CALICO SOLAR POWER PROJECT

DPW CONCERNS REGARDING:

Supplemental Staff Assessment, Part II

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Specific County of San Bernardino concerns regarding Department of Public Works (DPW) maintained National Trails Highway (NTH) Route/Highway 66 bridges referenced in the August 2010 *Calico Solar Power Project, Supplemental Staff Assessment (SSA), Part II*, cultural resources report findings are:

SSA, Cultural Resources, Page C-2-105: Reference to NTH timber trestle bridges being documented as having "sufficient historical integrity to be considered contributing elements to the highway." features to the NRHP eligible highway. DPW staff contends that this statement is in error. Specifically, all of the NTH timber trestle bridges currently maintained by the DPW have been substantially altered (See Following Section entitled: N*ational Old Trails Road/Route 66 Timber Trestle Bridges Built and Altered*).

SSA, Cultural Resources, Page C-2-106: DPW does not contend that NTH/Route 66 is eligible to the National Register of Historic Places (NRHP). However, DPW staff suggest that consideration be given to the possibility that while the alignment may be eligible to the NRHP, that the individual timber trestle bridges associated with the NTH/Route 66 alignment are NOT individually eligible as contributing features to the NRHP.

SSA, Cultural Resources, Page C-2-107: This section of the report referrers to NTH bridges as "character defining features," further noting that the bridges (within the Calico Solar project APE) "were constructed from 1939 to 1952," and concluding that the "bridges retain features that indicate they are likely an original feature of Route 66, including the concrete decking, and are in a good state of preservation."

DPW staff contends that these statements contain many errors including:

1.) Nearly all currently maintained NTH timber trestle bridges were built between 1929-1931, and not as stated from 1939-1952.

2.) The concrete decking is not an original feature as stated in the SSA report. It is, in fact, an alteration carried out by the Division of Highway during the period extending from 1946-1953.

3.) The bridges are not in good state of preservation. They lack historic integrity and are in a relative poor state of preservation (See Following Section entitled: National Old Trails Road/Route 66 Timber Trestle Bridges Built and Altered). Finally, the majority of NTH bridges are in poor condition per official Caltrans bridge inspection reports.

4.) Finally, the majority of NTH bridges are in poor condition per official Caltrans bridge inspection reports.

In summary, it would appear that there are major errors and/or omission in the August 2010 Calico Solar Power Project, Supplemental Staff Assessment, Part II, cultural resources report findings. These errors have the potential to impacts current and proposed DPW plans to replace the existing timber trestle bridges.

Specifically, all NTH timber trestle bridges are currently listed as Category 4 bridges. This means:

> **CALTRANS HISTORIC BRIDGE INVENTORY**
> The original statewide historic bridge inventory was completed in 1986. An update of the inventory was completed in 2006, and the National Register status of many bridges was changed at that time. The update evaluated most of the state highway and local roadway bridges constructed prior to 1960. Bridges constructed in 1960 and later may need to be evaluated as they reach fifty years of age.
> Each bridge has been given a National Register status designation as follows:
> **1 –** Listed on the National Register of Historic Places.
> **2 –** Eligible for National Register listing.
> **3 –** May be eligible for National Register listing.
> **4 –** Unevaluated. (Generally, Category 4 bridges constructed before 1960 are associated with properties that have not yet been evaluated, such as railroads, canals, or potentially eligible historic roads.)
> **5 –** Ineligible for National Register listing.

The *Calico Solar Power SSA* cultural report appears to have the potential to raise the significance of all of our timber trestle bridges from a Category 4 to a Category 3 or even a Category 2. The elevating of NTH timber trestle bridges to any higher category may trigger problems for existing and future DPW bridge replacement programs. At the very least, the above concerns need to be addressed in a timely and professional manner.

NOTE: The following brief historical summary clearly underscores in text and photographs the errors and omissions in August 2010 the *Calico Solar Power Project, Supplemental Staff Assessment, Part II,* cultural resources report findings.

National Old Trails Road/Route 66 Timber Trestle Bridges Built and Altered

DPW Currently maintains 130 timber trestle bridges, built during the period of time primarily extending from 1929-1931, and extending from Daggett to Topock along the National Old Trails Road/Historic 66 transportation corridor. The bridges vary slightly in design, but all of the National Old Trails Road/Historic 66 bridges were originally designed in general accordance with guidelines set forth in the "*Standard Specifications for Highway Bridges and Incidental Structures of the American Association of State Highway Officials*, issue of December 1, 1926."

A typical timber trestle bridge is described as a simply-built wood structure. Design features common to these bridges include rectangular shape openings (bents), dark brown color (creosote soaked wood), white guardrail posts, and triangular wing walls and earth slopes or dikes upstream and downstream. Some bridges have concrete decking with asphalt overlay and concrete curbs.

All Route 66/National Old Trails Road timber trestle bridges were substantially reconstructed during the period extending from the mid-1940s to the mid-1950s including re-decking and widening. Heavy truck

traffic and the damage caused by heavy World War II military convoys required the immediate attention of State of California design engineers if highways across the state were to accommodate massive anticipated automobile traffic in the years following the end of the war. Itza Ditch was altered in 1944, as the first known reconstructed National Old Trails Road/Route 66 timber trestle bridge. Planned post-war bridge alterations were substantial from a technical standpoint, and they are described in some detail in several *California Highways and Public Works* magazine articles from 1944-1949. A 1949 article, entitled "Desert Bridges: Their Reconstruction Presents Various Problems to Engineers," is written by F. M. Morrill, Associate Bridge Engineer. It reads, in part,

> In some of the more arid sections of California, the State has a large number of timber bridges which are reaching the end of their economical service life. Although located in sparsely inhabited areas, they are for the most part on roads that carry a large volume of traffic, including heavy interstate freight trucks and busses. Thus their reconstruction is a matter of real urgency and the great number of structures involved makes the problem one of major proportions.
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> **Reconstruction Method**
> The typical desert bridge being reconstructed consists of 19-foot spans on timber pile bents. The deck system is timber stringers with laminated timber floor and asphalt surfacing of varying thicknesses. Under the method of reconstruction which has been adopted, the surfacing is first removed and the deck exposed, defective stringers and caps are replaced and laminated floors are tightened and respiked. The bituminous surfacing is replaced with a concrete slab and the old timber rail is replaced with steel rail or a new timber rail so constructed as to increase the roadway width to 26 feet between curbs.

In summary, the reconstruction of all of the Route 66/National Old Trails Road timber trestle bridges during the period extending from 1944 to the mid-1950s resulted in substantial alteration to the original architectural and technical (structural) integrity of each of the bridges. Alterations made to the majority of NTH timber trestle bridges include the widening of each bridge approximately three feet to a width of 26 feet between curbs, removal of original guardrail and replacement with a new steel or new timber railing, and addition of metal approach guardrails. The following photographs clearly illustrate the manner by which various physical alterations made to all Route 66 bridges have compromised the collective visual and historical integrity of the bridges.

NOTE: See Figures #1 and #2 Below

PHOTOGRAPH #1

Typical Existing Above Grade View of NTH/Route 66 Bridge

Note: The visual prominence of the original wood railings/guardrails and the wood curbs with scuppers. The original bridges clearly read as wood timber trestle structures, as opposed to the current condition of the vast majority of existing bridges.

PHOTOGRAPH #2

Typical Existing Above Grade View of NTH/Route 66 Bridge

Note: How the original wood railings have been removed, the original wood posts reduced in height, and how the wood curbs with scuppers have been modified. In effect, this bridge no longer reads clearly as an historic timber trestle structure. Rather, it reads as a highly modified bridge lacking historic integrity.