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JULY 26, 2010

BY HAND DELIVERY

Karen Douglas, Chairman
Presiding Member
California Energy Commission
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Sacramento, CA 95814

Jeffrey D. Byron, Commissioner
Associate Member
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Ken Celli, Hearing Officer
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

DOCKET	
08-AFC-2	
DATE	<u>JUL 26 2010</u>
RECD.	<u>JUL 26 2010</u>

Re: Beacon Solar Energy Project, 08-AFC-2

Dear Commissioners Douglas & Byron and Mr. Celli:

On July 20, 2010, the Beacon Solar Energy Project (“Project”) Application for Certification Committee (the “Committee”) issued its Presiding Member’s Proposed Decision (“PMPD”). The conditions of certification in the Cultural Resources and Soil and Water Resources sections of the PMPD are erroneous, as they do not reflect the conditions of certification agreed upon and stipulated to by Beacon Solar, LLC (“Beacon”) and Energy Commission Staff (“Staff”).¹ It is worth noting that the discussion in the body of the PMPD regarding soil and water resources correctly refers to information found in the final soil and water conditions. For example, the text identifies the phasing-in of California City recycled water and the use of approximately 8,000 acre-feet of construction water. (See PMPD at 306-307.) Given this discussion, it is apparent that the final conditions of certification in these topic areas were not included simply due to clerical error.

The PMPD further errs in referring back to the FSA for Soil & Water Appendices I and J. Both appendices were revised subsequent to publication of the FSA as a result of the meet and confer process between Beacon and Staff. Intervenor California Unions for Reliable Energy (“CURE”) was part of this meet and confer process, and while CURE has not formally endorsed the revised

¹ At the March 15, 2010 Prehearing Conference, the Committee directed the parties to meet, confer, and attempt to resolve their differences of opinion regarding the proposed Conditions of Certification put forth by Staff in the FSA. (See March 15, 2010 Prehearing Conference Transcript at 46:17-47:7.) The parties did so, and Exhibits 337, 338 and 339 reflect the final agreement on Conditions of Certification in the areas of Biological Resources, Cultural Resources, and Soil & Water Resources. These exhibits were formally received into evidence at the evidentiary hearing. (See March 22, 2010 Evidentiary Hearing Transcript at 70:16-71:8; 247:2-17; 33:19-36:14.)

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conditions agreed upon by Beacon and Staff, the exhibits reflect the agreement reached between Beacon and Staff and were properly entered into the record.²

Beacon and Staff hereby respectfully request the Committee to immediately issue an errata to the PMPD that includes the correct conditions of certification for the Project, which are included below. The Cultural Resources conditions attached below as Attachment A derive from Exhibit 339, with one small revision made and read into the record at the evidentiary hearing (see March 22, 2010 Evidentiary Hearing Transcript at 33:19-34:16.) The Soil and Water Resources conditions attached below as Attachment B are based on Exhibit 501, as modified by Exhibit 337. Because Beacon and Staff have also agreed upon changes to Appendices I and J since the FSA (see Exhibit 337 for Appendix I, and Exhibit 501 for Appendix J), we propose to correct the PMPD by adding these revised appendices. These appendices are included below in Attachments C and D.

We appreciate the Committee's attention and assistance in correcting these errors in the PMPD as quickly as possible.

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² Beacon contacted Tanya Gulesserian, counsel for CURE, on July 26, 2010 with the intent of including CURE as a party to this letter. However, as Ms. Gulesserian was out of the office that day, Beacon and Staff decided to jointly file this request without further delay to ensure an adequate public review period prior to the August 25, 2010 hearing on the PMPD.

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Jeffrey D. Byron, Commissioner
Ken Celli, Hearing Officer
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Very truly yours,

Downey Brand, LLP

California Energy Commission

By: _____/s/_____
Nicholas H. Rabinowitsh
On Behalf of Beacon Solar, LLC

By: _____/s/_____
Jared Babula, Staff Counsel
On Behalf of CEC Staff

NHR:ln

Attachments

cc: Service List

ATTACHMENT A

ERRATA TO THE PRESIDING MEMBER'S PROPOSED DECISION FINAL CONDITIONS OF CERTIFICATION CULTURAL RESOURCES JULY 26, 2010

CUL-1 *Cultural Resources Personnel.* Prior to the start of ground disturbance (includes "preconstruction site mobilization," "construction ground disturbance," and "construction grading, boring and trenching," as defined in the General Conditions for this project) the project owner shall obtain the services of a Cultural Resources Specialist (CRS) and one or more alternate CRSs, if alternates are needed. The CRS shall manage all monitoring, mitigation, curation, and reporting activities required in accordance with the Conditions of Certification (Conditions). The CRS may elect to obtain the services of Cultural Resources Monitors (CRMs) and other technical specialists, if needed, to assist in monitoring, mitigation, and curation activities. The project owner shall ensure that the CRS makes recommendations regarding the eligibility for listing in the California Register of Historical Resources (CRHR) of any cultural resources that are newly discovered or that may be affected in an unanticipated manner. No ground disturbance shall occur prior to Compliance Project Manager (CPM) approval of the CRS and alternates, unless such activities are specifically approved by the CPM. Approval of a CRS may be denied or revoked for non-compliance on this or other projects.

CULTURAL RESOURCES SPECIALIST

The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and backgrounds conform to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 CFR Part 61). In addition, the CRS shall have the following qualifications:

1. The CRS's qualifications shall be appropriate to the needs of the project and shall include a background in anthropology, archaeology, history, architectural history, or a related field;
2. At least three years of archaeological or historical, as appropriate (per nature of predominant cultural resources on the project site), resource mitigation and field experience in California; and
3. At least one year of experience in a decision-making capacity on cultural resources projects in California and the appropriate training and experience to knowledgeably make recommendations regarding the significance of cultural resources.

The resumes of the CRS and alternate CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS/alternate CRS on referenced projects and demonstrate to the satisfaction of the CPM that the CRS/alternate CRS has the appropriate training and experience to implement effectively the Conditions.

CULTURAL RESOURCES MONITORS

CRMs shall have the following qualifications:

1. a B.S. or B.A. degree in anthropology, archaeology, historical archaeology or a related field and one year experience monitoring in California; or
2. an A.S. or A.A. degree in anthropology, archaeology, historical archaeology or a related field, and four years experience monitoring in California; or
3. enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historical archaeology or a related field, and two years of monitoring experience in California.

CULTURAL RESOURCES TECHNICAL SPECIALISTS

The resume(s) of any additional technical specialist(s), e.g., historical archaeologist, historian, architectural historian, and/or physical anthropologist, shall be submitted to the CPM for approval.

Verification:

1. At least 180 days prior to the start of ground disturbance anywhere on the project site, the project owner shall submit the resume for the CRS, and alternate(s) if desired, to the CPM for review and approval.
2. At least 10 days prior to a termination or release of the CRS, or within 10 days after the resignation of a CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval. At the same time, the project owner shall also provide to the proposed new CRS the AFC and all cultural resources documents, field notes, photographs, and other cultural resources materials generated by the project. If there is no alternate CRS in place to conduct the duties of the CRS, a previously approved monitor may serve in place of a CRS so that construction-related ground disturbance may continue up to a maximum of 3 days without a CRS. If cultural resources are discovered then ground disturbance will remain halted until there is a CRS or alternate CRS to make a recommendation regarding significance.
3. At least 20 days prior to any construction-related ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resources monitoring required by this Condition.
4. At least 5 days prior to additional CRMs beginning on-site duties during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to their qualifications. If additional CRMs are obtained during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to the qualifications of the CRMs, at least 5 days prior to the CRMs beginning on-site duties.
5. At least 10 days prior to any technical specialists beginning tasks, the resume(s) of the specialists shall be provided to the CPM for review and approval.

6. At least 7 days prior to the start of the preparation of the Historical Resources Management Plan (HRMP) (**CUL-4**), the project owner shall confirm in writing to the CPM that the approved CRS will be available for and is prepared to implement the cultural resources conditions.

CUL-2 *Project Documentation for Cultural Resources Personnel.* Prior to the start of ground disturbance anywhere on the project site 30 meters or greater to the southwest of the provisional boundary of Archaeological Zone 1 or on the portions of the project area beyond the project site, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the AFC, data responses, confidential cultural resources reports, all supplements, and the Energy Commission's Final Staff Assessment (FSA) for the project. The project owner shall also provide the CRS and the CPM with maps and drawings showing the footprints of the power plant, all linear facility routes, all access roads, and all laydown areas. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting cultural features or materials. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review map submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities. No ground disturbance anywhere on the project site 30 meters or greater to the southwest of the provisional boundary of Archaeological Zone 1 or on the portions of the project area beyond the project site shall occur prior to CPM approval of maps and drawings, unless such activities are specifically approved by the CPM.

If construction of the project would proceed in phases, maps and drawings not previously provided shall be submitted prior to the start of each construction phase. Written notification identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

Weekly, until ground disturbance is completed, the project construction manager shall provide to the CRS and CPM a schedule of project activities for the following week, including the identification of area(s) where ground disturbance will occur during that week.

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases.

Verification:

1. At least 180 days prior to the start of ground disturbance anywhere on the project site, the project owner shall provide the AFC, data responses, confidential cultural resources documents, all supplements, and the Energy Commission's Final Staff Assessment (FSA) to the CRS, if needed, and the subject maps and drawings to the CRS and CPM. The CPM will review submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.
2. At least 15 days prior to the start of ground disturbance, if there are changes to any project-related footprint, the project owner shall provide revised maps and drawings for the changes to the CRS and CPM.

3. At least 15 days prior to the start of each phase of a phased project, the project owner shall submit the appropriate maps and drawings, if not previously provided, to the CRS and CPM.
4. Weekly, during ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax.
5. Within 5 days of changing the scheduling of phases of a phased project, the project owner shall provide written notice of the changes to the CRS and CPM.

CUL-3 *Alteration of Project Area.* Changes to the proposed project or to the character of its construction, operation, and maintenance that may become necessary subsequent to the approval of the project, were such approval to occur, may in turn require the re-consideration of the extent of the original project area. Where such changes indicate the need to alter the original project area to include additional lands that were not elements of analysis during the certification process, the effects of any proposed changes on historical resources that may be on such lands would need to be taken into account. Changes in the character of the construction, operation, and maintenance of the proposed project may include such actions as decisions to use non-commercial borrow sites or disposal sites.

Upon the recognition that proposed changes to the project would require the use of lands that were not a part of the original project area, the project owner shall ensure that the CRS surveys any such lands for cultural resources and record each newly found resource on DPR 523 forms. Exceptions would be made to this protocol in cases where cultural resources surveys no greater than five years in age are documented for the entirety of the subject lands and approved by the CPM. Where new cultural resources surveys are warranted, the project owner shall convey the results of such surveys, along with the CRS's recommendations for further action, to the CPM, who will determine whether further action is necessary. If the CPM determines that historical resources may be present and that any such resource may be subject to a substantial adverse change in its significance, the project owner shall ensure that the CRS provides the CPM with substantiated recommendations on whether each such resource is eligible for listing in the CRHR and recommendations for the resolution of any such significant effects. The CRS, the project owner, and the CPM shall then confer on said recommendations, and, upon the concurrence of the CPM with those recommendations, the project owner shall ensure that the CRS proceeds to implement them, and reports on the methods and the results of any such work in the final Cultural Resources Report (CRR) (CUL-10).

Verification:

1. Upon the recognition that proposed changes to the project or to the character of the construction, operation, and maintenance of the project would require the use of lands that were not a part of the original project area, the project owner shall notify the CRS and CPM. The project owner shall then provide, for CPM review and approval, documentation of any cultural resources surveys five years or less in age that exist for the additional lands.
2. At least 75 days prior to the use of the new additional project area lands, in the absence of any such cultural resources surveys or when the extant cultural resources surveys do not cover the entirety of the lands to be added to the project area, the project owner shall ensure that the CRS surveys the

additional lands for cultural resources, notifies the project owner and the CPM of the results of the new cultural resources survey, and recommends further action.

3. No more than 15 days subsequent to the receipt of the information in verification 2, CUL-3, above, the CPM shall determine whether historical resources may be present and whether any such resources may be subject to substantial adverse changes in significance.
4. At least 60 days prior to the use of the new additional project area lands, if the CPM determines that historical resources may be subject to substantial adverse changes in significance, the project owner shall ensure that the CRS provides the CPM with substantiated evaluations, based on archival and field research, on whether each such resource is eligible for listing in the CRHR and recommendations for the resolution of any potential significant effects.
5. For no longer than 15 days, the project owner, the CRS, and the CPM shall confer about the above evaluations and recommendations, and, upon the concurrence of the CPM with those evaluations and recommendations, the project owner shall ensure that the CRS proceeds to resolve any significant effects pursuant to the above recommendations prior to the use of the new additional project area lands.
6. The project owner shall ensure that the CRS reports on the methods and the results of all such work in the CRR (**CUL-10**).

CUL-4 *Historical Resources Management Plan.* The Historical Resources Management Plan (HRMP) shall govern the implementation of the overarching program to reduce the effects of the proposed project on historical resources to less than significant. The preparation and implementation of the different elements of the historical resources management program, by the project owner, shall be the result of a number of protocols and consultations set out in this condition of certification and others (**CUL-5** through **CUL-10**) below.

Prior to the start of any construction-related ground disturbance (includes “preconstruction site mobilization,” “construction ground disturbance,” and “construction grading, boring and trenching,” as defined in the General Conditions for this project), the project owner shall submit the HRMP, as prepared by or under the direction of the CRS, to the CPM for review and approval. The HRMP shall follow the content and organization of a similar document, the Cultural Resources Monitoring and Mitigation Plan, a draft model version of which will be provided by the CPM, as general guidance. The authors’ name(s) shall appear on the title page of the HRMP. The HRMP shall also incorporate the final results of the January 2009 geoarchaeology study for the proposed project into the appropriate elements of the HRMP. Implementation of the HRMP shall be the responsibility of the CRS and the project owner. Copies of the HRMP shall reside with the CRS, alternate CRS, each CRM, and the project owner’s on-site construction manager. No ground disturbance shall occur prior to CPM approval of the HRMP, unless such activities are specifically approved by the CPM.

The HRMP shall include, but not be limited to, the following elements:

Primacy of the Conditions of Certification

1. The statement in the introduction to the HRMP that “any discussion, summary, or paraphrasing of the Conditions of Certification in this HRMP is intended as general guidance and as an aid to the user in understanding the conditions and their implementation. The conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the conditions in the HRMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in Appendix A.”

Implementation of the Historical Resources Management Program

2. Specification of the implementation sequence and the estimated time frames needed to accomplish all historical resources management program tasks prior to and during construction_-related ground disturbance, and during those analysis phases of the management program that may occur subsequent to construction_-related ground disturbance.
3. Identification of the person(s) expected to perform each of the historical resources management program tasks, their responsibilities, and the reporting relationships between project construction management and the treatment and monitoring teams.
4. A statement from the project owner that the CRS shall have, for the duration of construction_-related ground disturbance, access to equipment and supplies necessary for site mapping, photography, and recovery of any cultural resource materials that are found during such ground disturbance, where such materials cannot be treated prescriptively.

Historical Resources Management Program Research Design

5. A project area-specific research design that includes a discussion of archaeological research questions and testable hypotheses appropriate to the archaeological data sets known for the project area. The research design shall provide the broader context for and facilitate tiering down to the research design that the project owner shall prepare, pursuant to **CUL6**, for Archaeological Zone 1. The project area research design shall clearly articulate why it is in the public interest to address the research questions that it poses. That research design shall also develop a discussion of artifact and ecofact collection, retention, and disposal policies as related to the research questions in the research design.

Documentation and Curation Standards

6. A statement that all found cultural resources over 50 years old shall be recorded on Department of Parks and Recreation (DPR) 523 Series forms, and mapped and photographed. In addition, all artifacts and ecofacts retained as a result of the archaeological investigations (survey, testing, and data recovery) shall be curated in accordance with the California State Historical Resources Commission’s *Guidelines*

for the Curation of Archaeological Collections, into a retrievable storage collection in a public repository or museum.

7. A statement that the project owner shall pay all curation fees for artifacts and ecofacts recovered and for related documentation produced during cultural resources investigations conducted for the project. The project owner shall identify three possible curation facilities that could accept cultural resources materials resulting from project activities.
8. A description of the contents, the format, and the review and approval process for the CRR (**CUL-10**), which shall be prepared according to ARMR guidelines (COHP 1990).

Native American Participation

9. A description of the roles which Native American observers or monitors shall play in the implementation of the HRMP, including the procedures that shall govern the selection of such observers and monitors, and the authority and responsibility of each role.

Treatment and Management of Historical Resources

10. A protocol that articulates, pursuant to **CUL-5**, the avoidance measures that the project owner shall implement to preserve archaeological site Site 17. **CUL-5** sets out the structure and the details of the avoidance measures. If the applicant determines that it is not feasible to avoid Site 17, the applicant shall notify the CPM of that determination and prepare a treatment plan for the site that will be subject to review and approval by the CPM. The purpose of the treatment plan will be to reduce the effects of the proposed project on the historical resource to less than significant through a program of data recovery, in addition to, as appropriate, resource registration or public outreach.
11. A treatment plan for Archaeological Zone 1, pursuant to **CUL-6**, the purpose of which is to reduce the effects of the proposed project on the historical resource to less than significant through a program of data recovery, resource registration, and public outreach. The structure and the details of the program are set out in **CUL-6**.

Construction Monitoring and Discovery

12. A Worker Environmental Awareness Program (WEAP) to guide the orientation of every new worker in the project area to cultural resources statutes and regulations, to the effects of the proposed project on cultural resources, to the management program that has been negotiated to address those effects, to the role of the workers in the management program, to the types of cultural resources in the project area and how to recognize them, and to the protocols that workers are to follow upon the discovery of different types of cultural resources. The structure and the details of the WEAP program are set out in **CUL-7**.
13. A description of the structure, and the review and approval process for the Monitoring and Discovery Plan (**CUL-8** and **CUL-9**).

14. Prescriptive treatment plans, where appropriate, for cultural resources that represent marginal data sets (CUL-9).

Verification:

1. Prior to the preparation of the HRMP, the project owner shall submit the final technical report for the January 2009 geoarchaeology study for the proposed project to the CPM for review and approval.
2. Upon approval of the CRS proposed by the project owner, the CPM shall provide to the project owner, as general guidance, an electronic copy of the draft model Cultural Resources Monitoring and Mitigation Plan for the use of the CRS.
3. At least 150 days prior to the start of ground disturbance anywhere on the project site, the project owner shall submit the HRMP to the CPM for review and approval.
4. At least 30 days prior to the start of ground disturbance anywhere on the project site, a letter shall be provided to the CPM indicating that the project owner agrees to pay curation fees for any materials collected as a result of the archaeological investigations (survey, monitoring, testing, data recovery).

CUL-5 *Historical Resource Avoidance Measures, Site 17.* The project owner shall direct the CRS to actively implement a sequence of avoidance measures to ensure that there would be no physical damage to Site 17 as a result of the construction, operation, or maintenance of the project. Prior to the onset of any construction-related ground disturbance in the southwestern portion of the project site, the CRS shall re-establish the known boundary of Site 17, add a 10-meter wide buffer around the periphery of that boundary, and flag the boundary around the site and the buffer in a conspicuous manner. The CRS, alternate CRS, or a CRM would subsequently enforce the avoidance of the flagged area during project construction.

The CRS would, subsequent to the construction of the project, permanently mark the boundary around Site 17 and the above buffer, and then set the bounded area aside as an environmentally sensitive area that would not be subject to disturbance during the life of the project. The character of the permanent marking shall be decided on the basis of consultation and consensus among the property owner, the CRS, and the CPM. If avoidance of Site 17 is not feasible, a treatment plan for Site 17 will be prepared in accordance with Subpart 10 of CUL-4.

Verification:

1. At least 30 days prior to the onset of construction_-related ground disturbance in the SE 1/4 of section 8, T. 31 S., R. 37 E., the CRS shall re-establish the known boundary of Site 17, add a 10-meter wide buffer around the periphery of that boundary, and flag the boundary around the site and the buffer in a conspicuous manner.
2. The CRS, alternate CRS, or a CRM shall enforce the avoidance of the above flagged area for the duration of construction_-related ground disturbance.

3. No longer than 30 days subsequent to the conclusion of construction-related ground disturbance in the SE 1/4 of section 8, T. 31 S., R. 37 E., the CRS shall permanently mark the boundary around Site 17 and the above buffer. The area so marked shall then be an environmentally sensitive area that shall not be subject to any disturbance during the life of the project. The CRS shall continue to enforce the avoidance of the originally flagged area until the area has been permanently marked.
4. The CRS shall ensure that the measures and verifications of this condition of certification are, pursuant to subpart 10, **CUL-4**, completely incorporated as a protocol in the HRMP.

CUL-6 *Archaeological Zone 1 Historical Resource Treatment Plan.* The project owner shall prepare and implement a treatment plan the purpose of which is to reduce the effects of the proposed project on Archaeological Zone 1 to less than significant. The treatment plan shall accomplish the reduction of effects through a program of data recovery, resource registration, and public outreach. Prior to the onset of any construction-related ground disturbance within 30 meters of the provisional boundary for Archaeological Zone 1, the project owner shall prepare, secure the approval of the CPM for, and conclude the field investigation portions of the Archaeological Zone 1 Historical Resource Treatment Plan (H RTP). The H RTP shall, at a minimum, include and set out the details of each of the following elements:

1. *Research Design.* A research design specific to Archaeological Zone 1 that tiers off of the research design for the project area in the HRMP (Subpart 5, **CUL-4**) and that clearly articulates why it is in the public interest to address the research questions that it poses. The research design shall evidence consideration of archaeological themes that relate to the identity and the lifeways of Native American groups in the prehistoric and historic periods.
2. *Data Recovery Program.* Thorough descriptions of the overall goals of the data recovery program, how the data sets that are anticipated for Archaeological Zone 1 will contribute to our knowledge of the prehistoric and historic period Native American themes of the research design and answer particular research questions, of the purposes and the methods of the different field phases of the data recovery program, and of the purposes and methods of the material analyses that will also occur. The descriptions of the field and laboratory efforts for the data recovery program shall include, at a minimum, and more thoroughly articulate the following phases:
 - a. *Inventory, Phase 1 (Geophysical Test).* The initial component of the data recovery program shall be a discontinuous 1-acre test of the efficacy of the use of magnetometry to derive a representative sample of the predominant type of archaeological deposits that are now thought to make up Archaeological Zone 1, fire features or hearths that occur both as feature clusters and as isolate features and that may or may not occur in association with fire-affected rock. The test shall include a small magnetometer survey through and in the near vicinity of (approximately 30 meters beyond) known archaeological sites in Archaeological Zone 1, and the subsequent ground truthing of a representative sample of the magnetic anomalies found in the survey areas for the test. The ground truthing sample shall, at a minimum, be the lesser of 25 percent of the anomalies or 12 individual anomalies. The

excavation of the anomalies may, at the discretion of the CRS, be by hand or mechanical means. The CRS shall ensure that the field notes and the forms for the survey areas and for the ground truthing are sufficient to completely document the geophysical test.

- b. *Inventory, Phase 2a (Geophysical Survey)*. If the CRS and CPM agree, after consultation, that the geophysical test demonstrates that the use of magnetometry appears to be reasonably reliable, the project owner shall ensure that the CRS proceeds to a broader magnetometry sample survey of Archaeological Zone 1 and of the area 30 meters to the southwest of the provisional district boundary (Cultural Resources Figure 2). The CRS and CPM shall first derive and agree upon, in consultation with one another, the precise location of the provisional district boundary on the surface of the project site. The project owner shall then ensure that the CRS develops a single stratified random sample for Archaeological Zone 1 and the adjacent area 30 meters to the southwest of the provisional district boundary that would result in a magnetometry survey of no more than 7.5 percent of that total area not to exceed 45 acres. The CRS and the CPM shall, in consultation, derive and agree upon criteria that shall form the basis for the stratification of the survey sample. The criteria shall reflect the spatial variability in the physical and material character and in the chronology of Archaeological Zone 1, as such variability is presently known from the field investigations in the project area. The results of the broader magnetometry survey would also be subject to the ground truthing of a representative sample of the magnetic anomalies found in the survey areas to more precisely establish the range of error of the survey results. The ground truthing sample shall, at a minimum, be the lesser of 10 percent of the anomalies or 48 individual anomalies. The excavation of the anomalies may, at the discretion of the CRS, be by hand or mechanical means. The project owner shall ensure that the CRS's field notes and the forms for the survey areas and for the ground truthing are sufficient to completely document the geophysical survey to the satisfaction of the CPM.
- c. *Inventory, Phase 2b (Mechanical Subsurface Survey)*. Should the results of the initial geophysical test demonstrate that the use of magnetometry is not reasonably well able to locate the types of archaeological deposits that make up Archaeological Zone 1, the applicant would conduct a broader subsurface sample survey of the Zone using construction equipment such as a road grader or a backhoe rather than proceeding with the broader geophysical survey. This mechanical subsurface survey would employ transects, the proposed width and length of which the CPM would approve, and would involve the excavation of the transects in thin (no thicker than approximately 5 centimeters) layers to carefully expose and facilitate the accurate preliminary documentation of target archaeological deposits. The project owner shall ensure that the CRS, with CPM concurrence, derives criteria to form the basis for the stratification of the survey sample and develops a single stratified random sample for the Zone and the adjacent

area to the southwest that would result in the mechanical subsurface survey of no more than 2.5 percent of that total area not to exceed 15 acres. The criteria shall reflect the spatial variability in the physical and material character and in the chronology of Archaeological Zone 1, as such variability is presently known from the field investigations in the project area. The project owner shall submit, for CPM review and approval, the CRS's methodology for the mechanical subsurface survey. The methodology would prescribe how archaeological deposits found during the survey would be preserved intact until the conclusion of the survey so that the CRS could structure a representative data recovery sample of the found deposits. The methodology would also take into account how the CRS would recover a sample of the buried land surfaces that may surround individual hearths or groups of hearths and document the material culture assemblages that may be found on such surfaces when the act of the mechanical exposure of the hearths may often truncate the surface from which they were constructed and used. The project owner shall ensure that the CRS's field notes and the forms for the survey areas are sufficient to completely document the mechanical subsurface survey to the satisfaction of the CPM.

- d. *Inventory, Phase 3 (Refinement of Provisional District Boundary)*. The project owner shall ensure that the CRS, on the basis of the results of either phase 2a or phase 2b of the data recovery program, drafts a refined provisional boundary for Archaeological Zone 1 that shall become an integral part of the implementation of, among other conditions of certification, **CUL-8** and subparts 2e and 2f of this condition, **CUL-6**.
- e. *Data Recovery, Phase 1 (Hearth Excavations)*. One component of the actual data recovery phase of the data recovery program would be to excavate small exposures to uncover and document a sample of the individual hearths that are one constituent of the Zone. These small exposures shall consist of 1 to 9 excavation units (1 meter by 1 meter) based on the size and configuration of the cultural deposit. The purpose of this documentation would be to gather data to describe the physical variability of the features, to identify and inventory the artifacts and ecofacts that are found in them, and to interpret the methods of construction and the potential uses of the features. The excavation of the hearths shall proceed by hand to, where feasible, remove the archaeological deposits in anthropogenic layers. Where appropriate, the project owner shall ensure that the CRS retain samples of each layer sufficient to submit for radiocarbon assays, and macrobotanical, palynological, geochemical, or other analyses. The balance of each layer shall be screened through hardware cloth of no greater than 1/8-inch mesh. The project owner shall ensure that the CRS excavates a maximum of 12 such small exposures. In consultation, the CRS and the CPM shall develop and agree upon a sample of the hearths found as a result of the entire cumulative effort to inventory the archaeological deposits of Archaeological Zone 1 to subject to data recovery excavation. The sample shall reflect the apparent physical,

material, and chronological variability of the found features. The project owner shall ensure that the CRS's field notes and the forms for the excavation of the hearths are sufficient to acquire the thorough complement of data necessary to the description of each feature, and the interpretation of the construction and use of each feature to the satisfaction of the CPM.

- f. *Data Recovery, Phase 2 (Excavation of Former Land Surfaces)*. The other component of the actual data recovery phase of the data recovery program would be to excavate larger block exposures to attempt to uncover a sample of the buried land surfaces that may surround individual hearths or groups of them, and to document the material culture assemblages that may be found on such surfaces. If such surfaces are indicated, two 1 meter by 5 meter excavations oriented perpendicularly shall be centered on the cultural material. If living surfaces are identified in the 1 meter by 5 meter excavations, the area of excavation can be expanded to a maximum of 5 meters square. The excavation of the surfaces shall proceed by hand to, where feasible, remove the archaeological deposits in anthropogenic layers. Where appropriate, the project owner shall ensure that the CRS retain samples of each layer sufficient to submit for radiocarbon assays, and macrobotanical, palynological, geochemical, or other analyses. The balance of each layer shall be screened through hardware cloth of no greater than 1/8-inch mesh. The CRS shall try to excavate each block exposure as a single excavation unit rather than as separate one meter square excavation units. The project owner shall ensure that the CRS excavate a maximum of 4 block exposures or excavation blocks where intact buried land surfaces are found. The CRS shall excavate a maximum of 8 block exposures, where intact buried land surfaces are not found in at least four of the blocks exposures. In consultation, the CRS and the CPM shall develop and agree upon a sample of the buried surfaces that would be subject to excavation. The sample shall reflect the apparent physical, material, and chronological variability of the hearth features around which the buried surfaces may be found. The project owner shall ensure that the CRS's field notes and the forms for the excavation of the surfaces are sufficient to acquire the thorough complement of data necessary to the description of the distributions of artifacts and ecofacts across each surface, and the interpretation of the use of each surface, to the satisfaction of the CPM.
- g. *Material Analyses*. The project owner shall ensure that the H RTP articulates the anticipated scope of the analyses of the cumulative artifact and ecofact collections that have been and will be the result of the investigations of Archaeological Zone 1, articulates the analytic methods to be used, and articulates how the data sets that such analyses will produce are relevant to the themes and questions in the research design for the Zone.
- h. *Report Preparation*. The project owner shall ensure that the H RTP states that a conclusory report is one of the requirements of the data recovery program,

and also articulates the outline of, and the production schedule and approval process for the subject report.

3. *California Register of Historical Resources Registration.* The project owner shall prepare a California Register of Historical Resources nomination for Archaeological Zone 1 and submit the nomination to the State Historic Resources Commission for formal consideration. The project owner shall ensure that the CRS, as a part of the registration effort, derives a permanent district name for the Zone to replace the temporary designation of "Archaeological Zone 1." The CRS shall also ensure that the nomination reflects a final formal boundary for the district, a boundary that the CRS shall derive on the basis of the results of the data recovery program and present in the conclusory report for that program.
4. *Outreach Initiatives*
 - a. *Professional Outreach.* The project owner shall prepare a research paper and present it at a professional conference, or prepare and publish a peer-reviewed journal article to inform the professional archaeological community about Archaeological Zone 1 and to interpret its implications for our understanding of the prehistory and early history of Native American life in the region.
 - b. *Public Outreach.* The project owner shall prepare and present materials that interpret Archaeological Zone 1 for the public. Potential public interpretation efforts may include the preparation of an instructional module for use in local school districts, or the preparation of a display for existing public interpretation venues such as Red Rock Canyon State Park.

Verification:

1. At least 120 days prior to the onset of construction-related ground disturbance anywhere in Archaeological Zone 1 or 30 meters or less to the southwest of the provisional boundary for the Zone, the project owner shall ensure that the CRS completes the geophysical test referred to in subpart 2a, **CUL-6**, above, and as set out in the H RTP component of the HRMP (**CUL-4**), and submit, for the review and approval of the CPM, a formal assessment of the reliability of the use of magnetometry to locate buried hearths in the Zone. If the geophysical test demonstrates that the use of magnetometry appears to be reasonably reliable in this regard, then the project owner shall also submit, for the review and approval of the CPM, the precise geographic coordinates of the provisional boundary of Archaeological Zone 1 and a stratified random sample for a broader magnetometry survey of 7.5 percent of Archaeological Zone 1 and of the area 30 meters to the southwest of the provisional district boundary. If the geophysical test demonstrates that the use of magnetometry does not appear to be reasonably reliable, then the project owner shall submit, for the review and approval of the CPM, a stratified random sample for a mechanical subsurface survey of 2.5 percent of Archaeological Zone 1 and of the area 30 meters to the southwest of the provisional district boundary.
2. At least 60 days prior to the onset of construction-related ground disturbance anywhere in Archaeological Zone 1 or 30 meters or less to the southwest of the provisional boundary for the Zone, the project owner shall ensure that the CRS completes the formal inventory of that area under, as appropriate, subparts 2b or 2c, **CUL-6** and submits, for the review and approval of the CPM, a preliminary report, prepared by or under the direction of the CRS, of the results of the

formal inventory, the precise geographic coordinates of the refined provisional district boundary (subpart 2d, **CUL6**), and separate samples for the data recovery excavation of a finite number of the hearths found in Archaeological Zone 1 (subpart 2e, **CUL-6**) and of a finite number of block exposures to reveal intact buried land surfaces there (subpart 2f, **CUL-6**). The project owner shall ensure that the preliminary report is a concise document that provides descriptions of the schedule and methods of the inventory field effort, a preliminary tally of the numbers and, where feasible, the types of archaeological deposits that were found, a discussion of the potential range of error in that tally, and a map of the locations of the found archaeological deposits that has topographic contours and the project site landform designations as overlays. The results of the formal inventory, as set out in the preliminary report, shall be the basis for the refinement of the provisional district boundary. The project owner shall ensure that the CRS then derives the samples for the hearths and the buried land surface block exposures relative to the refined provisional district boundary.

3. At least 30 days prior to the onset of construction-related ground disturbance the project owner shall ensure that the CRS completes the data recovery phases of the data recovery program (subparts 2e and 2f, **CUL-6**) and submits, for the review and approval of the CPM, a preliminary report of the results of those phases. The project owner may conduct the data recovery program in phases and report on each phase in a separate preliminary report. The preliminary report shall be a concise document that provides descriptions of the schedule and methods of the data recovery effort, technical descriptions of excavated archaeological features and buried land surfaces that, while draft in format, present the highest resolution of technical data that can be derived from the data recovery field notes, plan and, as appropriate, profile drawings and photographs of excavated archaeological features and buried land surfaces, and technical descriptions and appropriate graphics of the stratigraphic contexts of excavated archaeological features and buried land surfaces. No construction-related ground disturbance shall occur to the northeast of the refined provisional boundary for Archaeological Zone 1 prior to the project owner's receipt, in writing, of the CPM's approval of the preliminary data recovery report for a specified phase (e.g., the rerouted wash portion) of the data recovery program.
4. No longer than 180 days subsequent to the CPM's approval of the preliminary data recovery report, the project owner shall ensure that the CRS completes the requisite material analyses for, prepare, and submits, for the approval of the CPM, the conclusory report for the data recovery program (subpart 2h, **CUL-6**).
5. No longer than 240 days subsequent to the CPM's approval of the preliminary data recovery report, the project owner shall ensure that the CRS completes the preparation of the California Register of Historical Resources nomination for Archaeological Zone 1 and submits the nomination to the State Historic Resources Commission for formal consideration (subpart 3, **CUL-6**). The nomination shall reflect the formal district boundary that shall be one result of the implementation of the data recovery program, as presented in the conclusory report for that program.
6. No longer than 240 days subsequent to the CPM's approval of the preliminary data recovery report, the project owner shall ensure that the CRS completes requirements of subpart 4a, **CUL-6** and provides the CPM with three copies of the final product of that effort, and prepares, and submits for the approval of the CPM, a product that fulfills the requirements of subpart 4b, **CUL-6**. Upon the CPM's approval of the latter product, the project owner shall ensure, as appropriate, the product's installation, implementation, or display.

CUL-7 *Worker Environmental Awareness Program (WEAP)*. Prior to and for the duration of construction_-related ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment at the project site, laydown area, and along the linear facilities routes. The training shall be prepared by the CRS, may be conducted by any member of the archaeological team, and may be presented in the form of a video. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended, but must be resumed when ground disturbance, such as landscaping, resumes. The training shall include:

1. A discussion of applicable cultural resources statutes, regulations, and related enforcement provisions;
2. A summary of the effects of the proposed project on cultural resources;
3. A summary of the historical resources management program that has been negotiated to address the effects of the proposed project on cultural resources;
4. A discussion of the role of the workers in the historical resources management program;
5. Samples or visuals of artifacts that might be found in the project area;
6. A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed;
7. A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, the range of variation in the appearance of such deposits across the project area, and, more especially, the known range of variation in the archaeological deposits of Archaeological Zone 1;
8. Instruction that the CRS, alternate CRS, and CRMs have the authority to halt construction_-related ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS;
9. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery, particularly in Archaeological Zone 1 for prehistoric archaeological deposits that are inconsistent with the known range of variation in the archaeological deposits there, and shall contact their supervisor and the CRS or CRM, and that redirection of work would be determined by the construction supervisor and the CRS;
10. An informational brochure that identifies the reporting procedures for Archaeological Zone 1 and non-Archaeological Zone 1 areas in the event of a discovery;
11. An acknowledgement form signed by each worker indicating that they have received the training; and

12. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

No ground disturbance shall occur prior to implementation of the WEAP program, unless such activities are specifically approved by the CPM.

Verification:

1. At least 30 days prior to the start of construction-related ground disturbance anywhere on the project site, the CRS shall provide, as a stand-alone document or as an element of the HRMP, the training program draft text and graphics and the informational brochure to the CPM for review and approval.
2. At least 30 days prior to the start of construction-related ground disturbance anywhere on the project site, the CPM will provide to the project owner a WEAP Training Acknowledgement form for each WEAP-trained worker to sign.
3. Monthly, until all construction-related ground disturbance is complete, the project owner shall provide in the Monthly Compliance Report (MCR) the WEAP Training Acknowledgement forms of workers at the project site and on the linear facilities who have completed the training in the prior month and a running total of all persons who have completed training to date.

CUL-8 *Construction Monitoring Program.* The Monitoring and Discovery Plan (subpart 13, **CUL-4**) shall include separate protocols for construction monitoring, and for the discovery and treatment of new cultural resources that are found or when unanticipated effects to known cultural resources become evident during construction-related ground disturbance. The construction monitoring protocol shall specify the different procedures below that the project owner shall follow during construction-related ground disturbance in different parts of the project area and on different landforms in the project area, where the lateral extent and the character of project area landforms are known. As the source of the water that would be necessary to operate the proposed project remains an active focus of discussion, staff includes specifications here for the monitoring procedures that the project owner would need to follow in the event that the project owner ultimately chooses to construct either the Rosamond Community Service District or the City of California City treated wastewater pipeline alternative. Other alterations of the project area under **CUL-3** shall require the project owner to append the Monitoring and Discovery Plan to include monitoring procedures for the actions that would occur in any lands added to the original project area. The appended procedures shall be consistent with the landform-specific monitoring protocols below.

The project owner shall ensure that the CRS, alternate CRS, or CRMs actively monitor, full time, all construction-related ground disturbance in the project area, in accordance with the landform-specific protocols below, to ensure that there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner. Additionally, the project owner shall ensure that construction personnel, trained to recognize what archaeological site types are and are not known for Archaeological Zone 1, passively monitor construction-related ground disturbance in the project area, also in accordance with the landform-specific protocols below.

Landform-specific Monitoring Protocols. The construction monitoring protocols specific to the different landform contexts in the project area variously have active and passive components. The active components relate to the construction monitoring protocols that are required for landform contexts that are outside of Archaeological Zone 1, and the passive components relate to the protocols for such contexts that are in Archaeological Zone 1. The efficacy of the whole series of construction monitoring protocols below depends on the project owner, prior to the initiation of construction-related ground disturbance, physically staking out the boundary of each landform and the refined provisional district boundary for Archaeological Zone 1, and making a reasonable and good faith effort to engage the primary author of the February geoarchaeological study for the proposed project conduct field orientations for the CRS, the alternate CRS, and each CRM so that they are able to recognize the project area landforms and key subsurface sedimentary features such as paleosols and sedimentary contacts. Should the project owner be unable to engage the above cited author, the project owner may engage another professional geoarchaeologist to conduct subject field orientations for the CRS, the alternative CRS, and each CRM. Should the project owner exercise this latter option, the implementation of the Construction Monitoring Protocol shall be subject to periodic field review and approval by the CPM. "Professional geoarchaeologist" means a person who meets the Secretary of Interior's Professional Qualification Standards in prehistoric archaeology (36 CFR Part 61) and can demonstrate graduate-level coursework in Quaternary science, sedimentary geology, or geomorphology. The boundary lines on the surface of the project site are the referents that direct the differential implementation of the active and passive components of the protocols, and the subsurface paleosols and sedimentary contacts are the referents that vertically bound the requisite construction monitoring areas.

Monitoring Protocol for Landform Hf1

Active component. The active component of the monitoring protocol for the Hf1 landform requires the project owner to have the CRS, alternate CRS, or CRMs actively monitor all construction-related ground disturbance down to the upper boundary of the paleosol that is buried in the landform. That boundary, which is the upper boundary of a preserved A horizon, is approximately 2 meters below the present surface of the landform.

Passive component. The owner shall have construction personnel on the project passively monitor for and halt construction upon the discovery of buried archaeological deposits in the portion of Archaeological Zone 1 on the Hf1 landform that appear to represent archaeological site types not previously known for the Zone. Any such discovery shall be subject to the discovery protocol of **CUL-9**. Construction personnel shall be given training, as part of the training program of **CUL-7**, which would facilitate the field recognition of archaeological site types that are and are not known for the district.

Applicability

Project Site. Active monitoring to the southwest of the refined provisional district boundary, and passive monitoring to the northeast of the refined provisional district boundary.

Transmission Line Infrastructure. Not applicable.

Emergency Access Road. Not applicable.

Rosamond Community Service District or City of California City Treated Wastewater Pipeline Alternatives. Passive monitoring to the northeast of the refined provisional district boundary.

Monitoring Protocol for Landform Hf1d

Active component. The active component of the monitoring protocol for the Hf1d landform requires the project owner to have the CRS, alternate CRS, or CRMs actively monitor all construction-related ground disturbance down approximately 2 meters from the present surface of the landform to the upper contact of what are presently thought to be Pleistocene-age deposits of pebbles and cobbles.

Passive component. No passive monitoring on the Hf1d landform.

Applicability

Project Site. Active monitoring across the whole extent of the landform on the project site.

Transmission Line Infrastructure. Active monitoring across the whole extent of the landform in the portion of the project area that encompasses the construction area for the transmission line infrastructure. To implement the protocol for the Hf1d landform in the construction area for the transmission line infrastructure, the project owner shall project out the boundary between the Hf1d and Hf3 landforms, which appears to be coincident with the Cantil Valley fault, to the southwest of the project site, and implement the protocol for the Hf1d landform to the southeast of that projected boundary.

Emergency Access Road. Not applicable.

Rosamond Community Service District or City of California City Treated Wastewater Pipeline Alternatives. Not applicable.

Monitoring Protocol for Landform Hf2

Active component. The active component of the monitoring protocol for the Hf2 landform requires the project owner to have the CRS, alternate CRS, or CRMs actively monitor all construction-related ground disturbance to the maximum depth of such disturbance.

Passive component. The project owner shall have construction personnel on the project passively monitor for and halt construction upon the discovery of buried archaeological deposits in the portion of Archaeological Zone 1 on the Hf2 landform that appear to represent archaeological site types not previously known for the Zone. Any such discovery shall be subject to the discovery protocol of **CUL-9**. Construction personnel shall be given training, as part of the training program of **CUL-7**, which would facilitate the field recognition of archaeological site types that are and are not known for the district.

Applicability

Project Site. Active monitoring to the southwest of the refined provisional district boundary, and passive monitoring to the northeast of the refined provisional district boundary.

Transmission Line Infrastructure. Not applicable.

Emergency Access Road. Not applicable.

Rosamond Community Service District or City of California City Treated Wastewater Pipeline Alternatives. Passive monitoring to the northeast of the refined provisional district boundary.

Monitoring Protocol for Landform Hf3

Active component. No active monitoring on the Hf3 landform.

Passive component. No passive monitoring on the Hf3 landform.

Applicability

Project Site. Not applicable.

Transmission Line Infrastructure. Not applicable.

Emergency Access Road. Not applicable.

Rosamond Community Service District or City of California City Treated Wastewater Pipeline Alternatives. Not applicable.

Monitoring Protocol for Landform Hf4

Active component. The active component of the monitoring protocol for the Hf4 landform requires the project owner to have the CRS, alternate CRS, or CRMs actively monitor all construction-related ground disturbance to the maximum depth of 4 meters.

Passive component. The owner shall have construction personnel on the project passively monitor for and halt construction upon the discovery of buried archaeological deposits in the portion of Archaeological Zone 1 on the Hf4 landform that appear to represent archaeological site types not previously known for the Zone. Any such discovery shall be subject to the discovery protocol of **CUL-9**. Construction personnel shall be given training, as part of the training program of **CUL-7**, which would facilitate the field recognition of archaeological site types that are and are not known for the district.

Applicability

Project Site. Active monitoring to the southwest of the refined provisional district boundary, and passive monitoring to the northeast of the refined provisional district boundary.

Transmission Line Infrastructure. Not applicable.

Emergency Access Road. Not applicable.

Rosamond Community Service District or City of California City Treated Wastewater Pipeline Alternatives. Active monitoring to the southwest of the refined provisional district boundary, and passive monitoring to the northeast of the refined provisional district boundary.

Monitoring Protocol for Unknown Landforms

Active component. The active component of the monitoring protocol for unknown landforms requires the project owner to have the CRS, alternate CRS, or CRMs actively monitor all construction-related ground disturbance to the maximum depth of any such disturbance.

Passive component. No passive monitoring on unknown landforms.

Applicability

Project Site. Not applicable.

Transmission Line Infrastructure. Not applicable.

Emergency Access Road. Active monitoring for the whole length of the proposed emergency access road, which is outside and projects east of the project site to Neuralia Road.

Rosamond Community Service District or City of California City Treated Wastewater Pipeline Alternatives. Active monitoring for the whole length of either pipeline route alternative, both of which are outside and to the east and south of the project site.

Full-time archaeological monitoring for this project shall be the archaeological monitoring of all construction-related ground disturbance in the project area, in accordance with the Landform-specific Monitoring Protocols, above. Where scrapers are used for excavation, full-time archaeological monitoring shall require one monitor to observe the placement of and inspect dumped material for every four monitors observing excavation. For excavation areas where scrapers are not used for excavation, one monitor shall both observe the location of active excavation and inspect the dumped material.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The research design in the HRMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered.

A Native American monitor shall be obtained to monitor ground disturbance in areas where Native American artifacts may be discovered. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the

area that shall be monitored. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor.

On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of noncompliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended.

The CRS or alternate CRS shall report daily to the CPM on the status of the project's cultural resources-related activities, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.

Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions.

Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM.

Verification:

1. At least 30 days prior to the start of ground disturbance anywhere on the project site, the project owner shall submit the Monitoring and Discovery Plan to the CPM for review and approval.
2. At least 30 days prior to the start of construction-related ground disturbance, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log.
3. Monthly, while monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS and shall attach any new DPR 523A forms completed for finds treated prescriptively, as specified in the HRMP.

4. At least 10 days prior to the start of construction-related ground disturbance, the project owner shall physically stake out, every 200 feet along the surface of the ground and in a conspicuous manner, either the provisional boundary of Archaeological Zone 1, or, if it has been given the approval of the CPM, the refined provisional district boundary for the Zone, and the known boundary of each landform on the project site as each such boundary is reported in the February 6, 2009 preliminary field report for the geoarchaeology study (Young 2009b). The project owner shall make a reasonable and good faith effort to engage the author of that preliminary report to assist in the location of each landform boundary on the ground.
5. At least 30 days prior to the start of construction-related ground disturbance, the project owner shall make a reasonable and good faith effort to engage the author of the February 6, 2009 preliminary field report for the geoarchaeology study (Young 2009b) or another professional geoarchaeologist to whom the author has given a field orientation of the study results to conduct field orientations for the CRS, the alternate CRS, and each CRM so that they are each able to recognize the project area landforms and key subsurface sedimentary features in the landform-specific monitoring protocols such as paleosols and sedimentary contacts. The replacement of the CRS, the alternate CRS, or CRMs shall necessitate new field orientations to train new personnel. Should the project owner be unable to engage the above cited author, the project owner may engage another professional geoarchaeologist to conduct subject field orientations for the CRS, the alternative CRS, and each CRM. Should the project owner exercise this latter option, the implementation of the Construction Monitoring Protocol shall be subject to periodic field review and approval by the CPM. "Professional geoarchaeologist" means a person who meets the Secretary of Interior's Professional Qualification Standards in prehistoric archaeology (36 CFR Part 61) and can demonstrate graduate-level coursework in Quaternary science, sedimentary geology, or geomorphology.
6. At least 30 days prior to the start of construction-related ground disturbance in any portion of the project area added under **CUL-3**, the project owner shall submit a numbered appendix to the Monitoring and Discovery Plan to the CPM for review and approval. Each such appendix shall include monitoring procedures for the actions that would occur in lands added to the original project area. The appended procedures shall be consistent with the landform-specific monitoring protocols of **CUL-8**.
7. Daily, as long as no cultural resources are found, the CRS shall provide a statement that "no cultural resources over 50 years of age were discovered" to the CPM as an email, or in some other form acceptable to the CPM.
8. At least 24 hours prior to reducing or ending daily reporting, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for reducing or ending daily reporting.
9. At least 24 hours prior to implementing a proposed change in monitoring level, documentation justifying the change shall be submitted to the CPM for review and approval.
10. No later than 30 days following the discovery of any Native American cultural materials, the project owner shall submit to the CPM copies of the information transmittal letters sent to the Chairpersons of the Native American tribes or groups who requested the information.

11. Within 15 days of receiving them, the project owner shall submit to the CPM copies of any comments or information provided by Native Americans in response to the project owner's transmittals of information.

CUL-9 *Discovery and Discovery Treatment Protocols.* The Monitoring and Discovery Plan (subpart 13, **CUL-4**) shall include separate protocols for construction monitoring, and for the discovery and treatment of new cultural resources that are found outside of the refined provisional boundary for Archaeological Zone 1, when archaeological site types not previously known for the Zone are found inside said boundary, or when unanticipated effects to known cultural resources become evident during construction_-related ground disturbance. The Discovery Protocol shall specify the procedures that the project owner shall follow upon the discovery of a new resource outside of Archaeological Zone 1, of a new archaeological site type in Archaeological Zone 1, or upon the recognition of an unanticipated effect. The project owner shall, in any such instance, grant authority to halt construction_-related ground disturbance to the CRS, alternate CRS, and the CRMs. Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event that cultural resources that may be over 50 years of age are found, or, if younger, determined exceptionally significant by the CPM, or archaeological site types not previously known for Archaeological Zone 1 are found in it, or impacts to such resources can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. Monitoring and daily reporting as provided in **CUL-8** shall continue during all ground-disturbing activities elsewhere on the project site. The halting or redirection of ground disturbance shall remain in effect until the CRS has visited the discovery, and all of the following have occurred:

1. The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e., work stoppage or redirection), a recommendation of CRHR eligibility, and recommendations for mitigation of any cultural resources discoveries, whether or not a determination of CRHR eligibility has been made.
2. If the discovery would be of interest to Native Americans, the CRS has notified all Native American groups that expressed a desire to be notified in the event of such a discovery.
3. The CRS has completed field notes, measurements, and photography for a DPR 523A "Primary Record" form. Unless the find can be treated prescriptively, as specified in the HRMP, the "Description" entry of the DPR 523A "Primary Record" form shall include a recommendation on the CRHR eligibility of the discovery. The project owner shall submit completed forms to the CPM.
4. The CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have been completed.

The discovery and discovery treatment protocols in the Monitoring and Discovery Plan shall specify that the preferred treatment strategy for any buried archaeological deposits found during the course of the construction, operation, and maintenance of the proposed project is avoidance. A mitigation plan shall be prepared for any CRHR-eligible (as determined by the CPM) resource, impacts to which cannot be avoided, except for archaeological site types in Archaeological Zone 1 that are already known to be characteristic of that district.

Prescriptive treatment plans may be included, where appropriate, in the HRMP for cultural resources that represent marginal data sets.

Verification:

1. At least 30 days prior to the start of ground disturbance anywhere on the project site, the project owner shall submit the Monitoring and Discovery Plan to the CPM for review and approval.
2. At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt construction_-related ground disturbance in the vicinity of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.
3. Within 48 hours of the discovery of a resource of interest to Native Americans, the project owner shall ensure that the CRS notifies all Native American groups that expressed a desire to be notified in the event of such a discovery.
4. Unless the discovery can be treated prescriptively, as specified in the HRMP, completed DPR 523 Series forms for resources newly discovered during ground disturbance shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever the CRS decides is more appropriate for the subject cultural resource.

CUL-10 *Cultural Resources Report (CRR)*. The project owner shall submit the final CRR to the CPM for approval. The final CRR shall be written by or under the direction of the CRS and shall be provided in the ARMR format (COHP 1990). The final CRR shall report on all field activities including dates, times and locations, findings, samplings, and analyses. All survey reports, DPR 523 Series forms, data recovery reports, and any additional research reports not previously submitted to the California Historical Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as appendices to the final CRR.

If the project owner requests a suspension of construction_-related ground disturbance and/or construction activities, then a draft CRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM for review and approval on the same day as the suspension/extension request. The draft CRR shall be retained at the project site in a secure facility until ground disturbance and/or construction resumes or the project is withdrawn. If the project is withdrawn, then a final CRR shall be submitted to the CPM for review and approval at the same time as the withdrawal request.

Verification:

1. Within 90 days after completion of all construction-related ground disturbance (including landscaping), the project owner shall submit the final CRR to the CPM for review and approval. If any reports have previously been sent to the CHRIS, then receipt letters from the CHRIS or other verification of receipt shall be included in an appendix.
2. Within 90 days after completion of all construction_-related ground disturbance (including landscaping), if cultural materials requiring curation were collected, the project owner shall provide to the CPM a copy of an agreement with, or other written commitment from, a curation facility that meets the standards stated in the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, to accept cultural materials, if any, from this project. Any agreements concerning curation will be retained and available for audit for the life of the project.
3. Within 10 days after CPM approval, the project owner shall provide documentation to the CPM confirming that copies of the final CRR have been provided to the SHPO, the CHRIS, the curating institution, if archaeological materials were collected, and to the Tribal Chairpersons of any Native American groups requesting copies of project-related reports.
4. Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft CRR to the CPM for review and approval.

ATTACHMENT B

**ERRATA TO THE PRESIDING MEMBER’S PROPOSED DECISION
FINAL CONDITIONS OF CERTIFICATION
SOIL AND WATER RESOURCES
JULY 26, 2010**

SOIL&WATER-1: Groundwater Water Use For Project Construction: The project owner may use up to 8,086 acre feet of onsite groundwater for project construction. Groundwater use and potential impacts will be monitored and mitigated as outlined in items A. B. and C. below.

Groundwater Use For Project Operation: The project owner may use up to 153 acre feet per year (AFY) of onsite groundwater to meet non-cooling operational needs. The project owner may also use 47 AFY of groundwater for emergency purposes. For the purpose of this condition, the term “emergency” shall mean the inability for BSEP to receive, or for the recycled water supplier to deliver, recycled water to BSEP due to Acts of God, natural disaster or other circumstances beyond the control of the project owner in a quantity sufficient for BSEP to operate at its normal operational level for the season in which the emergency occurred.

The project owner shall use recycled water for all power plant cooling needs. On a temporary basis, groundwater may only be used for cooling purposes while the California City recycled water option, discussed below, is being developed and until it becomes fully implemented. Groundwater use and potential impacts will be monitored and mitigated as outlined in items A. and C. below.

California City Recycled Water Supply – If the California City Recycled Water supply is developed for project operation, then groundwater may be used in accordance with the table presented below:

Operations Water Use – California City Alternative

California City Collection System Construction Year	Maximum Volume of Site Groundwater Extracted for BSEP Operation ^{1,2}
1 (end of month 12)	1,353AFY
2 (end of month 24)	1,053 AFY
3 (end of month 36)	753 AFY
4 (end of month 48)	453 AFY
5 (end of collection system construction)	153 AFY

¹Includes potable demand
²Excludes yearly emergency supply

Rosamond Community Services District Recycled Water Supply – If the Rosamond Community Services District Recycled Water Supply is developed for project use groundwater shall be limited to a volume of no more than 153 AFY.

Monitoring and Mitigation for Groundwater Use

The project owner shall also develop and implement a groundwater monitoring and mitigation program. The monitoring and mitigation program shall be consistent with the intent of **Soil & Water APPENDIX I**. The primary objective for the monitoring is to establish pre-construction and project related water level trends that can be quantitatively compared against observed and simulated trends near the project pumping wells, at the property boundary, and near potentially impacted existing wells. Specifically, the project owner shall do all of the following:

A. Prior to construction:

- 1 In accordance with the provisions set forth in **Soil & Water Appendix I**, create the Fremont Valley Groundwater Monitoring Committee to monitor project pumping impacts during construction and (if recycled water is incrementally delivered to the site) the “phase-in” period during initial project operation. The purpose of the Fremont Valley Groundwater Monitoring Committee is to provide for land owner protection and include stakeholder participation in evaluation of project impacts. The monitoring committee’s function will be to implement and oversee the project owner’s groundwater monitoring program and to confer with the CPM to verify that there are no unacceptable impacts to groundwater levels, water quality or well performance in water supply wells affected by the proposed pumping during construction of the BSEP and during project operation. The committee will review the applicability of the groundwater monitoring and mitigation program on a recurring 5 year basis following project construction. During their review of the monitoring data, the committee will recommend to the CPM whether the program should be expanded or if some or all of the monitoring should be terminated. In the event that a committee cannot be formed or maintained the CPM will continue to implement and oversee the groundwater monitoring program.
- 2 Prior to construction identify representative water supply wells in the potentially impacted area predicted by the groundwater model, and secure access to those wells to allow monitoring of groundwater levels and water quality. Wells shall be identified by comparison to the “No” Project and Project pumping simulations. The potentially impacted area shall be defined as the area model results project a water level change of 5 feet or more at the end of construction and after the first five years of operation. Wells identified in the potentially impacted area will be included in the monitoring network. Any new wells within the potentially impacted area not previously identified shall also be included in the monitoring network. Abandoned wells, or wells no longer in use, that are accessible and provide reliable water level data within the potentially impacted area may also be included as part of the monitoring network. Additional wells located outside the potentially impacted area (“background” wells) shall also be included in the monitoring network to discern between background trends and changes caused by Project pumping. Wells representing background conditions shall be selected from outside the potentially impacted area indicated by the groundwater-flow model. For example, a minimum of three wells located outside the area indicated by the groundwater-flow model as having a water level change of 1 foot or less at the end of construction and after the first five years of operation are potential candidates for background wells. The final selection of background wells shall be subject to approval by the CPM.
- 3 In addition to the potentially impacted area discussed above, identify available wells between the BSEP site and California City, in both the Koehn and California City sub-basins, and include

representative well(s) into the monitoring network. Inclusion of these wells into the monitoring network is necessary to assess the potential changes in hydraulic gradients and subsurface flow between basins. Some candidate wells in the Koehn and California City sub-basin may already be monitored as part of other water management programs. This condition does not intend to duplicate those efforts, but instead requires in these circumstances the integration of data from the other relevant activities and including this information in analyses and reports submitted to the CPM.

- 4 At least 30-days prior to project construction, accessible abandoned or unused wells within the monitoring network shall be instrumented with recorders to track groundwater levels during project construction. The water level recorders shall continuously collect and store the data every four hours and shall be serviced at least quarterly.
- 5 Obtain all historic water level and water quality data for each water supply well within the monitoring network as defined by the groundwater model where access to monitor groundwater conditions can be obtained. Additionally, conduct a well reconnaissance and identify all wells within the monitoring area as defined by the groundwater model. Obtain well construction information (completion depth, well screen depth interval, and pump intake depth), historic well performance data, including pumping and non-pumping water levels, and pump specifications for each of those wells.
- 6 Update the groundwater database presented in the AFC, and updated in January 2009, with all new information obtained from the wells where access to monitor groundwater conditions has been obtained.
- 7 Prepare time series graphs for water level and total dissolved solids (TDS) concentrations data for each well within the monitoring network where information is available.
- 8 Perform statistical trend analysis using Mann-Kendall Trend Test and Sen's Slope Estimator for water levels and the TDS data to statistically analyze the data. Determine the significance of an apparent trend and estimate the magnitude of that trend.
- 9 At least once prior to construction, collect groundwater levels from the off-site and on-site monitoring network wells and collect and analyze groundwater samples for TDS concentrations to provide baseline and background groundwater levels and TDS concentrations for both on-site and off-site monitoring network wells. Groundwater samples shall be analyzed for TDS by a California Certified Analytical Laboratory in accordance with Standard Methods 2540C.
- 10 Map TDS data and groundwater levels within the Koehn and California City Sub-basins from the groundwater data collected prior to construction. Update trend plots and statistical analyses, as data is available.

B. During Construction:

- 1 Collect static water levels and TDS data from the monitoring network wells on a quarterly basis throughout the construction period, and at the end of the construction period. The continuous monitoring discussed in Condition **SOIL & WATER-1.A.4**, above shall continue a minimum of 30-days after completion of project construction. Perform statistical trend analysis using Mann-

Kendall Trend Test and Sen's Slope Estimator for water levels and the TDS data to statistically analyze the data. Determine the significance of an apparent trend and estimate the magnitude of that trend.

C. During Operation:

- 1 On a quarterly basis, collect static water level measurements and TDS data from the wells in the groundwater monitoring network to evaluate operational influence from the project. Quarterly operational parameters (i.e., pumping rate) of the water supply wells shall be monitored. Additionally, quarterly groundwater-use in the Koehn sub-basin shall be estimated and the values submitted to the Fremont Valley Basin Groundwater Monitoring Committee for evaluation and consultation with the CPM.
- 2 On an annual basis, perform statistical trend analyses using Mann-Kendall Trend Test and Sen's Slope Estimator for water levels and the TDS data to statistically analyze the data. The significance of an apparent trend shall be determined and the magnitude of that trend estimated. Based on the results of the statistical trend analyses, the project owner shall determine if the project pumping has induced a drawdown (i.e. reduction in the static water level) in the water supply at a level of ten feet or more below the background trend.
- 3 If water levels have been lowered below pre-site operational trends, and monitoring data provided by the project owner show the water level changes are different from background trends and are solely caused by project pumping, then the project owner shall provide mitigation to the well owner(s) consistent with the following **SOIL & WATER-1.C.3.a** through **C.3.i**. Mitigation shall be provided if the CPM's inspection of the well monitoring data confirms changes to water levels and water level trends relative to measured pre-project water levels, and the well yield has been lowered by project pumping. The type and extent of mitigation shall be determined by the amount of water level decline and site specific well construction and water use characteristics. The mitigation of impacts will be determined as follows:
 - a. If project pumping has lowered water levels and increased pumping lifts by 10 feet or more, increased energy costs shall be calculated in accordance with item **SOIL & WATER-1.C.3.e** below. The compensation and payment schedule for the increased costs shall be provided at the option of the affected well owner as provided in **SOIL & WATER-1.C.3.g**.
 - b. If groundwater monitoring data indicate project pumping has lowered water levels below the top of the well screen, and the well yield is shown to have decreased by 10-percent or more of the average seasonal yield, compensation shall be provided for the diagnosis and maintenance to treat and remove encrustation from the well screen. Reimbursement shall be provided at an amount equal to the customary local cost of performing the necessary diagnosis and maintenance for well screen encrustation.

Should the well yield reductions be reoccurring, the project owner shall provide payment or reimbursement for periodic maintenance throughout the life of the Project. If with treatment the well yield is incapable of meeting 110% of the well owner's maximum daily demand, dry season demand, or annual demand the well owner should be compensated by reimbursement or well replacement as described under Condition **SOIL&WATER-1.C.3.c**.

- c. If project pumping has lowered water levels to significantly impact well yield below property water supply requirements or cause casing collapse, payment or reimbursement of an amount equal to the cost of deepening or replacing the well shall be provided to accommodate these effects. Compensation shall be at an amount equal to the customary local cost of deepening the existing well or constructing a new well. The demand for water, which determines the required well yield, shall be determined on a per well basis using historic seasonal yield data, well owner interviews and field verification of property conditions and historical seasonal water requirements compiled as part of the pre-project well reconnaissance. Well yield shall be considered significantly impacted if it is incapable of meeting 110-percent of the well owner's maximum daily demand, dry-season demand, or annual demand – assuming the pre-project well yield documented by the well reconnaissance met or exceeded these yield levels.
- d. Electrical cost reimbursement – Through a statistical analysis of the water level data, if the pumping water level falls below a depth of 10 feet from the background trend, and is shown to be caused by project pumping, the well owner shall be compensated by the project owner for the additional electrical costs commensurate with the additional lift required to pump. The water level in the well will be assessed relative to the pumping rate established during the pre-site development period.
- e. Where it is determined by the CPM that the project owner shall reimburse a private well owner for increased energy costs, the project owner shall calculate the compensation owed to the owner of any impacted well as described below.

$$\text{Increased cost for energy} = \frac{\text{change in lift/total system head} \times \text{total energy consumption}}{\text{costs/unit of energy}}$$

Where:

change in lift (ft) = calculated change in water level in the well resulting from project pumping

total system head (ft) = elevation head + discharge pressure head

elevation head (ft) = difference in elevation between wellhead discharge pressure gauge and water level in well during pumping.

discharge pressure head (ft) = pressure at wellhead discharge gauge (psi) X 2.31

- f. The project owner shall notify all owners of the impacted wells within one month of CPM approval of the compensation analysis for increased energy costs.
- g. Compensation shall be provided on an annual basis, as described below:

Compensation provided on an annual basis shall be calculated prospectively for each year by estimating energy costs that will be incurred to provide the additional lift required as a result of the project. With the permission of the impacted well owner, the project owner shall provide energy meters for each well or well field affected by the project, as described under 3e

- above. The impacted well owner to receive compensation must provide documentation of energy consumption in the form of meter readings or other verification of fuel consumption. For each year after the first year of operation, the project owner shall include an adjustment for any deviations between projected and actual energy costs for the previous calendar year.
- h. Pump lowering – If pumps are exposed but well screens remain submerged, the pumps shall be lowered to maintain production in the well. All costs associated with lowering pumps shall be borne by the project owner. Reimbursement shall be provided at an amount equal to the customary local cost of performing the lowering of the pump.
 - i. Deepening of wells – If the groundwater is lowered enough that the well screen is exposed, and lowering of the pump cannot be done to maintain well yield above a level of significance described in **SOIL & WATER-1.C.3c**, the well shall be deepened or a new well constructed. The well shall be completed in a manner that provides water to the property in consideration of historic seasonal use requirements. All costs associated with deepening existing wells or constructing new wells shall be borne by the project owner. Reimbursement shall be provided at an amount equal to the customary local cost of installing a new well.
- 4 During or after the first five-year operational and monitoring period, the CPM, after consultation with the Fremont Valley Basin Groundwater Monitoring Committee, shall evaluate the data and determine if the monitoring program water level measurements and TDS sampling frequencies should be revised or eliminated. Revision or elimination of any monitoring program elements shall be based on the consistency of the data collected. The determination of whether the monitoring program should be revised or eliminated shall be made by the CPM after consultation with the Fremont Valley Basin Groundwater Monitoring Committee.
 - 5 At the end of each subsequent five-year monitoring period, the collected data shall be evaluated by the CPM after consultation with the Fremont Valley Basin Groundwater Monitoring Committee and the CPM shall determine if the sampling frequency and TDS sampling should be revised or eliminated.
 - 6 If the project owner elects to utilize the California City option, groundwater monitoring results, whether conducted by the project owner or by another entity as part of basin water management activities (for example, monitoring wells in the California City area), shall be analyzed and reported to the CPM. This is necessary because of the expected reduction in groundwater recharge resulting from diversion of septic system recharge resulting from diversion of septic system discharge that otherwise percolated into the groundwater basin. Consideration of the need to continue the groundwater monitoring program will be in accordance with item **SOIL & WATER - 1.C.4** above. The project owner shall also compensate California City for implementation of a Tamarisk Removal Program as described in Appendix I. The Tamarisk Removal Program shall target the species commonly referred to as Salt Cedar.
 - 7 If the Rosamond option is implemented, all off site groundwater monitoring will likely be eliminated within the five year post construction period. Consideration of the need to continue the groundwater monitoring program will be in accordance with item **SOIL & WATER - 1.C.4** above.
 - 8 If the California City option is implemented, all off site groundwater monitoring will likely be eliminated within the five year post construction period. Consideration of the need to continue

the groundwater monitoring program will be in accordance with item **SOIL& WATER-1.C.4** above.

- 9 Comply with Condition of Certification **SOIL & WATER -19**, which requires metering of water used for power plant construction and operation.

Verification: The project owner shall do all of the following:

- 1 At least 60 days prior to start of construction, the project owner shall submit to the CPM a list identifying the members of the Fremont Valley Basin Groundwater Monitoring Committee and each member's written agreement to participate in accordance with the Committee's stated purpose and function and assist the project owner in implementing the groundwater monitoring program.
- 2 At least 30 days prior to project construction, the project owner shall submit to the CPM, a comprehensive report presenting all the data and information required in items **SOIL & WATER – 1.A.2** through **-1.A.10**.

The project owner shall submit to the CPM all calculations and assumptions made in development of the report data and interpretations, along with comments to the draft report made by Committee members or well owners within the monitoring network on the data, calculations and assumptions used in development of the report. The project owner shall also provide documentation of communications and negotiation for securing access and inclusion of a well in the monitoring program. Further, documentation shall be provided that shows adequate inquiry of each well owner in the monitoring network, and any subsequent refusal by the well owner to be included in the monitoring network.

- 3 During project construction, the project owner shall submit to the CPM quarterly reports presenting all the data and information required in items **SOIL & WATER –1.B.1** through **-1.B.2**.

The project owner shall submit to the CPM all calculations and assumptions made in development of the report data and interpretations, along with comments to the draft report made by Committee members or local well owners within the monitoring network on the data, calculations, and assumptions used in development of the report.

- 4 No later than March 31 of each year of construction and 60 days following completion of construction, the project owner shall provide to the CPM for review and approval, documentation showing that any mitigation to private well owners during project construction was satisfied, based on the requirements of the property owner as determined by the CPM.
- 5 During project operation, the project owner shall submit to the CPM, applicable quarterly and annual reports presenting all the data and information required in items **SOIL & WATER – 1.C.1** through **-1.C.8**.

The project owner shall submit to the CPM all calculations and assumptions made in development of report data and interpretations, along with any agreement or dissenting opinions voiced by Committee members or local well owners on the data, calculations, and assumptions used in development of any reports.

- 6 After the first five year operational and monitoring period, the project owner shall submit a 5 year monitoring report to the Fremont Valley Basin Groundwater Monitoring Committee and to the CPM that submits all monitoring data collected and provides a summary of the findings. After consultation with the Fremont Valley Basin Groundwater Monitoring Committee, the CPM will determine if the water level measurements and TDS sampling frequencies should be revised or eliminated.
- 7 The project owner shall provide mitigation as described in **SOIL & WATER-1.C.3**, if the CPM's inspection of the monitoring information confirms changes to water levels and water level trends relative to measured pre-project water levels, and well yield has been lowered by project pumping. The type and extent of mitigation shall be determined by the amount of water level decline and site specific well construction and water use characteristics. The mitigation of impacts will be determined as set forth in **SOIL & WATER-1.C.3**.
- 8 Eliminated, redundant with #4.
- 9 During the life of the project, the project owner shall provide to the CPM and Fremont Valley Basin Groundwater Monitoring Committee, all monitoring reports, complaints, studies and other relevant data within 30 days of being received by the project owner.
- 10 In accordance with Appendix I, the applicant shall provide to the CPM appropriate documentation (notes, diagrams, photographs and other records) on a quarterly basis that clearly demonstrates the success of the Tamarisk Removal Program. This documentation shall provide the mapped location, pre and post eradication photographs, a description of the areal extent of salt cedar removed and the percent completion of the removal program.

SOIL&WATER-2: The project owner will comply with the requirements of the Kern County Environmental Health Services Department, regarding sanitary waste disposal facilities such as septic systems and leach fields.

Verification: The project owner will submit all necessary information and the appropriate fee to the county of Kern to ensure that the project has complied with the county's sanitary waste disposal facilities requirements. A written assessment prepared by Kern County of the project's compliance with these requirements must be submitted to the CPM for review and approval 30-days prior to the start of power plant operation.

SOIL&WATER-3: The project owner shall comply with the Waste Discharge Requirements for discharge of storm water associated with construction activity that are presented in **Soil and Water Appendices E, F, G and H** and submit the appropriate compliance fee to the LRWQCB. The project owner shall develop, obtain compliance project manager (CPM) approval of, and implement a Storm Water Pollution Prevention Plan (SWPPP) for the construction of the BSEP site, laydown area, and all linear facilities.

Verification: At least 60 days prior to site mobilization, the project owner shall submit to the CPM and LRWQCB, a copy of the construction SWPPP for review and CPM approval prior to site mobilization. The project owner shall also submit to the CPM evidence of payment to LRWQCB of the appropriate compliance fee. The project owner shall retain a copy of the SWPPP on site. The project owner shall submit to the CPM copies of all correspondence between the project owner and the LRWQCB regarding

the Waste Discharge Requirements for the discharge of storm water associated with construction activity within 10 days of its receipt or submittal.

SOIL&WATER-4: The project owner shall comply with the requirements of the Waste Discharge Requirements in **Soil and Water Appendices E, F, G and H**, for discharges of process water and storm water associated with industrial activity. The project owner shall develop, obtain CPM approval of, and implement an industrial SWPPP for the operation of the project.

Verification: At least 60 days prior to commercial operation, the project owner shall submit to the CPM a copy of the industrial SWPPP for operation of the project for review and approval prior to commercial operation. The project owner shall retain a copy on site. The project owner shall submit copies to the CPM of all correspondence between the project owner and the LRWQCB regarding the Requirements of Waste Discharge of process water and storm water associated with industrial activity within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent by the project owner to the SWRCB.

SOIL&WATER-5: Prior to site mobilization, the project owner shall obtain CPM approval for a site specific DESCP that ensures protection of water quality and soil resources of the project site and all linear facilities for both the construction and operation phases of the project. This plan shall address appropriate methods and actions, both temporary and permanent, for the protection of water quality and soil resources, demonstrate no increase in risk to off-site properties from flooding, and identify all storm water monitoring and maintenance activities. The project owner shall complete all necessary engineering plans, reports, and documents necessary for Kern County to conduct a review of the proposed project and provide its written evaluation as to whether the proposed grading, drainage improvements, diversion channel design, and flood management activities comply with all county requirements. The project owner shall ensure compliance with all county standards and requirements for grading, erosion control, and flooding for the life of the project. The plan shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1**, and with requirements described in Condition of Certification **BIO-18**. The DESCP shall contain the following elements:

- **Vicinity Map** – A map shall be provided indicating the location of all project elements with depictions of all significant geographic features to include watercourses, washes, irrigation and drainage canals, major utilities, and sensitive areas, such as Waters of the State.
- **Site Delineation** – The site and all project elements shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, underground utilities, roads, and drainage facilities. Adjacent property owners shall be identified on the plan maps. All maps shall be presented at a legible scale
- **Drainage** – The DESCP shall include the following elements suitable for submittal to FEMA as part of compliance with Condition of Certification SOIL&WATER-6:
 - a. Topography – Topography for offsite areas are required to define the existing upstream tributary areas to the site and downstream to provide enough definition to map the existing Pine Tree Creek flood hazard. Spot elevations shall be required where relatively flat conditions exist.

- b. Proposed Grade – Proposed grade contours shall be shown at a scale appropriate for delineation of onsite sub-basins, drainage ditches, pond contours, diversion channel, and tie-ins to the existing topography.
 - c. Hydrology - Existing and proposed hydrologic calculations for on-site areas and offsite areas that drain to the site; include maps showing the drainage area boundaries and sizes in acres, topography and typical overland flow directions, and show all existing, interim, and proposed drainage infrastructure and their intended direction of flow.
 - d. Hydraulics - Provide hydraulic calculations to support the selection and sizing of the onsite drainage network, retention facilities and best management practices (BMPs). Design calculations and the results of the hydraulic backwater model for the Pine Tree Creek diversion channel shall be included.
 - e. Channel Stabilization Plan – The Project Owner shall present methods to mitigate for adverse hydraulic conditions (high velocities, high shear stress, Froude Numbers greater than 0.8) in the proposed diversion channel. Channel plan and profile maps showing water surface elevations, channel slope, bank protection, channel stabilization elements. Channel bank elevations shall also be identified.
- **Watercourses and Critical Areas** – The DESCP shall show the location of all nearby watercourses including washes, irrigation and drainage canals, and drainage ditches, and shall indicate the proximity of those features to the construction site. Maps shall identify high hazard flood prone areas:
 - a. FEMA Regulated Special Flood Hazard Areas (Effective floodplain from DFIRM) shall be shown on site as well as upstream and downstream within 2,000 feet from the BSEP property boundary;
 - b. Existing Conditions 100-year Floodplain – Shall be continuous with the effective floodplain; and
 - c. Proposed (Revised) Conditions 100-year Floodplain – Shall be continuous with the effective floodplain.
 - **Clearing and Grading** – The plan shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections, cut/fill depths or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Proposed contours shall tie into existing topography. The DESCP shall include a statement of the quantities of material excavated at the site, whether such excavations or fill is temporary or permanent, and the amount of such material to be imported or exported or a statement explaining that there would be no clearing and/or grading conducted for each element of the project. Areas of no disturbance shall be properly identified and delineated on the plan maps.
 - **Project Schedule** – The DESCP shall identify on the topographic site map the location of the site-specific BMPs to be employed during each phase of construction (initial grading, project element and diversion channel excavation, and construction, and final grading/stabilization). The

project schedule shall identify the construction sequence for the Pine Tree Creek diversion channel. Separate BMP implementation schedules shall be provided for each project element for each phase of construction.

- **Best Management Practices** – The DESCP shall show the location, timing, and maintenance schedule of all erosion- and sediment-control BMPs to be used prior to initial grading, during project element excavation and construction, during final grading/stabilization, and after construction. BMPs shall include measures designed to control dust and stabilize construction access roads and entrances. The maintenance schedule shall include post-construction maintenance of treatment-control BMPs, including application of soil stabilizers, applied to disturbed areas following construction.
- **Erosion Control Drawings** – The erosion-control drawings and narrative shall be designed, stamped and sealed by a professional engineer (PE) or a Certified Professional in Erosion and Sediment Control (CPESC).
- **Agency Comments** – The DESCP shall include copies of recommendations, conditions, and provisions from Kern County, CDFG, and LRWQCB.
- **Monitoring Plan** – Monitoring activities shall include routine measurement of the volume of accumulated sediment in the onsite drainage ditches, storm water retention basins, and the diversion channel.
 - Additional monitoring requirements shall be presented in a Desert Wash Mitigation and Monitoring Plan as discussed in Condition of Certification **BIO-18**.
- **Maintenance Plan** – The maintenance plan shall identify activities and procedures needed to maintain capacity within all onsite drainage ditches, and the drainage ditch that currently diverts flow along the western property boundary. Channel maintenance may include BMP repairs, bank stabilization, debris removal, grade control, and revegetation. The maintenance plan shall support the objectives of the revegetation plan and mitigation effort. Maintenance activities must also include removal of accumulated sediment from all retention basins when an average depth of 0.5 feet of sediment has accumulated in the retention basin. The maintenance plan shall be developed in accordance with the activities and procedures identified for the Pine Tree Creek diversion channel as part of compliance with Condition of Certification **SOIL&WATER-7** and **SOIL&WATER-8**.

Verification: The project owner shall do all of the following:

1. No later than 90 days prior to start of site mobilization, the project owner shall submit a copy of the DESCP to Kern County and the LRWQCB for review and comment. A copy shall be submitted to the CPM no later than 60 days prior to the start of site mobilization for review and approval. The CPM shall consider comments received from both Kern County and LRWQCB.
2. During construction, the project owner shall provide an analysis in the monthly compliance report on the effectiveness of the drainage-, erosion- and sediment-control measures and the results of monitoring and maintenance activities.

3. Once operational, the project owner shall provide in the annual compliance report information on the results of storm water BMP monitoring and maintenance activities.
4. Provide the CPM with two (2) copies of all monitoring or other reports required for compliance with Kern County, CDFG, and LRWQCB.
5. Provide Kern County, LRWQCB and the CPM with quarterly maintenance activity reports for all onsite drainage ditches and the drainage ditch that currently diverts flow along the western property boundary. These reports shall also provide an account of any significant runoff event and will describe channel performance.

SOIL&WATER-6: In accordance with Kern County's Floodplain Management Ordinance and 44 CFR 65.12, the project owner shall prepare all necessary engineering plans and documents to support a Conditional Letter of Map Revision (CLOMR) application submittal to FEMA. The project shall not commence construction in the SFHA until Kern County receives from FEMA an approved CLOMR. Following construction, the Project Owner shall prepare all necessary documents required for a final Letter of Map Revision (LOMR). The project owner shall use FEMA's Guidelines and Specifications for Mapping Partners for guidance. The project owner shall:

- a. Prepare hydrologic analyses to estimate the 1-percent annual chance flood events for the Pine Tree Creek watershed. The analyses shall be conducted using numerical models approved by FEMA;
- b. Prepare design drawings in accordance with FEMA CLOMR standards for the channel, include typical channel cross section dimensions, typical details for all structural elements needed to protect the channel from erosion, and a grading plan for proposed conditions that ties into existing topography;
- c. Conduct hydraulic analyses for existing and proposed conditions. Plot the water surface and energy grade line profile for the constructed channel. Tie the proposed conditions water surface elevation profile into the water surface profile from the existing hydraulic model upstream and downstream of the site;
- d. Prepare flood hazard mapping for the existing and proposed conditions. Floodplain mapping shall tie-into the upstream and downstream special flood hazard mapping shown on the effective DFIRM;
- e. Provide required sediment transport study and bulking factor information per FEMA standards;
- f. Provide notification to all adjacent property owners, impacted by the proposed change to the SFHA;
- g. Complete the necessary FEMA MT-2 application forms package and pay all applicable CLOMR review fees. The submittal shall be certified by a California-licensed professional engineer; and

- h. Address all FEMA review comments as needed to receive an approved CLOMR. Prior to mobilization, the Project Owner shall receive confirmation from Kern County that FEMA has issued a CLOMR for the BSEP. The Project Owner shall address all “conditions” in the CLOMR during project construction. No later than six months after the end of construction, the project owner, through a request from Kern County, must notify FEMA of the changes in accordance with 44 CFR 65.3. The Project Owner shall submit the following technical or scientific data as part of a Letter of Map Revision (LOMR) request:
- i. Conduct an As-Built survey of the completed construction;
- j. Update the Proposed Conditions Model to reflect the As-Built Revised Conditions and delineate the resulting flood hazards;
- k. Complete the necessary FEMA MT-2 application forms package and pay all applicable LOMR review fees. The submittal shall be certified by a California-licensed professional engineer;
- l. Address all FEMA review comments as needed to receive approval of the LOMR; and
- m. Notify the CPM of the approved LOMR.

Verification: The project owner shall do all of the following:

1. Submit a copy of the application for a CLOMR to the CPM concurrently with the submission to FEMA.
2. No later than thirty (30) days after receiving notification from FEMA that all required CLOMR or LOMR documents have been received by FEMA, the Project Owner shall notify the CPM that the project is currently being reviewed by FEMA. During the review process, the project owner shall submit all correspondence between FEMA and project owner’s engineer representative responsible for addressing FEMA’s comments.
3. Prior to construction activity within the effective SFHA the Project Owner shall provide a copy of the CLOMR to the CPM for verification.
4. Following construction of the channel improvements, the Project Owner shall complete an As-built survey of the improvements, update the hydraulic model, and prepare a final submittal, to include forms and fees, for a FEMA LOMR request. The Project Owner shall submit a copy of the completed LOMR submittal to the CPM and Kern County for review.
5. No later than thirty (30) days after receiving notification from FEMA that the LOMR has been issued to Kern County the project owner shall submit a copy of the LOMR to the CPM as verification.

SOIL&WATER-7: The property owner shall coordinate with a public entity to establish a BSEP Reclamation District. The property owner shall be responsible for maintaining the integrity, engineering design, and design discharge capacity of the rerouted Pine Tree Creek channel. The reclamation district shall be formed with consideration of all appropriate Waste Discharge

requirements presented in **Soil and Water Appendices E through H**. The project owner shall also ensure that the BSEP Reclamation District manages utility crossings of the rerouted Pine Tree Creek channel. The property owner shall develop the Reclamation District according to the stream alteration agreement as described in the Biological Resources section and in accordance with Condition of Certification **BIO-18**. Funding for the reclamation district shall be provided by the property owner in perpetuity. The property owner shall ensure the following duties are performed:

1. In coordination with the public entity, develop and supervise the implementation of a Channel Maintenance Program in accordance with conditions of certification;
2. Consult with the Reclamation District Manager on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP);
3. Be available to coordinate with the Designated Biologist on mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as special-status species or their habitat, as they relate to maintenance district responsibilities;
4. Notify the CPM of any non-compliance with conditions of certification related to the reclamation district;
5. Respond directly to inquiries of the CPM regarding the reclamation district or the Channel Maintenance Program;
6. Maintain written records of the tasks specified above and those included in the Channel Maintenance Program. Summaries of these records shall be provided to the CPM, as required, per the conditions of certification;
7. Train the Reclamation District personnel as appropriate, and ensure their familiarity with the Channel Maintenance Program;
8. Manage utility crossings at the Diversion Channel;
9. Develop the Reclamation District's CIP Plan and manage the available funds;
10. Be available to coordinate with the public entity during emergency repairs conducted by the Reclamation District;
11. Report to the CPM and the public entity annually the Reclamation District's available funds and annual costs each year since the District was created.
12. Prior to receiving a FEMA approved CLOMR, required as a part of Condition of Certification **SOIL & WATER -6**, the property owner shall receive written consent from a public entity allowing BSEP to create a special reclamation district. The property owner shall provide a copy of the final Maintenance Agreement to the CPM for approval and shall include a detailed discussion of the funding mechanism for the Channel Maintenance Program and Capital Improvement Projects. The maintenance agreement shall report the name and contact information of the Reclamation District supervisor.

SOIL&WATER-8: Following creation of the Reclamation District, the project owner shall coordinate with the public entity and the Reclamation District supervisor to develop and implement a Channel Maintenance Program that provides long-term guidance to the Reclamation District to implement routine channel maintenance projects and comply with conditions of certification in a feasible and environmentally-sensitive manner. The Channel Maintenance Program will be a process and policy document prepared by the project owner, reviewed by the CPM and the public entity, and adopted by the Reclamation District.

The project owner is responsible for implementing a Channel Maintenance Program as presented in **Soil and Water APPENDIX J**. The Channel Maintenance Program shall be developed in consultation with the Reclamation District and the public entity and shall include the following:

1. **Purpose and Objectives** – establishes the main goals of the Program, of indefinite length, to maintain the diversion channel to meet its original design to provide flood protection, facilitation of applicable biological mitigation measures and maintain groundwater recharge.
2. **Application and Use** - The channel maintenance work area is defined as the BSEP engineered channel, typically extending to the top of bank, include access roads, and any adjacent property that BSEP or the District owns or holds an easement for access and maintenance. The Program would include Pine Tree Creek maintenance as needed to protect the BSEP facilities.
3. **Channel Maintenance Activities**
 - a. **Sediment Removal** - sediment is removed when it: (1) reduces the diversion channel effective flood capacity, to less than the design discharge, (2) prevents appurtenant hydraulic structures from functioning as intended, and (3) becomes a permanent, non-erodible barrier to instream flows.
 - b. **Vegetation Management** - manage vegetation in and adjacent to the diversion channel to control invasive or nonnative vegetation as prescribed in Condition of Certification **BIO-18**.
 - c. **Bank Protection and Grade Control Repairs** - bank protection and grade control structure repairs involve any action by the District to repair eroding banks, incising toes, scoured channel beds, as well as preventative erosion protection. The District would implement instream repairs when the problem (1) causes or could cause significant damage to BSEP, adjacent property, or the structural elements of the diversion channel, (2) is a public safety concern, (3) negatively affects groundwater recharge, or (4) negatively affects the mitigation vegetation, habitat, or species of concern.
 - d. **Routine Channel Maintenance** - trash removal and associated debris to maintain channel design capacity; repair and installation of fences, gates and signs; grading and other repairs to restore the original contour of access roads and levees (if applicable); and removal of flow obstructions at BSEP storm drain outfalls.
 - e. **Channel Maintenance Program** – exclusions including: emergency repair and CIP.
4. **Related Programmatic Documentation** – CPM will review and approve the Channel Maintenance Program programmatic documentation. Maintenance activities shall comply with the

stream alteration agreement provisions and requirements for channel maintenance activities consistent with California's endangered species protection regulations and with NFIP regulations.

5. **Channel Maintenance Process Overview**

- a. **Program Development and Documentation** – This documentation provides the permitting requirements for channel maintenance work in accordance with the conditions of certification for individual routine maintenance of the engineered channel without having to perform separate CEQA review or obtain permits.
- b. **Maintenance Guidelines** - based on two concepts: (1) the maintenance standard and (2) the acceptable maintenance condition, and applies to sediment removal, vegetation management, trash and debris collection, blockage removal, fence repairs, and access road maintenance.
- c. **Implementation** – Sets Maintenance Guidelines for vegetation and sediment management. BSEP's vegetation management activities are established in Condition of Certification **BIO-18**. Maintenance Guidelines for sediment removal provide information on the allowable depth of sediment for the engineered channel that would continue to provide design discharge protection. The final determination on allowable sediment accumulation will be studied by the applicant as part of compliance with Condition of Certification **SOIL&WATER-7**.
- d. **Reporting** – CPM requires the following reports to be submitted each year as part of the ACR:
 - i. Channel Maintenance Work Plan - Describes the planned "major" maintenance activities and extent of work to be accomplished; and
 - ii. Channel Maintenance Program Annual Report - Specifies which maintenance activities were completed during the year including type of work, location, and measure of the activity (e.g. cubic yards of sediment removed).
 - iii. A report describing "Lessons Learned" to evaluate the effectiveness of both resource protection and maintenance methods used throughout the year.

- 6. **Resource Protection Policies** - establishes policies to ensure that resources would be protected to the fullest extent feasible during routine channel maintenance activities. Policies would be developed to guide decision-making for channel maintenance activities. BMPs shall be developed to implement these policies.

Verification: Following creation of the Reclamation District and at least 60 days prior to the start of any project-related site disturbance activities, the property owner shall coordinate with public entity and the Reclamation District supervisor to develop the Channel Maintenance Program. The property owner shall submit two copies of the programmatic documentation, describing the proposed Channel Maintenance Program, to the CPM (for review and approval). The property owner shall provide written notification from the Reclamation District that they plan to adopt and implement the measures identified in the approved Channel Maintenance Program. The project owner shall:

1. In coordination with the public entity and the Reclamation District staff, develop and supervise the implementation of a Channel Maintenance Program in accordance with conditions of certification;
2. Ensure the BSEP Construction and Operation Managers receive training on the Channel Maintenance Program and coordinate with the Reclamation District staff;
3. Coordinate with the Reclamation District staff to develop Maintenance Guidelines; and
4. As part of the BSEP Annual Compliance Report to the CPM, submit a Channel Maintenance Program Annual Report specifying which maintenance activities were completed during the year including type of work, location, and measure of the activity (e.g. cubic yards of sediment removed).

SOIL&WATER-9: The project owner shall submit two (2) copies of the 60-percent and 90-percent design drawings for the diversion channel to Kern county and the CPM for review and comment. The project owner shall prepare a set of design specifications to supplement the 90-percent design drawings. Plans, specifications, computations and other data shall be prepared by persons properly authorized by the State of California. If the 60-percent plans or 90-percent plans and specifications do not comply with the appropriate Conditions of Certification, the necessary changes or revisions to the plans shall be made by the project owner. If the CPM finds that the work described in the plans and specifications conform to the Conditions of Certifications in the Energy Commission Decision and other pertinent LORS, then the project owner shall submit two (2) copies of the 100-percent set for CPM approval. All design drawings must be submitted on bound or stapled 24" x 36" size paper.

Verification: The project owner shall submit two (2) copies of the 60-percent and 90-percent (with specifications) design drawings to the CPM for review and comment. The design drawings shall be submitted as required in the verification for Condition of Certification **SOIL&WATER-6**. No later than 30 days after publication of the Energy Commission Decision, the 60-percent set of design drawings shall be submitted to the CPM for review and comment in consultation with CDFG and Kern County. The project owner shall submit the 90-percent design drawings to the CPM after the person who originally drew the plan or their duly authorized agent addresses the CPM's 60-percent submittal comments and required changes directed by FEMA during the CLOMR review. The 100-percent design drawings and specifications (construction documents), shall be signed and sealed by a Registered Professional Engineer in the State of California, are to be submitted as the final, approved set of construction documents prior to site mobilization.

SOIL&WATER-10: The project owner shall comply with the Kern County Division Four Standards for Drainage to estimate an appropriate imperviousness value to apply to onsite storm water runoff and retention basin analyses. Retention basin sizing shall take into account the effects of dust suppressants on infiltration. The applicant shall assess all offsite drainage areas tributary to the site in the hydrologic study. Runoff from tributaries mapped as a water of the state shall not be piped.

Verification: The project owner shall do the following:

1. Estimate an appropriate imperviousness for the BSEP developed conditions site. Include a description of the methods used to calculate imperviousness in the DESCP.

2. Prepare a hydrologic study to estimate the peak flood flows to the BSEP site for two offsite watersheds that drain toward the BSEP: A) the 8.0 square-mile drainage area east of the Barren Ridge watershed and B) the 1.5 square-mile area draining the Chuckwalla Mountains. Submit the hydrologic analysis results to the CPM as part of the DESCP, required as part of Condition of Certification SOIL&WATER-5.
3. Provide the open channel design across the solar field for undetained runoff originating from the offsite tributary west of BSEP. Provide the CPM with evidence that a maintenance easement is established for the channel.

SOIL&WATER-11: Deleted. See SOIL&WATER-6, part E.

SOIL&WATER-12: The project owner shall comply with the Kern County Standards for Drainage, Chapter IV and provide engineering analyses and design details for the transition where the diversion channel intercepts the natural channel. The project owner shall provide engineering analyses showing that the shallow flooding along uncertain paths from the south will not cause diversion channel bank failure from lateral overtopping. The project owner shall submit a proposed- conditions grading plan as evidence to show the diversion channel will capture shallow flooding along the left bank (looking downstream) of the natural wash.

Verification: The project owner shall complete the engineering analyses, design, and grading for the transition from the natural channel to the proposed diversion channel to intercept the design discharge along the southern property boundary. The engineered design for this transition shall be provided to the CPM for review and approval at the same time the 30 percent design drawings are submitted to the CPM as required in Condition of Certification **SOIL&WATER-6**. The project owner shall also provide final design details for the transition in the 60 percent and 90 percent design drawings to the CPM for approval as required in Condition of Certification **SOIL&WATER-9**.

SOIL&WATER-13: The project owner shall complete the hydraulic analyses and final basis of design for the diversion channel, upstream- and downstream- transitions, bank protection, levees (if applicable), and grade control structures using hydraulic criteria for flood velocity, depth, Froude Number, and shear stress appropriate for the anticipated channel stability thresholds. These thresholds are based on the Kern County Division Four Standards for Drainage, Chapter X, where applicable. The value of the Froude Number between grade control structures shall be less than 0.8. Channel design elements not in compliance with Kern County Division Four standards will require a written variance from the County. All grade control structure stilling basins shall be designed with weep drains to prevent perched groundwater conditions and promote groundwater recharge. The project owner shall also be responsible for a geotechnical investigation to test the soils as necessary for final design of the grade control structures and bank stabilization measures if required by FEMA or Kern County Standards. The results of the hydraulic analyses and applicable geotechnical investigations, if any, shall be presented in the basis of design report submitted with the FEMA application (Condition of Certification **SOIL&WATER-6**).

Verification: The results of the hydraulic analysis and applicable geotechnical investigations, if any, shall be presented in the basis of design report submitted with the CLOMR application. All design variances approved by Kern County shall be provided to the CPM.

SOIL&WATER-14: The project owner shall design the diversion channel to avoid soil cement lining on the bed of the channel between grade control structures to address resource agency comments. The project owner shall install bank toe protection along the entire length of the diversion channel to protect the banks from under-cutting, channel migration, and local erosion.

Verification: The project owner shall provide channel design drawings to the CPM for review and approval. The channel design drawings shall show the cross section detail for the bank toe protection measures, the longitudinal extent of the bank treatment with linear dimensions, and the area of the exposed diversion channel bed between each grade control structure. The design drawings shall be submitted as part of the design submittals identified in Condition of Certification **SOIL&WATER-9**.

SOIL&WATER-15: The project owner shall prepare a final sediment transport analysis to verify the final channel slope for the diversion channel that provides a slightly aggradational system that is predicted to result in a braided low flow channel.

Verification: The results of the sediment transport analysis shall be in the basis of design report submitted with the FEMA application as required in Condition of Certification **SOIL&WATER-13**.

SOIL&WATER-16: The project owner, in accordance with Kern County Division Four Standards for Drainage, Chapter IV, shall provide engineering analyses or evidence showing that the diversion channel structural design elements will provide protection from hazards associated with the possible relocation of the Pine Tree Creek wash upstream of BSEP project boundaries.

Verification: The project owner shall provide engineering analyses or evidence to the CPM showing that the BSEP flood control facilities will provide protection from hazards associated with the relocation of Pine Tree Creek upstream from the site.

SOIL & WATER 17 deleted see BIO-18

SOIL&WATER-18: The project owner shall provide the CPM two copies of the executed Recycled Water Purchase Agreement (agreement) with the recycled waste water purveyor for the long-term supply (30 – 35 years) of disinfected tertiary recycled water to the BSEP. The project shall not operate without a long term agreement for recycled water delivery and connection to a recycled water pipeline for project use. The agreement shall specify a delivery rate to meet BSEP's maximum operation requirements and all terms and costs for the delivery and use of recycled water at the BSEP. The BSEP shall not connect to the new recycled water pipeline without the final agreement in place and submitted to the CPM. The project owner shall comply with the requirements of Title 22 and Title 17 of the California Code of Regulations and section 13523 of the California Water Code.

Verification: No later than 60 days prior to the connection to the recycled water pipeline, the project owner shall submit two copies of the executed agreement for the supply and on-site use of disinfected tertiary recycled water at the BSEP. The agreement shall specify that the recycled waste water purveyor can deliver recycled water at a minimum rate of 900-gpm and will provide the BSEP a minimum of 1,424 AFY.

The project owner shall submit to the CPM a signed agreement between the applicant and the recycled waste water purveyor for the long-term supply of disinfected tertiary recycled water from the recycled wastewater purveyors treatment plant to the BSEP for industrial and landscape irrigation purposes.

The project owner shall submit to the CPM a copy of the Producer/User Water Recycling Requirements, the recycled wastewater criteria, the Engineering Report, and the Cross Connection Inspection and Approval report prior to the connection to the disinfected tertiary recycled wastewater pipeline.

SOIL&WATER-19: Prior to the use of groundwater or recycled wastewater for operation of the BSEP, the project owner shall install and maintain metering devices as part of the water supply and distribution system to monitor and record in gallons per day the volume of water supplied to the BSEP. The metering devices shall be operational for the life of the project. An annual summary of daily water use by the BSEP, differentiating between potable and recycled wastewater, shall be submitted to the CPM in the annual compliance report.

Verification: At least 60 days prior to use of any water source for BSEP operation, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the water pipelines serving the project. The project owner shall provide a report on the servicing, testing, and calibration of the metering devices in the annual compliance report.

The project owner shall submit a water use summary report to the CPM in the annual compliance report for the life of the project. The annual summary report shall be based on volume of water used and shall distinguish recorded daily use of potable and recycled water. Included in the annual summary of water use, the project owner shall submit copies of meter records from the potable water and recycled water supplies documenting the volume of water supplied over the previous year. The report shall include calculated monthly range, monthly average, and annual use by the project in both gallons per day and acre-feet. After the first year and for subsequent years, this information shall also include the yearly range and yearly average potable and recycled water used by the project.

ATTACHMENT C

ERRATA TO THE PRESIDING MEMBER'S PROPOSED DECISION FINAL CONDITIONS OF CERTIFICATION SOIL AND WATER - APPENDIX I GROUNDWATER MITIGATION PLAN

Groundwater Monitoring

This groundwater monitoring program was provided in Attachment 5 of the Project Design Refinements (DB2009r) submitted to the CEC by the applicant in June 2009. As proposed by the applicant, the following describes the groundwater mitigation plan to be incorporated if the use of site groundwater is approved by CEC for power plant operation.

Proposed Groundwater Monitoring Program

To provide for land owner protection and participation in evaluation of project impacts, a Fremont Valley Groundwater Monitoring Committee will be formed. The committee will include a representative from the following:

- California City
- Community of Cantil
- Rancho Seco
- Honda
- Beacon Solar LLC

The monitoring committee's function will be to implement and oversee the groundwater monitoring program and to verify that there are no unacceptable impacts to groundwater levels or quality in water supply wells adjacent to the BSEP.

Gather Historic Water Level and Water Quality Data

- Initially identify representative water supply wells in the potentially impacted area predicted by the groundwater model, and secure access to those wells to allow monitoring of groundwater levels and water quality. Wells shall be identified by comparison to the "No" Project and Project pumping simulations. The potentially impacted area shall be defined as the area model results project a water level change of 5 feet or more at the end of construction and after the first five years of operation. Wells identified in the potentially impacted area will be included in the monitoring network. Additional wells located outside the potentially impacted area ("background" wells) shall also be included in the monitoring network to discern between background trends and changes caused by Project pumping. A minimum of three wells representing background conditions shall be selected from outside the area indicated by the groundwater-flow model as having a water level change of 1 foot or less at the end of construction and after the first five years of operation.

- Through the access agreement, obtain all historic water level and water quality data for each water supply well identified by the model. Additionally, obtain well completion information, historic well performance data, including pumping and non-pumping water levels and pump specifications for each well to be monitored.
- Update the application for certification (AFC) water level and geochemical and water level database with all new information.
- Prepare time series graphs (i.e., trend plots) for water level and total dissolved solids (TDS) data, as information is available for each well.
- Perform statistical trend analysis using Mann-Kendall Trend Test and Sen's Slope Estimator for water levels and the TDS data. The Mann-Kendall Trend Test and the Sen's Slope Estimator are proposed to statistically analyze the data because they are the accepted non-parametric trend analysis methods for data that are not normally distributed. Use trend analysis to determine the significance of an apparent trend and to estimate the magnitude of that trend. Further, use adjacent well data to evaluate local affects from pumping in water level trends.

Establish Pre-Project Baseline Water Quality and Water Level Database

- To the extent possible, prior to project construction collect groundwater levels from the off-site and on-site wells to evaluate groundwater levels in the area of wells that could be impacted by project pumping as indicated by the model. Additionally, collect groundwater samples to provide baseline TDS data for both on-site and off-site wells. Analyze TDS samples using Standard Methods 2540C by a California Certified Analytical Laboratory.
- Map TDS data and groundwater levels within the Koehn Sub-basin from the groundwater data collected prior to construction. Update trend plots and statistical analyses, as data is available.

Groundwater Monitoring During Construction

- During construction, collect water levels on a quarterly basis for a period of one year or on a quarterly basis through the construction period, and collect TDS data at the end of the construction period and prior to site operations.

Groundwater Monitoring During Operation

- On a quarterly basis for the first five years, collect water level measurements from the wells and collect TDS data to evaluate operational influence from the project. Additionally, monitor quarterly operational parameters (i.e., pumping rate) of the water supply wells.
- After a period of five years, on a well-by-well basis, evaluate the data and determine if the sampling frequency and TDS sampling should be revised or eliminated.
- Subsequently, evaluate the data set every five years and determine if the sampling frequency and TDS sampling should be revised or eliminated.

Proposed Mitigation Options

Water Level Offset Mitigation Options

Based on the results of the statistical trend analyses, determine if the project pumping has induced a drawdown in the water supply at a level of ten feet or more below the baseline trend. If water levels have been lowered below pre-site operational trends, then implement any of the following options, as appropriate and considering the cost effectiveness of each option.

- Electrical cost reimbursement – If the pumping water level falls below a depth of 5 feet from an average of the baseline measurements, the well owner will be compensated for the additional electrical costs commensurate with the additional lift required to pump. The water level in the well will be assessed relative to the pumping rate during pre-site operational period.
- Pump lowering – In the event that groundwater is lowered and existing pumps are day lighted, pumps can be lowered to maintain production in the well.
- Deepening of wells – If the groundwater is lowered enough that there is insufficient water in the well and pump lowering is not an option, then wells can be deepened.

Groundwater Storage Mitigation Options

Maximum expected groundwater usage during BSEP operation is estimated to be no more than 153 acre feet per year (AFY) (excluding annual emergency allotment of 47 acre-feet). Initially, the applicant proposed to use 1,388 AFY of groundwater for power plant operation and provided options to offset that water consumption which included implementation of a partial ZLD and tamarisk removal program, which are described in the Project Design Refinements (DB 2009r).

The applicant now proposes to use recycled waste water for power plant cooling. The recycled wastewater will be provided by either Rosamond Community Services District or California City. Both option will provide approximately 1,400 AFY of recycled wastewater.

If the California City option is selected, existing residential on-site septic systems would be connected to the City sewer system. This connection to the City sewer system would reduce recharge to the City aquifer. The reduction in groundwater recharge would result from diversion of septic system recharge due to diversion of septic system discharge that would otherwise percolate into the groundwater basin. Model results show that a reduction in recharge to the CA City area influences water levels beneath the City.]

To minimize the potential impact of reduced recharge to the California City aquifer, the project owners shall provide funding to California City or BLM for the implementation of a tamarisk removal program to address infestation within and or upgradient of the City in the initial amount of \$100,000 at the start of construction and \$10,000 on the commercial operation date (COD) and for a period of 4 years thereafter on the anniversary of the COD.

The project owner shall provide to the CPM appropriate documentation (notes, diagrams, photographs and other records) on a quarterly basis that clearly demonstrates the results of the Tamarisk Removal Program. This documentation shall provide the mapped location, pre and post eradication photographs, a description of the aerial extent of salt cedar removed and an accounting of the funds spent.

ATTACHMENT D

ERRATA TO THE PRESIDING MEMBER'S PROPOSED DECISION FINAL CONDITIONS OF CERTIFICATION SOIL AND WATER - APPENDIX J

GUIDANCE FOR BSEP RECLAMATION DISTRICT'S CHANNEL MAINTENANCE PROGRAM DEVELOPMENT

Channel Maintenance Program

Purpose and Objectives

This Appendix describes the purpose, objectives and applicability of Staff's requirements for the BSEP Reclamation District's Channel Maintenance Program (Program). Staff is requiring as part of Condition of Certification **SOIL&WATER-8** that the Channel Maintenance Program provide long-term guidance to the applicant to implement routine channel maintenance projects and comply with BSEP's related biological (**BIO-18**) and flood protection (**SOIL&WATER -5 and -6**) Conditions of Certification in a feasible and environmentally-sensitive manner. The main goals of the Program would be to maintain the diversion channel to meet its original design to provide flood protection, maintain native plant communities, provide wildlife habitat and a wildlife movement corridor, and maintain groundwater recharge. In this appendix, staff provides a summary of related programmatic documentation required for implementation of the Channel Maintenance Program.

The Channel Maintenance Program would be used by the applicant and the CPM to ensure that routine channel maintenance practices would be conducted in an efficient, consistent, and environmentally-sensitive manner. Staff's objectives for the Channel Maintenance Program are as follows:

1. Develop standardized practices and protocols for routine sediment removal, vegetation management, channel maintenance, and structural repair.
2. Ensure routine channel maintenance activities reflect the Energy Commission's Conditions of Certification for BSEP.
3. Avoid or minimize adverse environmental impacts and encourage preservation and restoration of the diversion channel and its revegetated areas.

Applicability and Use of the Channel Maintenance Program

The Channel Maintenance Program applies to routine channel maintenance activities, including three major types of activities: sediment removal, vegetation management, and bank protection and grade control maintenance/repairs. These activities would be undertaken to ensure flood conveyance capacity is maintained in the channel. Additional minor maintenance activities would also be included in routine channel maintenance.

The channel maintenance work area addressed by this Channel Maintenance Program would include the BSEP engineered channel, typically extending to the top of bank, include access roads, and any adjacent property that BSEP or the District owns or holds an easement for access and maintenance. The Program

would include Pine Tree Creek diversion channel maintenance as needed to protect the BSEP facilities. The District would not provide maintenance on private property, unless requested, or an easement was provided.

The Channel Maintenance Program would be a process and policy document prepared by BSEP, reviewed and approved by the CPM through consultation with CDFG and Kern County, and adopted by the District. Once adopted, the Channel Maintenance Program would be used by the applicant to guide the implementation of routine channel maintenance activities and projects. The Channel Maintenance Program would outline specific measures, protocols, policies, and inspection and reporting requirements to ensure that routine channel maintenance projects would be implemented in an efficient and environmentally-sensitive manner. This Channel Maintenance Program would be a living program that would change as improvements and modifications are made to reflect the best available knowledge, technology, and practices.

The Channel Maintenance Program is intended to establish an ongoing program for the life of the channel. Projections of future channel maintenance activities for the Channel Maintenance Program cannot represent the exact extent of work that would occur. Actual channel maintenance activities would vary from year to year. The Channel Maintenance Program would be reviewed annually by the CPM in the Annual Compliance Report as required in Condition of Certification **SOIL&WATER-8**. The overall program would be reviewed in ten years as part of the **BIO-18** revegetation milestone. Condition of Certification **BIO-18** specifies that within 10 years the applicant shall establish at least 15 percent of the 41.5-acre channel bottom, or 6.2 acres, with native desert shrub plant community, and that non-native weeds constitute less than 2 percent cover of the vegetated channel.

Channel Maintenance Activities

The following provides an overview and brief discussion of the major activities to be addressed by the Channel Maintenance Program. In addition, the Channel Maintenance Program applies to more minor, routine activities such as fence repair, trash removal, or other blockage clearing.

Sediment Removal

In most cases, sediment deposition is a natural process that occurs where the channel gradient flattens out or where the gradient is otherwise flat over long reaches. Some sediment is desirable in the engineered channel to support biological functions such as vegetation colonization. Unfortunately, sediment can build up to a point where it begins to compromise the design. Sediment removal is the act of mechanically removing sediment that has been deposited in the channel. Typically, sediment is removed when it: (1) reduces flood capacity, (2) prevents appurtenant hydraulic structures from functioning as intended, and (3) becomes a permanent, non-erodible barrier to instream flows. Staff recommends that sediment removal projects be implemented in the dry season. The applicant would be required to implement BMPs to ensure that sediment removal projects have the least impact possible to native plant communities and wildlife habitat.

The method of sediment removal is dependent on the channel type (earth bottom, soil concrete bed, or stilling basin), equipment, soil characteristics, and maintenance access location. The average annual quantity of sediment to be removed would vary from year to year depending on rainfall conditions and sediment delivery from the watershed. During some or most years, no sediment would need to be removed. Aeolian processes may also cause a significant volume of sediment to accumulate from wind

blown sand collecting in the low lying channel. Staff anticipates that the location of sediment removal within the channel would vary each year. The applicant and the District would develop Maintenance Guidelines (discussed below) to determine when and where sediment removal is required.

Vegetation Management

The applicant would manage vegetation in and adjacent to the diversion channel to maintain the biological functions and values described in **BIO-18**. Vegetation is not expected to adversely affect the ability of the channel to contain the design discharge owing to the relatively sparse nature of arid zone vegetation typically found in ephemeral channels. The applicant's vegetation management would include control of invasive or nonnative vegetation as described in **BIO-18**. Vegetation management can be accomplished through hand clearing or herbicide applications. A method or combination of methods could be chosen for each area depending on the maintenance needs. Staff recommends that the applicant only use herbicides according to the label directions and for uses approved by the United States Environmental Protection Agency (USEPA) and the California Department of Pesticide Regulation (DPR).

The applicant would also plant and maintain revegetation for the BSEP instream mitigation. In the first few years after initial planting, the applicant would provide weed control at mitigation areas to increase the number of native shrubs and establish a self-sustaining plant community which provides wildlife habitat as required in Condition of Certification **BIO-18**. The applicant would manage vegetation for other purposes including the protection of soil cement linings from plant roots, levees (if applicable), and maintaining access roads.

The frequency of vegetation management activities and inspections shall be as described in **BIO-18**.

Bank Protection and Grade Control Repairs

Channel erosion is a natural process, which mostly happens during major storm events. Erosion can occur because of hydraulic forces and geotechnical instabilities. Bank protection and grade control structure repairs involve any action by the applicant to repair eroded banks, incised toes, scoured channel beds, as well as preventative erosion protection. The applicant would implement instream repairs when the problem (1) causes or could cause significant damage to BSEP, adjacent property, or the structural elements of the diversion channel, (2) is a public safety concern, (3) negatively affects groundwater recharge, or (4) negatively affects the native plant communities and wildlife habitat within the channel, or poses an entrapment hazard to desert tortoise and other wildlife.

Erosion of banks can result in increased sediment deposition, which can lead to decreased flood flow capacities and potential flood hazards. A major failure to the soil cement bank cover or grade control structure would cause severe erosion, may cause property damage, and would create a safety hazard and threat to wildlife. Repair of soil cement bank protection and grade control structures shall occur when these structures show substantial erosion and/or fail and would be replaced with in-kind, in-place materials within the same footprint. Obstructions at grade control structures would be removed to maintain functions of such structures and access for desert tortoise and other wildlife.

Banks and grade control structures would be inspected after all major storms for damage and maintenance needs. The applicant would make an inspection of the channel upstream and downstream of an erosion site to determine if there is an identifiable cause of the erosion. Design of a particular facilities repair may require evaluation of other site-specific characteristics such as bank slope, shear

stress, soil type, flow velocity and depth, Froude number, or the active channel's geomorphic characteristics.

Routine Channel Maintenance

Routine channel maintenance activities included in this Channel Maintenance Program would be: trash removal and associated debris to maintain channel design capacity; repair and installation of fences, gates and signs; grading and other repairs to restore the original contour of access roads and levees (if applicable); and removal of flow obstructions at BSEP storm drain (flap gate) outfalls.

Routine maintenance occurs on a year-round basis. Typically, routine maintenance that requires the operation of heavy equipment in the channel would be limited to the dry conditions.

Channel Maintenance Program - Exclusions

Routine channel maintenance would not include emergency repair. A situation is considered an "emergency" if it is a sudden, unexpected occurrence involving a clear and imminent danger that demands immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services (Public Resource Code Section 21060.3).

Large construction projects or Capital Improvement Projects (CIP) would not be considered routine channel maintenance and would not be addressed through the Channel Maintenance Program. Staff recommends that the applicant coordinate with Kern County and the CPM to develop a long-term plan that deals with CIP for the diversion channel.

Related Programmatic Documentation

Because this Channel Maintenance Program would be designed to guide the implementation of routine channel maintenance projects and activities over the long-term, it shall address channel maintenance at a general or "programmatic" level. As such, staff's Condition of Certification **SOIL&WATER-8** provides guidelines and implementation measures that characterize how channel maintenance would be conducted by the District.

The applicant would be required to comply with the Requirements of Waste Discharge provided in **Soil and Water Appendices E, F, G & H** as discussed in Condition of Certification **Soil&Water-4**. The applicant would also be required to meet CDFG requirements for channel maintenance activities and provide CDFG with a copy of the Channel Maintenance Program for review and comment. Because the diversion channel would be mapped as a SFHA, the applicant would be required to comply with NFIP regulations. The CPM would review all agency permits for routine channel maintenance activities and approve the Channel Maintenance Program.

Channel Maintenance Process Overview

This section describes Staff's recommendation for three distinct phases of the Channel Maintenance Program: program development and documentation, implementation of annual routine channel maintenance activities, and annual compliance reporting.

Program Development and Documentation

This Channel Maintenance Program would be developed to guide the long-term implementation of the District's annual routine channel maintenance work. The Channel Maintenance Program would enable the applicant to participate in a watershed-wide approach to environmental protection. Through these programmatic documents, the applicant would be committed to implementing individual maintenance projects in an environmentally-sensitive manner.

Maintenance Guidelines

Staff's Maintenance Guidelines are based on two concepts: (1) the maintenance standard and (2) the acceptable maintenance condition. The maintenance standard is defined as the design facility condition, where the engineered channel has full design capacity and freeboard. The acceptable maintenance condition is the condition to which a channel can be allowed to deteriorate before capacity is determined to be compromised and maintenance work becomes essential. The focus of BSEP's hydraulic and sediment transport analyses were related to the study of these two concepts. These analyses were prepared to investigate the *annual* accumulation of sediment and forecast the threshold of an acceptable maintenance condition. Further study is needed to understand annual sediment contribution, accumulation and capacity constraints.

The Maintenance Guidelines may also apply to other activities such as vegetation management, trash and debris collection, blockage removal, fence repairs, and access road maintenance. Vegetation in the desert channel environment does affect the channel's roughness, but increases in channel roughness would be slight because of the sparse vegetation and it is not expected to have an impact on the channel's flood capacity. By conducting these routine maintenance activities, the applicant would ensure that facilities continue to provide the level of flood protection for which they were constructed. These efforts protect channel function and help to comply with NFIP regulations and Kern County's Floodplain Management Ordinance.

Implementation

Maintenance work would be proposed either as part of a Channel Maintenance Work Plan or as other work identified later in the year through inspection. Staff recommends specific Maintenance Guidelines be developed to ensure that the maintenance meets pre-established conditions of certification and engineering requirements. Staff recommends that field reconnaissance, inspection or survey be implemented to monitor the channel's maintenance condition and compare to specific Maintenance Guidelines. Maintenance Guidelines for BSEP's vegetation management activities are established in Condition of Certification **BIO-18**.

BSEP's Maintenance Guidelines for sediment removal would provide information on the allowable depth of sediment for the engineered channel that would continue to provide design discharge protection. Sediment should be allowed to store in the channel as minor aggradation which is part of the sediment transport and geomorphic function of the channel. Staff believe that sediment storage in the basin of the grade control structures provide an excellent source of sediment for long-term transport through the engineered channel. Staff recommends that the channel sediment be allowed to accumulate, on average, up to the sill elevation plus the depth of the active channel. Staff estimates that the depth of the active or bank full channel is roughly 1.5 to 2.5 feet, but further study is recommended. BSEP's engineer should verify that this sediment storage threshold, several feet above the sill elevation, would not affect the grade

control structures ability to perform under the design discharge. Staff also recommends that BSEP verify that the channel would maintain capacity for the design discharge as part of compliance with Conditions of Certification **SOIL&WATER- 6(E), 7, and -15**.

Reporting

To assess the overall progress of the mitigation program and determine the accuracy of the impact projections, annual reports would be made to the CPM for review as part of the BSEP's Annual Compliance Report. The Channel Maintenance Program Annual Report would specify which maintenance activities were completed during the year including type of work, location, and measure of the activity (e.g. cubic yards of sediment removed). Staff requires that the applicant provide a report describing "Lessons Learned" to evaluate the effectiveness of both resource protection and maintenance methods used throughout the year. The information and assessments would be used to update BMPs, Channel Maintenance Program processes, and the Maintenance Guidelines and to create a greater understanding of how to accomplish environmentally-sensitive maintenance work. The report should also include a section describing any planned "major" maintenance activities and the extent of work to be accomplished.

In addition to reporting on the maintenance activity completed for the year, the applicant would also provide reporting on the implementation of the mitigation program. For the first 10 years of the program, the applicant would provide photographs of the diversion channel and meet the verification requirements of Condition of Certification **BIO-18**.

Resource Protection Policies

Staff recommends the Channel Maintenance Program establish policies to ensure that resources would be protected to the furthest extent feasible during routine channel maintenance activities and are consistent with state and federal laws protecting special status species. The Channel Maintenance Program policies would be developed to guide decision-making for channel maintenance activities. The applicant would develop these policies through the routine channel maintenance planning process. BMPs would be developed to implement these policies. All routine channel maintenance activities would adhere to the policies contained in the program. Staff recommends that the applicant implement the following policies:

Policy 1: The applicant will conduct all routine channel maintenance activities according to the process and protocols established in the Channel Maintenance Program.

Policy 2: Decisions regarding the necessity of routine sediment removal (to restore design discharge capacities) and vegetation management activities will be made by the applicant using the thresholds established in the Maintenance Guidelines. This information will be used to formulate in part an annual routine maintenance work plan.

Policy 3: The District will continue to develop, implement, and update BMPs for implementation of channel maintenance projects to ensure that maintenance activities are conducted in the most effective and environmentally-sensitive way possible and are technically feasible and economically reasonable.

Policy 4: The applicant will use the Channel Maintenance Program to manage its routine channel maintenance activities in a programmatic way.

Policy 5: *The applicant will implement measures to avoid and minimize impacts to native species, especially special-status and riparian-dependent species. All management actions taken shall be consistent with state and federal laws protecting special status species (California Endangered Species Act of 1984, Fish and Game Code, sections 2050 through 2098; Federal Endangered Species Act (Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq.)*

Policy 6: *Control and removal of native vegetation will be minimized to the extent practicable. Where appropriate, measures will be taken to leave the work site in a vegetated condition after routine channel maintenance activities are completed.*

Policy 7: *The applicant's use of herbicides will be consistent with environmental goals, including protection, preservation, and restoration. Herbicides will be used such that negative effects to the environment are avoided or minimized.*

Policy 8: *The applicant will implement measures to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means when removing sediments from the channel.*

Policy 9: *The temporary stockpiling, transportation, and disposal of removed sediments from channel maintenance projects shall be implemented, avoiding or minimizing impacts to the surrounding natural environment.*

Policy 10: *Channel maintenance projects shall be implemented, avoiding or minimizing the potential for short-term noise nuisances and short-term air quality impacts to the surrounding community.*

Policy 11: *Measures shall be implemented at the work site to ensure that the potential for significant impacts to previously undiscovered cultural resources are reduced to less-than-significant levels.*

**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION
OF THE STATE OF CALIFORNIA**

**APPLICATION FOR CERTIFICATION FOR
THE BEACON SOLAR ENERGY PROJECT**

DOCKET NO. 08-AFC-2

PROOF OF SERVICE
(Revised 2/8/10)

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Declaration of Service

I, Lois Navarrot, declare that on July 26, 2010, I served and filed copies of the attached **Letter from Applicant and Staff – Request for Errata to PMPD**. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: www.energy.ca.gov/sitingcases/beacon. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service List) and to the Commission’s Docket Unit, in the following manner:

(check all that apply)

For Service to All Other Parties

sent electronically to all email addresses on the Proof of Service list;

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

AND

For Filing with the Energy Commission

sending an original paper copy and one electronic copy, mailed and e-mailed respectively, to the address below (**preferred method**);

OR

_____ depositing in the mail an original and 12 paper copies as follow:

California Energy Commission
Attn: Docket No. 08-AFC-2
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

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

/s/
Lois Navarrot