

DOCKET
09-AFC-7

DATE AUG 13 2010

RECD. AUG 13 2010

August 13, 2010

Alan Solomon
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Palen Solar Power Project, Docket No. 09-AFC-7
Palen Drainage Diffusers
Technical Area: Biological Resources

Dear Mr. Solomon:

Attached please find the following Palen Drainage Diffusers and associated figure for the Palen Solar Power Project.

If you have any questions on this submittal, please feel free to contact me directly.

Sincerely,



Alice Harron
Senior Director, Development

PALEN DRAINAGE DIFFUSERS:

The Palen drainage diffusers have been designed so that concentrated flow around or through the solar projects will be returned to an overland flow condition as the drainage leaves the site. The overland flow condition for drainage is what is represented as the existing condition in the Palen Drainage Report and the Palen Pre-Development Drainage Conditions Report.

There are two types of diffusers being used at Palen. One is a fan diffuser and the other is a lateral diffuser. A copy of the two diffusers is attached to this summary.

The fan diffuser spreads the drainage water over an ever-increasing flow surface as water moves downstream from the throat of the diffuser to the face of the diffuser. As the water moves downstream, the height of flow is decreased, so that when the drainage water leaves the diffuser it is closely representative of the predevelopment condition.

The lateral diffuser discharges drainage out of the side of the diffuser by two methods; use of small drainage culverts equally spaced along the face of the diffuser, and by soil cement weirs equally spaced along the face of the lateral diffusers. The culverts allow for release of water along the entire face of the diffuser both in low flows and in high flows. This approximates the overland flow condition that exists in the pre-development condition of the site. When flow are high, the soil cement weirs allow flow to also pass over the face of the diffuser in regularly spaced intervals; again returning the flow to a pre-development condition of overland flow.

The Palen Drainage report notes that the 100 year flow from the proposed diffusers varies in height from 4 to 6 ½ inches. The Pre-development Drainage Conditions Report shows that the existing condition for these same areas primarily varies from 4 to 12 inches with some localized depressions carrying water at a depth of approximately 1.5 feet. The more normal flows representative of 10 year storms are also equally balanced between pre-development and post development flows and heights. The diffusers, as currently designed and modeled, provide good correlation between the pre-development and post-development flows.

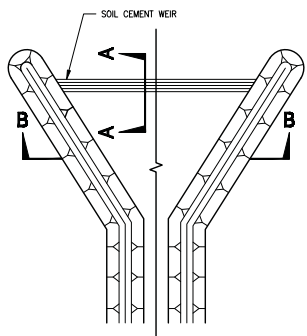
Project	Palen Solar
Client	Palen Solar
Drawn	Thomas Chen
Checked	Thomas Chen
Scale	AS SHOWN

1	DESIGNED BY	THOMAS CHEN
2	CHECKED BY	THOMAS CHEN
3	DATE	2/15/2010
4	SCALE	AS SHOWN

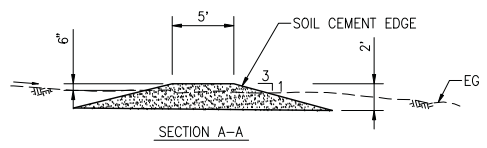
Prepared For:



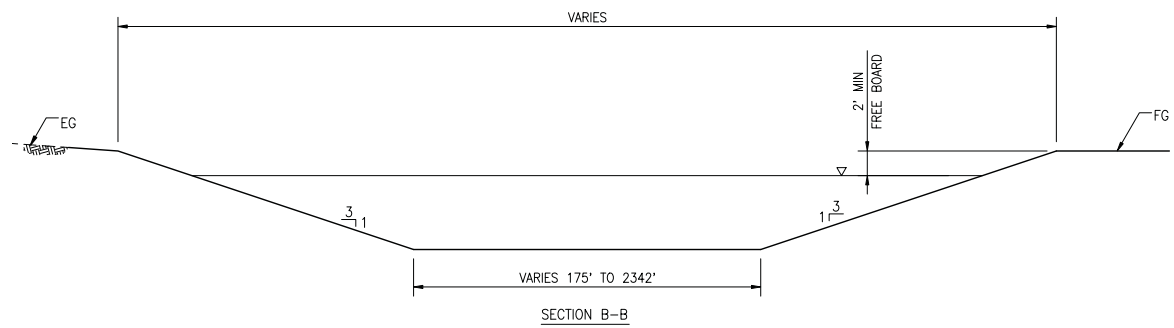
348 California Street
 San Francisco, California 94104

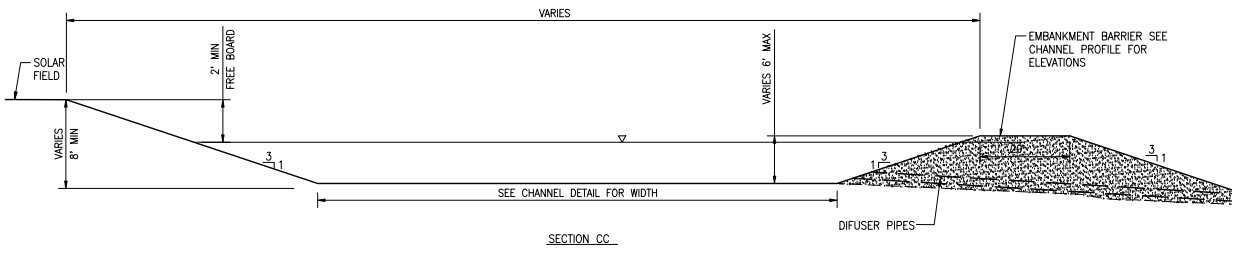
① WESTERN CHANNEL END DIFFUSER
 NO SCALE



SECTION A-A

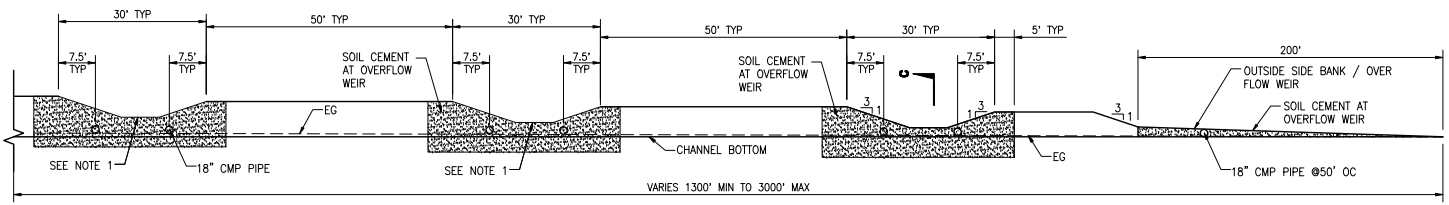


SECTION B-B

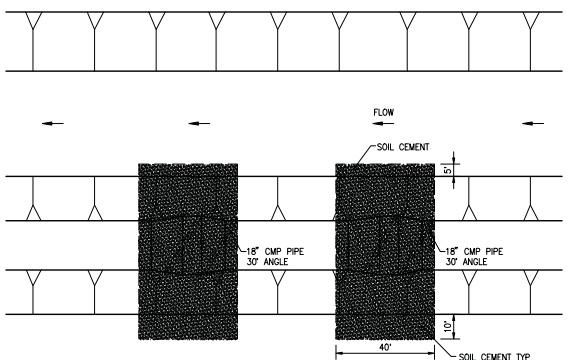


SECTION CC

FAN DIFFUSER



② LATERAL DIFFUSER PROFILE
 NO SCALE



③ LATERAL DIFFUSER PLAN VIEW
 NO SCALE

- NOTES:
1. THE ELEVATION OF EACH OVERFLOW WEIR DECREASES BETWEEN 2" AND 4" AT EACH SUBSEQUENT DOWNSTREAM WEIR. AMOUNT OF DROP IS A FUNCTION OF DIFFUSER LENGTH.
 2. SOIL CEMENT SHALL BE PLACED SO THAT ENTIRE WEIR STRUCTURE IS PROTECTED; SLOPE, EMBAKMENT, THROAT, INTERIOR AND EXTERIOR APRON.
 3. THE DESIGN RETAINS GENERALLY THE SAME DISCHARGE POINTS AND VOLUMES/FLOWS AT THE PROJECT BOUNDARIES.

LATERAL DIFFUSER

30% Conceptual Engineering Plans
NOT FOR CONSTRUCTION
DATED: February 15, 2010

Palen Solar Power Project
 Riverside County, California

FAN DIFFUSER AND LATERAL DIFFUSER

2010-11-10 10:52:28 AM: \\msw001\proj\2010\02\02\01\conceptual\01\plan\02-03\01\diffuser\01\diffuser.dwg - Plotted by: tomchen, Date: 02/15/2010, 1:10 PM
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**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA**

In the Matter of:
APPLICATION FOR CERTIFICATION
for the *PALEN SOLAR POWER PROJECT*

Docket No. 09-AFC-7
PROOF OF SERVICE
(Revised 7/2/10)

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*indicates change

DECLARATION OF SERVICE

I, Carl Lindner, declare that on, August 13, 2010, I served and filed copies of the Palen Drainage Diffusers. 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: [\[http://www.energy.ca.gov/sitingcases/solar_millennium_palen\]](http://www.energy.ca.gov/sitingcases/solar_millennium_palen).

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, 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
- by delivering on this date, for mailing with the United States 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 the date to those addresses **NOT** marked “email preferred.”

AND

For filing with the Energy Commission:

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

OR

- depositing in the mail an original and 12 paper copies, along with 13 CDs, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 09-AFC-7
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, that I am employed in the country where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

