

**Meeting of the Central Valley Flood Protection Board  
January 26, 2012**

**Staff Report – Encroachment Permit**

**John Thompson  
Solar Array Project, Butte County**

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**1.0 – ITEM**

Consider approval of Permit No. 18698 to install two photovoltaic solar array systems in Area B of the Butte Basin. (see Attachment B)

**2.0 – APPLICANT**

John Thompson

**3.0 – LOCATION**

The project is located approximately 5.5 miles northeast of the town of Glenn. The first solar array system is located 850 feet west of Seven Mile Road. The second solar array system is located 5,600 feet west of Seven Mile Road. (Butte Basin, Butte County, see Attachment A)

**4.0 – DESCRIPTION**

Applicant proposes to install two photovoltaic solar array systems in Area B of the Butte Basin.

**5.0 – PROJECT ANALYSIS**

The project consists of two photovoltaic solar array systems that will provide power to an existing water lift station and an existing irrigation pump that are used to water adjacent rice fields. The first solar array system is a 54.6 kW ground mount system that consists of six, 46' by 12' solar panels. This system is located approximately 850-feet west of Seven Mile Lane. The second solar array system is a 15.12 kW ground mount

system and consists of one 10' by 94' solar panel. The second system is located approximately 5,600-feet west of Seven Mile Lane.

Solar panels will be supported by 1-1/2 inch diameter schedule 40 galvanized pipes on 8-foot centers. The lowest point on any of the solar panels will be two feet above the FEMA 100-year base flood elevation. The solar array project conforms to all current Title 23 standards.

### **5.1 – Hydraulic Analysis**

The Butte Basin is approximately 8.5 miles wide at the latitude of the proposed project. The closest project levee is approximately 2.5 miles from the proposed project site. Therefore a hydraulic analysis is not required.

### **5.2 – Geotechnical Analysis**

A geotechnical analysis is not required as the nearest project levee is approximately 2.5 miles from the proposed project site.

## **6.0 – AGENCY COMMENTS AND ENDORSEMENTS**

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- There is no local maintaining agency for the Butte Basin at the proposed project site.
- The U.S. Army Corps of Engineers 208.10 comment letter has not yet been received for this application. Upon receipt of a favorable letter and review by Board staff the letter will be incorporated into the permit as Exhibit A.

## **7.0 – CEQA ANALYSIS**

Board staff has prepared the following CEQA determination:

The Board, acting as the CEQA lead agency, has determined that the project is categorically exempt from CEQA under a Class 3 Categorical Exemption (CEQA Guidelines Section 15303) covering new construction of small structures.

## **8.0 – SECTION 8610.5 CONSIDERATIONS**

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

The proposed solar panels will be two-feet above FEMA's 100-year base flood elevation and hydraulic impacts from the remainder of the proposed project are negligible. Therefore effects from the proposed project on the State Plan of Flood Control will be insignificant.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

There should be no effects to the project resulting from reasonable projected future events.

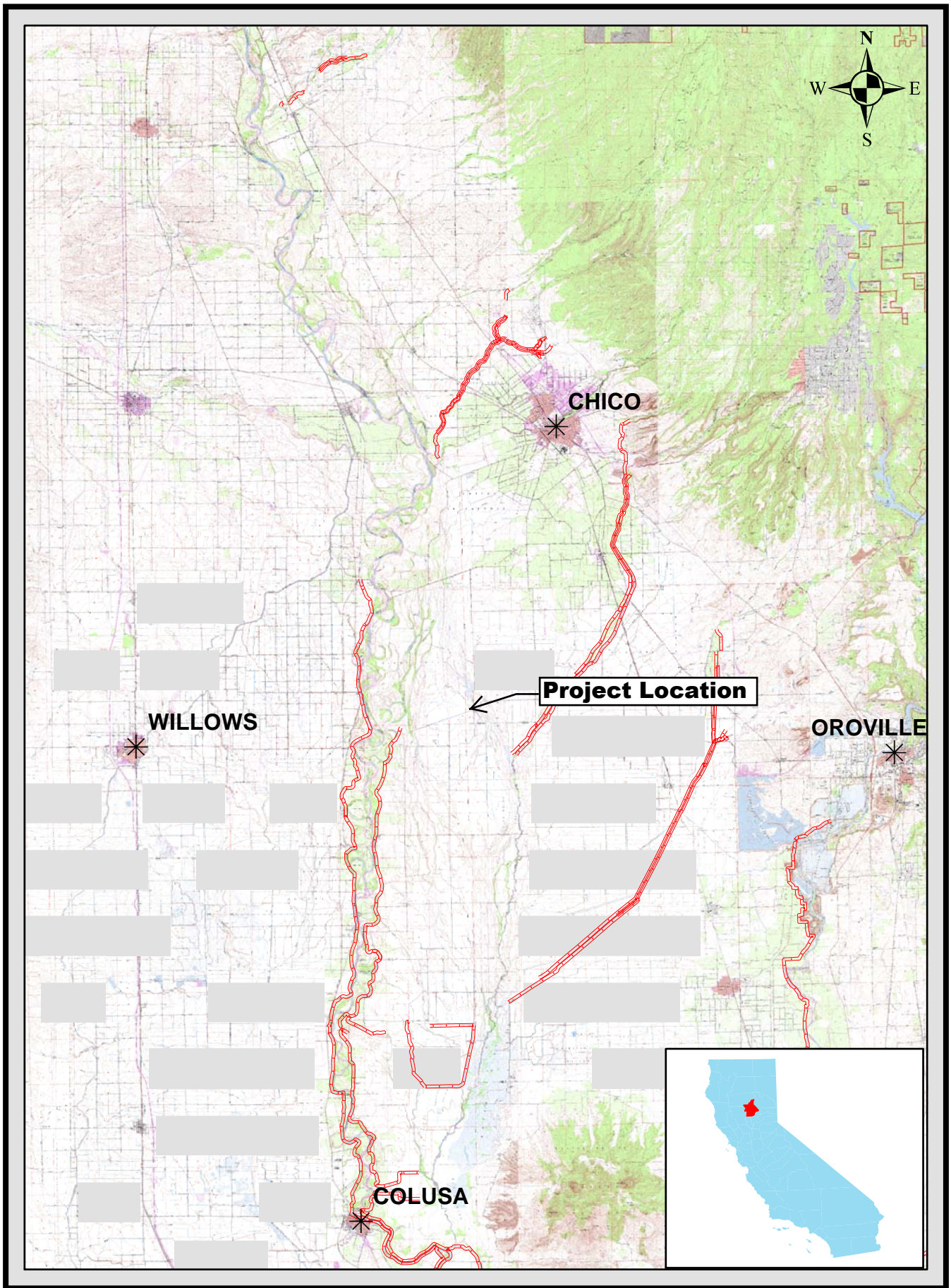
## **9.0 – STAFF RECOMMENDATION**

Staff recommends that the Board determine the project be exempt from CEQA, approve Permit No. 18698 conditioned upon receipt of a USACE 208.10 letter of determination confirming that the Corps has no objection to the project, and direct the Executive Officer to take necessary actions to execute the permit and file a Notice of Exemption with the State Clearinghouse.

**10.0 – LIST OF ATTACHMENTS**

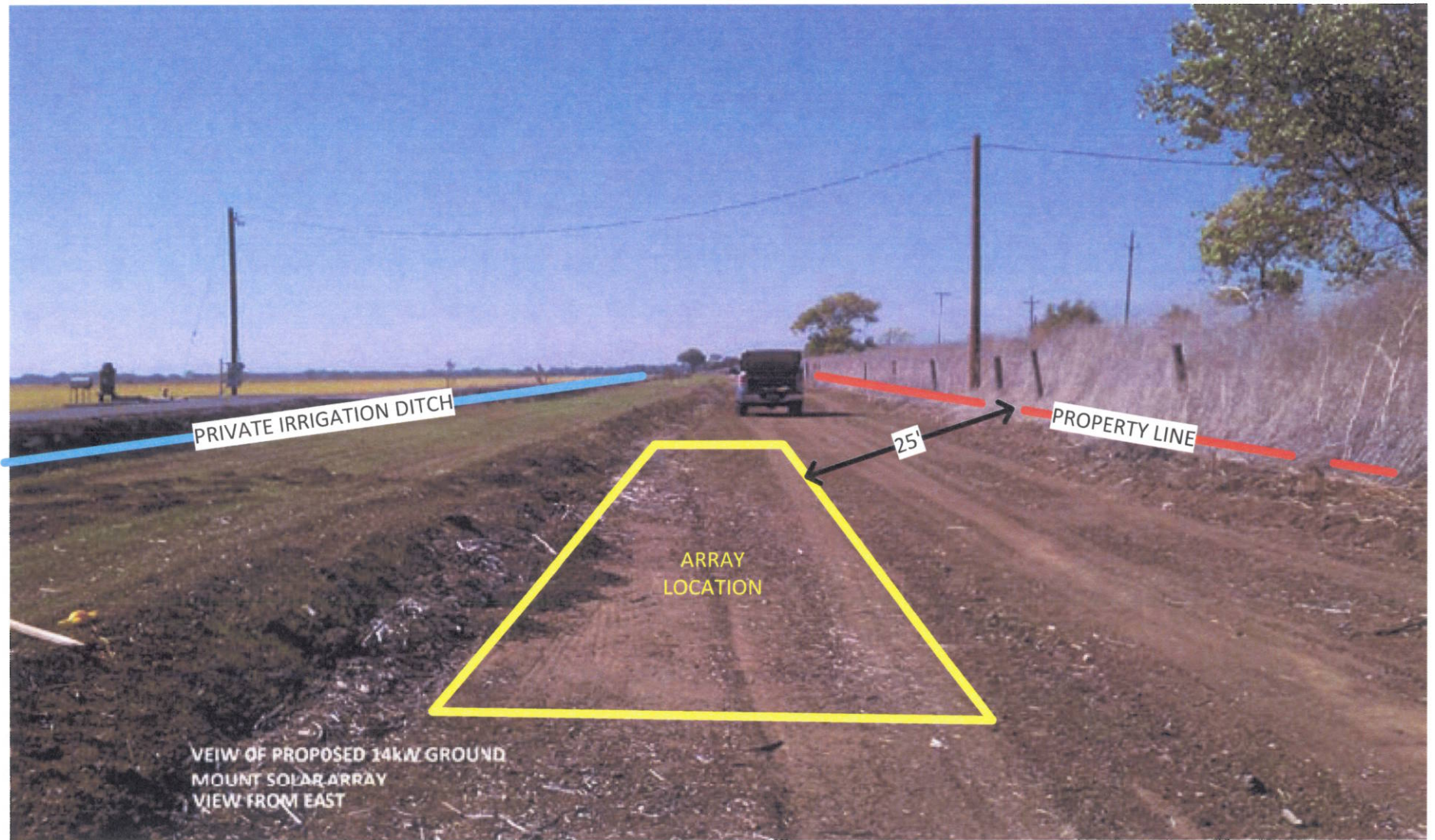
- A. Location Maps and Photos
- B. Draft Permit No. 18698
- C. Design Drawings

Design Review:	Gary W. Lemon P.E.
Environmental Review:	James Herota, Andrea Mauro
Document Review:	Mitra Emami P.E., Len Marino P.E.



# Project Location Map







PROPERTY LINE

25'

SOLAR ARRAY  
LOCATION

PRIVATELY OWNED IRRIGATION DITCH

View of proposed Lift Station Array (project #1) from  
south-west corner.  
54.6 kW Array



**DRAFT**

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
**THE CENTRAL VALLEY FLOOD PROTECTION BOARD**

**PERMIT NO. 18698 BD**

**This Permit is issued to:**

John Thompson  
366 Marmore Road  
Chico, California 95928

To install two photovoltaic solar array systems in Area B of the Butte Basin. The project is located approximately 5.5 miles northeast of the town of Glenn. The first solar array system is located 850 feet west of Seven Mile Road. The second solar array system is located 5,600 feet west of Seven Mile Road (Section 31 AND 36, T20N, R1E 1W, MDB&M, Butte Basin, Butte County).

**NOTE:** Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

**(SEAL)**

Dated: \_\_\_\_\_

\_\_\_\_\_  
Executive Officer

**GENERAL CONDITIONS:**

**ONE:** This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

**TWO:** Only work described in the subject application is authorized hereby.

**THREE:** This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

**FOUR:** The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

**FIVE:** Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

**SIX:** This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15

days' notice.

**SEVEN:** It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

**EIGHT:** This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

**NINE:** The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

**TEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

**ELEVEN:** The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

**TWELVE:** Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

#### **SPECIAL CONDITIONS FOR PERMIT NO. 18698 BD**

**THIRTEEN:** All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

**FOURTEEN:** The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

**FIFTEEN:** The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

**SIXTEEN:** The Central Valley Flood Protection Board and the Department of Water Resources shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, operation, maintenance, inspection, or emergency repair.

**SEVENTEEN:** No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Central Valley Flood Protection Board.

EIGHTEEN: Upon receipt of a signed copy of the issued permit the permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

NINETEEN: All cleared trees and brush shall be completely burned or removed from the Butte Basin, and downed trees or brush shall not remain in the floodway during the flood season from November 1st to April 15th.

TWENTY: Stockpiled material or temporary buildings shall not remain in the Butte Basin during the flood season from November 1st to April 15th.

TWENTY-ONE: The project site shall be restored to at least the same condition that existed prior to commencement of work.

TWENTY-TWO: Debris that may accumulate on the permitted encroachment(s) and related facilities shall be cleared off and disposed of outside the Butte Basin after each period of high water.

TWENTY-THREE: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

TWENTY-FOUR: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-FIVE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

TWENTY-SIX: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-SEVEN: The permittee shall comply with all conditions set forth in the letter from the Department of the Army dated January xx, 2012, which is attached to this permit as Exhibit A and is incorporated by reference.

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# THOMPSON & HOPE, LIFT & PUMP STATION

BUTTE COUNTY PARCEL # 038-050-008-000  
 SEVEN MILE LANE COUNTY RD 48  
 CHICO, CA 95928

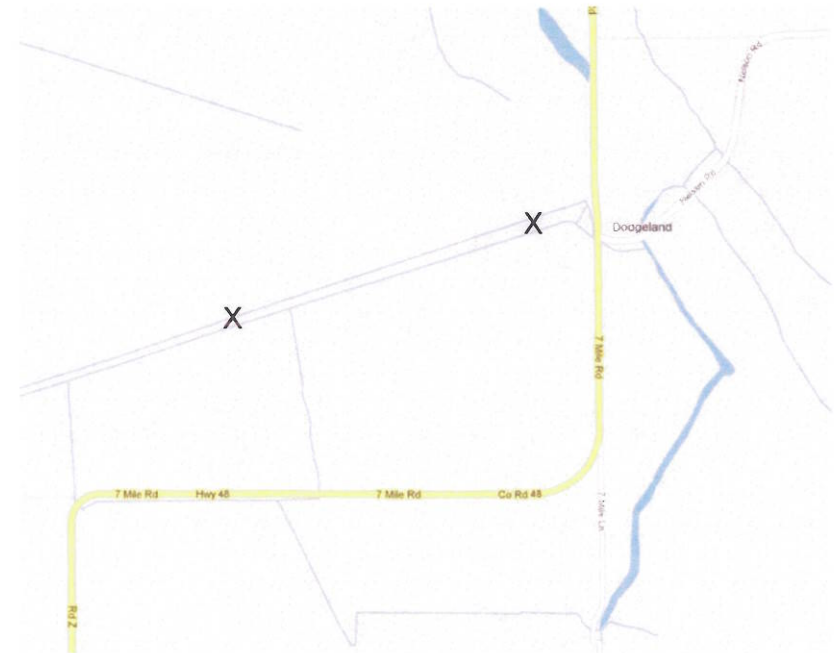
**SCOPE OF WORK:**

INSTALL GROUND MOUNTED PHOTOVOLTAIC SOLAR SYSTEM IN ACCORDANCE WITH ALL APPLICAL BUILDING CODES SPECIFICALLY REFERENCING THE 2010 CALIFORNIA ELECTRIC CODE/2008 NEC USING THE FOLLOWING SPECIFIC EQUIPMENT AS DESCRIBED:

INSTALL (2) SOLAR ARRAYS ON (2) SEPARATE METERS FOR WELLS LOCATED ON NORTH SIDE OF BUTTE COUNTY PARCEL # 038-050-008-000

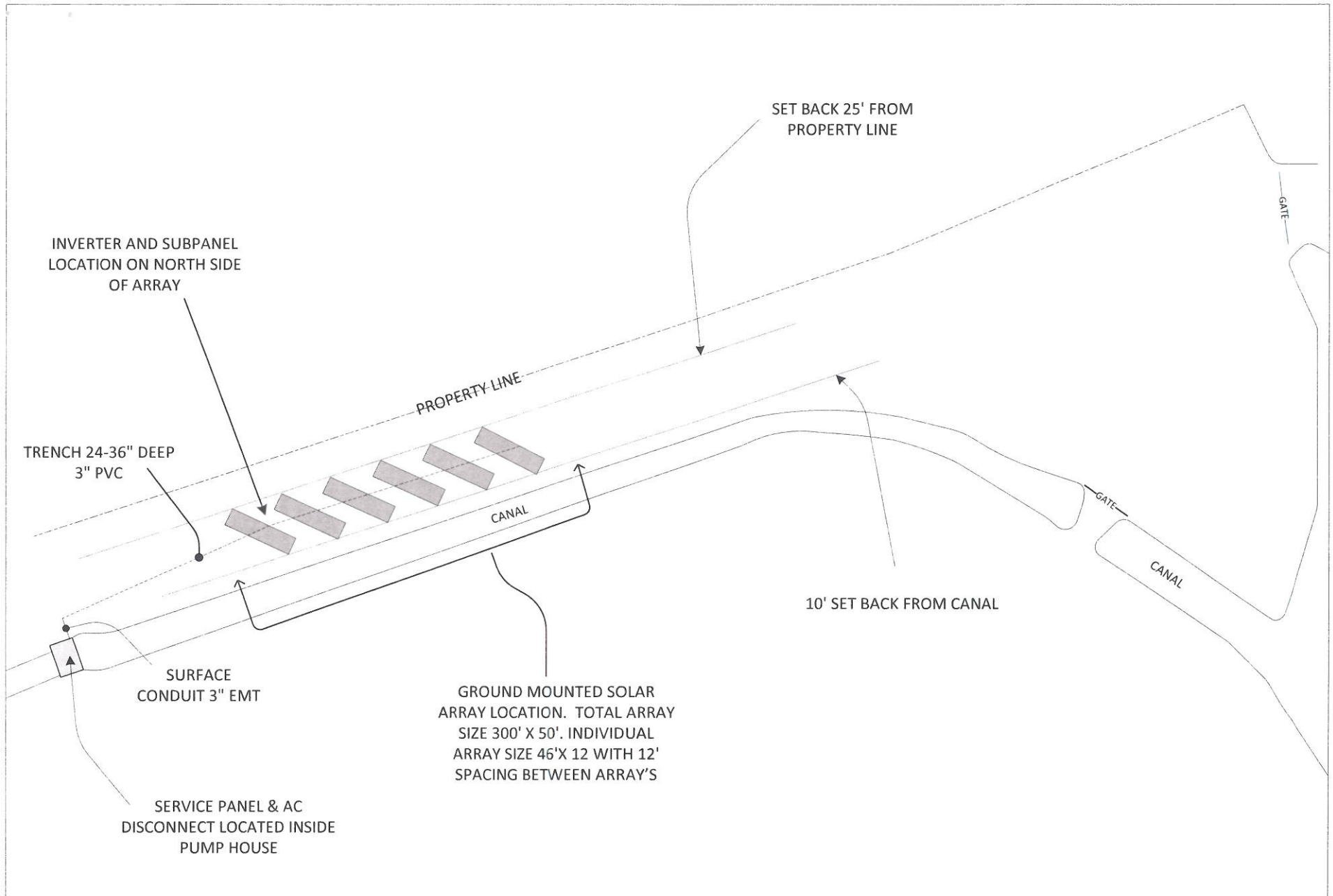
\*LIFT STATION PV SYSTEM, METER # 1003744178,  
 USING (2) SPR-6000f-277 INVERTERS USING (165) SPR-210-WHT-U PV PANELS

\*RICE PUMP PV SYSTEM, METER # 1004386646,  
 USING (3) SPR-12000f-3-277 INVERTERS USING (72) SPR-210-WHT-U PV PANELS

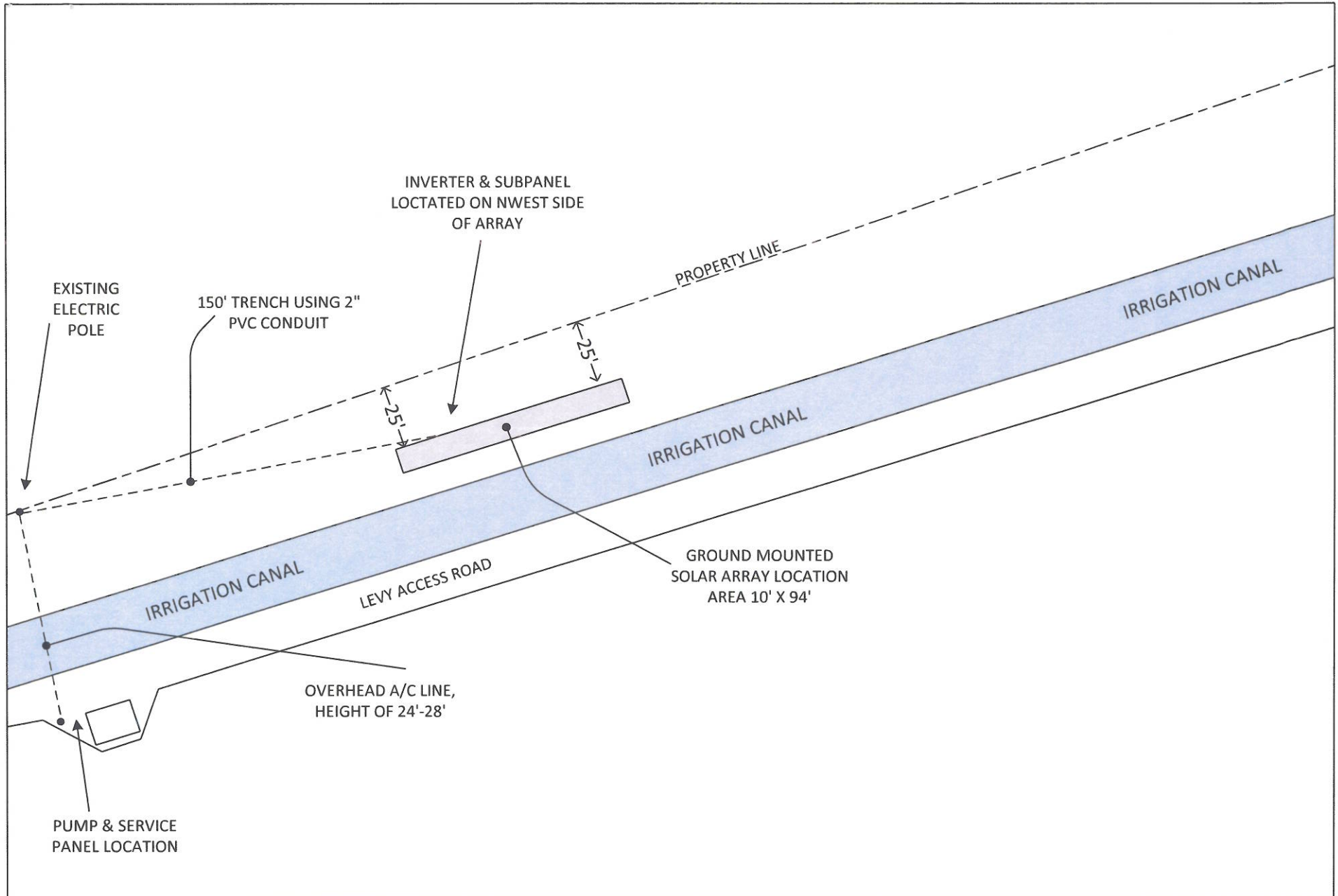


SHEETS	CONTENTS
S1-SYSTEM	OUTLINE
S2- SITE PLAN	RELIVANT EQUIPMENT & BUILDING LOCATIONS
S3- SITE PLAN ZOOM	ELECTRICAL DIAGRAM
S4- SITE PLAN ZOOM	LIFT STATION SITE PLAN
S5- SLD, LIFT STATION	ELECTRICAL DIAGRAM
S6- SLD, RICE PUMP	ELECTRICAL DIAGRAM
S7- STRUCTURAL	ENGINEERING
S8- ARRAY, LIFT STATION	STRING LAYOUT FOR PANELS
S9- FOOTINGS, LIFT STATION	FOOTING SPACINGS
S10- ARRAY, RICE PUMP	STRING LAYOUT FOR PANELS
S11- FOOTINGS, RICE PUMP	FOOTING SPACINGS
S12- REFERENCE, LIFT STATION	PV SPECIFIC ELECTRICAL CALCULATIONS
S13- REFERENCE, RICE PUMP	PV SPECIFIC ELECTRICAL CALCULATIONS
S14- LABEL	LABEL DIAGRAMS, LOCATIONS

LOCATION/SITE: THOMSON & HOPE LIFT & RICE PUMP BUTTE COUNTY PARCEL # 038-050-008-000 SEVEN MILE LANE COUNTY RD 48 CHICO, CA 95928	DESIGNED AND INSTALLED BY ALTERNATIVE ENERGY SYSTEMS INC. PO BOX 9231, CHICO, CA 95927 LANCE MCCLUNG, C-10, 853351	PHOTOVOLTAIC SOLAR SYSTEM	S1-SYSTEM  SHEET 1 OF 14
		DRAWING TO SCALE	
		10/18/2011	



LOCATION/SITE: BUTTE COUNTY PARCEL # 038-050-008-000 SEVEN MILE LANE COUNTY RD 48 CHICO, CA 95928	DESIGNED AND INSTALLED BY ALTERNATIVE ENERGY SYSTEMS INC. PO BOX 9231, CHICO, CA 95927 LANCE MCCLUNG, C-10, 853351	PHOTOVOLTAIC SOLAR SYSTEM	S3-SITE PLAN, LIFT STATION  SHEET 3 OF 14
		DRAWING TO SCALE	
		10/18/2011	



LOCATION/SITE: BUTTE COUNTY PARCEL # 038-050-008-000 SEVEN MILE LANE COUNTY RD 48 CHICO, CA 95928	DESIGNED AND INSTALLED BY ALTERNATIVE ENERGY SYSTEMS INC. PO BOX 9231, CHICO, CA 95927 LANCE MCCLUNG, C-10, 853351	PHOTOVOLTAIC SOLAR SYSTEM	S4-SITE PLAN, RICE PUMP  SHEET 4 OF 14
		DRAWING TO SCALE	
		10/18/2011	