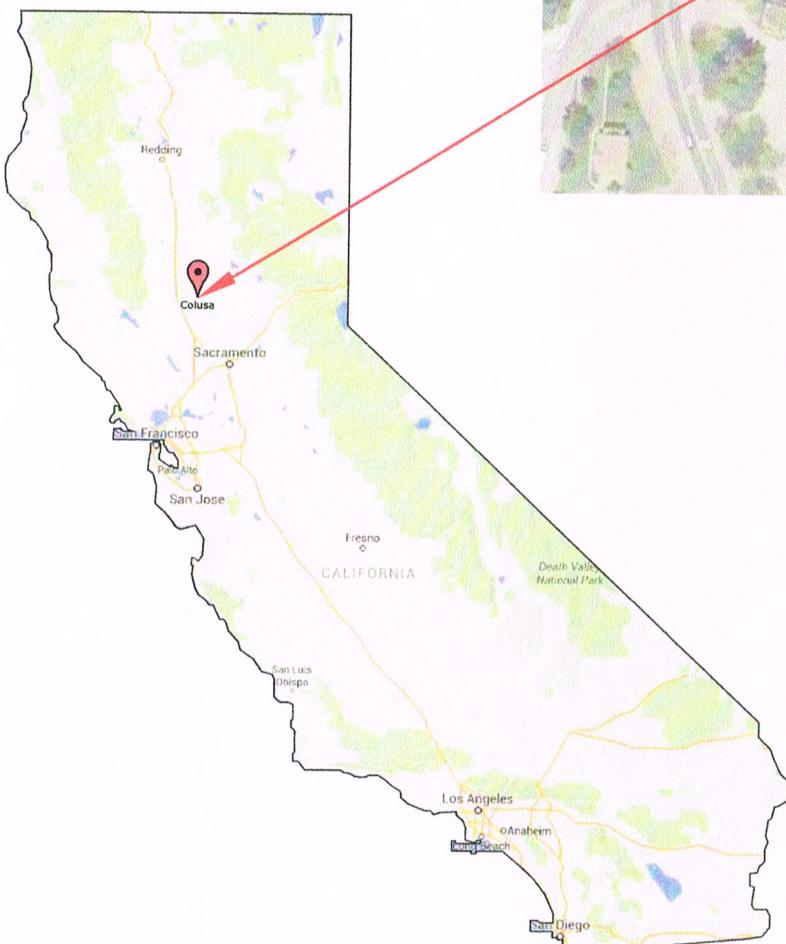


SOLAR PHOTOVOLTAIC SYSTEM

NORTH STATE GROCERY COLUSA, CA



SITE INFORMATION

Site Latitude	39° 12'
Occupancy Group	II
Zoning District	M-U-B
Flood Zone	X
Exposure Category	C

SYSTEM SPECIFICATIONS

Cold Design Temperature	23° F
Max Operating Temperature	131° F
Total # of Inverters	14
Total # of Modules	1,716
TOTAL DC SYSTEM SIZE	497.64 kW DC
Nominal AC Output Power	467 kW AC

GENERAL CONTRACTOR

BRIGHT POWER INC
DBA BPI
PO BOX 10637
NAPA, CA 94581
info@bpi-power.com
PHONE: (707) 252-9990
FAX: (707) 252-9992
WWW.BPI-POWER.COM
LICENSE NUMBER 930054
LICENSE CLASSIFICATION: A, C10

PROPERTY OWNER

GREGORY PARTNERS, L.P.
ATTN: JON SNYDER
P.O. BOX 1018
RANCHO MURIETA, CA 95683

ELECTRICAL ENGINEER

HIMANSHU BHARTIYA, ME, EE, FPE, LEED AP
SACRAMENTO ENGINEERING CONSULTANTS
10555 OLD PLACERVILLE ROAD
SACRAMENTO, CA 95827
himanshu@saceng.com
PHONE: (916) 368-4468 ext. 105
FAX: (916) 368-4490

STRUCTURAL ENGINEER

JESSYCA COCHRAN, PE
JVC ENGINEERING
303 POST ST
NAPA, CA 94559
jvcstructural@yahoo.com
PHONE: (805) 801-9915

SCOPE OF WORK

THE PROJECT IS TO INSTALL A NEW PHOTOVOLTAIC SYSTEM.
ALL CONSTRUCTION SHALL COMPLY WITH THE CODES ADOPTED BY THE CITY
OF COLUSA, CA AS DESCRIBED IN COLUSA, CA MUNICIPAL CODE SEC. 6
ARTICLE II INCLUDING BUT NOT LIMITED TO 2013 CEC & 2013 CBC.

THE SYSTEM CONSISTS OF ROOF MOUNT FIXED TILT SOLAR ARRAYS, FLUSH
MOUNT ON SOLAR SUPPORT STRUCTURES, AND ASSOCIATED POWER
CONDITIONING EQUIPMENT.

THE SYSTEM WILL BE INTERCONNECTED TO AND WILL BE OPERATING IN
PARALLEL WITH THE ELECTRICAL UTILITY GRID PER THE REQUIREMENTS OF
PG&E AND THE 2013 CEC.

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PV0.3	PV SITE PLAN
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PV0.4B	MODULE LAYOUT OVERVIEW
PV0.5A	ROOF ARRAY DIMENSIONS & INVERTER FOOTPRINTS
PV0.5B	ROOF ARRAY DIMENSIONS & INVERTER FOOTPRINTS
PV0.5C	SOLAR STRUCTURE STRING DIAGRAM & INVERTER FOOTPRINTS
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PV1.1	ARRAY PLAN
PV1.2	ARRAY PLAN
PV1.3	ARRAY PLAN
PV1.4	ARRAY PLAN
PV1.5	ARRAY PLAN
PV1.6	METER-AREA PLAN
PV2.1A	SINGLE-LINE DIAGRAM
PV2.1B	SINGLE-LINE DIAGRAM
PV3.1	PV DETAILS
PV4.1	PV SIGNAGE
S0.1	GENERAL STRUCTURAL NOTES
S2.1	STRUCTURES 1, 2, 3 - FOUNDATION & FRAMING PLAN
S2.2	STRUCTURES 4 - FOUNDATION & FRAMING PLAN
S2.3	STRUCTURES 5 - FOUNDATION & FRAMING PLAN
S2.4	STRUCTURES 6 - FOUNDATION & FRAMING PLAN
S3.1	DETAILS
S4.0	ROOF RACKING DETAIL



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PVO
TITLE SHEET

DATE: 6-14-16

BY: JB

JOB NO.: C15-700.1

REV. NO. REV. DATE
PO BOX 10637
NAPA, CA 94581
PH: (707)-252-9990

BPI	PO BOX 10637 NAPA, CA 94581 PH: (707)-252-9990
-----	--

GENERAL NOTES

		8.	REFILL AND RESTORE THE WORK AS DIRECTED, DURING CONSTRUCTION AND PRIOR TO PROJECT COMPLETION, TO MAINTAIN ACCEPTABLE SURFACE CONDITIONS.	17.	ALL CONSTRUCTION AND MATERIAL DELIVERY VEHICLES SHALL USE THE SITE CLEARING NOTES (IF APPLICABLE) DESIGNATED ACCESS AND HAUL ROUTE(S) TO THE CONSTRUCTION SITE. ANY DEVIATION IN ROUTE(S) SHALL BE SUBJECT TO OWNER'S APPROVAL. THE ROUTE(S) SHALL BE MONITORED DURING THE PROJECT FOR ANY DAMAGE AND DEBRIS ATTRIBUTABLE TO THE PROJECT VEHICLES. ALL DAMAGE AND DEBRIS AS A RESULT OF THE PROJECT SHALL BE REPAIRED TO EXISTING STANDARDS.	1.	PROTECT FROM DAMAGE AND PRESERVE TREES, SHRUBS, AND OTHER PLANTS OUTSIDE THE LIMITS OF WORK AND WITHIN THE LIMIT OF THE WORK WHICH ARE DESIGNATED TO REMAIN UNDISTURBED.
1.	ALL CONSTRUCTION SHALL COMPLY WITH THE CODES ADOPTED BY THE CITY OF COLUSA, CA AS DESCRIBED IN COLUSA, CA MUNICIPAL CODE SEC. 6 ARTICLE II INCLUDING BUT NOT LIMITED TO 2013 CEC & 2013 CBC.	9.	ALL ADDITIONAL MATERIALS REQUIRED SHALL BE FURNISHED WITHOUT ADDITIONAL COST TO THE OWNER.	18.	CONDUCT OPERATION ENTIRELY WITHIN THE PROJECT AREAS INDICATED IN THESE DRAWINGS.	2.	REMOVE OBSTRUCTIONS, TREES, SHRUBS, GRASS AND OTHER VEGETATION TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVAL INCLUDES DIGGING OUT STUMPS AND OBSTRUCTIONS AND GRUBBING ROOTS.
2.	BEFORE INITIATING ANY WORK, THE CONTRACTOR SHALL NOTIFY ENGINEER OF RECORDS OF ANY DISCREPANCIES IDENTIFIED ON EXISTING CONDITIONS, STRUCTURE, ELECTRICAL, ETC.	10.	UNLESS SHOWN OR SPECIFIED OTHERWISE, ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH THE LATEST EDITION OF THE IBC, AND ANY OTHER CODES, REQUIREMENTS OR STANDARDS REQUIRED BY THE INSPECTING AGENCY AND AUTHORITIES HAVING JURISDICTION (AHJ).	19.	WHERE ANY WORK IS BEING DONE IN AN OFF-SITE EASEMENT, NOTIFY THE PROPERTY OWNER TWO WORKING DAYS PRIOR TO COMMENCING WORK WITHIN SAID EASEMENT.	3.	FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SOIL MATERIAL APPROVED BY OWNER, UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED.
3.	CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS, OSHA REQUIREMENTS AND SAFETY MEASUREMENTS ON SITE.	11.	ANY WORK BEGUN PRIOR TO ATTAINING APPROVAL AND SIGNATURES OF AHJ WILL BE AT CONTRACTOR'S RISK, AND WILL ONLY BE ALLOWED IF PRE-APPROVED BY PROJECT OWNER.	20.	DO NOT DISPOSE OF CHLORINATED OR OTHER CHEMICALLY TREATED OR POLLUTED WATER INTO ANY DRAINAGE SYSTEM OR TO AREA SOILS.	4.	STRIP TOPSOIL WHERE REQUIRED. STOCKPILE IN AREA APPROVED BY OWNER.
4.	CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL EQUIPMENT AND FOLLOWING ALL MANUFACTURER'S OR ENGINEER'S DIRECTIONS AND INSTRUCTIONS.	12.	COORDINATE OPERATIONS WITH ALL REQUIRED MATERIALS TESTING SERVICES AS REQUIRED BY THESE DRAWINGS. EACH PHASE OF CONSTRUCTION SHALL BE TESTED AND APPROVED BY AHJ AS REQUIRED PRIOR TO PROCEEDING TO SUBSEQUENT PHASES.		ELECTRICAL NOTES		
5.	CONTRACTOR IS ADVISED THAT ALL DRAWINGS, COMPONENT MANUALS, ESPECIALLY INVERTER MANUALS, ARE TO BE READ AND UNDERSTOOD PRIOR TO INSTALLATION OR ENERGIZING OF ANY EQUIPMENT.	13.	NOTIFY ALL UTILITY COMPANIES INVOLVED IN THE DEVELOPMENT PRIOR TO BEGINNING OF WORK.	1.	SOLAR MODULES ARE ENERGIZED WHEN EXPOSED TO LIGHT. THE LINE AND LOAD TERMINALS ON THE DC DISCONNECTS MAY BE ENERGIZED IN THE OPEN POSITION. SWITCH IS TO BE LABELED TO COMPLY WITH ARTICLE 690.17 OF THE NEC.	5.	WITH OWNER'S APPROVAL, REMOVE EXISTING ABOVE AND BELOW GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION.
6.	CONTRACTOR IS RESPONSIBLE FOR SELECTING AND PURCHASING EQUIPMENT THAT WILL LAST THE LIFETIME OF THE PV SYSTEM; ALL ENCLOSURES, CONDUITS, STRAPS, PAINTED METAL SURFACES, CONCRETE, GROUNDING EQUIPMENT AND OTHER EQUIPMENT AND OTHER PRODUCTS SHALL BE SELECTED TO LAST THE LIFECYCLE OF THE PHOTOVOLTAIC SYSTEM.	14.	COMPLY WITH ALL CURRENTLY APPLICABLE SAFETY LAWS OF ALL JURISDICTIONAL BODIES. PROVIDE AND MAINTAIN ALL BARRICADES, SAFETY DEVICES, AND CONTROL OF TRAFFIC WITHIN AND AROUND THE CONSTRUCTION AREA. FOR ALL TRENCH EXCAVATION 5 FEET OR MORE IN DEPTH, OBTAIN PERMITS PRIOR TO BEGINNING ANY EXCAVATION.	2.	PHOTOVOLTAIC SYSTEM SHALL BE CLEARLY MARKED IN ACCORDANCE WITH THE NEC LABELING REQUIREMENTS ARTICLE 690.	6.	DISPOSE OF REMOVED TREES, BRUSH, STUMPS, ROOTS AND ORGANIC DEBRIS IN A LEGAL MANNER OFF THE SITE.
7.	WHENEVER ANY SURFACE IMPROVEMENTS SUCH AS PAVEMENT, CURBING, PEDESTRIAN WALKS, FENCING, OR TURFING HAVE BEEN REMOVED, DAMAGED, OR OTHERWISE DISTURBED BY THE CONTRACTOR'S OPERATIONS; THEY SHALL BE REPAIRED OR REPLACED TO THE PRE-EXISTING CONDITION. THE REPAIRS ARE TO MEET THE OWNER'S SATISFACTION.	15.	MAINTAIN CONTINUOUS TEMPORARY TRAFFIC BARRICADES, WITH OPERABLE FLASHING DEVICES, SPACED AT INTERVALS OF NOT TO EXCEED 50 FEET WHENEVER THE WORK AREA IS ADJACENT TO AN EXISTING TRAFFIC LANE AND THERE IS A PAVEMENT CUT, TRENCH, OR DITCH WHICH IS OVER 2 INCHES IN DEPTH, OR IF THE TRAFFIC LANE USED BY VEHICLES IS NOT PAVED. IF THE CUT, TRENCH OR DITCH IS MORE THAN 10 FEET FROM A TRAFFIC LANE, THEN THE BARRICADE SPACING MAY BE GREATER, PROVIDED THAT IT DOES NOT EXCEED 200 FEET.	3.	CONTRACTOR SHALL PERFORM INITIAL HARDWARE CHECKS AND PV/WIRING CONDUCTIVITY CHECKS PRIOR TO TERMINATING ANY WIRES.	1.	RECORD DRAWINGS
		16.	CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.	5.	THE ELECTRICAL CONTRACTOR IS REQUIRED TO USE PERMANENTLY COLOR CODED INSULATION AND PROVIDE A COLOR CODE TO IDENTIFY DC AND AC CIRCUITS AND IN ACCORDANCE WITH NEC.		KEEP UP-TO-DATE AND ACCURATE A COMPLETE RECORD SET OF PRINTS FOR THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING FINAL LOCATION, ELEVATION, SIZES, MATERIALS, AND DESCRIPTION OF ALL WORK.
		17.	ALL PG&E-REQUIRED EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT PG&E GREENBOOK STANDARDS.	6.	IN EVERY PULL BOX, TERMINAL BOX, AND AT ALL PLACES WHERE WIRES MAY NOT BE READILY IDENTIFIED BY NAMEPLATE MARKINGS ON THE EQUIPMENT TO WHICH THEY CONNECT, IDENTIFY EACH CIRCUIT WITH A PLASTIC LABEL OR TAG FOR NUMBER, POLARITY, OR PHASE.	2.	RECORDS SHALL BE "REDLINED" ON A SET OF CONSTRUCTION PLAN DRAWINGS AT THE SITE. A COMPLETE SET OF CORRECTED AND COMPLETED RECORD DRAWING PRINTS SHALL BE SUBMITTED TO OWNER PRIOR TO SUBSTANTIAL COMPLETION AT SITE.
PV MODULE INFO	MFG	ET Solar					
	Model	ET-M660290WB/WW 290W					
	STC Rating	290 W					
	Vmp	32.12 V					
	Imp	9.03 A					
	Voc	39.68 V					
	Isc	9.59 A					
	Voc temp. coeff.	-0.31 %/°C					
	Isc temp. coeff.	0.02 %/°C					

ROOFS		SOLAR SUPPORT STRUCTURES									
Inverters	Inverter #1-#2	Inverter #3	Inverter #4	Inverter #5-#6	Inverter #7-#8	Inverter #9-#10	Inverter #11-#12	Inverter #13	Inverter #14		
Manufacturer	Solectria	Solectria	Solectria	Solectria	Solectria	Solectria	Solectria	Solectria	Solectria	Solectria	
Model	PVI-28TL	PVI-28TL	PVI-36TL	PVI-36TL	PVI-36TL	PVI-36TL	PVI-36TL	PVI-23TL	PVI-36TL	PVI-23TL	
Voltage AC	480	480	480	480	480	480	480	480	480	480	
Nominal AC Output Power	28 kW	28 kW	36 kW	36 kW	36 kW	36 kW	36 kW	23 kW	36 kW	36 kW	
CEC efficiency	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	
Number of Strings/inverter	5	5	6	6	6	6	6	3	6	6	
Number of Panels/string	22	22	22	22	22	22	22	22	22	22	
Number of Panels/inverter	110	110	132	132	132	132	132	66	132	132	
STC DC subsystem size	63.80 kW	31.90 kW	38.28 kW	76.56 kW	76.56 kW	76.56 kW	76.56 kW	19.14 kW	38.28 kW	38.28 kW	
PV Module Azimuth	196°	196°	196°	196°	196°	196°	196°	196°	196°	196°	
PV Module Tilt	10°	10°	10°	5°	5°	5°	5°	5°	5°	5°	
Racking MFG	RenuSol	RenuSol	RenuSol	Skyline	Skyline	Skyline	Skyline	Skyline	Skyline	Skyline	
Array Location	AutoZone	South Roof	Building 2	Structure 1	Structure 2	Structure 3	Structure 4	Structure 5	Structure 6		

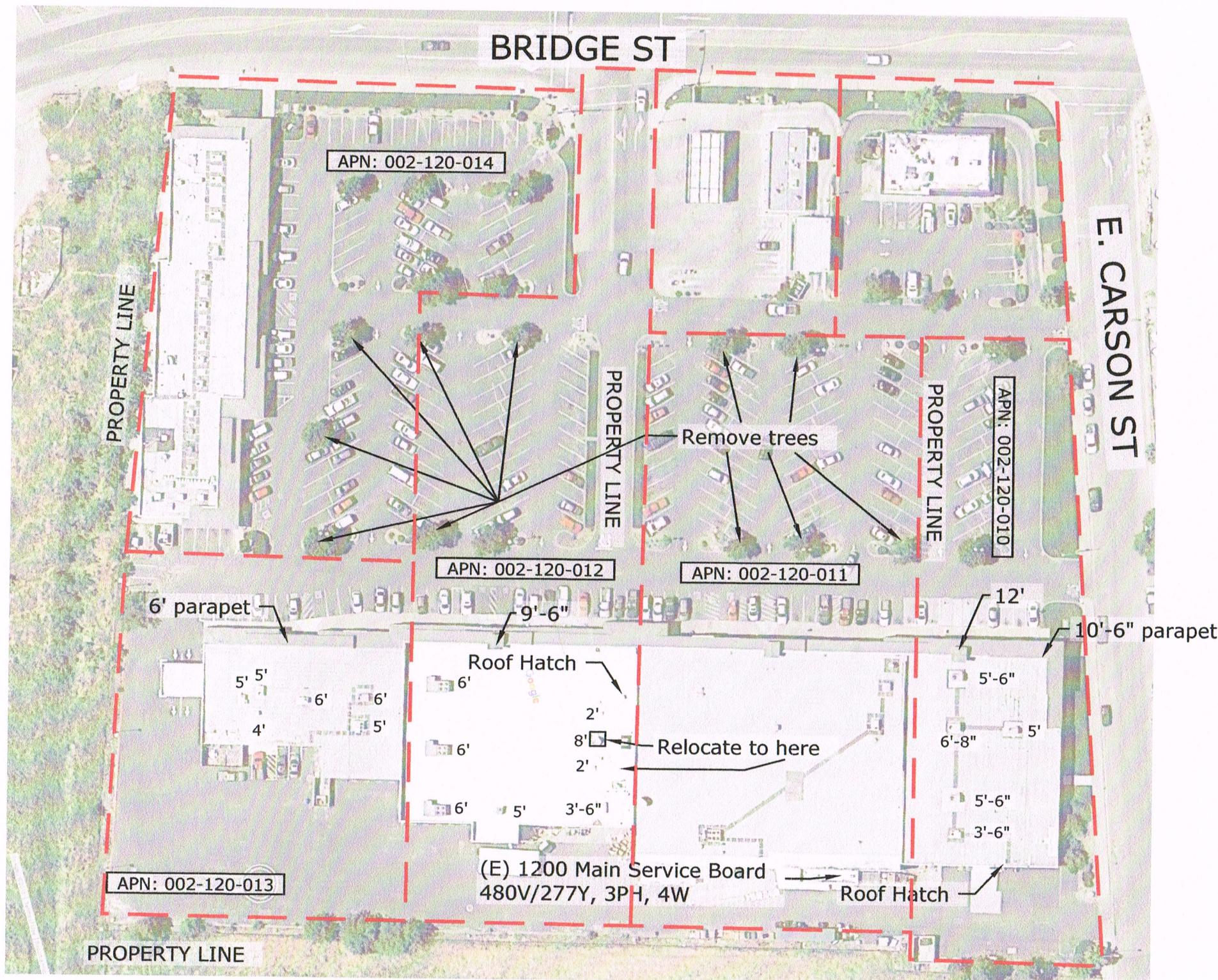


NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PVO.1
PROJECT DETAILS
DATE: 6-14-16
BY: JB
JOB NO.: C15-700.1



Zoning District:	M-U-B
Front Setbacks:	5'
Side & Rear Setbacks:	5'



PO BOX 10637
NAPA, CA 94581
PH: (707)-252-9990
REV. NO REV. DATE

NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PVO.2
PLOT PLAN

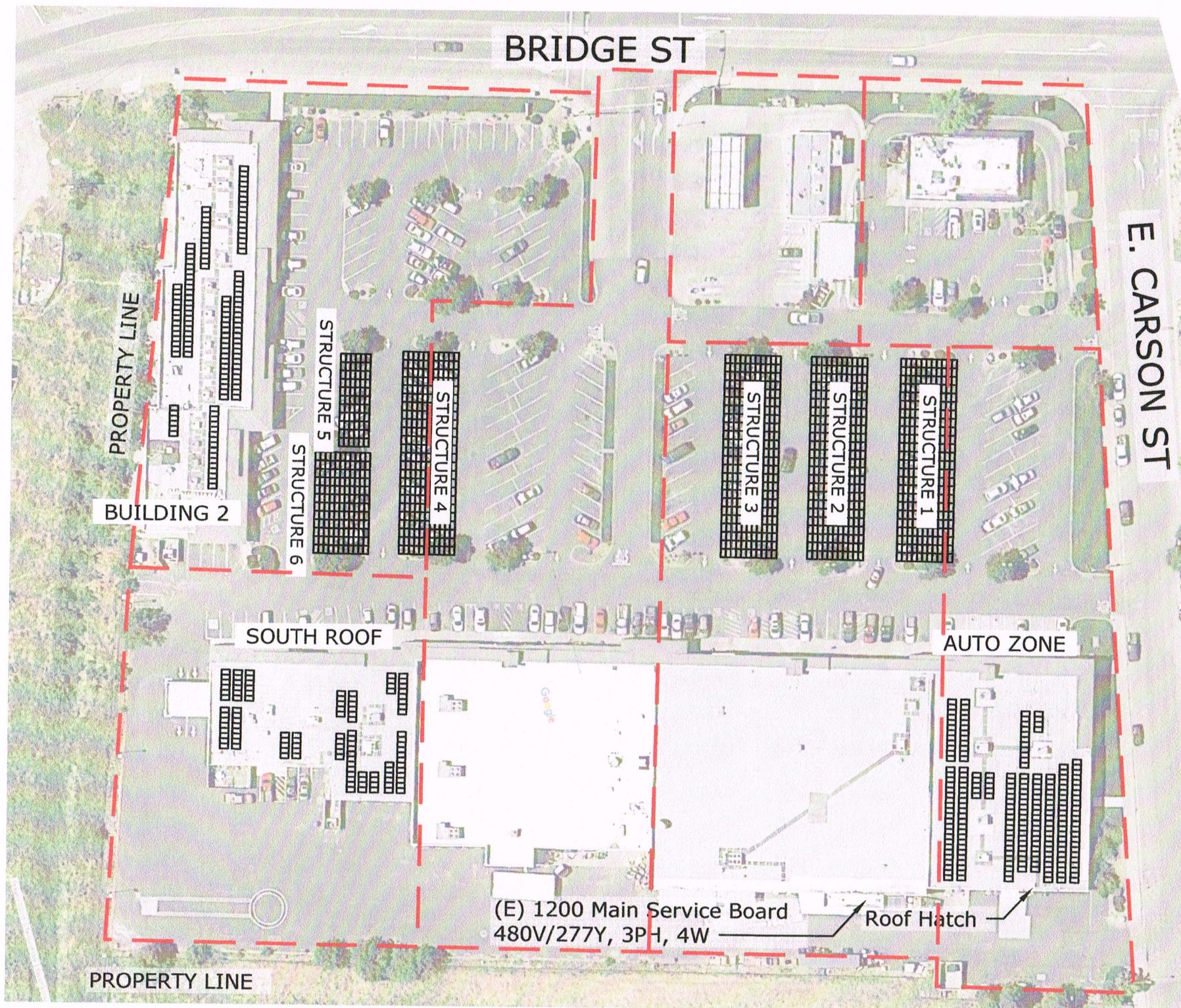


DATE: 6-14-16

BY: JB

JOB NO.: C15-700.1

Zoning District:	M-U-B
Front Setbacks:	5'
Side & Rear Setbacks:	5'



Scale: 1" = 80'

00 80 160



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PV0.3
PV SITE PLAN

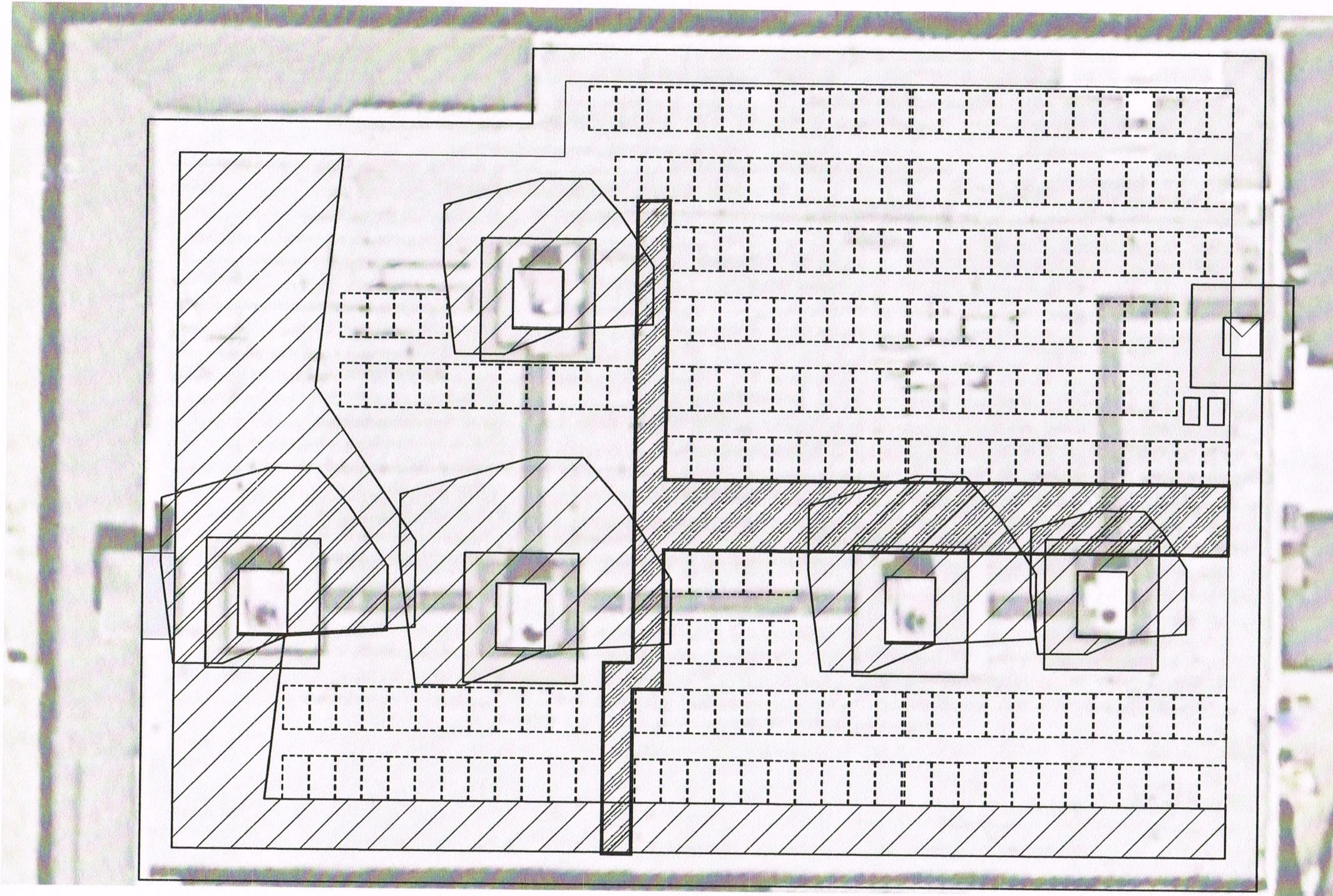
DATE: 6-14-16

BY: JB

JOB NO.: C15-700.1

BPI	PO BOX 10637
	NAPA, CA 94581
	PH: (707)-252-9990
	REV. NO
	REV. DATE

- : Shading Setback
- : 4' Equipment Access Perimeter
- : Fire Access Walkways



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PVO.4A

MODULE LAYOUT
OVERVIEW

DATE: 6-14-16

BY: JB

JOB NO.: C15-700.1



PO BOX 10637
NAPA, CA 94581
PH: (707)-252-9990
REV. NO REV. DATE



-  : Shading Setback
-  : 4' Equipment Access Perimeter
-  : Fire Access Walkways



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PVO.4B
MODULE LAYOUT
OVERVIEW

DATE:	6-14-16
BY:	JB
JOB NO.:	C15-700.1

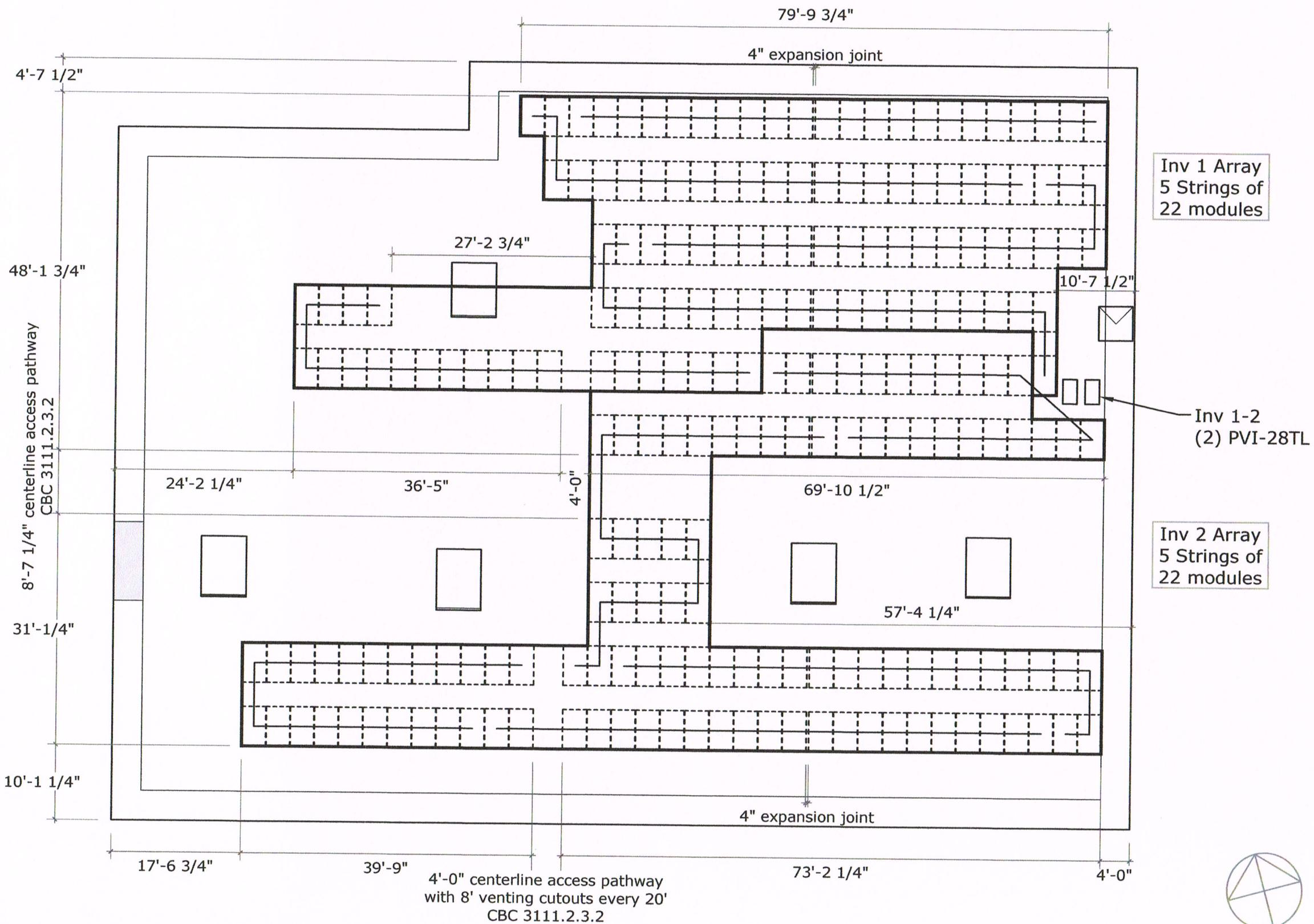


BPI
PO BOX 10637
NAPA, CA 94581
PH: (707)-252-9990
REV. NO. REV. DATE

BY

Roof Array Configuration:

2 Solectria PVI-28TL Inverters
220 ET Solar ET-M660290WB/WW 290W Modules
63.80 kW DC System Size



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PV0.5A
ROOF ARRAY
DIMENSIONS &
INVERTER
FOOTPRINTS

DATE: 6-14-16

BY: JB

JOB NO.: C15-700.1

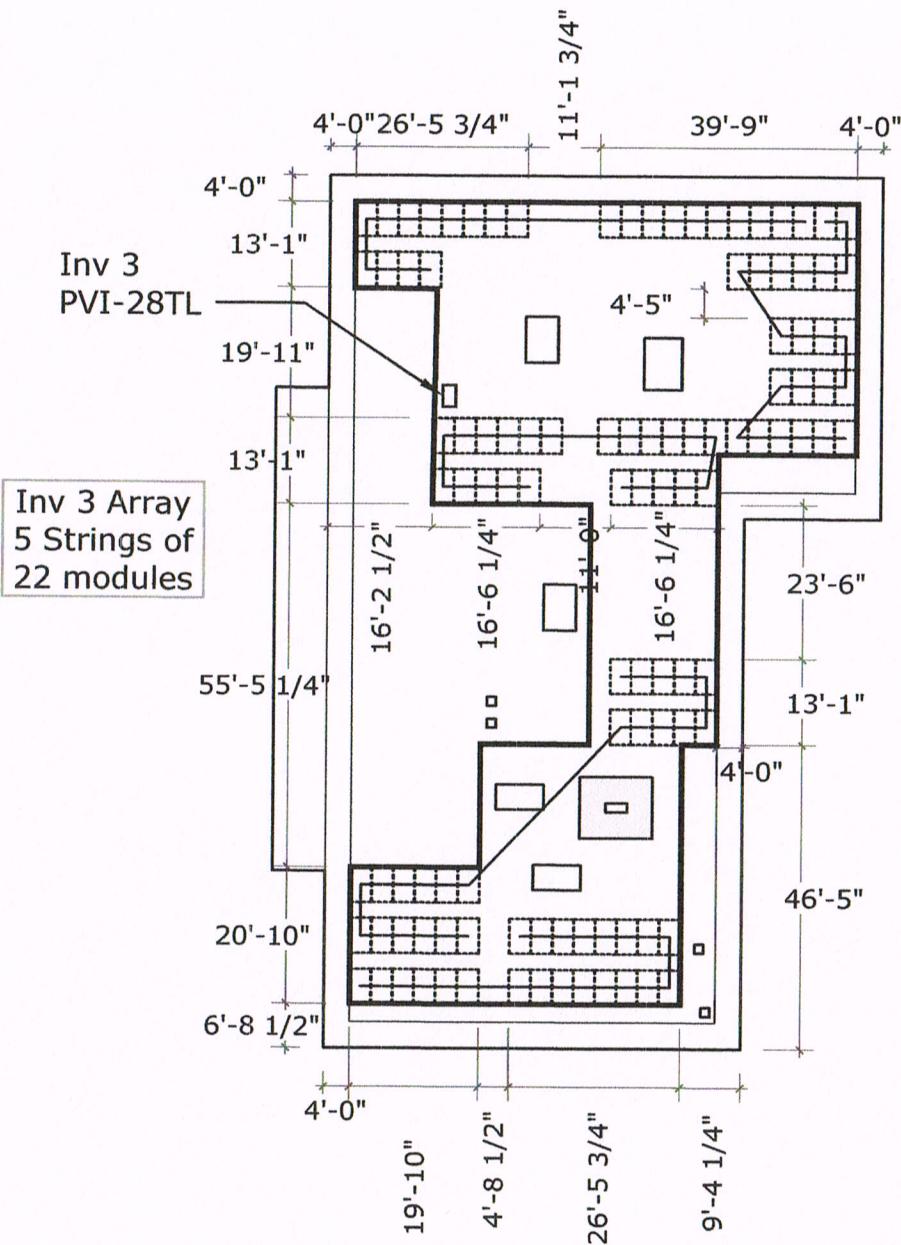
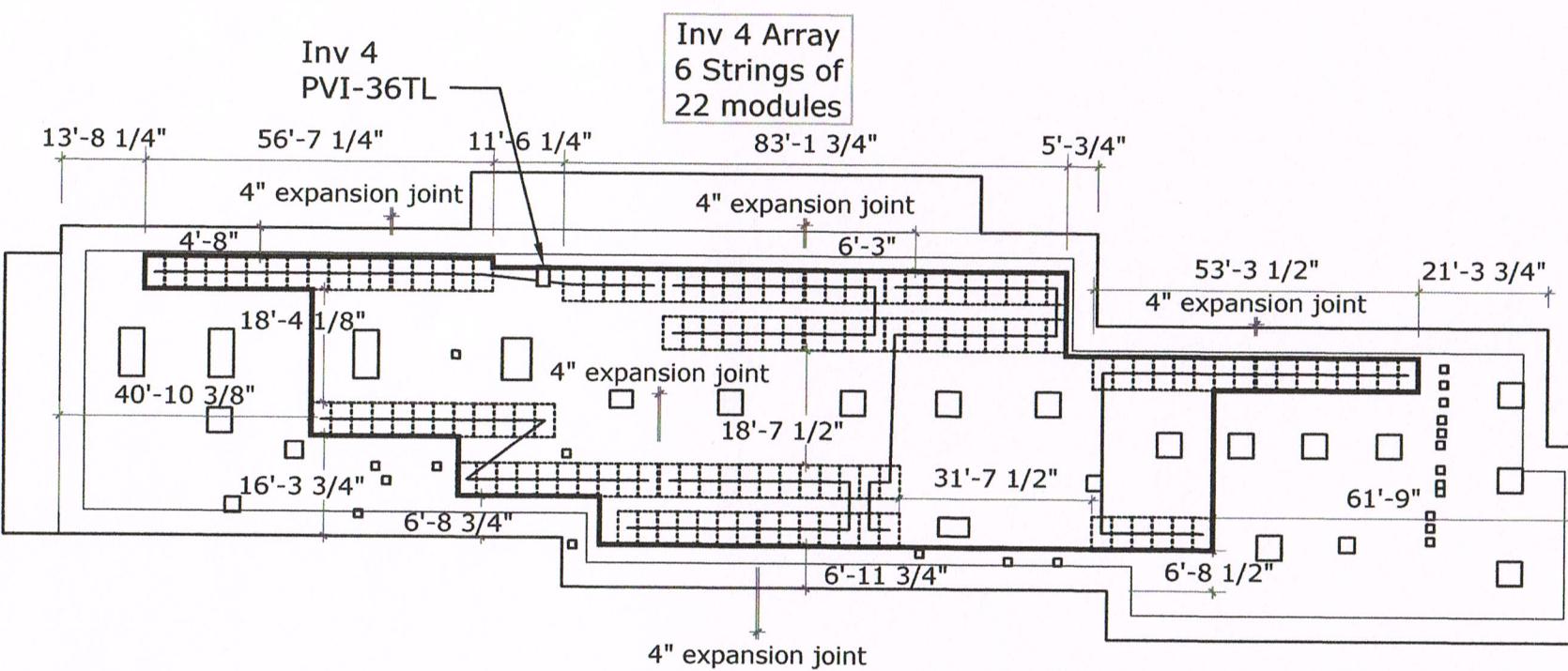


BPI

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NAPA, CA 94581
PH: (707)-252-9990
REV. NO. REV. DATE

Roof Array Configuration:

1 Solectria PVI-36TL Inverter
 1 Solectria PVI-28TL Inverter
 242 ET Solar ET-M660290WB/WW 290W Modules
 70.18 kW DC System Size



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PV0.5B
ROOF ARRAY
DIMENSIONS &
INVERTER
FOOTPRINTS



DATE: 6-14-16

BY: JB

JOB NO.: C15-700.1



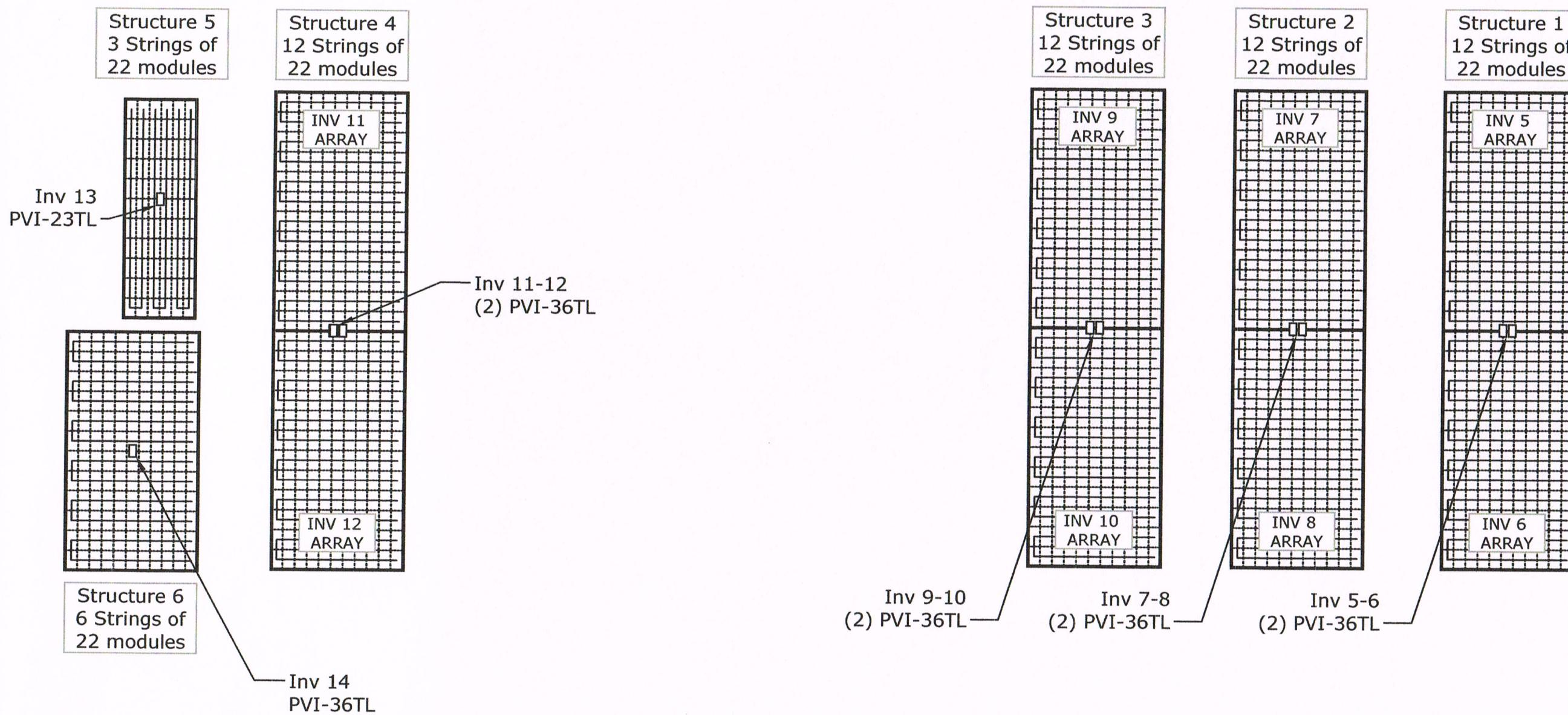
Solar Structure Array Configuration:

9 Solecchia PVI-36TL Inverters

1 Solecchia PVI-23TL Inverter

1,254 ET Solar ET-M660290WB/WW 290W Modules

363.66 kW DC System Size



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PV0.5C
SOLAR STRUCTURE
STRINGING
DIAGRAM &
INVERTER
FOOTPRINTS

DATE: 6-14-16

BY: JB

JOB NO.: C15-700.1



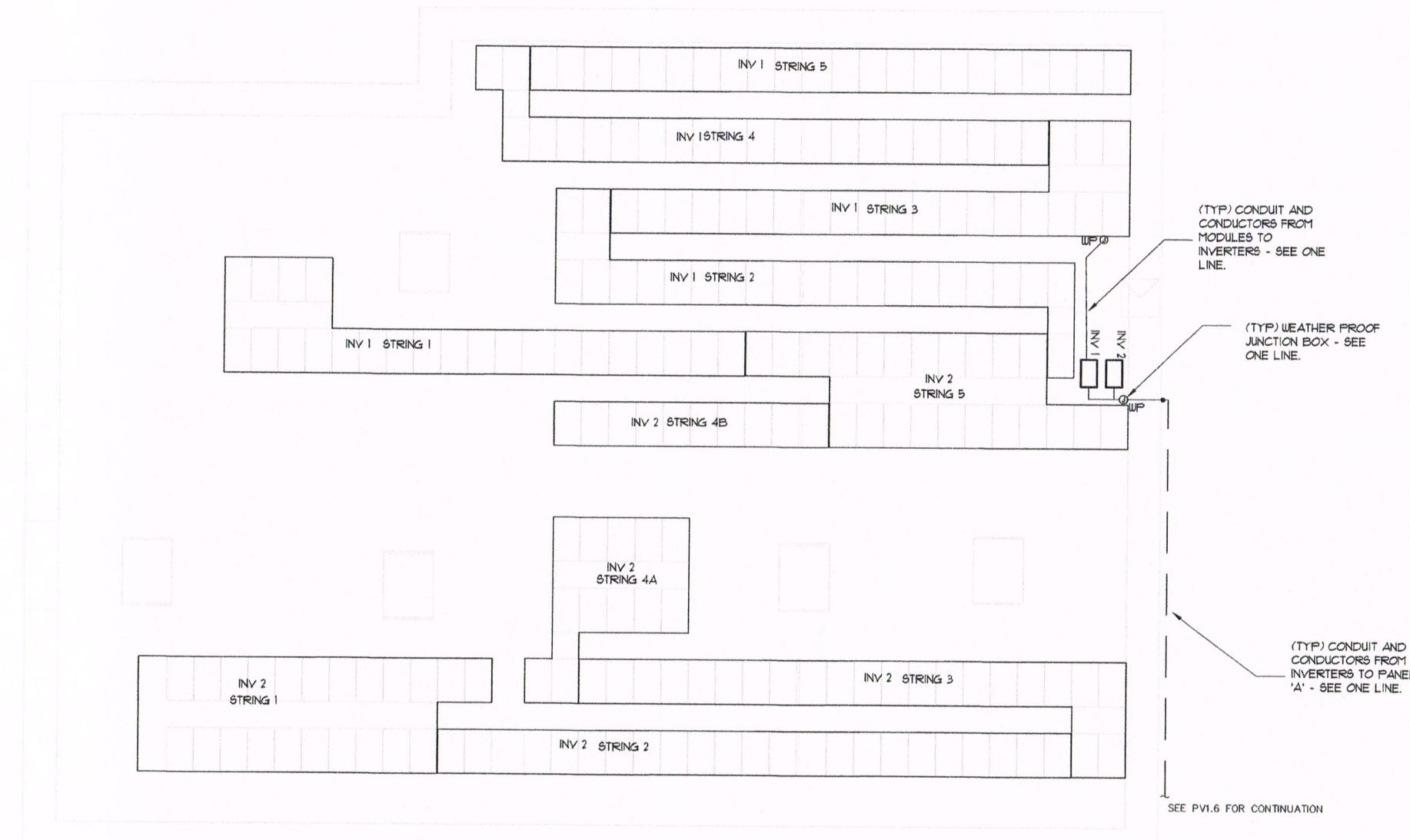
REV. NO. REV. DATE
PO BOX 10637
NAPA, CA 94581
PH: (707)-252-9990



220 ROOF MOUNTED SOLAR PHOTOVOLTAIC PANELS. SEE
STRUCTURAL SUBMITTALS FOR MOUNTING. SEE PV2.1 FOR
ELECTRICAL CONNECTIONS.

ROOF ARRAY CONFIGURATION:
2 SOLECTRIA PVI-28TL INVERTERS
220 ET SOLAR ET-M660290UBWW 290W MODULES
63.80 KW DC SYSTEM SIZE

P_{MAX} = 290 WATTS
I_{SC} = 9.59A
I_{MP} = 9.03A
V_{MP} = 32.12 VDC
V_{OC} = 39.68 VDC



AUTOZONE ROOF ARRAY PHOTOVOLTAIC PLAN

SCALE: 1/8"=1'-0"

1
PV1.1



REGISTERED PROFESSIONAL ENGINEER
SACRAMENTO ENGINEERING CONSULTANTS, INC.
1555 Old Riverville Road
Sacramento, CA 95823
Phone: (916) 356-4466
Fax: (916) 356-4460
www.senc.com
Job No. 16550
Date Signed: June 24, 2016

PV1.1

DATE: JUNE 2016

JOB NO.: 16550



PO BOX 10637
NAPA, CA 94581
PH: (707) 252-9990

NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

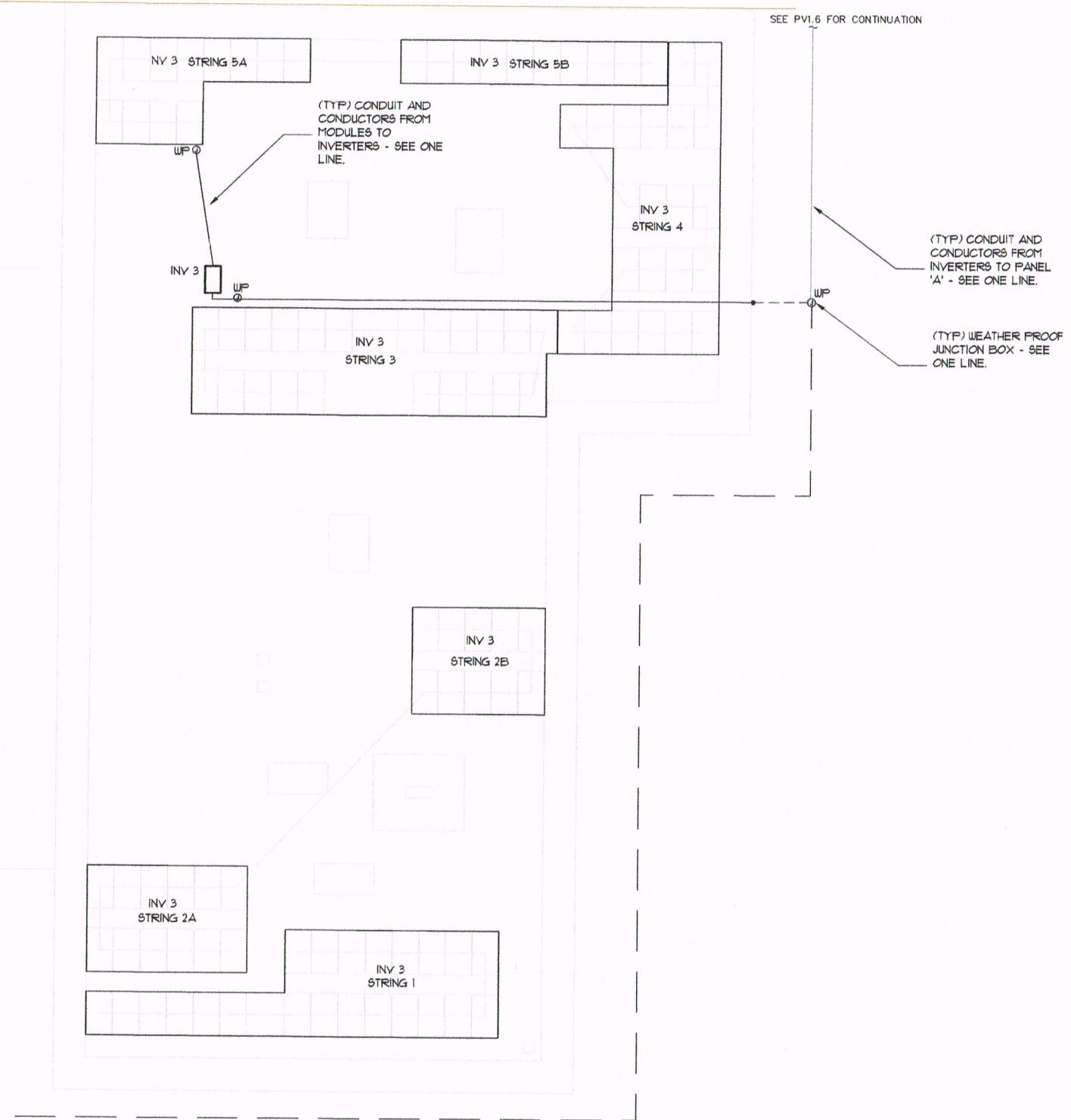
ARRAY
PLAN

BY

110 ROOF MOUNTED SOLAR PHOTOVOLTAIC PANELS. SEE
STRUCTURAL SUBMITTALS FOR MOUNTING. SEE PV2.1 FOR
ELECTRICAL CONNECTIONS.

ROOF ARRAY CONFIGURATION:
1 SOLECTRIA PV1-28TL INVERTERS
110 ET SOLAR ET-M6.60290WB/UW 290W MODULES
31.90 KW DC SYSTEM SIZE

P_{MAX} = 290 WATTS
I_{SC} = 3.59A
I_{MP} = 3.03A
V_{MP} = 32.12 Vdc
V_{OC} = 39.68 Vdc



SOUTH ROOF ARRAY PHOTOVOLTAIC PLAN

SCALE: 1/8"-1'-0"

1
PV1.2



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

BPI

PO BOX 10637
NAPA, CA 94581
PH: (707) 252-9990

REV. NO. REV. DATE

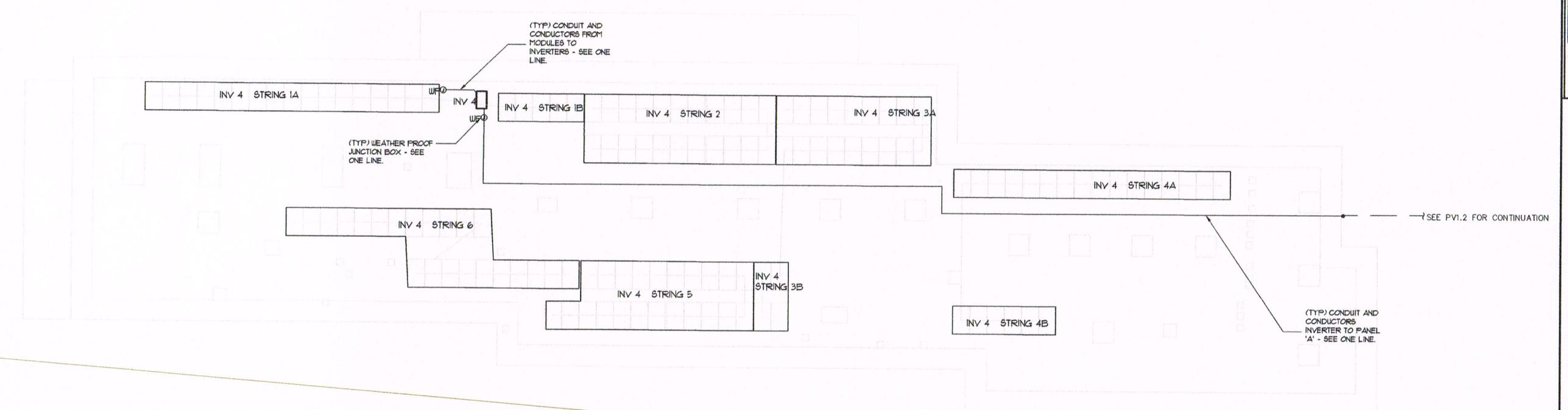
BY

PV1.2
DATE: JUNE 2016
JOB NO.: 16550

132 ROOF MOUNTED SOLAR PHOTOVOLTAIC PANELS. SEE
STRUCTURAL SUBMITTALS FOR MOUNTING. SEE PV1.1 FOR
ELECTRICAL CONNECTIONS.

ROOF ARRAY CONFIGURATION:
1 SOLECTRIA PVI-36TL INVERTERS
132 ET SOLAR ET-M660290UB/WU 290W MODULES
38.28 KW DC SYSTEM SIZE

P_{MAX} = 290 WATTS
I_{SC} = 9.59A
I_{MP} = 9.03A
V_{MP} = 32.12 Vdc
V_{OC} = 39.68 Vdc



BUILDING 2 ROOF ARRAY PHOTOVOLTAIC PLAN
SCALE: 1/10"=1'-0"

1
PV1.3

N



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011
ARRAY
PLAN

PV1.3
DATE: JUNE 2016
JOB NO.: 16550



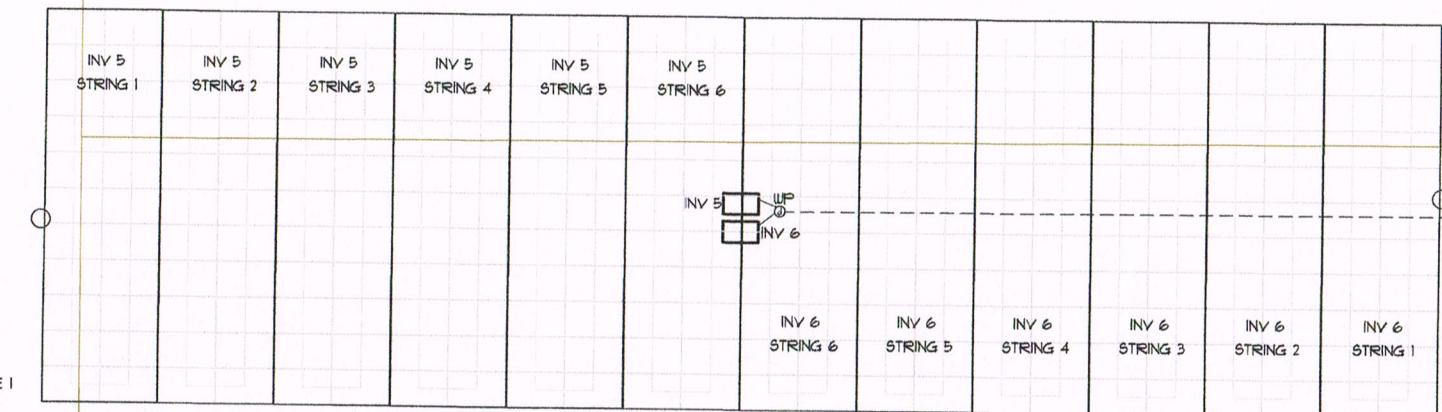
BY

792 ROOF MOUNTED SOLAR PHOTOVOLTAIC PANELS. SEE STRUCTURAL SUBMITTALS FOR MOUNTING. SEE PV2.1 FOR ELECTRICAL CONNECTIONS.

ROOF ARRAY CONFIGURATION:
6 SOLECTRA PV1-36TL INVERTERS
792 ET SOLAR ET-M60290W/UW 290W MODULES
229.68 KW DC SYSTEM SIZE

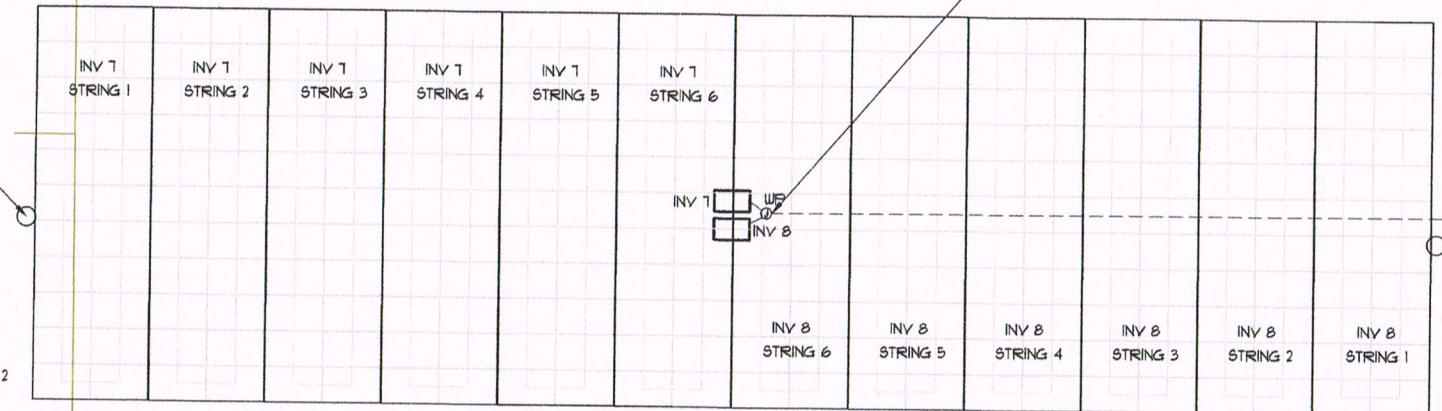
P_{MAX} = 290 WATTS
I_{SC} = 9.59A
I_{MP} = 9.03A
V_{MP} = 32.12 Vdc
V_{OC} = 39.68 Vdc

STRUCTURE 1

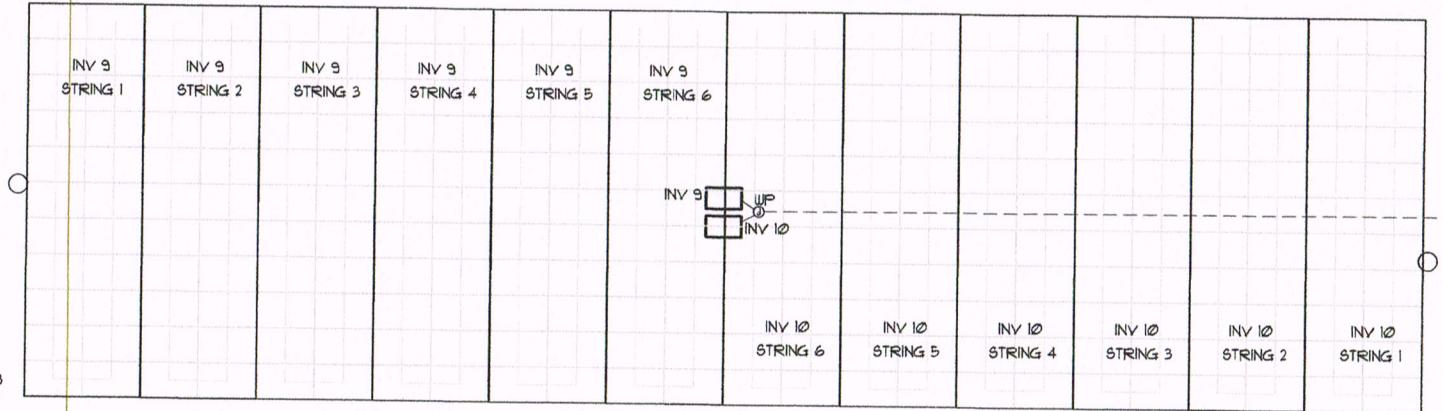


SEE PV1.6 FOR CONTINUATION

STRUCTURE 2



STRUCTURE 3



STRUCTURE 4, 5, & 6 ROOF ARRAY PHOTOVOLTAIC PLAN

SCALE: 1/8"=1'-0"

1
PV1.4



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PV1.4
DATE: JUNE 2016
JOB NO.: 16550

BY

REV. NO. REV. DATE

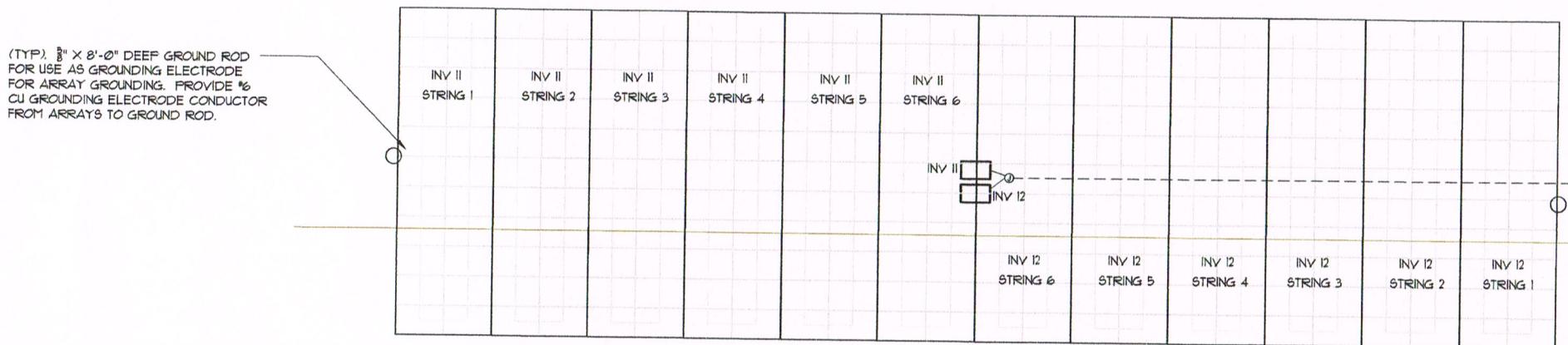


462 ROOF MOUNTED SOLAR PHOTOVOLTAIC PANELS. SEE STRUCTURAL SUBMITTALS FOR MOUNTING. SEE PV2.1 FOR ELECTRICAL CONNECTIONS.

ROOF ARRAY CONFIGURATION:
 3 SOLECTRIA PVI-36TL INVERTERS
 1 SOLECTRIA PVI-23TL INVERTER
 462 ET SOLAR ET-M660290UB/UW 290W MODULES
 133.98 KW DC SYSTEM SIZE

P_{MAX} = 290 WATTS
 I_{SC} = 9.59A
 I_{MP} = 9.03A
 V_{MP} = 32.12 VDC
 V_{OC} = 39.68 VDC

STRUCTURE 4



(TYP) CONDUIT AND CONDUCTORS FROM INVERTERS TO PANEL 'A' - SEE ONE LINE.

NSC1-COLUSA	
1017 BRIDGE ST	
COLUSA, CA 95932	
APN: 002-120-011	
ARRAY	PLAN
PV1.5	
DATE: JUNE 2016	
JOB NO.: 16550	

BPI

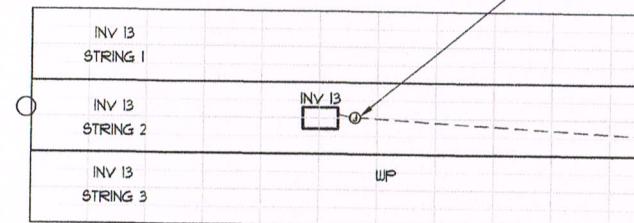
PO BOX 10637
NAPA, CA 94581
PH: (707) 252-9990

REV. NO. REV. DATE

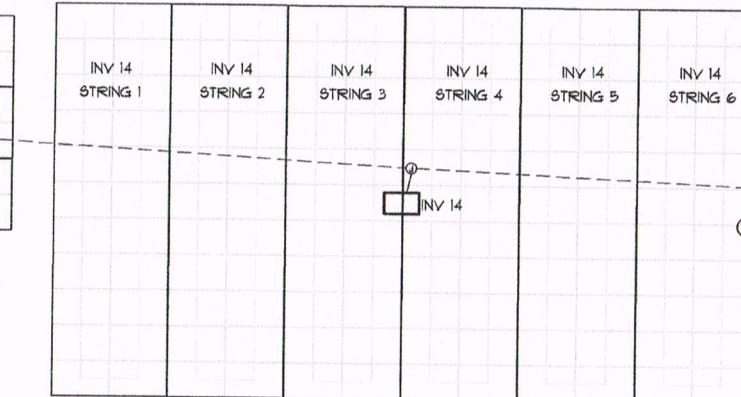
BY

(TYP) WEATHER PROOF JUNCTION BOX - SEE ONE LINE.

STRUCTURE 5



STRUCTURE 6



SEE PV1.6 FOR CONTINUATION

STRUCTURE 4, 5, & 6 ROOF ARRAY PHOTOVOLTAIC PLAN

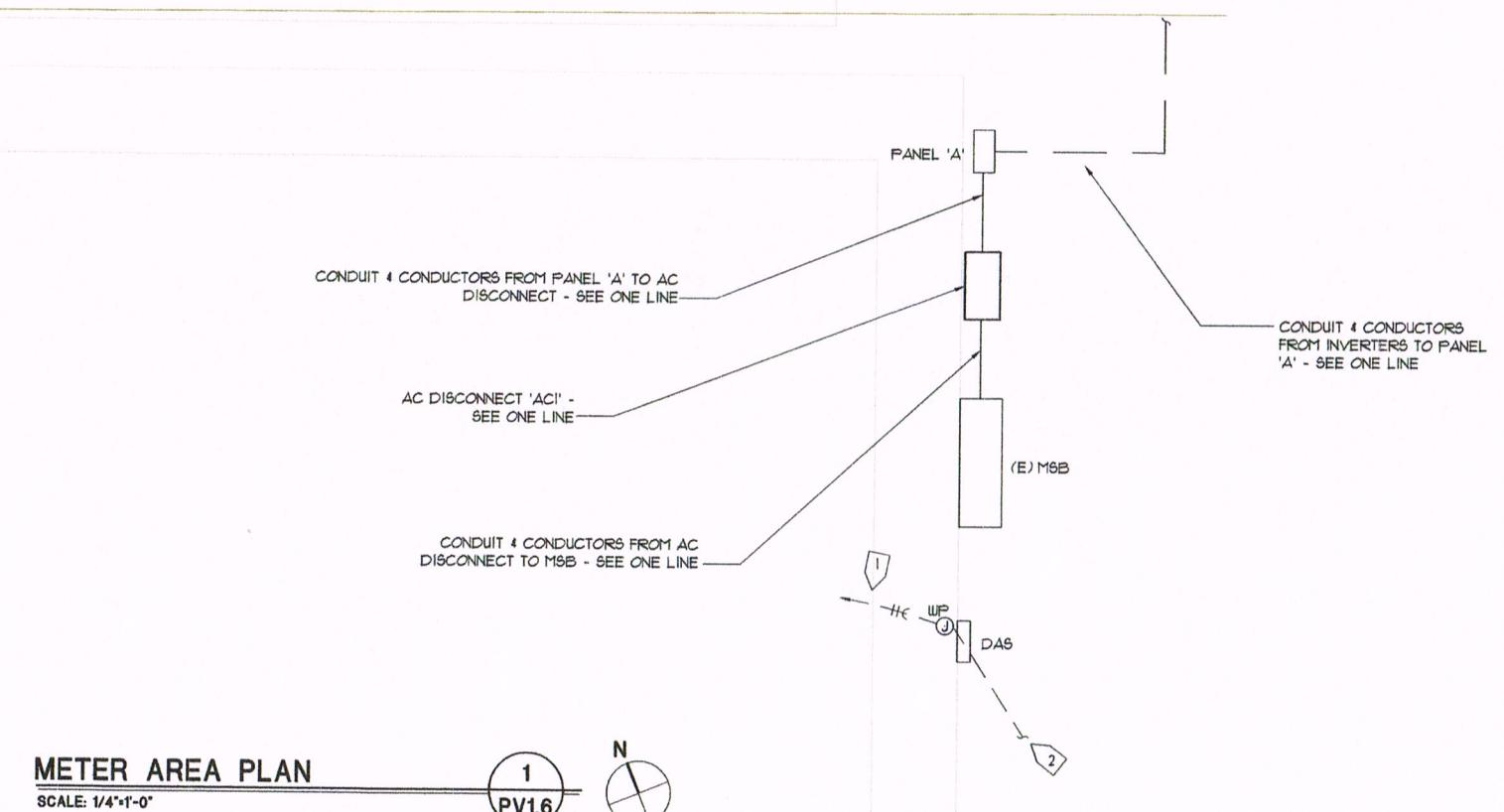
SCALE: 1/8"-1'-0"

1
PV1.5



NUMBERED NOTES

- [1] (2) #0, #0 G IN 2" C. TO NEAREST PANEL. PROVIDE 20A/1P BREAKER IN EXISTING PANEL, AND CONNECT DAS CIRCUIT TO NEW BREAKER.
- [2] (1) 1" DATA CONDUIT TO DATA CONNECTION POINT - SEE ONE LINE. FIELD ROUTE. ALTERNATELY, WIRELESS CONNECTION MAY BE PROVIDED.



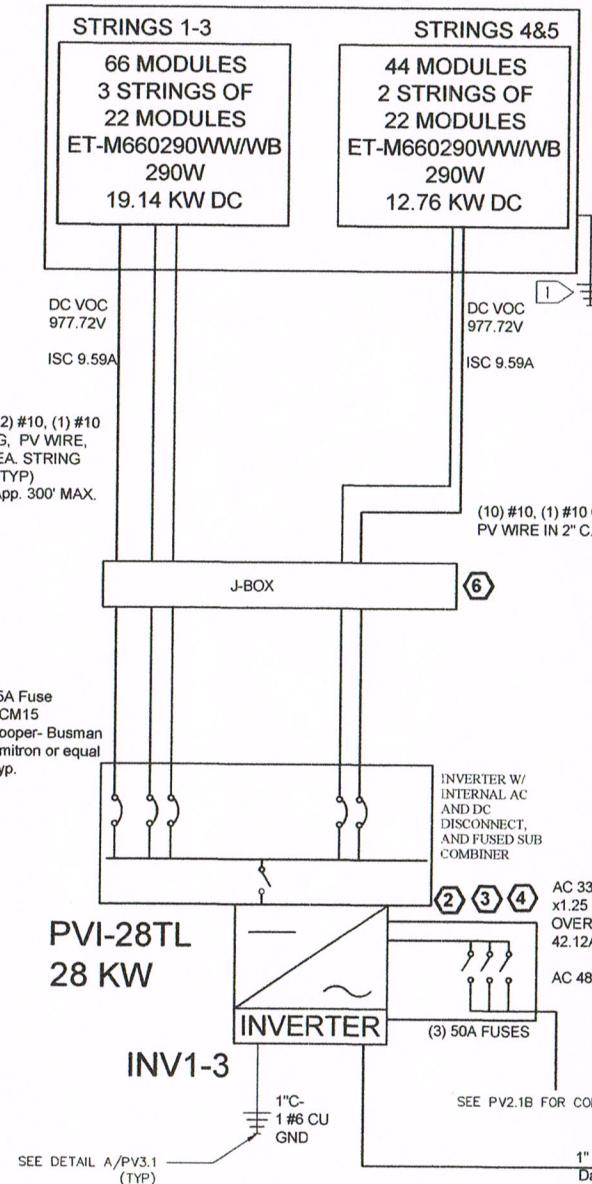
NSG1-COLUSA	1017 BRIDGE ST
	COLUSA, CA 95932
	APN: 002-120-011
METER-AREA PLAN	

PV1.6	
DATE: JUNE 2016	
JOB NO.: 16550	



Array Configuration:
 10 SOLECTRIA PVI-36TL INVERTERS
 3 SOLECTRIA PVI-28TL INVERTERS
 1 SOLECTRIA PVI-23TL INVERTER
 INVERTER 1-3: 5 STRINGS OF 22 MODULES
 INVERTER 4-12 & 14: 6 STRINGS OF 22 MODULES
 INVERTER 13: 3 STRINGS OF 22 MODULES
 1716 ET SOLAR ET-M660290WB/WW 290W MODULES TOTAL, 33 STRINGS
 TOTAL
 Note: For specifications of solar equipment see attached cut sheets.

INVERTER 1-3



INTERCONNECTION STANDARDS COMPLIANCE

The Inverters listed have been tested and listed by Underwriters Laboratories to be in compliance with UL1741 Statistic Inverters And Charge Controllers For Use In Photovoltaic Power Systems, as well as IEEE-929-2000 Recommended Practice For Utility Interface Of Photovoltaic (PV) Systems.

IEEE-929-2000 provides guidance regarding equipment and function necessary to ensure compatible operation of photovoltaic systems which are connected in parallel with the electric utility. UL 1741 is the standard applied by Underwriters Laboratory to the Inverter to verify it meets the recommendations of IEEE-929-2000.

Refer to both documents for details of these Recommendations and test procedures.

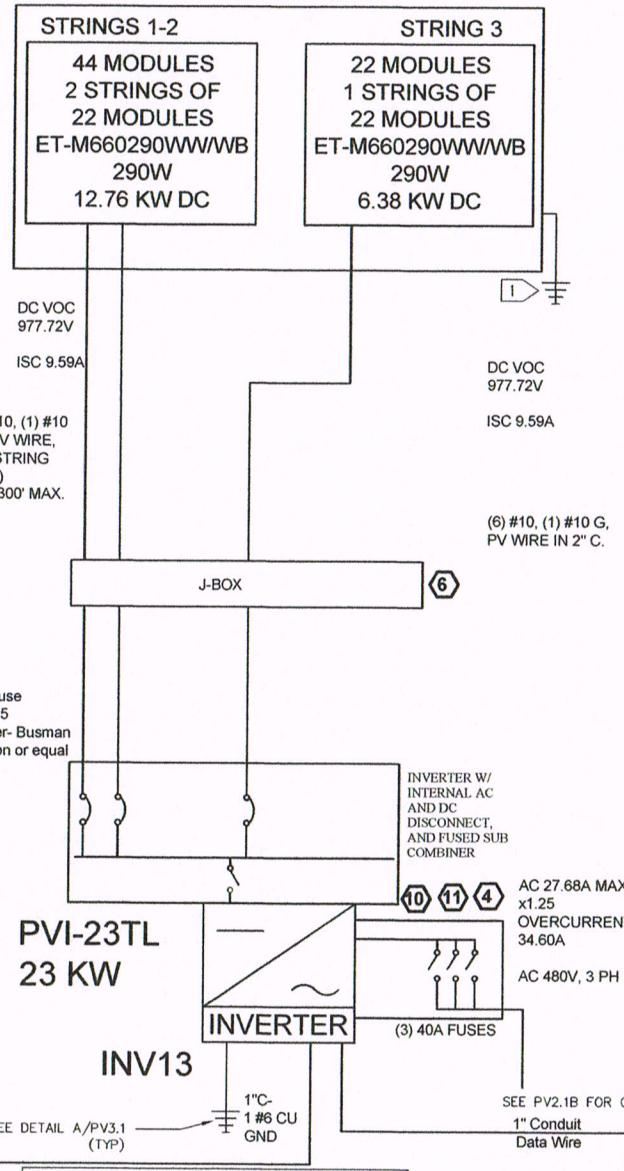
AC Disconnect is accessible, and lockable.

Single line diagrammatic only actual layout determined by existing conditions.
All hazardous transmission lines to be labeled:
"CAUTION-Electrical Hazard"

NUMBERED NOTES

① PROVIDE #6 CU GROUNDING ELECTRODE CONDUCTOR FROM ARRAYS TO BUILDING GROUND, PER ARTICLE 250, CEC.

INVERTER 13



- ELECTRICAL SIGNAL NOTES REFER TO PV4.1 FOR DETAILS
- ② PHOTOVOLTAIC ARRAY DC DISCONNECT OPERATING CURRENT: 45.15 A OPERATING VOLTAGE: 791.44 V MAX. SYSTEM VOLTAGE: 977.72 V SHORT-CIRCUIT CURRENT: 47.95 A
 - ③ PHOTOVOLTAIC ARRAY AC DISCONNECT OPERATING CURRENT: 33.69 A OPERATING VOLTAGE: 480 V
 - ④ WARNING! ELECTRIC SHOCK HAZARD. THE DIRECT CURRENT CIRCUIT CONDUCTORS OF THIS PV SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED WITH RESPECT TO GROUND DUE TO LEAKAGE PATHS AND OR GROUND FAULTS.
 - ⑤ CAUTION: SOLAR CIRCUIT
 - ⑥ PHOTOVOLTAIC ARRAY DC DISCONNECT OPERATING CURRENT: 54.18 A OPERATING VOLTAGE: 791.44 V MAX. SYSTEM VOLTAGE: 977.72 V SHORT-CIRCUIT CURRENT: 57.54 A
 - ⑦ PHOTOVOLTAIC ARRAY AC DISCONNECT OPERATING CURRENT: 43.32 A OPERATING VOLTAGE: 480 V
 - ⑧ PHOTOVOLTAIC ARRAY DC DISCONNECT OPERATING CURRENT: 27.09 A OPERATING VOLTAGE: 791.44 V MAX. SYSTEM VOLTAGE: 977.72 V SHORT-CIRCUIT CURRENT: 28.77 A
 - ⑨ PHOTOVOLTAIC ARRAY AC DISCONNECT OPERATING CURRENT: 27.68 A OPERATING VOLTAGE: 480 V
 - ⑩ PHOTOVOLTAIC ARRAY DC DISCONNECT OPERATING CURRENT: 27.68 A OPERATING VOLTAGE: 791.44 V MAX. SYSTEM VOLTAGE: 977.72 V SHORT-CIRCUIT CURRENT: 28.77 A
 - ⑪ PHOTOVOLTAIC ARRAY AC DISCONNECT OPERATING CURRENT: 27.68 A OPERATING VOLTAGE: 480 V



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APN: 002-120-011

SINGLE-LINE
DIAGRAM

PV2.1A

1716 ET SOLAR ET-M660290WB/WW 290W MODULES 497.64 kW DC Power

INV #1-3 CALCULATIONS			
MPPT#	# OF STRINGS	# OF PANELS	KW
1	3	66	19.14
2	2	44	12.76
TOTAL	5	110	31.90
INV #4-12 & 14 CALCULATIONS			
MPPT#	# OF STRINGS	# OF PANELS	KW
1	3	66	19.14
2	3	66	19.14
TOTAL	6	132	38.28
INV #13 CALCULATIONS			
MPPT#	# OF STRINGS	# OF PANELS	KW
1	2	44	12.76
2	1	22	6.38
TOTAL	3	66	19.14

Module Model	ET SOLAR ET-M660290WB/WW 290W	Modules per string	22	Voltage Correction Factor	1.12 (Table A)
Module Max Power	290 W	String output		Corrected String Output	
Maximum Power Voltage (V _{PMAX})	32.12 V		706.64 V		791.44 V
Maximum Power Current (I _{PMAX})	9.03 A		9.03 A		9.03 A
Open-circuit voltage (V _{OC})	39.88 V		872.96 V		977.72 V (Not to Exceed 1000V)
Short-circuit current (I _{SC})	9.59 A		9.59 A		9.59 A
Fuse Size	15 A				

# of Strings	1	Factored	1.25	1.5625
Max Voltage	791.44 V	791.44	791.44 V	
Max Current	9.03 A	11.29 ^a	14.11 A	
Open Circuit Voltage	977.7152 V	977.72	977.72 V	
Short Circuit Current	9.59 A	11.99	14.98 A	

Table A (NEC 690.7)		
Celsius	Fahrenheit	Factor
-4 to 10	58 to 50	1.06
9 to 5	49 to 41	1.08
4 to 0	40 to 32	1.1
(-1 to -5)	31 to 23	1.12
(-6 to -10)	22 to 14	1.14



Array Configuration:
 10 SOLECTRIA PVI-36TL INVERTERS
 3 SOLECTRIA PVI-28TL INVERTERS
 1 SOLECTRIA PVI-23TL INVERTER
 INVERTER 1-3: 5 STRINGS OF 22 MODULES
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 1716 ET SOLAR ET-M660290WB/WW 290W MODULES TOTAL, 33 STRINGS
 TOTAL
 Note: For specifications of solar equipment see attached cut sheets.

1716 ET SOLAR ET-M660290WB/WW 290W MODULES 497.64 kW DC Power

INTERCONNECTION STANDARDS COMPLIANCE

AC Disconnect is accessible, and lockable.
 The Inverters listed have been tested and listed by Underwriters Laboratories to be in compliance with UL1741 Statistic Inverters And Charge Controllers For Use In Photovoltaic Power Systems, as well as IEEE-929-2000 Recommended Practice For Utility Interface Of Photovoltaic (PV) Systems.

IEEE-929-2000 provides guidance regarding equipment and function necessary to ensure compatible operation of photovoltaic systems which are connected in parallel with the electric utility. UL 1741 is the standard applied by Underwriters Laboratory to the Inverter to verify it meets the recommendations of IEEE-929-2000.

Refer to both documents for details of these Recommendations and test procedures.

BY

Single line diagrammatic only actual layout determined by existing conditions.
 All hazardous transmission lines to be labeled:
 "CAUTION-Electrical Hazard"

AC 56191A MAX
 $\times 125$ OVERCURRENT
 102.41A

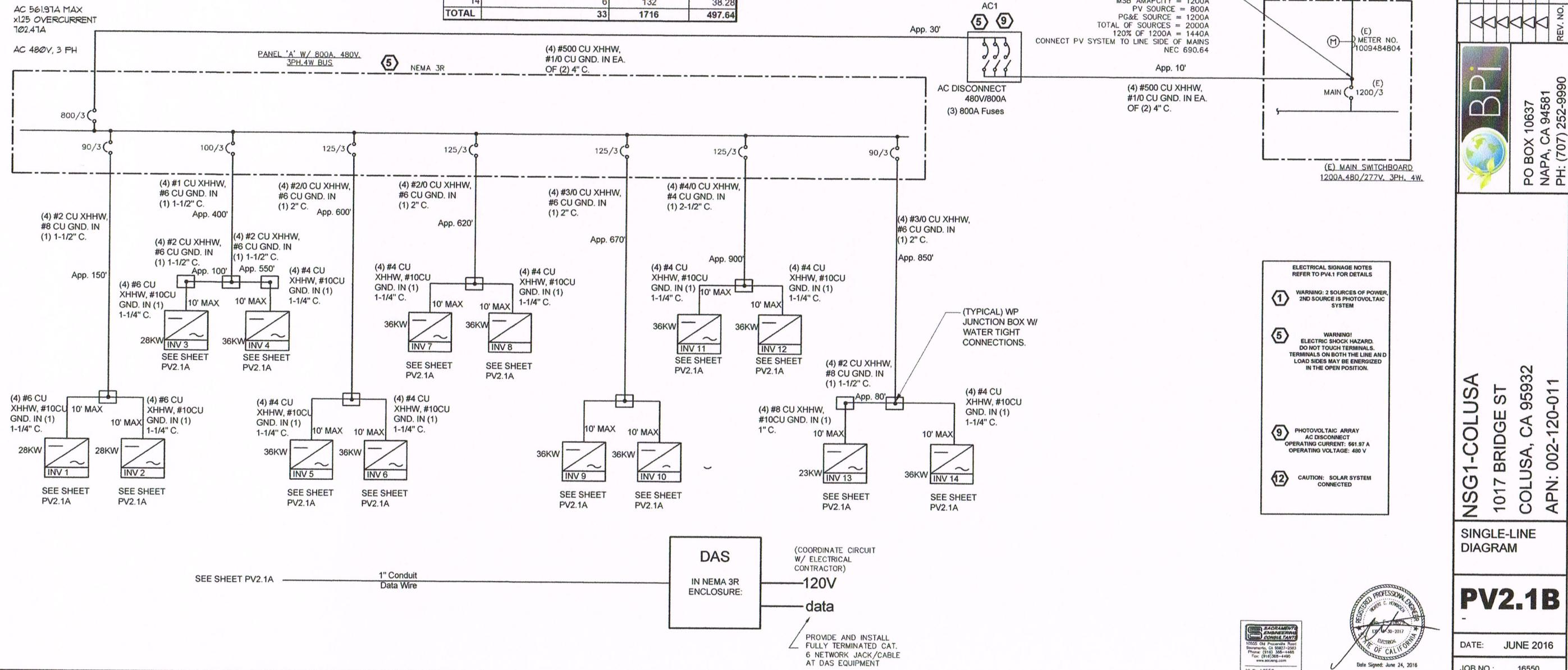
AC 480V, 3 PH

PANEL 'A' W/ 800A, 480V,
3PH, 4W BUS

⑤

NEMA 3R

TOTAL SYSTEM CALCULATIONS			
INV#	# OF STRINGS	# OF PANELS	KW
1	5	110	31.90
2	5	110	31.90
3	5	110	31.90
4	6	132	38.28
5	6	132	38.28
6	6	132	38.28
7	6	132	38.28
8	6	132	38.28
9	6	132	38.28
10	6	132	38.28
11	6	132	38.28
12	6	132	38.28
13	3	66	19.14
14	6	132	38.28
TOTAL	33	1716	497.64



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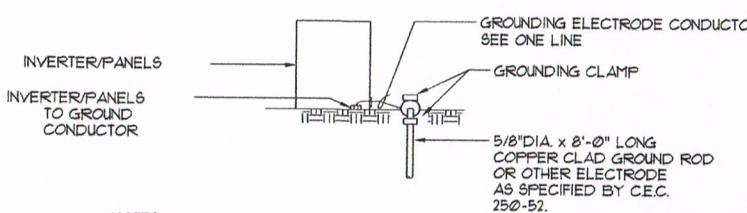
NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

SINGLE-LINE
DIAGRAM

PV2.1B

DATE: JUNE 2016
JOB NO.: 16550





NOTES:

1. SIZE OF CONDUCTORS SHALL COMPLY WITH C.E.C. 250-94
2. BOND TO SEPARATE CONDUCTORS FROM INVERTER TO METAL BUILDING FRAME IF POSSIBLE (C.E.C. 250-68).
3. GROUND TO METAL WATER PIPE EMBEDDED AT LEAST 10'-0" INTO THE SOIL IF AVAILABLE (C.E.C. 250-68).
4. CHECK RESISTANCE TO GROUND. IF RESISTANCE EXCEEDS 25 OHMS, INSTALL ADDITIONAL GROUND RODS WITH CONDUCTORS AS SHOWN SEPARATED AT LEAST 6'-0" UNTIL RESISTANCE IS REDUCED TO 25 OHMS OR LESS (C.E.C. 250-52). PROVIDE THIRD PARTY GROUND RESISTANCE TEST.
5. PROVIDE GAS AND WATER BOND (IF APPLICABLE).

GROUNDING ELECTRODE DATA

SCALE: NONE

1

VOLTAGE DROP CALCULATOR																
JOB NAME: JOB #:		NSG1-COLUSA 16550			ENTER	FOR	NOTES:									
					1	AL IN AIR	P.F. = POWER FACTOR % V.D. = VOLTAGE DROP % CB = COMBINER BOX									
					2	CU IN PVC										
					3	CU IN EMT										
					4	AL IN PVC										
					5	CU IN AIR										
					B AL IN EMT								ALUMINUM OPTION			
ARRAY	CONSTANT	DISTANCE	RUNS	WIRE	I	R	VOLTS	PHASE	VD	% V.D.	CONSTANT	RUNS	WIRE	R	VD	% V.D.
TYP STR 22 MODS	5	300	1	#10	9.03	1.21	791.44	1	6.56	0.83	1	1	#8	1.26	6.83	0.86
36 KW INV 4-12.14	3	10	1	#4	43.32	0.31	480	3	0.23	0.05	6	1	#2	0.32	0.24	0.05
28 KW INV 1,2,3	3	10	1	#6	33.69	0.49	480	3	0.29	0.06	6	1	#4	0.51	0.30	0.06
23 KW INV 13	3	10	1	#8	27.68	0.78	480	3	0.37	0.08	6	1	#6	0.81	0.38	0.08
INV 1,2	3	30	1	#2	67.39	0.2	480	3	0.70	0.15	6	1	#10	0.2	0.70	0.15
INV 1,2	2	120	1	#2	67.39	0.19	480	3	2.66	0.55	4	1	#10	0.2	2.80	0.58
INV 3	3	50	1	#2	33.69	0.2	480	3	0.58	0.12	6	1	#10	0.2	0.58	0.12
INV 3	2	50	1	#2	33.69	0.19	480	3	0.55	0.12	4	1	#10	0.2	0.58	0.12
INV 4	3	200	1	#2	43.32	0.2	480	3	3.00	0.62	6	1	#10	0.2	3.00	0.62
INV 4	2	350	1	#2	43.32	0.19	480	3	4.98	1.04	4	1	#10	0.2	5.25	1.09
INV 3,4	2	400	1	#1	77.02	0.15	480	3	7.99	1.67	4	1	#20	0.16	8.53	1.78
INV 5,6	2	600	1	#20	86.64	0.1	480	3	8.89	1.87	4	1	#40	0.1	8.99	1.87
INV 7,8	2	620	1	#20	86.64	0.1	480	3	9.29	1.94	4	1	#40	0.1	9.29	1.94
INV 9,10	2	670	1	#30	86.64	0.077	480	3	7.73	1.61	4	1	#250	0.095	8.54	1.78
INV 11,12	2	900	1	#40	86.64	0.052	480	3	8.36	1.74	4	1	#300	0.071	9.58	2.00
INV 13	2	60	1	#2	27.68	0.19	480	3	0.73	0.15	4	1	#10	0.2	0.77	0.16
INV 13,14	2	850	1	#30	71.00	0.077	480	3	8.04	1.67	4	1	#250	0.085	8.87	1.85
PANEL 'A'	3	30	2	#500	561.97	0.029	480	3	0.42	0.09	6	2	#700	0.035	0.51	0.11
DISC	3	10	2	#500	561.97	0.029	480	3	0.14	0.03	6	2	#700	0.035	0.17	0.04
MAX VOLTAGE DROP IN SINGLE RUN (%)										1.94						2.00
TOTAL VOLTAGE DROP (A/C + D/C) %										4.62						4.80

CABLE SIZING CALCULATIONS								ALUMINUM OPTION			
ARRAY	RUNS	CU WIRE	CU CABLE AMPACITY	LOAD (AMPS)	FACTOR	REQUIRED CABLE AMPACITY	MAX. PERMISSIBLE OCP	OCP PROVIDED	RUNS	AL WIRE	AL CABLE AMPACITY
TYP STR 22 MODS	1	#10	35.00	9.03	1.5625	14.11	15.00	15.00	1	#8	40.00
96 KWINV 4-12,14	1	#4	85.00	48.92	1.25	54.15	60.00	60.00	1	#2	90.00
28 KWINV 1,2,3	1	#6	65.00	33.69	1.25	42.12	50.00	50.00	1	#4	65.00
23 KWINV 13	1	#8	50.00	27.68	1.25	34.60	40.00	40.00	1	#6	50.00
INV 1,2	1	#2	115.00	67.39	1.25	84.24	90.00	90.00	1	#10	120.00
INV 1,2	1	#2	115.00	67.39	1.25	84.24	90.00	90.00	1	#10	120.00
INV 3	1	#2	115.00	33.69	1.25	42.12	50.00	50.00	1	#10	120.00
INV 3	1	#2	115.00	33.69	1.25	42.12	50.00	50.00	1	#10	120.00
INV 4	1	#2	115.00	43.32	1.25	54.15	60.00	60.00	1	#10	120.00
INV 4	1	#2	115.00	43.32	1.25	54.15	60.00	60.00	1	#10	120.00
INV 3,4	1	#1	130.00	77.02	1.25	96.27	100.00	100.00	1	#20	135.00
INV 5,6	1	#20	175.00	86.64	1.25	108.30	125.00	125.00	1	#40	180.00
INV 7,8	1	#20	175.00	86.64	1.25	108.30	125.00	125.00	1	#40	180.00
INV 9,10	1	#30	200.00	86.64	1.25	108.30	125.00	125.00	1	#250	205.00
INV 11,12	1	#40	230.00	86.64	1.25	108.30	125.00	125.00	1	#300	230.00
INV 13	1	#2	115.00	27.68	1.25	34.60	40.00	40.00	1	#10	120.00
INV 13,14	1	#30	200.00	71.00	1.25	88.75	100.00	100.00	1	#250	205.00
PANEL 'A'	2	#500	760	561.97	1.25	702.47	800.00	800.00	2	#700	750.00
DISC	2	#500	760	561.97	1.25	702.47	800.00	800.00	2	#700	750.00



NSCG1-COLUSA
10117 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PV3.1

DATE: JUNE 2016
JOB NO.: 16550

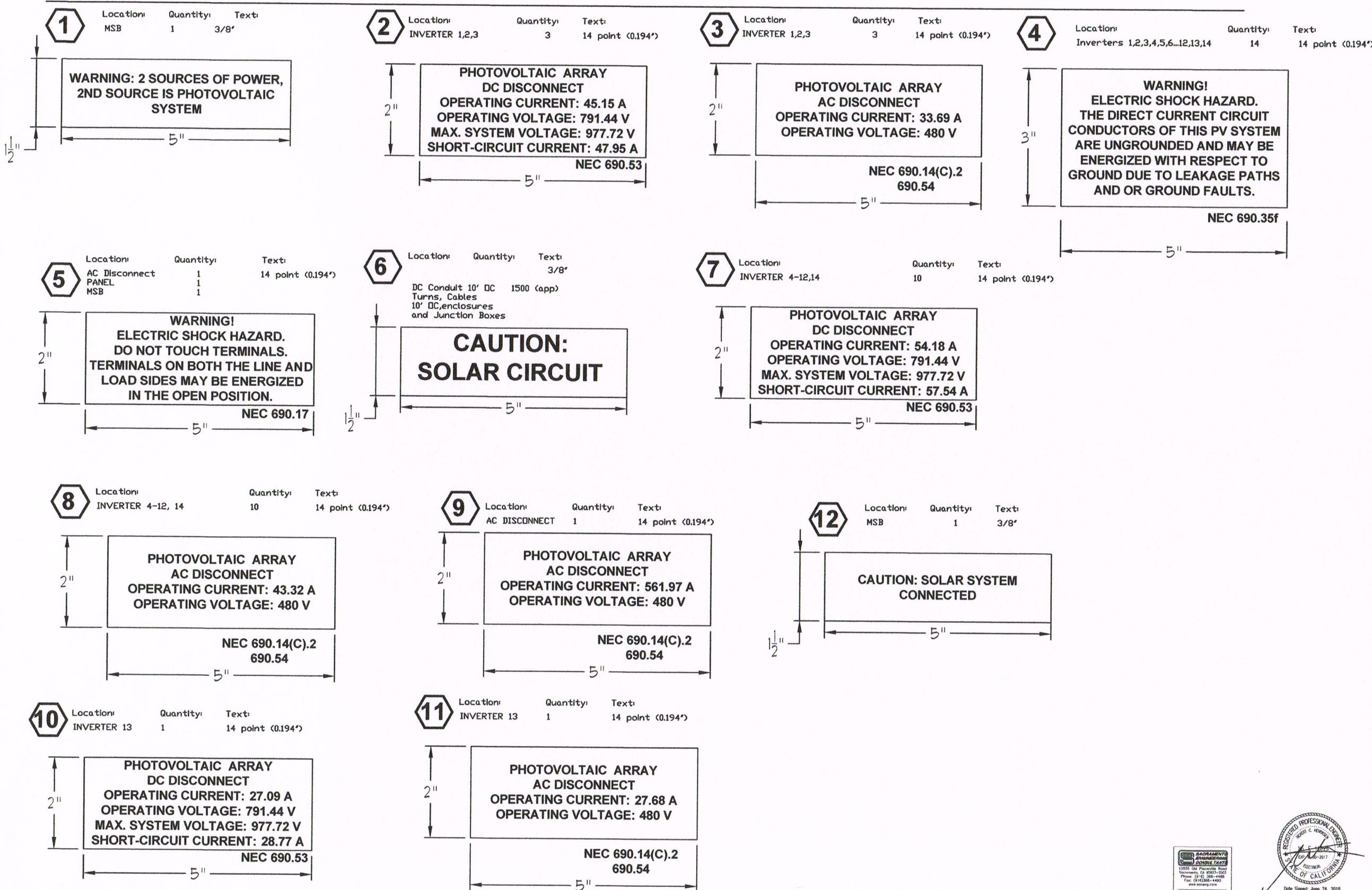
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Scale 1:1

BY



NSG1-COLUSA
1017 BRIDGE ST
COLUSA, CA 95932
APN: 002-120-011

PV
SIGNAGE

PV4.1

DATE: JUNE 2016

JOB NO.: 16550



CODE:
2013 EDITION OF THE CALIFORNIA BUILDING CODE (CBC)

DESIGN LOADS:

1. ROOF:	LIVE LOAD _____	0 PSF
DEAD LOAD _____	8 PSF	
2. WIND LOAD:		
OCCUPANCY CATEGORY _____	1	
BASIC WIND SPEED V _____	100 MPH	
EXPOSURE CATEGORY _____	C	
IMPORTANCE FACTOR, I _w _____	1.0	
MEAN ROOF HEIGHT, G _____	15 FT	
G _d _____	0.85	
K _d _____	0.85	
K _f _____	1.0	
K _c _____	0.85	
ENCLOSURE CLASSIFICATION: _____	OPEN BUILDING	
OCCUPANCY CATEGORY _____	1	
IMPORTANCE FACTOR, I _w _____	1.0	
SEISMIC SITE CLASS: _____	D	
S ₁ : _____	0.792	
S _{1D} : _____	0.331	
S _{1T} : _____	0.625	
S _{1D} : _____	0.304	
SEISMIC DESIGN CATEGORY: _____	D	
BASIC SEISMIC FORCE RESISTING SYSTEM: _____		
STEEL ORDINARY CANTILEVER COLUMN SYSTEMS R: _____	1.25	
D: _____	1.25	
O _d : _____	1.25	
O _r : _____	0.500	
BASE SHEAR, V: _____	0.600/W	

GENERAL:

- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES.
- THE CONTRACTOR IS RESPONSIBLE FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK THAT CONFORMS TO THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY.
- WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND APPENDUM.
- OPTIONAL FOR THE CONTRACTOR'S CONVENIENCE, HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND HE SHALL COORDINATE ALL DETAILS.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRIORITY OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS WHERE NO SPECIFIC DETAILS ARE SHOWN. CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
- TYPICAL DETAILS ARE NOT CUT ON DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND FINISHED GRADE PRIOR TO START OF CONSTRUCTION. ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS ARE TO ASSIST CONTRACTOR IN VERIFICATION. DO NOT SCALE DIMENSIONS FROM DRAWINGS.
- ITEMS SHOWN BY OTHER DISCIPLINES WITH REFERENCE TO STRUCTURAL DESIGN OR NOT SHOWN ON THESE STRUCTURAL DRAWINGS SHALL BE CONSIDERED DESIGN BUILD ITEMS. CONTRACTOR SHALL SUBMIT DESIGN BY OTHERS FOR REVIEW.

FOUNDATIONS:

- GEOTECHNICAL CONSULTANT: NA
- SPREAD FOOTINGS SHALL BEAR ON COMPACTED NATIVE SOILS, BASED ON CBC TABLE 1806.2 "PRESUMPTIVE LOAD-BEARING VALUES" AND CLASS 5 MATERIALS. A DESIGN SOIL BEARING VALUE OF 1,500 PSF AND LATERAL BEARING VALUE OF 100 PSF/FT HAS BEEN ASSUMED. IF ACTUAL SOIL CONDITIONS DIFFER NOTIFY THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH WORK. BOTH THE CONTRACTOR AND BEAR AT A DEPTH NOT LESS THAN 1.5 FT BELOW LOWEST ADJACENT GRADE WITHIN 5 FEET OF STRUCTURE OR FOUNDATION.
- DRILLED POLE FOUNDATIONS SHALL BEAR ON MACHINE CLEANED, INSPECTED SOIL STRATA, BASED ON CBC TABLE 1806.2 "PRESUMPTIVE LOAD-BEARING VALUES" AND CLASS 5 MATERIALS. A DESIGN SOIL BEARING VALUE OF 1500 PSF AND LATERAL BEARING VALUE OF 100 PSF/FT HAS BEEN ASSUMED. FOR TOP OF POLE FOUNDATION ELEVATIONS, SEE FOUNDATION PLANS AND SECTIONS. IF WATER IS ENCOUNTERED DURING DRILLING, STOP AND CONSULT STRUCTURAL ENGINEER OR GEOTECHNICAL ENGINEER FOR RESOLUTION.

CONCRETE:

- CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
- ADDITION OF WATER TO THE BATCH FOR MATERIAL WITH INSUFFICIENT SLUMP WILL NOT BE PERMITTED, UNLESS THE SUPPLIER HAS SPECIFICALLY WITHHELD WATER FROM THE BATCH AT THE REQUEST OF THE CONTRACTOR. THE MIX DESIGN AND TRUCK TICKET MUST CLEARLY STATE THE MAXIMUM AMOUNT OF WATER THAT CAN BE ADDED TO THE BATCH ON SITE. IN NO CASE SHALL THE DESIGN WATER TO CEMENTITIOUS MATERIAL RATIO BE EXCEEDED.
- MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED. MECHANICALLY VIBRATE ONLY THE TOP 5 FEET OF DRILLED PIER CONCRETE. REVIBRATE TOP OF DRILLED PIER 15 MINUTES AFTER PLACING CONCRETE.
- TESTS FOR CONCRETE SUBMITTALS SHALL BE SUBMITTED FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE. REFERENCE ACI 318 CHAPTER 5, TABLE RS 3 FOR SPECIAL REQUIREMENTS.
- DRILLED PIER CONCRETE SHALL BE CHANNELLED TO FREE FALL DOWN THE SHAFT WITHOUT STRIKING THE REINFORCING OR THE SIDES OF THE SHAFT. MAXIMUM HEIGHT OF FREE-FALL IS 15'-0".
- CONCRETE PROPERTIES:

CONCRETE USE
MINIMUM 28 DAY COMPRESSIVE STRENGTH

UNLESS NOTED OTHERWISE
ALL CONCRETE SHALL BE 3,000 PSI

COLD-FORMED STEEL FRAMING:

- ALL COLD-FORMED STEEL FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI) AND COLD-FORMED MANUFACTURERS ASSOCIATION. STEEL FOR ALL MEMBERS AND FOR ALL STRAPS SHALL HAVE A MINIMUM YIELD STRENGTH OF 55,000 PSI.
- STEEL SHALL BE GALVANIZED AT LOCATIONS EXPOSED TO WEATHER AND WHENEVER NOTED ON THE DRAWINGS.
- ALL MEMBERS SHALL BE SECURELY SEALED FOR FULL BEARING UNLESS NOTED OTHERWISE.
- ALL WORK SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAGE STEEL CONSTRUCTION.
- ALL COLD-FORMED FRAMING LACES, GAGE AND SPACING ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL CONSTRUCT AND ASSURE THE PROPER PERFORMANCE OF THE COMPLETE WALL OR SOFFIT ASSEMBLAGE.
- ALL SCREWS REFERENCED IN THE DRAWINGS FOR LIGHT GAUGE CONNECTIONS SHALL BE DRILL-FLEX BY HILTI OR APPROVED EQUIVALENT (ICC ESR-332).
- STEEL STUD SIZES ARE AS INDICATED IN PLANS AND KEYNOTES. THICKNESSES REFERENCED IN THE DRAWINGS ARE AS FOLLOWS:

- 16 GAUGE MATERIAL - 0.059 INCHES
- 14 GAUGE MATERIAL - 0.075 INCHES
- 12 GAUGE MATERIAL - 0.105 INCHES
- 10 GAUGE MATERIAL - 0.134 INCHES

NOTE: THE UNCOATED MINIMUM STEEL THICKNESS OF THE COLD-FORMED STEEL PRODUCTS AS DELIVERED TO THE JOB SITE SHALL NOT AT ANY LOCATION BE LESS THAN 95 PERCENT OF THE DESIGN THICKNESS INDICATED ABOVE.

STRUCTURAL STEEL:

- LATEST AISC AND AWS CODES APPLY. THE WORD APPROVED INSECTION 4.4 OF THE ALSO CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES MAY BE USED. DRAWINGS REVIEWED.
- STEEL SHALL BE FINISHED AT LOCATIONS EXPOSED TO WEATHER WITH A CORROSION RESISTANT COATING APPLICABLE TO WEATHER AND EXPOSURE CONDITIONS OF PROJECT LOCATION.
- WHEN STRUCTURAL STEEL IS FURNISHED TO A SPECIFIED MINIMUM YIELD POINT GREATER THAN 36 KSI, THE ASTM OR OTHER SPECIFICATION WHICH THE STEEL SHALL BE INCLUDED NEAR THE ERECTION MARK ON EACH SHEET. THIS IS A VERY IMPORTANT CONSTRUCTION COMPONENT OVER ANY SHOP COAT OF PAINT PRIOR TO SHIPMENT FROM THE FABRICATOR'S PLANT.
- IF IT IS NECESSARY TO SPLICE ANY MEMBER, SPLICE LOCATIONS ARE SUBJECT TO REVIEW BY STRUCTURAL ENGINEER. SPLICES SHALL BE FULL PENETRATION WELDED AND TESTED FOR THIS SECTION. INDICATE ALL SPLICE LOCATIONS, AND WELDING PROCEDURES ON SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
- ALL BEAMS SHALL BE ERECTED WITH THE NATURAL CAMBER UPWARDS.
- ALL BOLTS SHALL BE INSTALLED WITH STEEL WASHERS.
- ALL WELDING BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES, CERTIFICATES SHALL BE THOSE ISSUED BY AN INDUSTRY-ACCREDITED FABRICATOR.
- ALL WELDING DONE BY OTHERS USES LOW/HYDROGEN RODS. USE E90 SERIES FOR ASTM A70S REINFORCING BARS.
- ALL WELDING PER AMERICAN WELDING SOCIETY STANDARDS. ALL WELDS ON DRAWINGS ARE SHOWN AS SHOP WELDS. CONTRACTOR MAY SHOP WELD OR FIELD WELD AT HIS DISCRETION. SHOP WELDS OR FIELD WELDS SHALL BE SHOWN ON SHOP DRAWINGS.
- SUG SHAPES REMOVED FROM ALL COMPLETED WELDS, AND THE WELD SURFACE SHALL BE CLEANED BY BRUSHING OR OTHER SUITABLE MEANS. WELD JOINTS SHALL NOT BE PAINTED UNTIL AFTER WELDING HAS BEEN COMPLETED AND THE WELD ACCEPTED. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED.
- ALL STRUCTURAL STEEL SHALL BE FABRICATED BY A FABRICATOR WITH ANY ONE OF THE FOLLOWING MINIMUM QUALIFICATIONS. QUALIFICATIONS SHALL BE IN EFFECT AT TIME OF BID.
- INTERNATIONAL ACCREDITATION SERVICE, INC. (IAS) APPROVED FABRICATOR.
- AISC CERTIFIED FABRICATOR (STD).
- STEEL PROPERTIES
- WIDE FLANGE COLUMNS, BEAMS AND TEES: ASTM A992 (Fy = 50 KSI)
HIGH STRENGTH PLATES: ASTM A672 (Fy = 50 KSI)
CHANNELS, PLATES AND ANGLES: ASTM A36 (Fy = 36 KSI)
BOLTS: ASTM A325 OR ASTM A193 F182 TWIST-OFF TYPE
ANCHOR RODS: ASTM F1554 Gr. 55 (Fy = 55 KSI)
- STEEL BOLTS SHALL BE PRETENSIONED UNLESS OTHERWISE NOTED AS A SNUG-TIGHT CONNECTION ON THE DRAWINGS OR DETAILS. FOR THE FOLLOWING METHODS SHALL BE USED TO ASSURE ADEQUATE PRETENSIONING IS ACHIEVED:
- TURN-OF-NUT METHOD
- DIRECT TENSION INDICATOR WASHERS
- CALIBRATED WRENCH
- TWIST-OFF TYPE BOLT
- PHOTOVOLTAIC PANELS:

PHOTOVOLTAIC PANELS:

- THE PANEL MANUFACTURER IS RESPONSIBLE FOR THE DESIGN OF THE PANELS AND THE DESIGN OF THE PANEL CONNECTIONS TO THE STRUCTURE INCLUDING ALL COMPONENTS REQUIRED TO MAKE THE CONNECTIONS. PHOTOVOLTAIC PANELS, COMPONENTS AND CONNECTIONS SHALL BE DESIGNED TO SUPPORT PANEL WEIGHT PLUS SNOW, MUD, OR SEISMIC LOADING, WHICHEVER COMBINATION PRODUCES THE MOST SEVERE CONDITION IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.
- THIS IS A DEFERRED SUBMITTAL ITEM.

SPECIAL STRUCTURAL INSPECTIONS:

- PER CBC SECTION 1704 AND 1705 SPECIAL INSPECTIONS ARE IN ADDITION TO THE REQUIRED INSPECTION CONDUCTED BY THE BUILDING JURISDICTION PER IBC SECTION 110.
- THE TYPES OF WORK LISTED BELOW SHALL BE INSPECTED BY A SPECIAL INSPECTOR.

1705.2 SPECIAL INSPECTION OF STRUCTURAL STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

SPECIAL INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH TABLE 1705.2

1705.3 SPECIAL INSPECTION OF CONCRETE CONSTRUCTION

- SPECIAL INSPECTION AND VERIFICATIONS FOR CONCRETE CONSTRUCTION SHALL BE AS REQUIRED BY TABLE 1705.3.
- EXCEPTIONS: SPECIAL INSPECTIONS SHALL NOT BE REQUIRED FOR:
 1. ISOLATED SPREAD CONCRETE FOOTINGS OF BUILDING THREE STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK.
 2. CONTINUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BUILDINGS THREE STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK WHERE:
 • THE FOOTINGS SUPPORT WALLS OF LIGHT-FRAME CONSTRUCTION;
 • THE ERECTION MARK ON EACH SHEET INCLUDES THE NUMBER OF THE CONSTRUCTION COMPONENT OVER ANY SHOP COAT OF PAINT PRIOR TO SHIPMENT FROM THE FABRICATOR'S PLANT;
 • THE FOOTINGS SUPPORT WALLS OF LIGHT-FRAME CONSTRUCTION;
 • THE ERECTION MARK ON EACH SHEET INCLUDES THE NUMBER OF THE CONSTRUCTION COMPONENT OVER ANY SHOP COAT OF PAINT PRIOR TO SHIPMENT FROM THE FABRICATOR'S PLANT;
 • THE FOOTINGS SUPPORT WALLS OF LIGHT-FRAME CONSTRUCTION;
 • THE ERECTION MARK ON EACH SHEET INCLUDES THE NUMBER OF THE CONSTRUCTION COMPONENT OVER ANY SHOP COAT OF PAINT PRIOR TO SHIPMENT FROM THE FABRICATOR'S PLANT;

3. CONCRETE SLABS ON GRADE. STEEL REINFORCING STILL REQUIRES SPECIAL INSPECTION.

- NONDESTRUCTIVE TESTING OF WELDED JOINTS (SEE DESIGN LOADS FOR RISK CATEGORY):
- FOR RISK CATEGORY III OR IV - UT SHALL BE PERFORMED ON ALL CJP GROOVE WELDS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING.
 - FOR RISK CATEGORY II - UT SHALL BE PERFORMED ON 10% OF WELDS IN MATERIALS 5/16" OR THICKER, WHERE MATERIAL IS LESS THAN 5/16", NO UT IS REQUIRED.
 - FOR RISK CATEGORY I - UT NOT REQUIRED.

APPROVED FABRICATORS: QA INSPECTIONS, EXCEPT NDT AND UT, MAY BE WAIVED WHEN THE WORK IS PERFORMED IN A FABRICATING SHOP OR BY AN ERECTOR WITH THE ONE OF THE FOLLOWING QUALIFICATIONS:

O - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS

P - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER

- TABLE 1705.3: REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION
- | VERIFICATION AND INSPECTION | CONTINUOUS | PERIODIC | REFERENCE STANDARD | IBC REFERENCE |
|--|------------|----------|----------------------------|------------------------|
| 1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT. | — | X | ACI 318: 3.5, 7.1-7.7 | 1910.4 |
| 2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2, 2b | — | — | AWS D1.4
ACI 318: 3.5.2 | — |
| 5. VERIFYING USE OF REQUIRED CEMENT MIX. | — | X | ACI 318: Ch 4, 5.2-5.4 | 1910.2, 1910.3 |
| 7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUE. | X | — | ACI 318: 5.9, 5.10 | 1910.6, 1910.7, 1910.8 |
| 8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUE. | — | X | ACI 318: 5.11-5.13 | 1910.9 |
| 12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. | — | X | ACI 318: 6.1.1 | — |

1704.2.6 SPECIAL INSPECTION OF FABRICATORS:

SPECIAL INSPECTION OF FABRICATION OF STRUCTURAL STEEL BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP IS REQUIRED.

EXCEPTION: SPECIAL INSPECTIONS OF FABRICATORS WITH ONE OF THE FOLLOWING QUALIFICATIONS IS NOT REQUIRED:

- INTERNATIONAL ACCREDITATION SERVICE, INC. (IAS) APPROVED FABRICATOR.
- AISC CERTIFIED FABRICATOR (STD).

THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. THE SPECIAL INSPECTOR SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.

1705.2.2 SPECIAL INSPECTION OF STRUCTURAL STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

SPECIAL INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH TABLE 1705.2

1705.2.2 REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

- | VERIFICATION AND INSPECTION | CONTINUOUS | PERIODIC | REFERENCE STANDARD |
|---|------------|----------|--------------------|
| 1. MATERIAL VERIFICATION OF COLD-FORMED STEEL | — | — | — |

1705.2.3 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

SPECIAL INSPECTION OF CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH TABLE 1705.3

1705.2.4 REQUIRED VERIFICATION AND INSPECTION OF METAL CONSTRUCTION

SPECIAL INSPECTION OF METAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TABLE 1705.4

1705.2.5 REQUIRED VERIFICATION AND INSPECTION OF GLASS CONSTRUCTION

SPECIAL INSPECTION OF GLASS CONSTRUCTION SHALL BE IN ACCORDANCE WITH TABLE 1705.5

1705.2.6 REQUIRED VERIFICATION AND INSPECTION OF PLASTIC CONSTRUCTION

SPECIAL INSPECTION OF PLASTIC CONSTRUCTION SHALL BE IN ACCORDANCE WITH TABLE 1705.6

1705.2.7 REQUIRED VERIFICATION AND INSPECTION OF WOOD CONSTRUCTION

SPECIAL INSPECTION OF WOOD CONSTRUCTION SHALL BE IN ACCORDANCE WITH TABLE 1705.7

1705.2.8 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION

SPECIAL INSPECTION OF MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH TABLE 1705.8

1705.2.9 REQUIRED VERIFICATION AND INSPECTION OF METAL CONSTRUCTION

SPECIAL INSPECTION OF METAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TABLE 1705.9

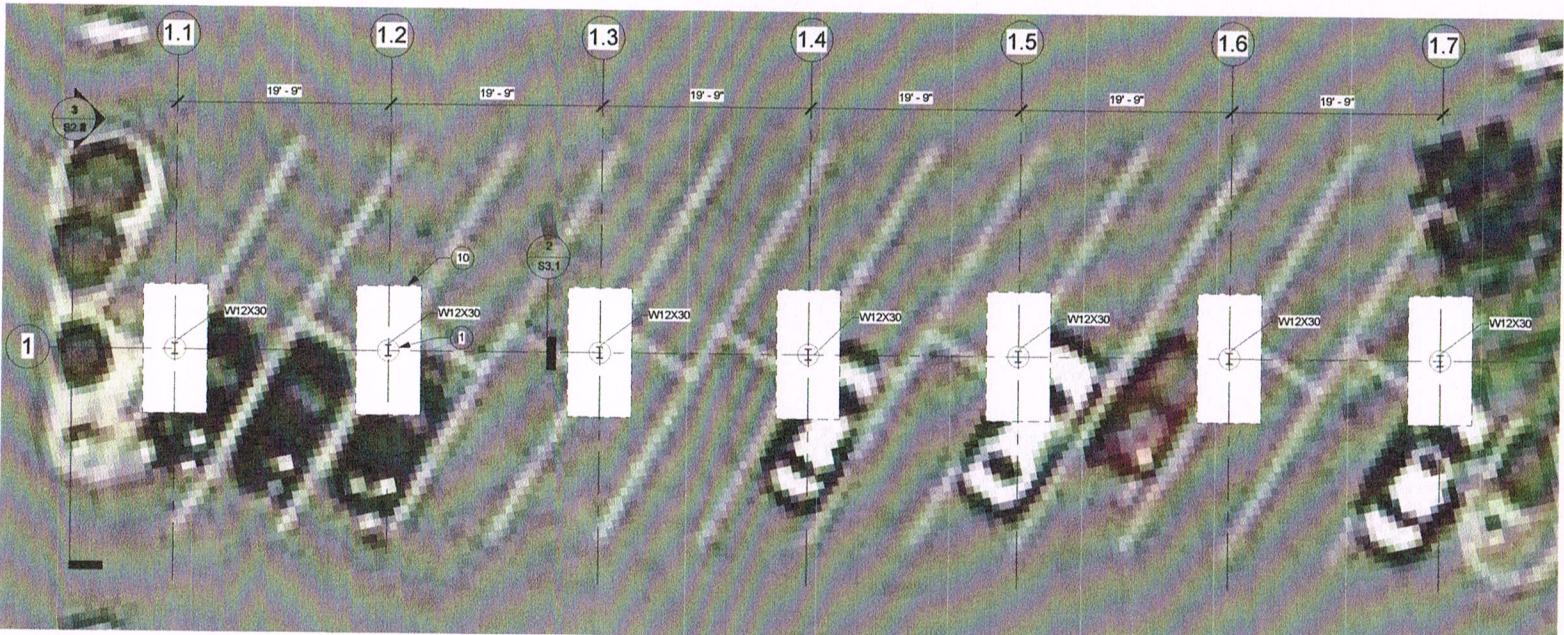
1705.2.10 REQUIRED VERIFICATION AND INSPECTION OF GLASS CONSTRUCTION

SHEET NOTES

1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. DIMENSIONS, ELEVATIONS WHERE SHOWN ARE TO BE USED AS AN AID AND SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION.
 2. FOR ADDITIONAL INFORMATION, REFERENCE GENERAL STRUCTURAL NOTES.

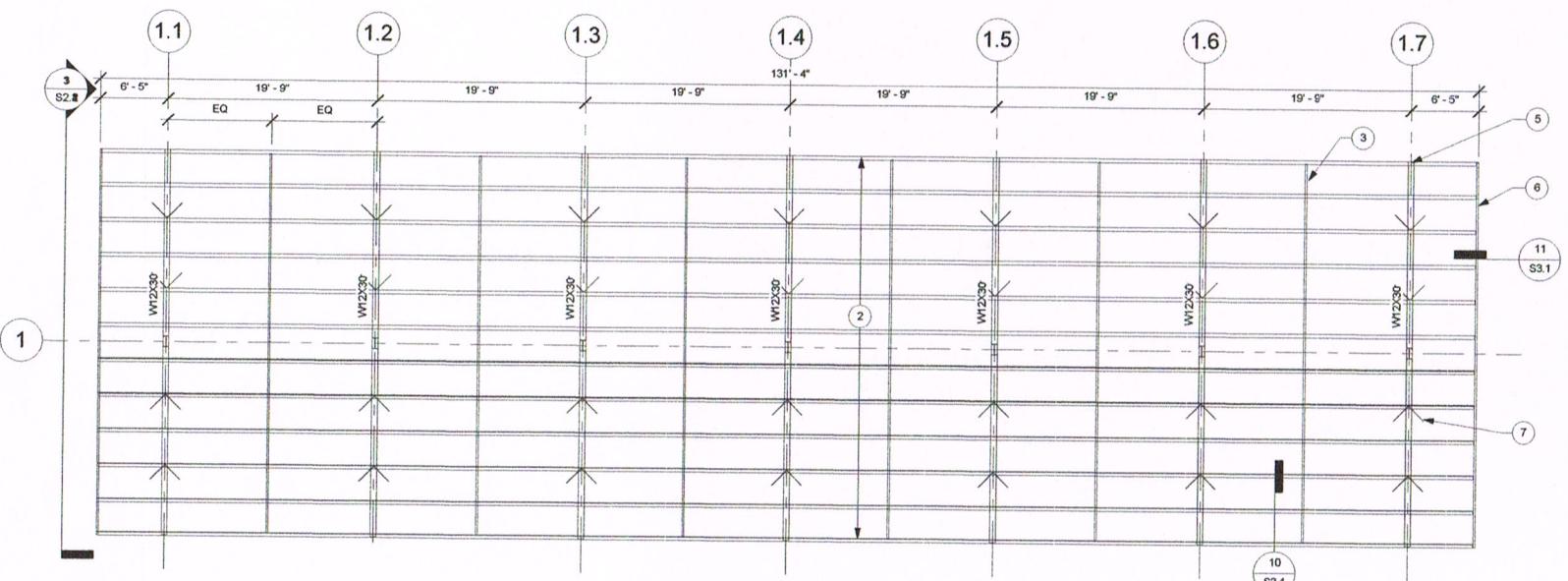
KEYNOTES

- 1 DRILLED CONCRETE POLE FOOTING. FOR DIAMETER AND EMBEDMENT OF FOOTING SEE FOUNDATION PLAN AND SECTION ON THIS SHEET. SEE DETAIL 2/S3.1 FOR REINFORCING AND STEEL COLUMN ANCHORAGE.
 - 2 C-10'X1 1/2"X12 GAUGE COLD FORMED STEEL PURLINS, TYPICAL. COORDINATE EXACT LOCATION WITH SOLAR PANEL MANUFACTURER SPECIFICATIONS. SEE DETAIL 9/S3.1 FOR MORE INFORMATION ON SECTION.
 - 3 SAG ROD AT 9'-0" O.C. MAXIMUM, (1) MINIMUM AT SPANS LESS THAN 18'-0" AND (2) MINIMUM AT SPANS LESS THAN 27'-0". SPACE EQUALLY BETWEEN SUPPORTS. REFERENCE DETAIL 10/S3.1.
 - 4 DO NOT SPLICER PURLINS AT SUPPORT AT CANTILEVER ENDS.
 - 5 10 1/8"X2"X16 GAUGE END CAP EACH PER DETAIL 11/S3.1.
 - 6 BEAM FLANGE BRACES AT 8'-6" O.C. MAXIMUM. REFERENCE DETAIL 6/S3.1 FOR MORE INFORMATION.
 - 7 PV MODULE AND ATTACHMENT BY OTHERS.
 - 8 IF DRILLING POLE FOUNDATIONS IS NOT POSSIBLE, USE SPREAD FOOTING PER DETAIL 8/S3.1 ILO DRILLED FOUNDATION.



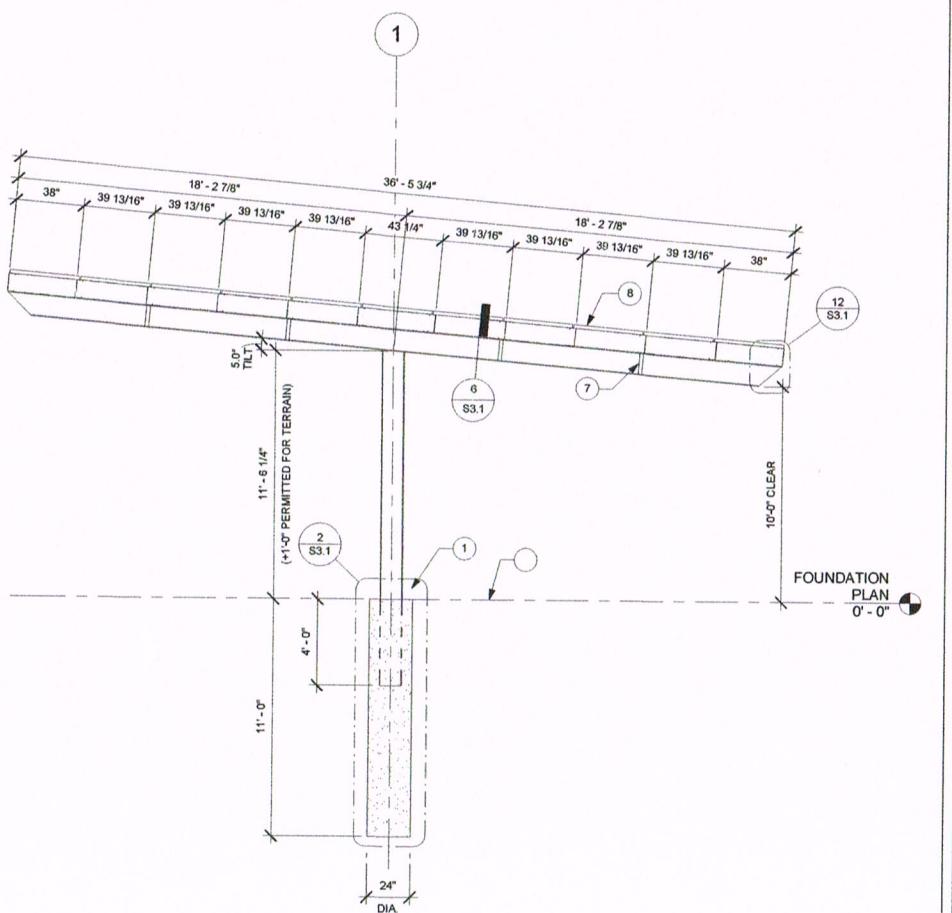
2 FOUNDATION PLAN - STRUCTURES 1,2,3

2 FOUNDATION P



3 FRAMING PLAN - STRUCTURES 1,2,3

$$1/8" = 1'-0"$$



1 DOUBLE CANTILEVER SECTION



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STRUCTURES 1, 2, 3 - FOUNDATION AND FRAMING PLAN

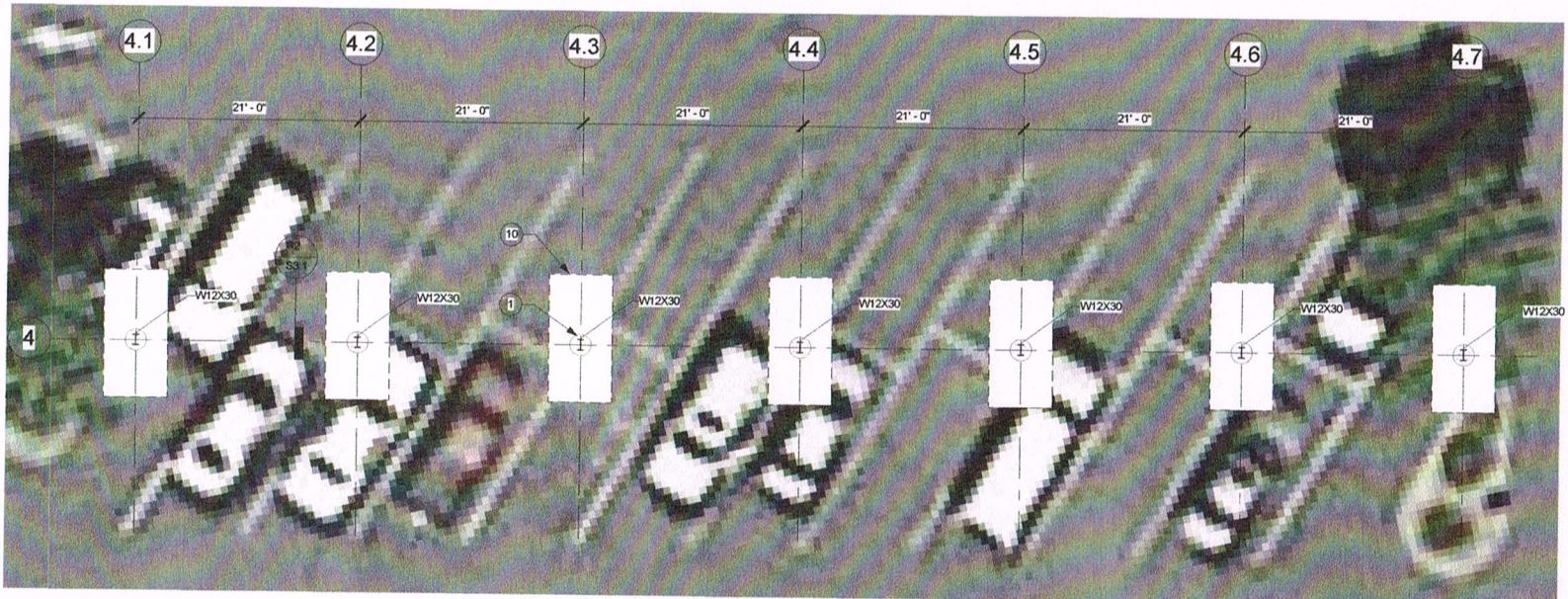
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Date 06/27/2016
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Checked by JE

SHEET NOTES

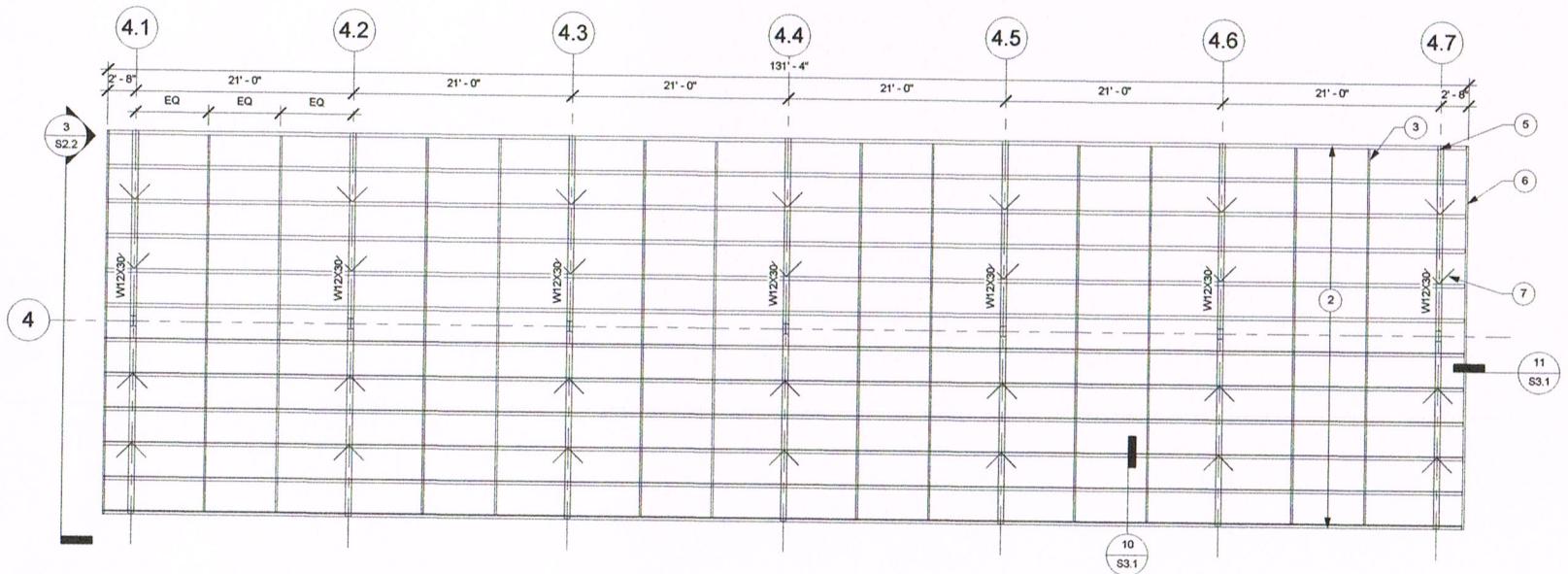
1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. DIMENSIONS, ELEVATIONS WHERE SHOWN ARE TO BE USED AS AN AID AND SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION.
 2. FOR ADDITIONAL INFORMATION, REFERENCE GENERAL STRUCTURAL NOTES.

KEYNOTES

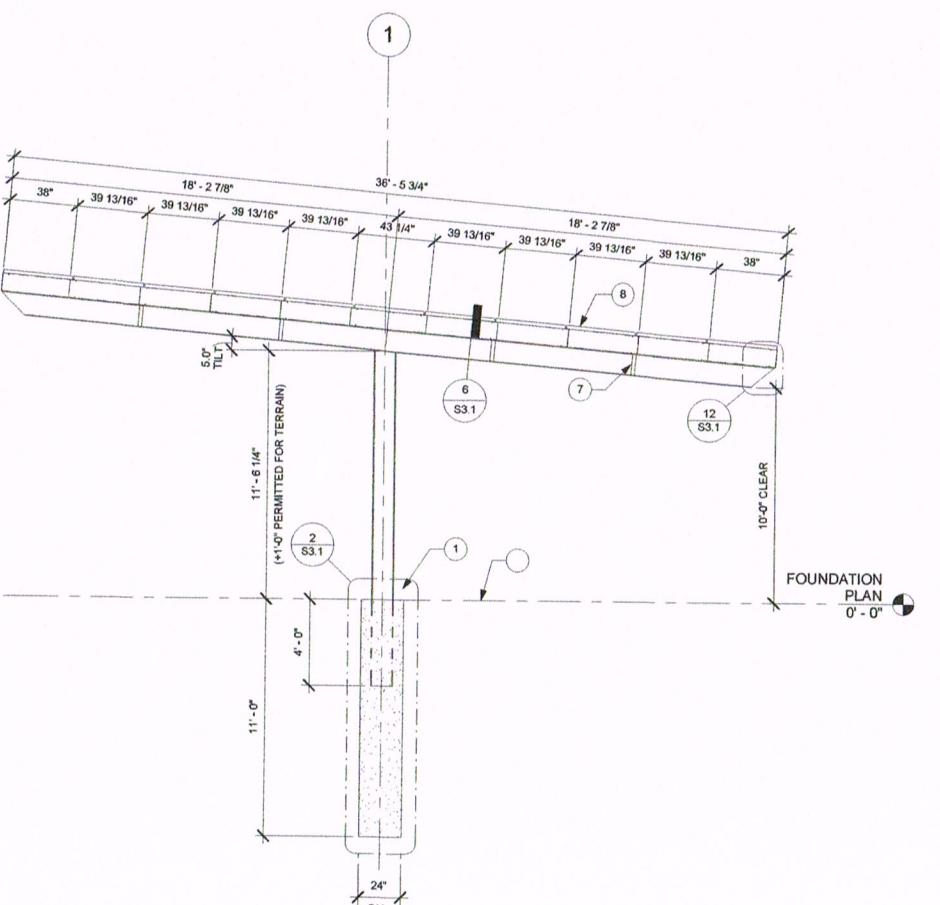
- 1 DRILLED CONCRETE POLE FOOTING. FOR DIAMETER AND EMBEDMENT OF FOOTING SEE FOUNDATION PLAN AND SECTION ON THIS SHEET. SEE DETAIL 2/S3.1 FOR REINFORCING AND STEEL COLUMN ANCHORAGE.
 - 2 C-POLE 3 1/2"X12 GAUGE GOLD FORMED STEEL PURLINS, TYPICAL COORDINATE EXACT LOCATION WITH SOLAR PANEL MANUFACTURER SPECIFICATIONS. SEE DETAIL 9/S3.1 FOR MORE INFORMATION ON SECTION.
 - 3 SAG ROD AT 9'-0" O.C. MAXIMUM, (1) MINIMUM AT SPANS LESS THAN 18'-0" AND (2) MINIMUM AT SPANS LESS THAN 27'-0", SPACE EQUALLY BETWEEN SUPPORTS. REFERENCE DETAIL 10/S3.1.
 - 4 DO NOT SPLICER PURLINS AT SUPPORT OR AT CANTILEVER ENDS.
 - 5 10 1/8"X11/8 GAUGE END CAP EACH END PER DETAIL 11/S3.1.
 - 6 BEAM FLANGE BRACES AT 6'-0" O.C. MAXIMUM. REFERENCE DETAIL 6/S3.1 FOR MORE INFORMATION.
 - 7 PV MODULE AND ATTACHMENT BY OTHERS.
 - 8 IF DRILLING POLE FOUNDATIONS IS NOT POSSIBLE, USE SPREAD FOOTING PER DETAIL 8/S3.1 IL0 DRILLED FOUNDATION.



1 FOUNDATION PLAN - STRUCTURE 4
1/8" ≈ 1'-0"



2 FRAMING PLAN - STRUCTURE 4



**3 DOUBLE CANTILEVER SECTION -
STRUCTURE 4**



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STRUCTURE 4 - FOUNDATION AND FRAMING PLAN

Project number -
Date 06/27/2016
Drawn by DG
Checked by JE
S2.2
As indicated
7/7/2016 11:25:41 AM

SHEET NOTES

- VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. DIMENSIONS, ELEVATIONS WHERE SHOWN ARE TO BE USED AS AN AID AND SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION.
FOR ADDITIONAL INFORMATION, REFERENCE GENERAL STRUCTURAL NOTES.

KEYNOTES

- DRLLED CONCRETE POLE FOOTING. FOR DIAMETER AND EMBEDMENT OF FOOTING SEE FOUNDATION PLAN AND SECTION ON THIS SHEET. SEE DETAIL 2/S3.1 FOR REINFORCING AND STEEL COLUMN ANCHORAGE.
C-10'X3 1/2" X12 GAUGE COLD FORMED STEEL PURLINS, TYPICAL, COORDINATE EXACT LOCATION WITH SOLAR PANEL MANUFACTURER SPECIFICATIONS. SEE DETAIL 9/S3.1 FOR MORE INFORMATION ON SECTION.

SAG ROD AT 9'-0" O.C. MAXIMUM, (1) MINIMUM AT SPANS LESS THAN 18'-0" AND (2) MINIMUM AT SPANS LESS THAN 27'-0". SPACE EQUALLY BETWEEN SUPPORTS. REFERENCE DETAIL 10/S3.1.

DO NOT SPLIC PURLIN AT SUPPORT AT CANTILEVER ENDS.

10 1/8"X2" 14 GAUGE END CAP EACH END PER DETAIL 11/S3.1.

BEAM FLANGE BRACES AT 6'-6" O.C. MAXIMUM. REFERENCE DETAIL 6/S3.1 FOR MORE INFORMATION.

PV MODULE AND ATTACHMENT BY OTHERS.

IF DRILLING POLE FOUNDATIONS IS NOT POSSIBLE, USE SPREAD FOOTING PER DETAIL 8/S3.1 ILO DRILLED FOUNDATION.



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STRUCTURE 5 - FOUNDATION AND FRAMING PLAN

project number -
date 06/27/2016
rawn by DG
checked by JE

S2.3

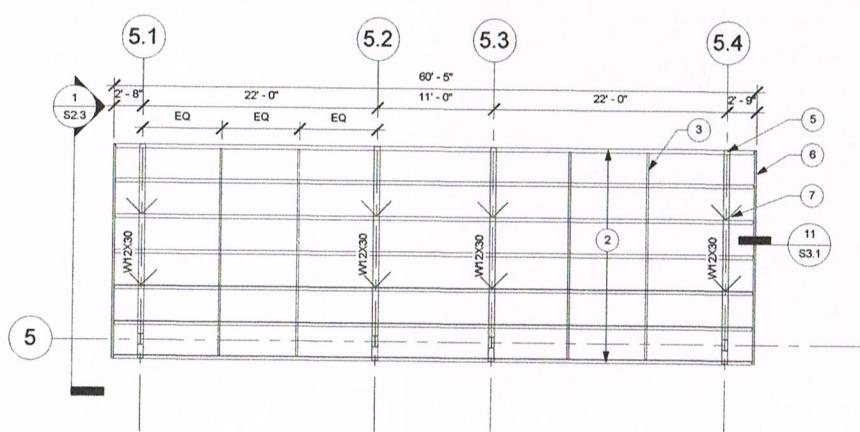
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as indicated



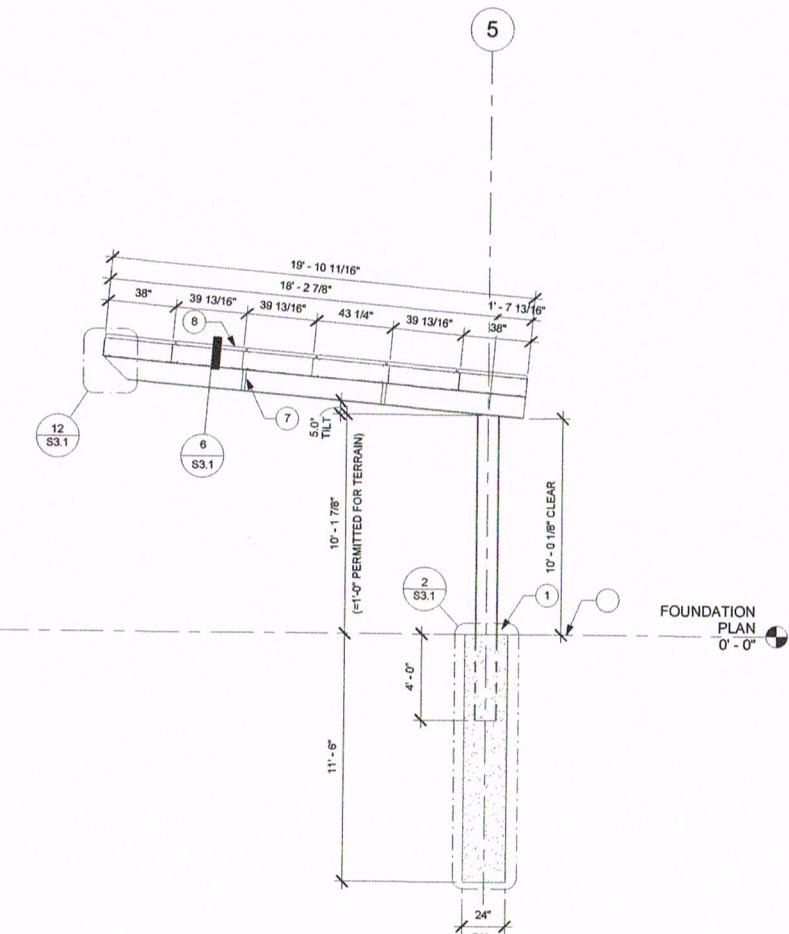
2 FOUNDATION PLAN - STRUCTURE

2 FOUNDATION PLAN - STR
1/8" = 1'-0"



3 FRAMING PLAN - STRUCTURE 5
1/8" = 1'-0"

$$1/8" = 1'-0"$$



1 SEMI-CANTILEVER SECTION

SHEET NOTES

1. VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. DIMENSIONS, ELEVATIONS WHERE SHOWN ARE TO BE USED AS AN AID AND SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR PRIOR TO CONSTRUCTION.
 2. FOR ADDITIONAL INFORMATION, REFERENCE GENERAL STRUCTURAL NOTES.

KEYNOTES

- DRILLED CONCRETE POLE FOOTING. FOR DIAMETER AND EMBEDMENT OF FOOTING SEE FOUNDATION PLAN AND SECTION ON THIS SHEET. SEE DETAIL 263.1 FOR REINFORCING AND STEEL COLUMN ANCHORAGE.
C-10X3 1/8"X2 GAUGE COLD FORMED STEEL PURLINS, TYPICAL.
COORDINATE EXACT LOCATION WITH SOLAR PANEL MANUFACTURER
SPECIFICATIONS. SEE DETAIL 8/S3.1 FOR MORE INFORMATION ON
SECTION.

SAG ROD AT 8'-0" O.C. MAXIMUM, (1) MINIMUM AT SPANS LESS THAN
18'-0" AND (2) MINIMUM AT SPANS LESS THAN 27'-0". SPACE EQUALLY
BETWEEN SUPPORTS. REFERENCE DETAIL 10/S3.1.

DO NOT SPICE PURLINS AT SUPPORT AT CANTILEVER ENDS.

10 1/8"X2 1/16 GAUGE END CAP EACH PER DETAIL 11/S3.1.

BEAM FLANGE BRACES AT 6'-6" O.C. MAXIMUM. REFERENCE DETAIL
8/S3.1 FOR MORE INFORMATION.

PV MODULE AND ATTACHMENT BY OTHERS.

IF DRILLING POLE FOUNDATIONS IS NOT POSSIBLE, USE SPREAD
FOOTING PER DETAIL 8/S3.1 ILO DRILLED FOUNDATION.



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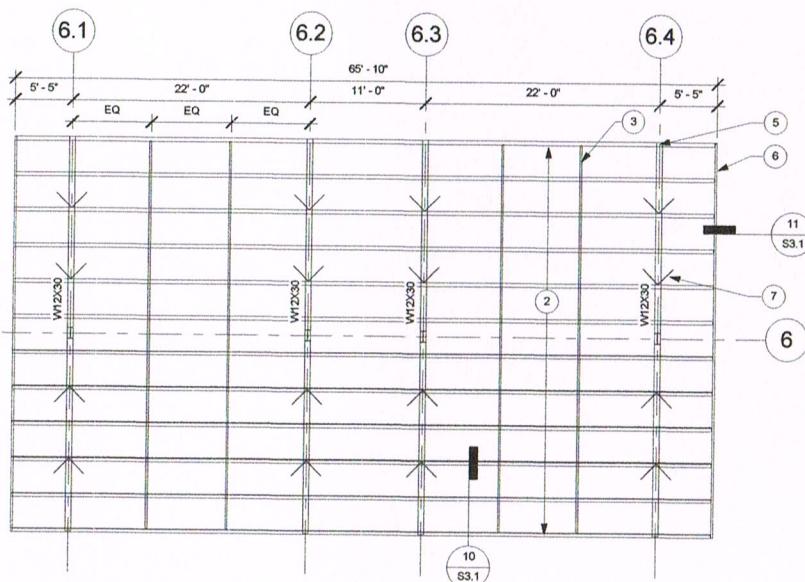
STRUCTURE 6 - FOUNDATION AND FRAMING PLAN

Project number
Date 06/27/2016
Drawn by DG
Checked by JE

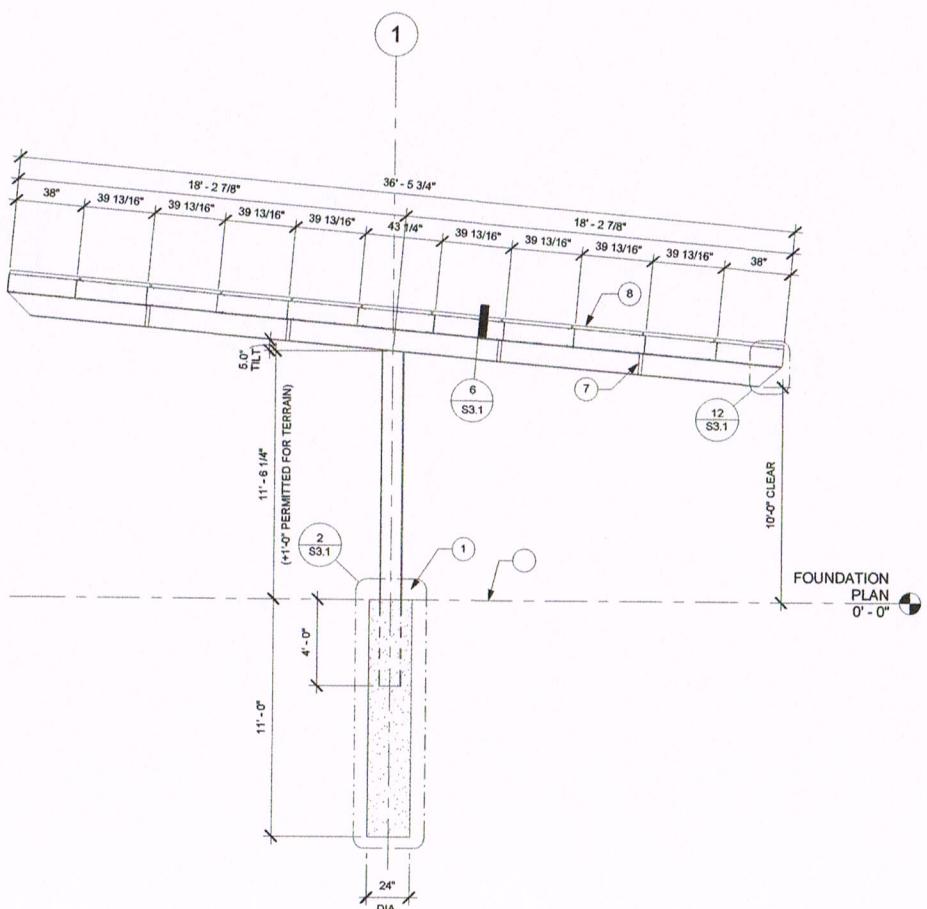
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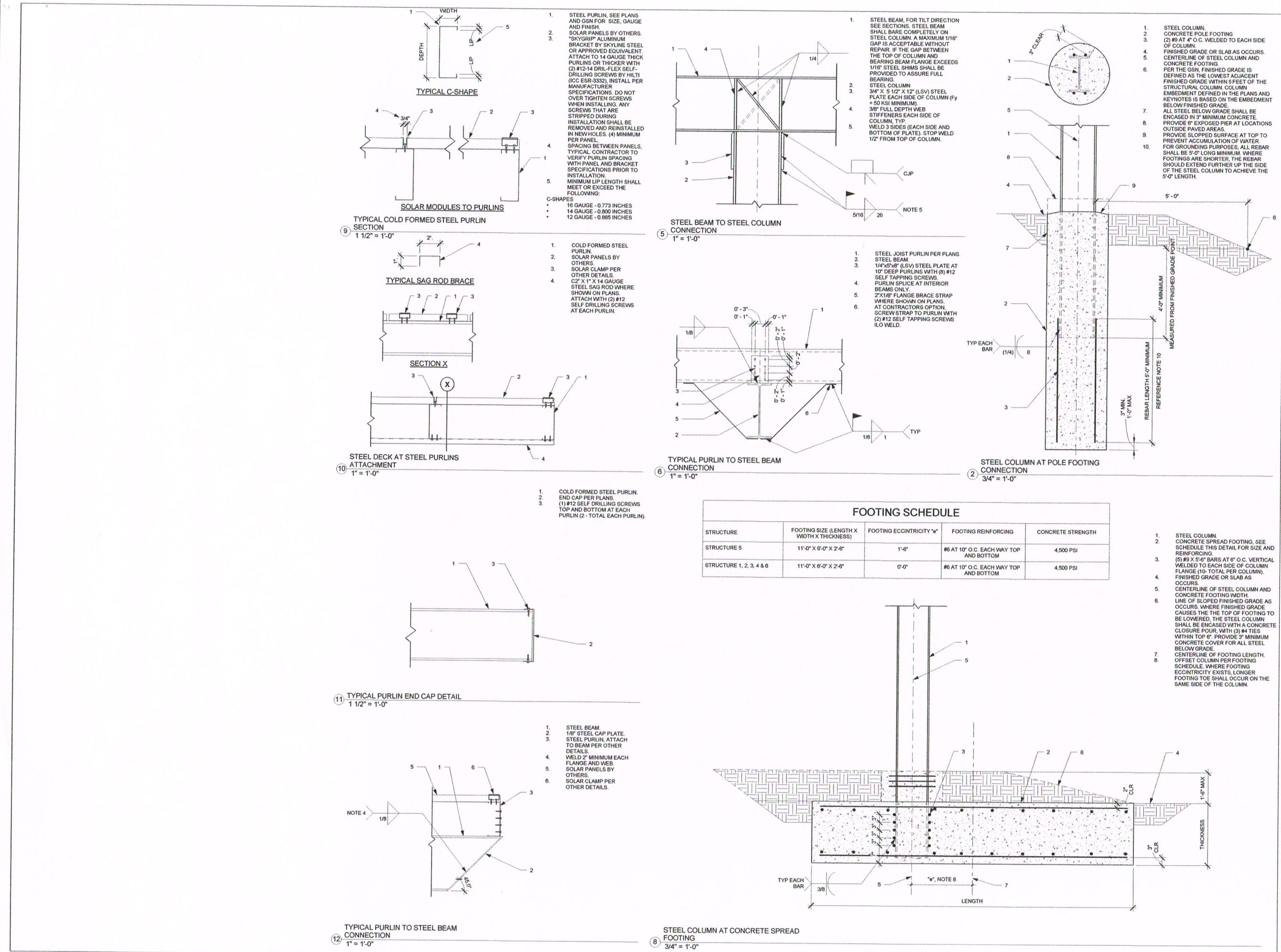
1 FOUNDATION PLAN - STRUCTURE 6
1/8" = 1'-0"



2 FRAMING PLAN - STRUCTURE 6

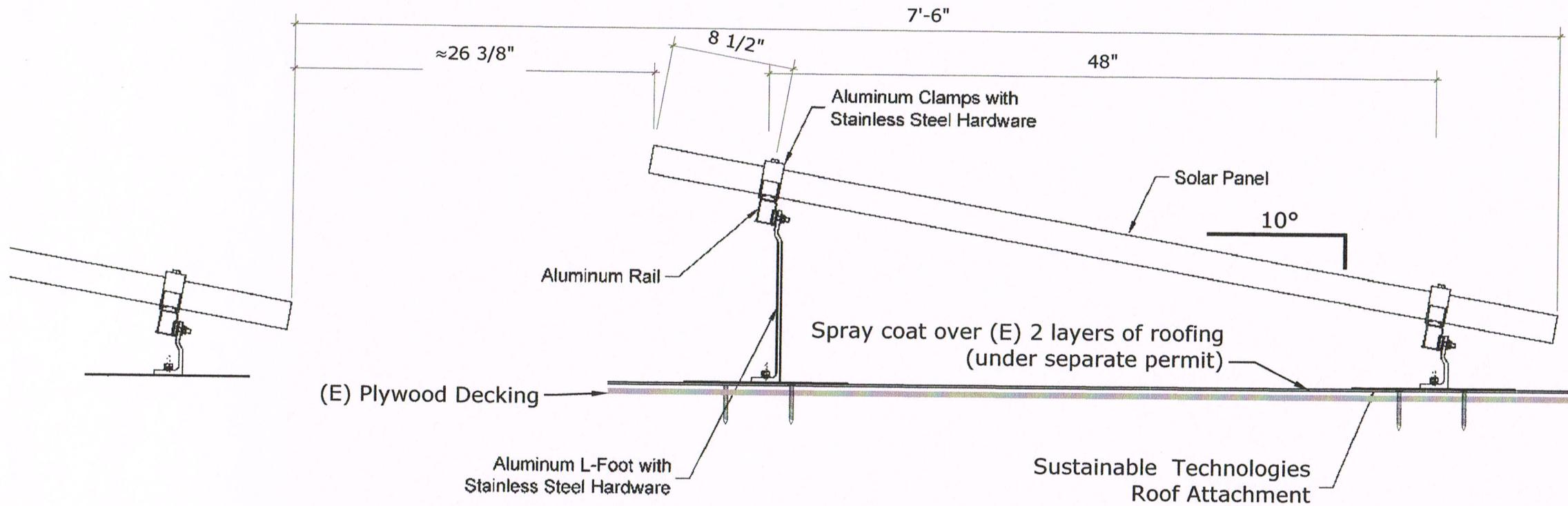


**DOUBLE CANTILEVER SECTION -
STRUCTURE 6**

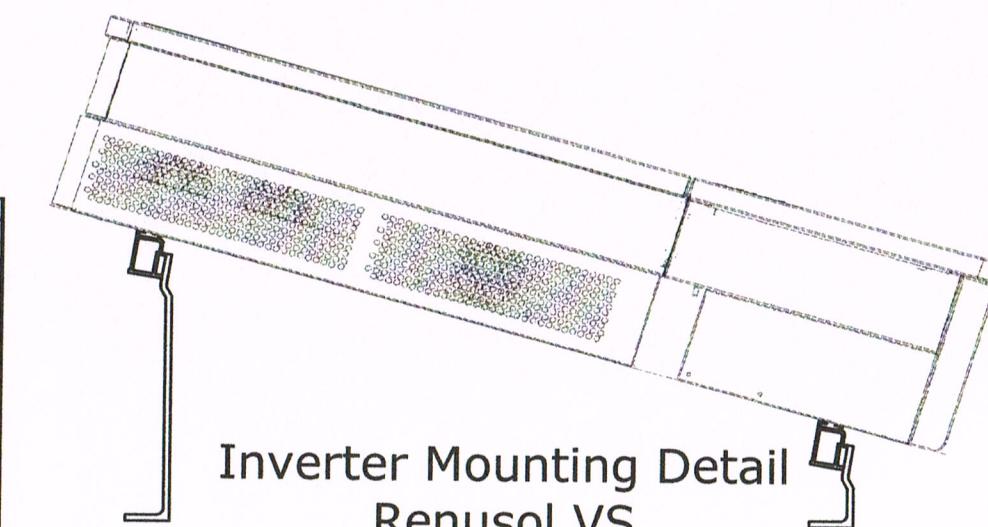
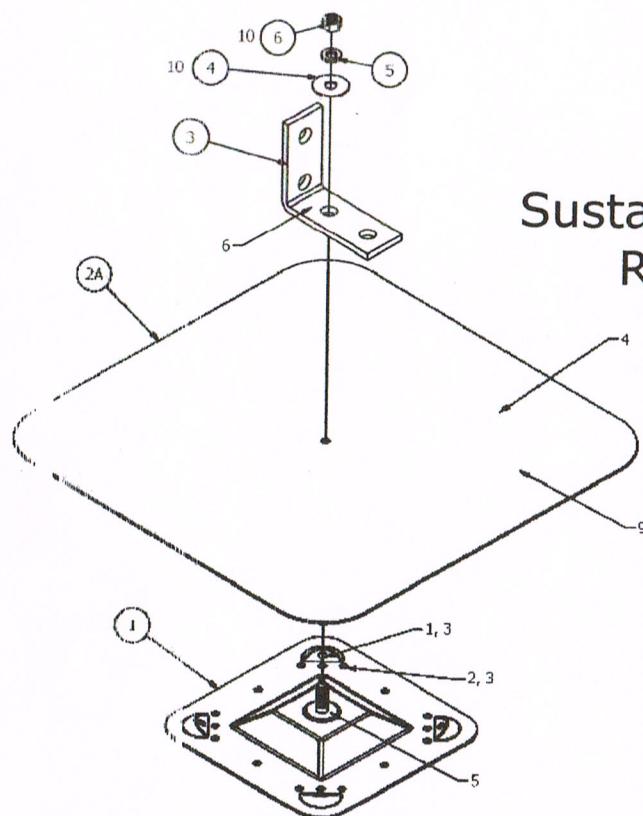


ROOF RACKING DETAIL

Renusol VS Tilt System



Sustainable Technologies Roof Attachment



Inverter Mounting Detail

Renusol VS



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S4.0

ROOF RACKING DETAIL

DATE: 6-14-16

JB

JOB NO.: C15-700.1