh to reduce sediment volume and bagged and tagged as previously described.

AUGER EXCAVATION

Auger excavations are used to define soil stratigraphy, to locate bedrock, or to test for the presence of cultural remains at greater depth, including potentially buried deposits. With extension handles, this procedure can accurately locate and trace soil strata at depths of several meters. Augers can be placed in the bottom of STPs or other excavation units to further test for depth of deposit when additional excavation is otherwise impossible. However, the small volume of most auger borings limits the usefulness of this procedure for mapping the absence of subsurface cultural deposits with certainty. Auger excavations may or may not proceed using arbitrary levels (e.g., 10 cm or 20 cm), depending on the circumstances. Augered soils are typically screened through ⅛-inch mesh to recover cultural remains. On each site, auger tests are sequentially numbered, and recovered materials are bagged, labeled, transported, and processed in the same manner as other excavated materials. Reference log numbers are assigned to each provenance unit, and an auger form is completed. Auger test locations are plotted on the site plan views, and auger holes are covered upon completion with the dirt available from the initial screening reduction.

TRENCHING

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

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

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

FEATURE EXCAVATION

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

GEOMORPHOLOGY

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

REMOTE SENSING

There are several types of remote sensing techniques that are useful to locate buried features and other anomalies on archaeological sites. These techniques are noninvasive and, when used in combination with hand-excavation, can greatly increase the efficiency of the latter by indicating areas worthy of investigation. Such techniques may be employed in circumstances where they can provide information not otherwise obtainable.

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

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

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

MAPPING METHODS

Point Provenance Method. The point provenance method is employed to map the locations of diagnostic artifacts, tools, and other items or significant features prior to collection or excavation, or to collect the surface of low-density sites. The Global Positioning System (GPS) units with sub-meter accuracy are used for point provenance mapping of monitoring finds, surface scatters of artifacts, and collecting isolated diagnostic cultural materials. Monitors and field mapping personnel will use hand-held GPS units to map finds and to collect surface materials. Materials collected will be assigned sequential reference numbers that are logged on GPS recording forms for the location of each item or feature documented. The reference number is used to prepare a site or item location map and in the presentation of tabled data and artifact illustrations provided in the technical report.

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

An electronic total station is used for the EDM method, and a single primary mapping station is located in a central area of each property. Sub-data are established, as needed, especially on large sites or those with diverse topography. Stations are established with a well-embedded 9-inch-long nail, and demarked with black-and-pink striped surveyor's flagging. Station labeling includes the station number, site number (permanent designation if available, field number if not), research organization, and date. At large properties, secondary mapping data can be established, keyed to the primary datum, and properly labeled to facilitate recordation of cultural, topographic, and other data.

PHOTOGRAPHS AND ILLUSTRATIONS

Photographic documentation will include color digital photographs taken throughout the monitoring program and during all phases of individual site treatment activities such as testing and/or data recovery. Photographs taken during monitoring will be used to document the activities monitored and the initial recordation of any discoveries or finds made. During testing and/or data recovery activities, photographs will include site overviews to show a site's physiographic and environmental setting, hand and mechanical excavations in action, and features and unit wall profiles. Photographs will be recorded on standard photographic logs identifying the frame, day, month, year, time, subject, and direction of view. Illustrative photographs will be included in the draft technical report.

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

CATALOGING AND ANALYTICAL METHODS

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

CLEANING

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

For other artifacts, adhering dirt will be removed by washing or dry brushing. Flaked stone, groundstone, and shell are typically cleaned using water. Depending on its condition, bone may be either dry brushed or quickly immersed in water, gently brushed, and then quickly rinsed. To

prevent accidental contamination between provenances, artifacts from a single provenance will be cleaned and/or stabilized at the same time, and washing should proceed one unit at a time. Once dry, individual artifacts from each provenance will be placed in clean polyethylene bags along with identification tags produced on archivally stable cardstock. Radiocarbon samples will be placed in either aluminum foil pouches or in glass vials, which will then be placed in clean polyethylene bags. Flotation, pollen, sediment, and other bulk samples will be left in double polyethylene bags until they are processed.

SORTING AND CATALOGING

Sorting and cataloging methods will follow the requirements of the curation standards for a facility that will meet minimum federal requirements as published in 36 Code of Federal Regulations (CFR) Part 79. Specific curation requirements at the facility selected to curate the Project materials will also be ascertained and followed.

Recovered data are separated hierarchically into material class, artifact type, material, quantity, and weight. Material class separates artifacts and other data into such major categories as stone, ceramic, bone, shell, glass, metal, and others. The second ordering variable (artifact type) places the artifact into a category such as debitage, biface, mano, or awl. Material is sorted by toolstone (e.g., chalcedony, obsidian, volcanic, quartzite, or granite), bone, shell, etc.

This information is recorded on the master catalog form with the following additional data: count, weight, locus, unit coordinates, depth/level, unit type, unit designation, and curation box number. Stone, bone, and shell artifacts are counted; unmodified shell, bone, and charcoal are not. Special samples and ecological data (ecofacts) are recorded on the same catalog form, with the same information required for artifacts. Where appropriate, feature number, sampling stratum designation, soil stratum (stratigraphic) designation, and screening mesh size are also included for each catalog entry. Attributes for cores, debitage, flaked stone tools, groundstone, bifaces or projectile points, and prehistoric ceramics are recorded on the corresponding sub- or detail catalogs.

After the information has been recorded, an artifact is given a three-part catalog number, with each part separated by a dash. The first part of the catalog number is the site number, the second part is the year excavated, and the third part is assigned consecutively in the order of entry. After assigning catalog numbers, the artifacts will be placed in clean polyethylene bags with the catalog number and provenance written with archival-quality black ink markers. Identification tags will be generated on adhesive archival-quality labels and applied to the interior of the bags. The tags will include, at a minimum, catalog number, artifact type, and provenance information. Each tag will show the catalog number along with other pertinent

information, such as site number and selected provenance information. Bagged artifacts are stored in 6-inch-square boxes, which are incorporated into the temporary boxing system. The catalog will be entered into the computerized data management system for ease in sorting and manipulating data within and between sites.

TEMPORARY CURATION METHODS

Processed artifacts will be physically organized by artifact type and grouped using archival bags and boxes. The boxes will be temporarily stored at the AECOM processing facility until transfer to the designated curation facility. The boxing system is set up by site, class, and project number. After cataloging, the artifacts are placed in appropriately sized boxes. These boxes will be labeled with the box number and the item type (e.g., debitage, groundstone, bone, soil samples). Smaller archival-quality boxes or plastic film canisters may be used for small or unusual artifacts that need further protection. The boxed artifacts are then placed in a 12- by 15- by 10-inch archival banker's box. The boxes are recorded on an Inventory Spread Sheet.

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

ARTIFACT AND ECOFACT ANALYSES METHODS

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

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

Bifaces. Finished bifacial tools include such formal items as points, knives, and drills. The trajectory of biface reduction yields progressively smaller flakes and an objective piece that becomes thinner and takes on a planned form. The objective piece can include the original cobble/core or any detached flake modified using the bifacial strategy. At any point in the production sequence, an incomplete or broken biface can be used as a tool. Bifaces are classified according to the stage of manufacture represented. Biface reduction/production is recognized as a continuum, and the stages reflect arbitrary divisions within this continuum. Biface reduction can be performed on flakes, cobbles, or split cobbles, and can result in cores, tools, and rejected items.

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

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

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

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

shoulder/barb configurations, notch location and orientation, stem shape, tang morphology, and base configuration.

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

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

Cores can be separated into the following categories:

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

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

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

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

Debitage. This category of artifacts refers to unmodified, discarded knapping residues resulting from the production and maintenance of chipped stone tools. Represented are a wide range of remains, including complete and broken flakes, angular waste, and heat spalls and potlids from errors in heat treatment. The attributes recorded for debitage include lithic material, manufacturing stage, completeness, presence and percentage of cortex, evidence

of heat treatment, and size. Debitage generally can be defined within the following six categories:

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

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

Groundstone. Groundstone is defined as lithic material whose shape is modified by repeated friction of stone against stone, as opposed to chipping. Groundstone is recorded using simple

morphological and technological attributes based on size and shape. For groundstone specimens, type, lithic material, number of ground surfaces, and maximum measurements (length, width, thickness, and weight) are recorded. In addition, evidence of formal shaping, rejuvenation, secondary use, and the presence and distribution of peck marks, polish, and striations can be recorded.

Common groundstone artifacts include the following:

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

Hammerstones. Typically, these artifacts are unmodified cobbles, initially reduced cores, or broken cores that exhibit battering on one or more edges. Three subclasses may be defined, two indicating the state of reduction of the artifact and the third indicating the degree of wear. The first subclass includes cobbles that lack signs of modification except for obvious battering at one

or more points on the cobble surface. The second subclass is cores that show battering on one or more previously flaked edges. The third subclass is pecking stones: pebbles or cobbles with lighter and more localized wear, often on a pointed projection of the cobble. For these specimens, lithic material, number of modified surfaces, and maximum measurements (length, width, thickness, and weight) can be recorded.

FAUNAL ANALYSES

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

SPECIAL STUDIES

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

- *Radiometric Analysis.* Selected charcoal and shell samples and other remains containing carbon (e.g., organics and bone) from key contexts will be submitted for radiocarbon assay. Approximately 10 samples will be submitted to establish the chronology of paleolandscapes for the paleoenvironmental reconstruction historic context, and another 10 will be submitted to date the chronology of sites and site components should sufficient data be recovered during the treatment program.
- *Obsidian Sourcing Analyses and Hydration.* Obsidian sourcing analysis is used for providing an idea of the regional exchange system within which prehistoric site occupants operated. Obsidian hydration analysis by source is useful for assigning relative chronological ages to the sites and associated materials.
- *Flotation, Pedological, and Chemical Analyses of Sediments.* Flotation analysis of cultural features, including subsequent macrobotanical identification, as necessary, is an important aspect of the evaluation program. Data can be used to address subsistence, site function, seasonality of occupation, internal site structure, and settlement type. Pedological and chemical analyses are useful for geomorphic studies, paleoenvironmental reconstructions, and postformation processes.
- *Ceramic Analyses.* Ceramic thin sectioning (sourcing).
- *Other Analyses and Assays.* Other types of artifact analyses and sample assays may be performed if sufficient data are recovered during the treatment program. These include (1) blood residue (immunological) analysis of selected lithic tools, (2) microscopic use/wear analysis of the edges of selected lithic tools, and (3) stable carbon isotope assay of bone samples from various taxa.

ATTACHMENT B
DAILY MONITORING LOG

IMPERIAL VALLEY SOLAR PROJECT
DAILY ARCHAEOLOGICAL MONITORING LOG

DATE: _____

ARCHAEOLOGICAL MONITOR: _____

FACILITY: _____

ARRIVAL: _____ LUNCH: _____ DEPARTURE: _____

PROJECT AREA(S): (Location) _____

TYPE OF WORK AND EQUIPMENT: _____

SUMMARY OF CONSTRUCTION ACTIVITIES PERFORMED: _____

MONITORING ACTIVITIES PERFORMED (e.g., protection of ESA): _____

CULTURAL RESOURCES PRESENT: _____

NATIVE AMERICAN MONITOR (If present): _____

NON-COMPLIANCE: _____

COMMENTS: _____

LOG FILED WITH MONITORING SUPERVISOR: _____

ATTACHMENT C
CONTACT LIST

CONTACT LIST

AFFILIATION	TELEPHONE	EMAIL	NAME
Bureau of Land Management Cultural Resources			
California Energy Commission			
Tessera			
Construction Manager			
Monitoring Supervisor			
Principal Investigator			
Imperial County Coroner			

APPENDIX K: EXAMPLE NAGPRA PLAN OF ACTION

DRAFT
NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT
PLAN OF ACTION:

A WRITTEN PLAN OF ACTION
FOR THE TREATMENT OF
INTENTIONALLY EXCAVATED OR INADVERTENTLY DISCOVERED
HUMAN REMAINS, FUNERARY OBJECTS, SACRED OBJECTS,
OR OBJECTS OF CULTURAL PATRIMONY
FOR THE IMPERIAL VALLEY SOLAR PROJECT IN CALIFORNIA DESERT DISTRICT OF THE
BUREAU OF LAND MANAGEMENT CALIFORNIA

Prepared For:

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

Prepared By:

LSA Associates, Inc.
703 Palomar Airport Road, Suite 260
Carlsbad, CA 92011
(760) 931-5471
May 28, 2010

and

Supplemented by AECOM
1420 Kettner Boulevard, Suite 500
San Diego, CA 92101
(619) 233-1454

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TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Introduction.....	L-1
Planned Action.....	L-1
Consultations.....	L-1
1) Objects to be considered as cultural items.....	L-2
2) Specific information to determine custody.....	L-3
3) Planned treatment, care, and handling of human remains.....	L-4
4) Planned archaeological recording of the human remains and cultural materials	L-6
5) Analysis planned for the human remains and cultural materials.....	L-6
6) Steps to be followed to contact Indian tribe officials at the time of intentional excavation ..	L-6
7) Kind of traditional treatment to be afforded the human remains	L-7
8) Nature of reports to be prepared	L-7
9) Planned disposition of human remains pursuant to 43 CFR 10.6	L-7
10) The role of tribal monitors during survey and excavation.....	L-8
11) BLM personnel and tribal representatives involved in this NAGPRA effort.....	L-8
Federal Officials.....	L-9
Invited Signatories	L-10
 <u>Attachments</u>	
A	Upon The Discovery of Human Remains, Funerary Objects, Sacred Objects, or Objects of Cultural Patrimony
B	List of Native American Tribal Contacts

Introduction

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

Planned Action

The IVSP would construct a 750-megawatt (MW) solar energy plant on approximately 6,500 acres of public lands in California administered by BLM CDD and the El Centro Field Office. The Project would use existing roads and construct new roads in the Project area.

The Project is located in western Imperial County, California, immediately east of the town of Ocotillo, west of the town of Seeley, and north and south of Interstate 8 (I-8). The Project will use the SunCatcher technology of Stirling Energy Services. Each SunCatcher consists of a 25-kilowatt solar power electric-generating system. The system is designed to track the sun automatically and to focus solar energy onto a Power Conversion Unit, which generates electricity. The system consists of an approximate 38-foot-high by 40-foot-wide solar concentrator dish that supports an array of curved glass mirror facets. The 300-MW Phase I of the Project will consist of approximately 12,000 SunCatchers. The 450-MW Phase II portion of the Project will include approximately 18,000 SunCatchers.

The Project will include the construction of a new 230-kilovolt (kV) substation approximately in the center of the Project. A Main Services Complex, where key buildings and parking areas will be located, will be constructed at the northeastern end of the Phase I Project. Main roads will be constructed with a combination of roadway dips and elevated sections across the dry washes on the Project. The full Phase II expansion of the Project will require the construction of the 500-kV Sunrise Powerlink transmission line that San Diego Gas & Electric (SDG&E) has proposed. A 230-kV transmission line that will be built for Phase I will parallel the current transmission line corridor for the Southwest Powerlink transmission line within the existing right-of-way (ROW). The main entry for truck traffic to the Project during construction will be from I-8 to the Project entrance on Evan Hewes Highway. During Project operation, the secondary and emergency access will be from Dunaway Road.

Consultations

Based on previous consultation, the Campo Band of Kumeyaay Indians, the Cocopah Indian Tribe, the Fort Yuma Quechan Indian Tribe, the Ewiiapaayp Band of Kumeyaay Indians, the Jamul Indian Village, the Kwaaymii Laguna Band of Indians, the La Posta Band of Kumeyaay Indians, the Manzanita Band of Kumeyaay Indians, the San Pasqual Band of Diegueno Indians,

and the Santa Ysabel Band of Diegueno Indians (tribes) have been contacted for the IVSP and have indicated that the project is within ancestral territory. Additionally, sensitive areas have been identified in association with relic shorelines of ancient Lake Cahuilla. Should remains subject to NAGPRA be discovered during the course of construction, BLM will continue to consult with the interested tribes. These groups have been consulted with and have received a copy of this plan.

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

1) Objects to be considered as cultural items:

For the purpose of this plan, the objects considered as cultural items are defined in 43 CFR 10.2 (d) and are as follows:

1. *Human remains* means the physical remains of a human body of a person of Native American ancestry. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets or individual teeth. For the purposes of determining cultural affiliation, human remains incorporated into a funerary object, sacred object, or object of cultural patrimony, as defined below, must be considered as part of that item (43 CFR 10.2[d][1]).
2. *Funerary objects* means items that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed intentionally at the time of death or later with or near individual human remains. Funerary objects must be identified by a preponderance of evidence as having been removed from a specific burial site of an individual affiliated with a particular Indian tribe or Native Hawaiian organization, or as being related to specific individuals or families or to known human remains. The term *burial site* means any natural or prepared physical location, whether originally below, on, or above the ground, into which, as part of the death rite or ceremony of a culture, individual human remains were deposited, and includes rock cairns or pyres that do not fall within the ordinary definition of a gravesite. For purposes of completing the summary requirements in §10.8 and the inventory requirements of §10.9 (43 CFR 10.2[d][2]), funerary objects can be further defined as follows:
 - (i) Associated funerary objects means those funerary objects for which the human remains with which they were placed intentionally are also in the possession or control of a museum or Federal agency. Associated funerary objects also means those funerary objects that were made exclusively for burial purposes or to contain human remains.
 - (ii) Unassociated funerary objects means those funerary objects for which the human remains with which they were placed intentionally are not in the possession or control of a museum or Federal agency. Objects that were displayed with individual human remains as part of a death rite or ceremony of a culture and

subsequently returned or distributed according to traditional custom to living descendants or other individuals are not considered unassociated funerary objects.

Funerary objects found in prehistoric burials in the Colorado Desert include, but are not limited to, arrowheads, shell beads, pendants, ceramic pots, and arrow shaft straighteners.

3. *Sacred objects* means items that are specific ceremonial objects needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present-day adherents. While many items, from ancient pottery sherds to arrowheads, might be imbued with sacredness in the eyes of an individual, these regulations are specifically limited to objects that were devoted to a traditional Native American religious ceremony or ritual and that have religious significance or function in the continued observance or renewal of such ceremony. *Traditional religious leader* means a person who is recognized by members of an Indian tribe or Native Hawaiian organization (43 CFR 10.2[d][3]) as follows:

- (i) Being responsible for performing cultural duties relating to the ceremonial or religious traditions of that Indian tribe or Native Hawaiian organization, or

- (ii) Exercising a leadership role in an Indian tribe or Native Hawaiian organization based on the tribe or organization's cultural, ceremonial, or religious practices.

4. *Objects of cultural patrimony* means items having ongoing historical, traditional, or cultural importance central to the Indian tribe itself, rather than property owned by an individual tribal or organization member. These objects are of such central importance that they may not be alienated, appropriated, or conveyed by an individual tribal or organization member. Such objects must have been considered inalienable by the culturally affiliated Indian tribe or Native Hawaiian organization at the time the object was separated from the group (43 CFR 10.2[d][4]).

2) Specific information to determine custody:

In the event of the removal of NAGPRA material on Federal lands, the following specific information will be used to determine custody:

1. Information provided by a lineal descendant(s) that can trace his or her direct relationship, without interruption, between themselves and the deceased by means of the traditional kinship system of the appropriate Indian tribe (43 CFR 10.2[b] and 43 CFR 10.14[b]).
2. Information provided by a Native American tribe, people, or culture that is indigenous to the United States and that can establish cultural affiliation by means of a relationship of shared group identity that can reasonably be traced historically or prehistorically between members of a present day Indian tribe and an identifiable earlier group (25 USC 3001[9], 43 CFR 10.2[e] and 43 CFR 10.14[c]).

3. The Federal agency official will determine cultural affiliation between a present-day individual or Indian tribe by a preponderance of evidence based on geographical, kinship, biological, archaeological, anthropological, linguistic, folkloric, oral traditional, historical, or other relevant information or expert opinion (25 USC 3005 [a][4], 43 CFR 10.2[e], and 43 CFR 10.14[e]).
4. Priority order of custody of the cultural materials will be consistent with 43 CFR 10.6 (a) as follows:
 - (1) In the case of human remains and associated funerary objects, in the lineal descendant of the deceased individual as determined pursuant to Sec. 10.14 (b);
 - (2) In cases where a lineal descendant cannot be ascertained or no claim is made, and with respect to unassociated funerary objects, sacred objects, and objects of cultural patrimony:
 - i. In the Indian tribe on whose tribal land the cultural items were excavated;
 - ii. In the Indian tribe that has the closest cultural affiliation with the cultural items as determined pursuant to Sec. 10.14 (c); or
 - iii. In circumstances in which the cultural affiliation of the cultural items cannot be ascertained, BLM is unable to prove a right of possession as defined at 43 CFR 10.10(a)(2), and the materials were excavated or removed from Federal land that is recognized by a final judgment of the Indian Claims Commission or the United States Court of Claims as the aboriginal land of an Indian tribe:
 - (A) In the Indian tribe aboriginally occupying the Federal land on which the cultural items were excavated, or
 - (B) If it can be shown by a preponderance of the evidence that a different Indian tribe has a stronger cultural relationship with the cultural items, in the Indian tribe that has the strongest demonstrated relationship with the objects.

BLM intends to repatriate human remains and associated funerary objects when cultural affiliation can be determined.

3) Planned treatment, care, and handling of human remains:

All discovered remains will be treated with respect and dignity. BLM will provide the tribes an opportunity to examine remains prior to removal and to conduct traditional religious activities, if

this is feasible without delay that would endanger the remains. While BLM will provide the opportunity to view the remains prior to removal, the tribes are responsible for their travel expenses to and from the location of the discovery.

The IVSP will avoid any unnecessary disturbance, physical modification, or breakage of remains and the transport, inventory, or storage of human skeletal remains in locations separate from their associated funerary objects. Treatment will proceed according to the following provisions:

1. Representatives of the tribes will have the opportunity to be present during the exposure and removal of remains whenever possible. If agreed upon by BLM and the tribes, and if feasible, specific tribes may be designated to take the lead in initially responding to discoveries.
2. Remains will be excavated in accordance with the stipulations of the Monitoring and Discovery Plan approved under the terms of the Project's Programmatic Agreement (PA) for compliance with Section 106 of the National Historic Preservation Act (NHPA).
3. No destructive analyses of remains will be permitted without the written permission from BLM, and only after BLM has consulted with tribes regarding the planned treatment, care, and handling of any recovered human remains, funerary objects, sacred objects, or objects of cultural patrimony.
4. Drawings of remains and the locations of associated funerary objects will be made and may be published with BLM approval unless the claimants determine funerary objects are of a sensitive nature.
5. No pollen or flotation samples will be removed from burial pit fill dirt without the written permission of BLM, and only after BLM has consulted with tribes regarding such removal.
6. Transportation of cultural items will be minimized under all circumstances and will be carefully packed to avoid disturbance or damage. Human remains may be packed separately from their associated funerary objects, but the containers will be kept together at all times.
7. Representatives of the tribes will be afforded the opportunity to view all artifact collections and records resulting from the archaeological investigation to identify funerary objects, objects of cultural patrimony, or sacred objects. If such objects are identified, BLM will be notified by the tribes and consultation will be initiated regarding their consistency with NAGPRA criteria for identification of these classes of objects and their treatment and disposition.
8. IVSP is responsible for ensuring the security of cultural items from vandalism or other disturbance through employment of security personnel, fencing, and other appropriate measures, as needed. If human remains are endangered by exposure or other factors, IVSP's approved cultural resources/archaeological contractor may be authorized by BLM

to proceed with removal of the cultural items to their facility to protect the cultural items. Written notice of this action must be provided to the claimants and agencies within 3 days of removal.

9. IVSP will not resume construction in the buffer area surrounding the discovery until it has received written authorization to proceed based on procedures established in the treatment plans as prescribed in the PA. In addition, no news releases, including photographs, videotapes, written articles, or other means of information, shall be released by any party unless approved by BLM and the tribe(s).

4) Planned archaeological recording of the human remains and cultural materials:

All cultural items, as defined in this POA, will be appropriately recorded and described using current standards and following current archaeological practices and methods. The archaeological documentation of human remains will be limited to visually evident characteristics that indicate such things as age, gender, obvious pathologies, and any obvious visual traits that may help to indicate cultural affiliation. Funerary objects will be recorded at a descriptive non-invasive level including measurements, type, and morphology. If human remains and/or cultural items are removed from the site, a catalogue of these items will be maintained.

5) Analysis planned for the human remains and cultural materials:

Initially, only non-destructive analyses will be carried out on the human remains. These can include anthropometric analyses (measurements/weight), mapping, drawing, measuring, weighing, and photo documentation. After consultation with the tribe(s), other tests may be determined appropriate by BLM.

Likewise, only non-destructive analyses will be carried out initially on the associated funerary objects, unassociated funerary objects, sacred items, and objects of cultural patrimony. These can include measuring and weighing, drawing, mapping, photographing, X-raying, and X-ray fluorescence analysis. After consultation with the tribe(s), other tests may be authorized by BLM.

6) Steps to be followed to contact Indian tribe officials at the time of intentional excavation:

In the event of a discovery, IVSP's approved cultural resources contractor/permittee will notify BLM and the appropriate land managing agency within 24 hours and may be authorized to undertake limited additional excavation and examination to assess whether the materials are within the protected classes of remains covered by the PA. The notification will include the following information:

- A. A verbal description of what was found and the context in which NAGPRA items are located
- B. The location of the NAGPRA items
- C. A preliminary assessment of the type of NAGPRA items

- D. An assessment of the complexity of the burial(s), human remains, and/or other NAGPRA items, and the likelihood of disturbance if left in place
- E. Any other pertinent information

BLM shall notify the tribes promptly after the initial discovery of items protected under NAGPRA and provide written confirmation by certified mail, or alternatively Express Mail, of the discovery within 3 working days (see Attachment A and B). The information to be provided to the tribes will include the following:

- A. A verbal and written description of what was found and the context in which NAGPRA items are located
- B. The location of the NAGPRA items
- C. A preliminary assessment of the type of NAGPRA items
- D. An assessment of the complexity of the burial(s), human remains, and/or other NAGPRA items, and the likelihood of disturbance if left in place
- E. A request that the tribe(s) respond within 24 hours if the tribe(s) wish to view the remains or objects in place
- F. Any other pertinent information

BLM will additionally afford the tribes the opportunity to conduct field visits, viewings of the items in question, and appropriate and reasonable ceremonies or rituals related to the items in question. The tribes are responsible for any costs to and from the discovery site.

7) Kind of traditional treatment to be afforded the human remains:

The tribes will be afforded the opportunity to examine the remains prior to and during removal unless the remains are in direct danger of further disturbance or destruction. Tribal representatives will be afforded the opportunity to perform traditional treatments, as needed, to the remains.

8) Nature of reports to be prepared:

A comprehensive report on the results of the archaeological investigation, including the recovery of cultural items, will be prepared and distributed in accordance with the terms of the aforementioned PA, developed in accordance with Section 106 of the NHPA.

9) Planned disposition of human remains pursuant to 43 CFR 10.6:

In the event that discovered NAGPRA items must be removed, BLM will determine, pursuant to 43 CFR 10.6, which Native American tribe will receive custody of the items. BLM intends to repatriate human remains and associated funerary objects when cultural affiliation can be determined. BLM will provide notification of intent to transfer possession and subsequently return the items to the appropriate tribe within the limitations of 43 CFR 10.15.

Upon determination of a lineal descendant(s) or culturally affiliated tribe that, under Federal regulations, appears to be entitled to custody of the human remains, the agency official will

transfer custody of the deceased to that lineal descendant or culturally affiliated tribe in accordance with 43 CFR 10.6(c).

Prior to any such disposition, the agency official will publish a general notice of the proposed disposition in three separate newspapers of general circulation in the areas where interested tribes now reside. The notices will be published at least two times at least 1 week apart, and the transfer will not take place until at least 30 days after publication of the second notice to allow time for any additional claimants to come forward.

If additional claimants do come forward and the agency official cannot clearly determine which claimant is entitled to custody, the agency official will not transfer custody of the deceased until such time as the proper recipient is determined, pursuant to regulations found at 43 CFR 10.

In the event the remains are of Native American descent, but are not claimed by any tribe within the geographical area, they will not leave the custody of the Federal agency. Should custody of remains be transferred to claimant tribes under 10.6, the tribes may request reburial on BLM land. Reburial of NAGPRA items on lands administered by BLM is subject to the provisions found in Instructional Memorandum No. 2007-002. The reburial locations will be determined through consultation with the tribes, and any locational information will be kept confidential to the extent allowed by law.

10) The role of tribal monitors during survey and excavation:

Individuals who are approved tribal monitors on the Project will notify the Principal Investigator(s) about items they feel are funerary objects, sacred objects, and/or objects of cultural patrimony. The Principal Investigator will notify BLM within 24 hours that monitors identified funerary objects, sacred objects, and/or objects of cultural patrimony. The report will include a description of the find(s), photograph(s) or drawing(s) were applicable, artifact(s) numbers or identification were applicable, and a description of the tribal monitor's opinion(s).

11) BLM personnel and tribal representatives involved in this NAGPRA effort:

As a result of tribal consultation, the following parties will be involved in this NAGPRA effort:

Campo Band of Kumeyaay Indians, the Cocopah Indian Tribe, the Fort Yuma Quechan Indian Tribe, the Ewiiapaayp Band of Kumeyaay Indians, the Jamul Indian Village, the Kwaaymii Laguna Band of Indians, the La Posta Band of Kumeyaay Indians, the Manzanita Band of Kumeyaay Indians, the San Pasqual Band of Diegueno Indians, and the Santa Ysabel Band of Diegueno Indians (tribes), and the Ah-Mut Pipa Foundation and Kumeyaay Cultural Repatriation Committee (Tribal organizations).

The names and addresses of the tribal members are in Attachment B.

Federal Officials

California State Director, Bureau of Land Management Date

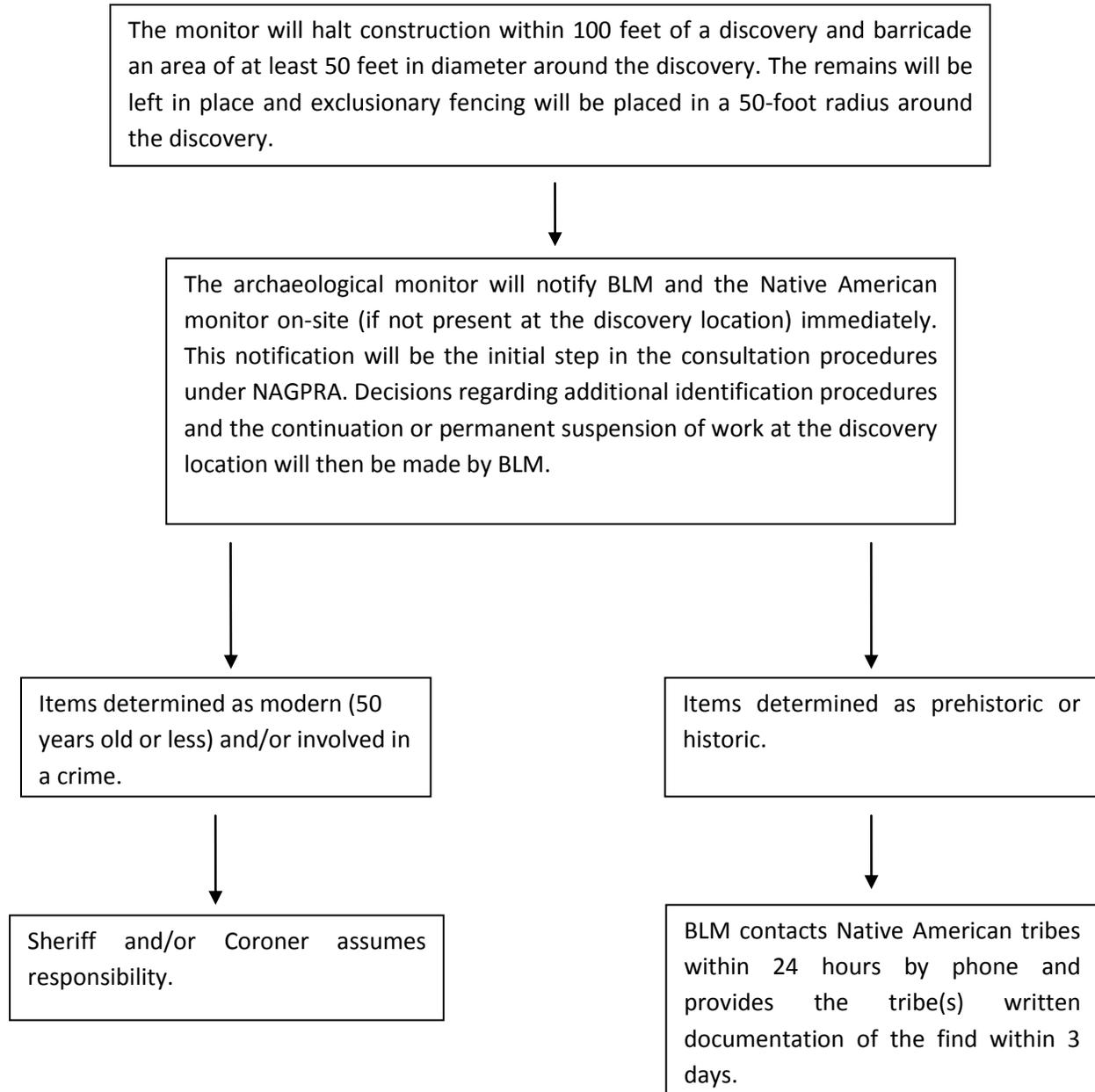
California Desert District Manager, Bureau of Land Management Date

Invited Signatories

Date

Attachment A

Upon The Discovery of Human Remains, Funerary Objects, Sacred Objects, or Objects of Cultural Patrimony



Attachment B

List of Native American Tribal Contacts