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January 20, 2012

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DOCKET	
11-AFC-2	
DATE	Jan 20 2012
RECD.	Jan 20 2012

Subject: Data Response, Set 1D-2
Hidden Hills Solar Electric Generating System (11-AFC-2)

Dear Mr. Monasmith:

On behalf of Hidden Hills Solar I, LLC; and Hidden Hills Solar II, LLC, please find attached an electronic copy of Data Response Set 1D-2, which responds to Staff's data requests numbers 104, 115, 116, 117, and 135 for the Hidden Hills Solar Electric Generating System (HHSEGS) Project.

In addition, due to the sensitive nature of cultural resource data, Attachment DR115-1 is being filed under separate cover with a repeated request for confidentiality.

Please call me if you have any questions.

Sincerely,

CH2M HILL

A handwritten signature in blue ink, reading "John L. Carrier".

John L. Carrier, J.D.
Program Manager

Encl.

c: POS List
Project file

Data Response 1D-2

Hidden Hills

Solar Electric Generating System

(11-AFC-2)



Application for Certification
Hidden Hills Solar I, LLC; and Hidden Hills Solar II, LLC

January 20, 2012

With Technical Assistance from



Hidden Hills Solar Electric Generating System (HHSEGS)

(11-AFC-2)

**Data Response, Set 1D-2
(Response to Data Requests 104, 115-117, and 135)**

Submitted to the
California Energy Commission

Submitted by
**Hidden Hills Solar I, LLC; and
Hidden Hills Solar II, LLC**

January 20, 2012

With Assistance from
CH2MHILL
2485 Natomas Park Drive
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Sacramento, CA 95833

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Introduction

Attached are responses by Hidden Hills Solar I, LLC, and Hidden Hills Solar II, LLC (collectively, the “Applicant”) to the California Energy Commission (CEC) Staff’s data requests numbers 97 through 135 for the Hidden Hills Solar Electric Generating System (HHSEGS) Project (11-AFC-2). The CEC Staff served these data requests on December 6, 2011. The responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as provided by CEC Staff and are keyed to the Data Request numbers (97 through 135). New graphics or tables are numbered in reference to the data request number. For example, the first table used in response to Data Request 135 would be numbered Table DR135-1. The first figure used in response to Data Request 104 would be Figure DR104-1, and so on. Figures or tables from the HHSEGS Application for Certification (“AFC”) that have been revised have “R1” following the original number, indicating revision 1.

Figures and additional documents (e.g., Attachments) submitted in response to a data request are grouped together at the end of this document and are also numbered to match the data request number. The figures and attachments are in numerical order of the data request number.

Cultural Resources (104, and 115-117)

NATURAL AND CULTURAL CONTEXTS

Geoarchaeology

BACKGROUND

The Cultural Resources section of the September 2011 AFC Supplement B, Hidden Hills Solar Electric Generating System provides new, insightful information on the paleoenvironment and the historical geomorphology of the proposed project area that more clearly contextualizes the applicant's revised evaluations of the historical significance of identified archaeological deposits. The Geomorphic Setting of the Project Area subsection (p. 66) cites data from recent geotechnical and paleontological investigations to place the project site on the floor of the axial basin of Pahrump Valley atop a broad deposit of relatively old, hardened basin fill that ranges in texture from silty clay to clayey sand. This hardened fill is apparently exposed at the surface across a broad swath of the western portion of the project site and has moderate to dense gravel lags and saltbush vegetation. Alternately, alluvial deposits of silty sand apparently cover eastern portions of the project site. These deposits have sparse to rarely dense gravel lags and creosote bush scrub vegetation. The revised geomorphic contexts that Supplement B provides for individual archaeological sites appear to draw heavily from this dichotomous description of the near-surface geology of the project site. It is unclear how the individual archaeological sites identified to date were assigned to particular geomorphic contexts between the production of the original cultural resources technical report (CH2M HILL 2011), in which the geomorphic contexts were largely undescribed, and the production of Supplement B, and whether additional fieldwork was conducted in the interim, or field data from other technical investigations was retroactively applied to the extant cultural resources data. If the latter scenario were the case, there would presumably be a new map of the surface geology of the project site or at least the data necessary to produce such a map. This data has important implications for better understanding the archaeological deposits on the project site.

Staff's initial impression of the archaeological site distribution pattern for prehistoric archaeological deposits across the project site is that the frequency of surface archaeological deposits progressively increases as one approaches the mesquite groves and surface springs and seeps of the step fault zone immediately to the east of the project site boundary. If, as Supplement B reports, the alluvial silty sands across the eastern portion of the project site thicken as one progresses toward the east, there would appear to be a strong likelihood that the archaeological deposit frequency or density across that portion of the project site is much higher than the surface survey data alone would indicate. The AFC discusses the historical significance of some of the scatters of stone tool-making debris (lithic scatters), apparently in terms of the presumed limited distributions of certain types of toolstones across the project site. The evaluations of a number of these lithic scatters cite the limited distribution of one or another toolstone as the primary causal factor in the location of particular scatters without any explicit consideration of the possible widespread distribution of those same toolstones across the project site, where the primary causal factor for archaeological site location may have been behavioral choices of the people responsible for the lithic debris. Reference to field data on the natural distributions of potential toolstones

among the lag deposits of the basin fill and alluvial silty sands would provide a more rigorous case for the applicant's assertions about the causal factors for the distribution of lithic scatters across the project area landscape.

Clarification of the geologic data is critical for staff to understand the physical contexts that support the archaeological deposits in the project area of analysis and, ultimately, to develop reliable interpretations of and recommendations about the archaeological site inventory for that area.

DATA REQUEST

104. Please provide a discussion of the field methods and resultant field data on the natural distributions of potential toolstones among the lag deposits of the basin fill and the alluvial silty sands that support the AFC's interpretations of the causal relationships between particular toolstone sources and archaeological site locations. In addition, please provide a map, at no less than a 1:24,000 scale, of those natural toolstone distributions. In the absence of such data, please prepare a plan for a field study to acquire such data. Upon staff approval of the plan, execute the approved field study and submit a technical report of the results of the investigation.

Response: In Applicant's December 27, 2011 letter, Applicant committed to providing Staff with the information reasonably available to Applicant by January 20, 2012, but objected to a portion of this data request asking for a map of toolstone sources as burdensome and not reasonably necessary for the Commission decision in this proceeding. Without waiving its objection or notice for additional time, the Applicant provides the following additional response.

The Project Area of Analysis ("PAA") is near the bottom of the Pahump Valley and there are few sources of rock this far down on the bajada. Silts, sands and gravel dominate the lithology of the bolson. Virtually the only source of stones of sufficient size (fist-sized or larger) to serve as toolstone is scattered outcrops of "older alluvium" exposed by uplift to the east of the PAA (Figure DR104-1). These outcrops are contiguous with the geological unit designated QTa by Lundstrom et al. (2002) and mapped by them north of Latitude 36° N. This unit consists of older alluvium, chiefly of Paleozoic limestone gravels and cobbles presumably originating from the Spring Mountains. However, chert cobbles are present in alluvium derived from Paleozoic rocks as well, and these appear to be the primary source of toolstone in the area. These alluvial clasts become scarce over just short distances from their source areas (Figure DR104-1) such that fist-sized or larger rocks are extremely rare over much of the project site, and opportunities for toolstone exploitation are restricted to the extreme east of the project area, the only area close to the older alluvial gravels that are the source of the stone.

EFFORTS TO IDENTIFY CULTURAL RESOURCES

Efforts to Identify Archaeological Resources

BACKGROUND

Resource data provided in the AFC and Supplement B, Cultural Resources section, is not sufficient for staff to clearly identify and analyze the archaeological deposits and resources in the study area, or understand the prehistoric and historic land use behaviors that the deposits represent. Useful graphic presentation, including appropriate maps, was generally

lacking. This information is essential for staff to adequately analyze cultural resources in the project area of analysis and any project-related impacts to those resources.

DATA REQUESTS

115. Please review the completeness and accuracy of all DPR 523 form for the archaeological sites in the project area of analysis, correct any absent data or incorrect data, and correct all discrepancies for each resource identified in the cultural resources section of the AFC, original technical report, subsequent Supplements to the AFC, and the DPR 523 forms applicable to this project. Please provide corrected versions of all the DPR forms and a brief summary of the corrections made. Staff found that the DPR 523 forms for the archaeological sites in the project area of analysis often did not correspond well with the descriptions of the resources in the original technical report, the AFC, or subsequent Supplements to the AFC. For example, on the DPR 523 forms for archaeological site S-3, there is an apparent discrepancy where, on the Archaeological Site Record, the site dimensions are given as 15 meters north to south and 15 meters east to west while the Sketch Map depicts the site as measuring roughly four meters square with two flake concentrations and one isolate flake. The texts of both the original technical report and Supplement B to the AFC report a third scenario whereby the site includes six stone flakes and two cores concentrated in a one meter square area. Also, the Sketch Map for site S-4 shows different dimensions than the Archaeological Site Record (ASR) provides, respectively two stone flake concentrations instead of one, and four isolate flakes external to the depicted concentrations instead of the eight reported on the ASR. The DPR form for site S-20 does not include a Sketch Map at all.

Response: The DPR forms were reviewed. Primary forms were compared with archaeological site forms and with the sketch maps. Any discrepancies were checked against original field notes and data and corrections based on this original data were made as necessary to each set of forms. Revised DPR forms for all locations in California are included as Confidential Attachment DR115-1, which will be submitted under a repeated request for confidential designation.

116. Please redraft and provide the Sketch Maps for the DPR 523 forms for each archaeological site to more accurately depict the locations of site data; clarify which map symbols depict mapped vegetation, landscape features, and archaeological remains; and more accurately depict components of archaeological deposits, such as flake concentrations. The Sketch Maps provided as part of the DPR 523 forms for each archaeological site do not depict site data (permanent reference points) or use standard professional map symbols that normally would provide relational accuracy of the vegetation, landscape features, and archaeological remains depicted. For example, the use of a stock oval symbol to depict a flake concentration fails to convey relevant dimensional and relational data about the archaeological remains.

Response: Sketch maps were reviewed. All previous sketch maps included legends that indicated which map symbols depicted mapped vegetation, landscape features, and archaeological remains; however, the legends have been refined and moved to the top of the maps for clarity. Datums for each site were recorded in the field. These datums have been added to the sketch maps. More specific information is included for flake concentrations. The revised DPR forms and Sketch Maps are included in Confidential Attachment DR115-1.

117. The descriptions of the geomorphic contexts of the archaeological sites in the project area of analysis are not resource-specific and, therefore, of limited use. For example, sites CA-INY-2492, S-2, S-4, S-55 and S-11 are simply said to be in sand alluvium of late Holocene age, and, in the case of S-11, the sand alluvium is equated with Hayne's 1967 Unit G in the Las Vegas Valley. Sites S-3 and S-6 are noted to be on Plio-Pleistocene valley or basin fill, while no geomorphic context at all was provided for sites S-1 and S-23. Please expand, with reference to field observations from the recent pedestrian survey, the geomorphic contexts for each archaeological site in the project area of analysis, and ensure that this information is presented in a consistent manner across the final technical report and the final DPR 523 forms. The geomorphic context for each archaeological site should reference the broader landform or landforms that serve as the host for the archaeological deposits and provide the finer resolution description of what, if any, landform features are part of the resource-specific geomorphology, if broader landform interfaces exist on a site, what the transition zone between the landforms looks like, and describe the surface hydrological regime across the resource.

Response: Descriptions of the geomorphic contexts on the DPR forms were reviewed and if missing, added to the site form. Each site has geomorphic information that correlates with discussions included in Data Requests 102 and 103. The revised DPR forms are included in Confidential Attachment DR115-1.

Waste Management (135)

BACKGROUND

The Hidden Hills AFC (Section 5.14-8) states that during construction there will be a combination of hazardous and nonhazardous materials (both solid and liquid) that will be generated. The AFC summarizes the removal and proper disposal of these waste streams by means that include collection at satellite accumulation containers near the points of generation; daily waste removal to a contractor's waste storage area located in the construction laydown area; and, periodic 90-day removal and transportation of accumulated waste to an authorized hazardous waste management facility.

DATA REQUEST

135. Given the proposed project's proximity to Nevada, and the absence of hazardous waste collection facilities in California, please provide specific details on the Applicant's plans for nonhazardous and hazardous wastes that potentially would be generated at the facility as summarized in both Table 5.14-2 (construction phase) and Table 5.14-3 (operation phase). Please fully discuss:
- a. Disposal of nonhazardous materials, including the type and volume of waste expected to be generated (provide responses for both the construction phase and the operation phase), the facility that will receive the waste, its location, its current level (volume) of use, and its expected annual use on a cumulative basis (i.e. overall use by other existing and reasonably foreseeable facilities and projects in California and Nevada).
 - b. Disposal of hazardous materials, including the type and volume of waste expected to be generated (provide responses for both the construction phase and the operation phase), the facility that will receive the waste, its location, its current level (volume) of use, and its expected annual use on a cumulative basis (i.e. overall use by other existing and reasonably foreseeable facilities and projects in California and Nevada).

Response: Since the Applicant's last filing on January 6, 2012, the Applicant has received additional information on waste disposal options for HHSEGS. The new data is for the two additional landfills in Nevada that were proposed as potential candidates for disposal of non-hazardous waste generated by Hidden Hills. In addition, the Applicant received updated information on the Kettleman Hills disposal facility.

The data was requested in conjunction with preparation of Data Response 135 and is for the purpose of providing complete information, such as closure date and landfill capacity, in Table 5.14-4R2 (formerly Table 5.14-4 of the AFC). The revised table includes the additional data (in **bold**). Footnotes and a new reference have been added in this revision.

TABLE 5.14-4R2

Non-Hazardous and Hazardous Waste Disposal Facilities in the Vicinity of the HHSEGS Site

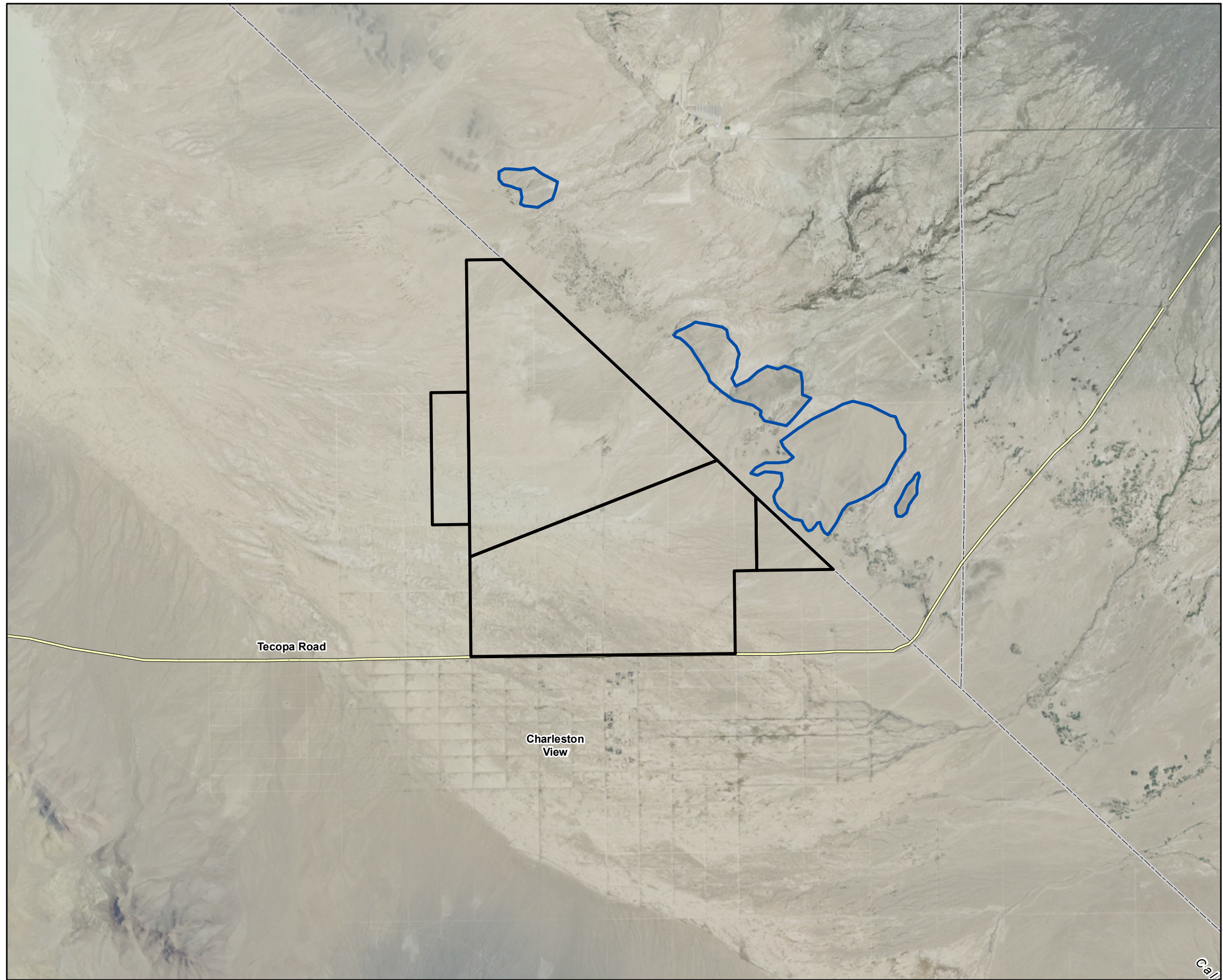
Landfill/ MRF/ Transfer Station	Location	Permitted Capacity (cubic yards)	Remaining Capacity (cubic yards)	Permitted Throughput (tons per day)	Estimated Closure Date	Enforcement Actions Taken
Non-Hazardous Waste Facilities						
Republic Services Sloan Transfer Station ^a	Clark County, NV (Outside of Sloan, NV)	No Cap	No Cap	No Cap	NA	None
Apex Regional Landfill	Clark County, NV (Outside of Las Vegas, NV)	5,967,744	4,840,019	No Cap	1/1/2175	None
Laughlin Landfill	Clark County, NV	6 million	1.5 million	No Cap	2029	None
Pahrump Valley Landfill	Nye County, NV	2.5 million^f	NA	No Cap	2032	None
Hazardous Waste Facilities						
US Ecology Beatty Landfill	Nye County, NV (100 miles northwest of Las Vegas, NV)	1.66 million	1 million	No Cap	2020	Yes ^d
Chemical Waste Management, Inc. Kettleman Hills Landfill ^{b, e}	Kings County, CA	30.7 million	20 million	400 trucks/day	2044	None
Clean Harbors Buttonwillow Landfill ^b	Kern County, CA	14,293,760	9.2 million	10,482	1/1/2040	Yes ^c

NA: Information is not available at this time

^aNevada information from Southern Nevada Health District Solid Waste and Compliance (SWMA, 2011).^bCalifornia information from CalRecycle Solid Waste Information System Database (SWIS) (CalRecycle, 2011a).^cNo violations in 2007-2011, except for 2 violations in 2009 for Disposal Site Records^dIn a 2008 EPA RCRA Inspection, they received a handful of violations relating to their thermal units, mostly for reporting issues. No violations after 2008.^eCurrently operating B-18 phase 1 and 2 (permitted capacity of 10.7 million cy, almost at capacity) with planned opening of phase 3 (permitted capacity of 5 million cy and 8 yr life expectancy); after B-18 reaches capacity, B-20 will be opened on currently undeveloped land at the site with permitted capacity of 15 million cy and 24 yr life expectancy (Henry, 2012).^fConverted from 1,500,000 tons (refuse density of 1,200lbs/cy; 1 ton=2,000lbs)**Additional Reference**

Henry, Bob. 2012. Waste Management – Kettleman Hills Landfill. Personal communication with Beth Storelli/CH2M HILL. January 12.

Figures



LEGEND

— QTa: Older Alluvium toolstone source. The “gravelly basin-fill alluvium (early Pleistocene? to late Miocene)” of Lundstrom et al. (2002).

Project Boundary

County Boundary

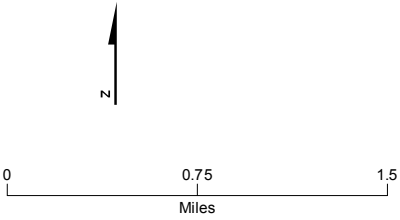


FIGURE DR104-1
Toolstone Sources
Hidden Hills SEGS

Attachments

**Confidential Attachment DR115-1
Revised DPR Forms**

Attachment DR115-1 has been submitted under a repeated request for confidential designation.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV**

**APPLICATION FOR CERTIFICATION
FOR THE *HIDDEN HILLS SOLAR ELECTRIC
GENERATING SYSTEM PROJECT*
HIDDEN HILLS SOLAR HOLDINGS, LLC**

DOCKET NO. 11-AFC-2
PROOF OF SERVICE
(Revised 12/22/2011)

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DECLARATION OF SERVICE

I, Mary Finn, declare that on, January 20, 2012, I served and filed copies of the attached Hidden Hills SEGS Data Response, Set 1D-2 dated January 20, 2012. The original document, filed with the Docket Unit or the Chief Counsel, as required by the applicable regulation, 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/hiddenhills/index.html].

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

(Check all that Apply)

For service to all other parties:

- ☒ Served electronically to all e-mail addresses on the Proof of Service list;
- ☐ Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

- ☒ by sending one electronic copy, (preferred method); **OR**
- ☐ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT

Attn: Docket No. 11-AFC-2
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

- ☐ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
Sacramento, CA 95814
mlevy@energy.state.ca.us

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.



Mary Finn, CH2M Hill