



City of Newman Building Department

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Website: <http://www.cityofnewman.com>

Photovoltaic Plan Submittal Requirements

SUBJECT: Residential (Single-Family) Solar Photovoltaic System Plan Submittal Requirements

CODE REFERENCES:

2013 California Electrical Code Article 690 Solar Photovoltaic Systems

PROPOSED GUIDELINES/

Plans submitted for a permit must contain the following items:

- 1) Plan view showing location of the PV installation and layout of existing roof framing members that support the system;
- 2) Details on mounting of PV modules, type and number of roof coverings, and subsequent weatherproofing of the roof;
- 3) Electrical single-line diagram clearly identifying all devices installed in the PV system and indicating total kVA rating of system;
- 4) Clearly identify the point of interconnection with the utility supplied wiring system and provide details on main breaker, PV breaker and rating of bussing;
- 5) Provide the locations of all appropriate signs and labels;
- 6) Indicate type and size of all conduit and conductors throughout the PV system;
- 7) Provide manufacturer's cut-sheets and installation instructions for all PV modules, mounting systems, combiner boxes (if used), inverters, and disconnects;
- 8) Provide structural calculations, prepared by a registered California design professional, if the total weight of the photovoltaic system is over five pounds per square foot;
- 9) The installation of the PV system shall conform to the requirements of CEC Article 690 and any other applicable articles or standards.

A sample of the plan view and electrical one-line diagram pages are attached.

PV ARRAY LAYOUT & WIRING PLAN

MOUNTING NOTES

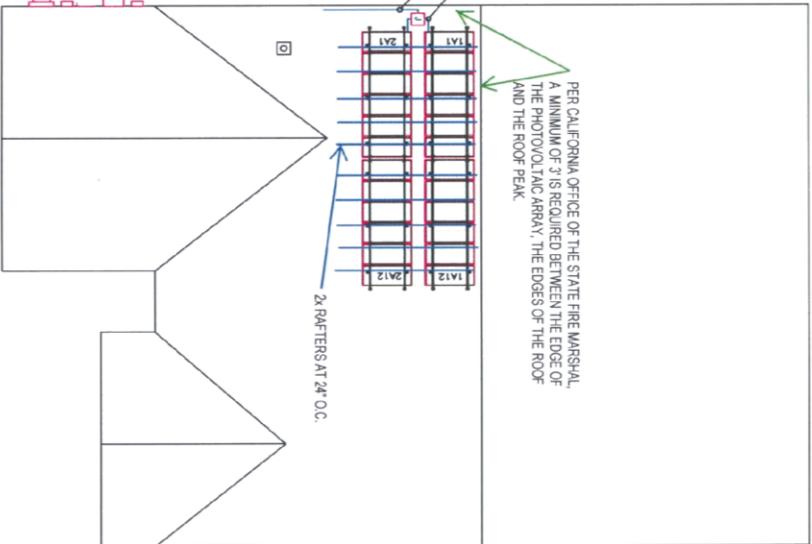
1. PANELS MOUNTED ON ALUMINUM BRACKING
2. PV ARRAY MOUNTS TO ROOF STRUCTURE WITH $\frac{1}{8}$ " LASS EMBEDDED 24" INTO RAFTERS OR SEE NOTE 5 BELOW
3. PV PANELS ARE ANCHORED @ 48" O.C.
4. WEIGHT OF PV MODULES AND ASSEMBLY LESS THAN 5 LBS PER SQUARE FOOT
5. ALL INSTALLATIONS MUST COMPLY WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.

ARRAY CONDUIT & WIRING ARRANGEMENT

1. FREE-AIR $\frac{1}{2}$ " CONDUIT SLEEVE**
 2. TO DC DISCONNECT
 3. TO DC DISCONNECT
 4. TO DC DISCONNECT
 5. TO DC DISCONNECT
- ** SLEEVE PROVIDES PROTECTION FROM PHYSICAL DAMAGE PER NEC 300.13 & 300.18

PHOTOVOLTAIC SYSTEM DISCONNECT
EXISTING SERVICE PANEL / NET METER

DC DISCONNECT
INVERTER



SITE MAP

CUSTOMER NAME

ADDRESS

DRAWN BY

?

CHECKED BY

?

SCALE

NTS

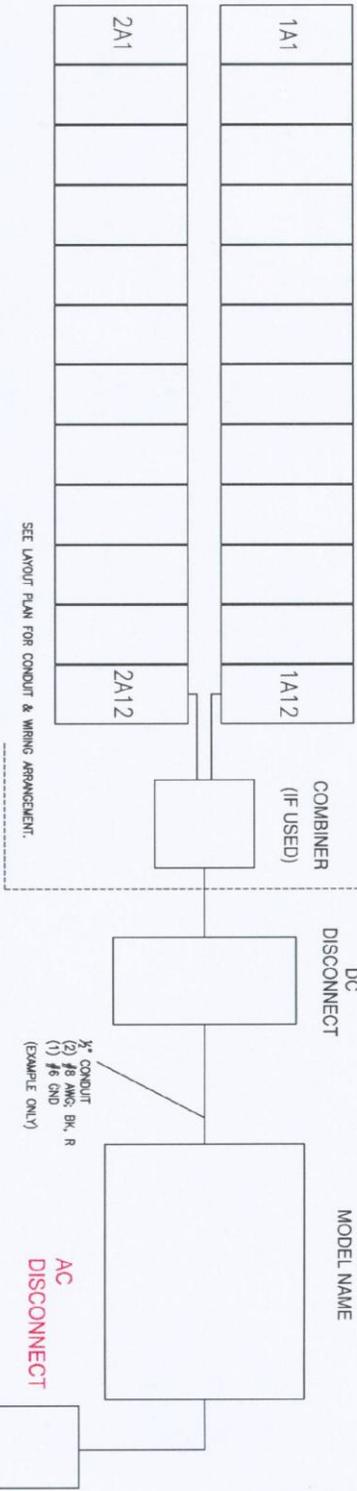
DATE DRAWN

?

COMPANY
LOGO

COMPANY NAME
ADDRESS

ELECTRICAL SCHEMATIC



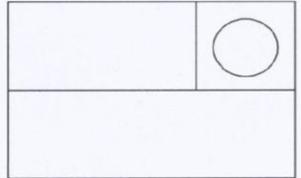
SEE LAYOUT PLAN FOR CONDUIT & WIRING ARRANGEMENT.

- GENERAL NOTES**
1. BOND PV SYSTEM AND PV RAIL ASSEMBLY TO SERVICE EQUIPMENT
 2. CONNECT AC TO CUSTOMER SERVICE VIA 1 DP OR 15 AMP BREAKER
 3. ELECTRICAL INSTALLATION IN ACCORDANCE WITH 2007 CALIFORNIA ELECTRICAL CODE

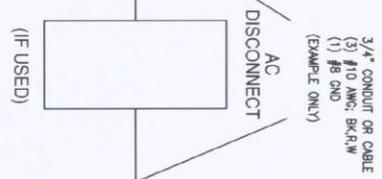
CONDUCTOR DESIGNATION BY CONDITION

| CONDITION | ALLOWABLE CONDUCTOR TYPES |
|------------------------|-------------------------------|
| FRE- AIR | USE -2/RHH/RHW-2 |
| ROOF-TOP | THWN-2 OR XHHW-2 OR RHH/RHW-2 |
| RACEWAY OR CABLE TRAYS | THHN OR THWN OR XHHW* |
| INDOORS OR SHADDED | THHN OR THWN OR XHHW* |
| UNDERGROUND | THHN OR THWN OR XHHW* |

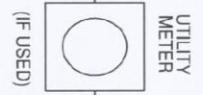
* MAY SUBSTITUTE "-2" RATED CONDUCTORS



MAIN PANEL



AC DISCONNECT (IF USED)



UTILITY METER (IF USED)

3/4" CONDUIT OR CABLE
(3) #10 AWG, BK,R,W
(1) #8 GND
(EXAMPLE ONLY)

1/2" CONDUIT
(3) #10 AWG, BK,R,W
(1) #8 GND
(EXAMPLE ONLY)

| | | | |
|---------------|--|----------------------|--|
| CUSTOMER NAME | | ADDRESS | |
| DRAWN BY | | CHECKED BY | |
| SCALE | | DATE DRAWN | |
| COMPANY LOGO | | COMPANY NAME ADDRESS | |