



8001 Forsyth Blvd.  
Floor 2  
St. Louis, MO 63105  
Microgrid-Solar.com  
314.292.5350

## SOLAR PV INSTALLATION PROJECT

### PROJECT CONTACTS

#### OWNER'S REPRESENTATIVE

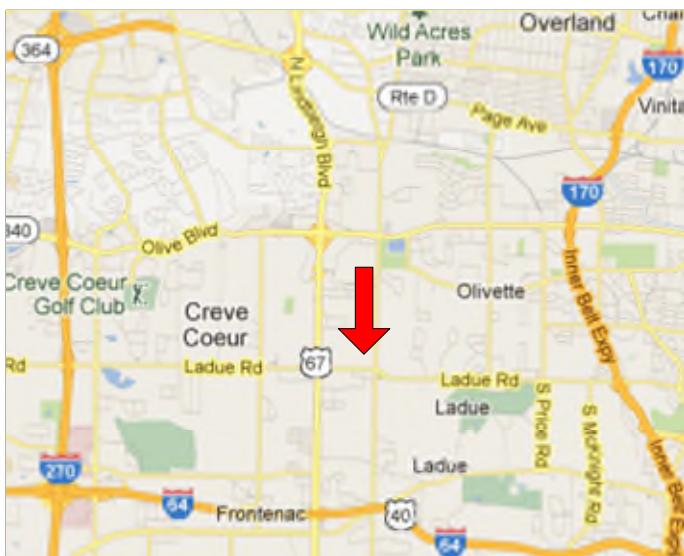
Mark Weller  
MarkW@bsistl.com  
314.781.7820

#### PROJECT MANAGER

Marc Lopata, PE  
MLopata@MicrogridEnergy.com  
314.925.0563

#### PROJECT NUMBER

1303-01



FOR

# MICDS

101 N Warson Road  
Ladue, MO 63124

RECORD DRAWINGS  
03/19/2014

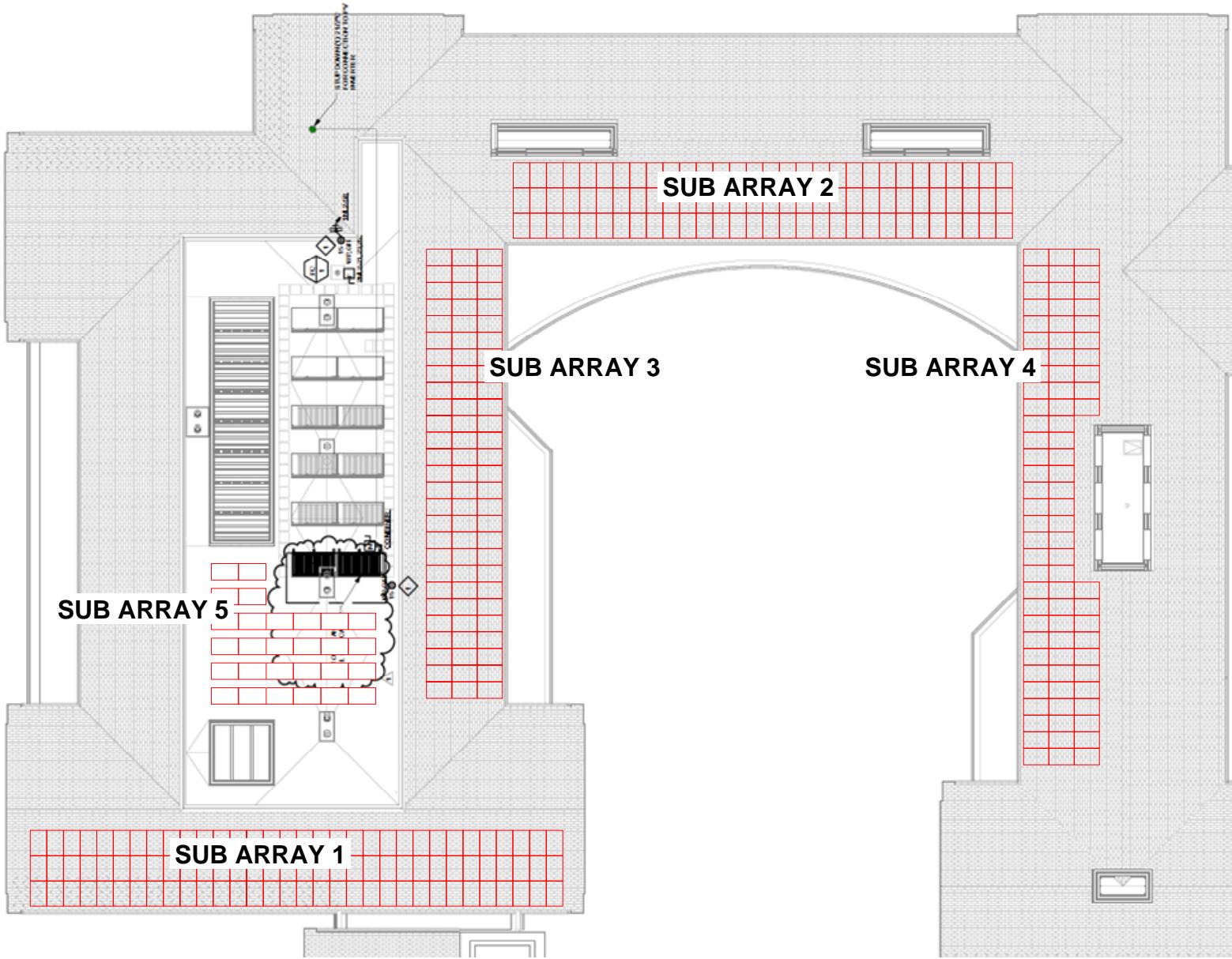
98.43 kW GRID-INTERACTIVE SOLAR ARRAY  
(386) SOLARWORLD MODULES  
(386) ENPHASE ENERGY MICROINVERTERS  
IEEE-1547 AND UL-1741 COMPLIANT  
208V/3 $\phi$  INVERTER VOLTAGE  
208V/3 $\phi$  BUILDING SERVICE VOLTAGE  
FASTENED & BALLASTED MOUNTS  
22.6° & 10° TILT, 194° & 284° AZIMUTH  
AC DISCONNECT AT GROUND LEVEL  
ACCESIBLE FROM PUBLIC WAY

### SHEET INDEX

- PV-1 ARRAY LAYOUT
- PV-1A SUB-ARRAY 1 & 2 PLAN
- PV-1B SUB-ARRAY 3 & 4 PLAN
- PV-1C SUB-ARRAY 5 PLAN
- PV-1D SUB-ARRAY 1 & 2 RACKING PLAN
- PV-1E SUB-ARRAY 3 & 4 RACKING PLAN
- PV-1F SITE PLAN
- PV-2 PV RISER DIAGRAM
- PV-2A SINGLE-LINE DIAGRAM  
SUB-ARRAY 1&3
- PV-2B SINGLE-LINE DIAGRAM  
SUB-ARRAY 2&4
- PV-2C SINGLE-LINE DIAGRAM  
SUB-ARRAY 5 & POCC
- PS-1 PLACARD SPECIFICATIONS



PV Installation  
Professional  
Marc Lopata  
Cert # 091110-241



0      15      30  
SCALE IN FEET  
1" = 30'

PROJECT: MICDS  
SHEET TITLE: Array Layout  
SHEET NUMBER: PV-1  
VERSION: Record Drawings

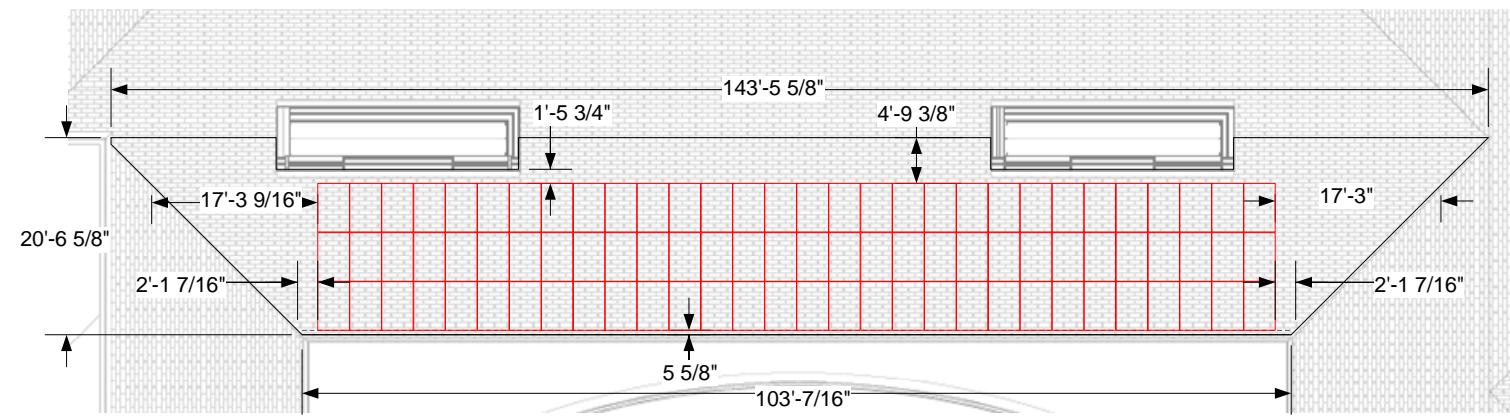
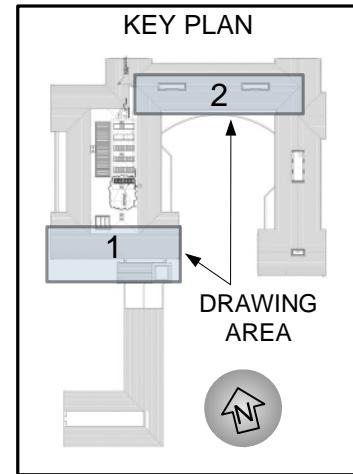
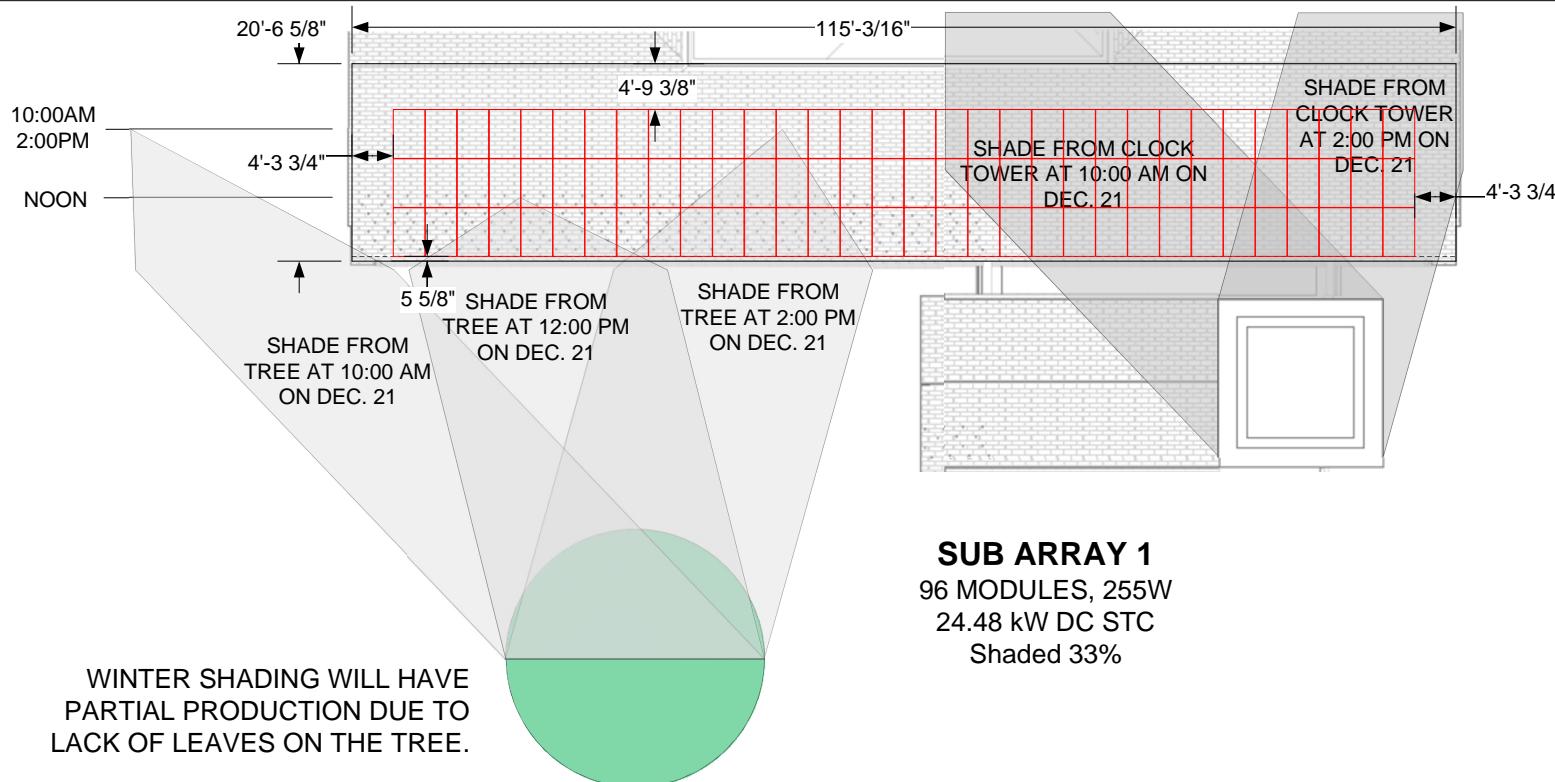
5/20/13  
3/3/14

03/19/2014  
Scale: 1"=30'  
Drawn: TS  
Check: ML

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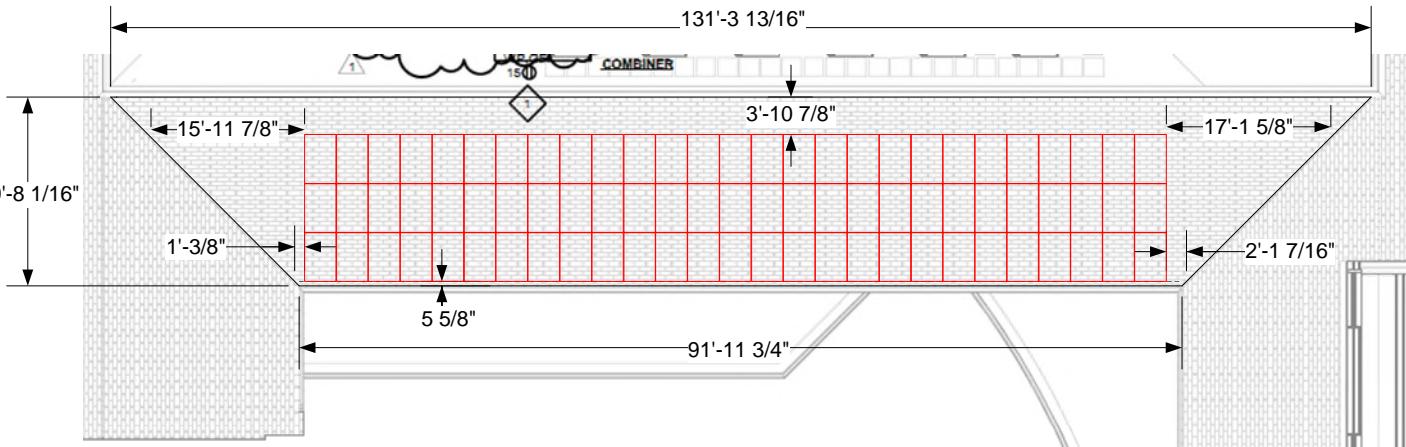
**SUB ARRAY 2**  
90 MODULES, 255W  
22.95 kW DC STC

6IN SETBACK

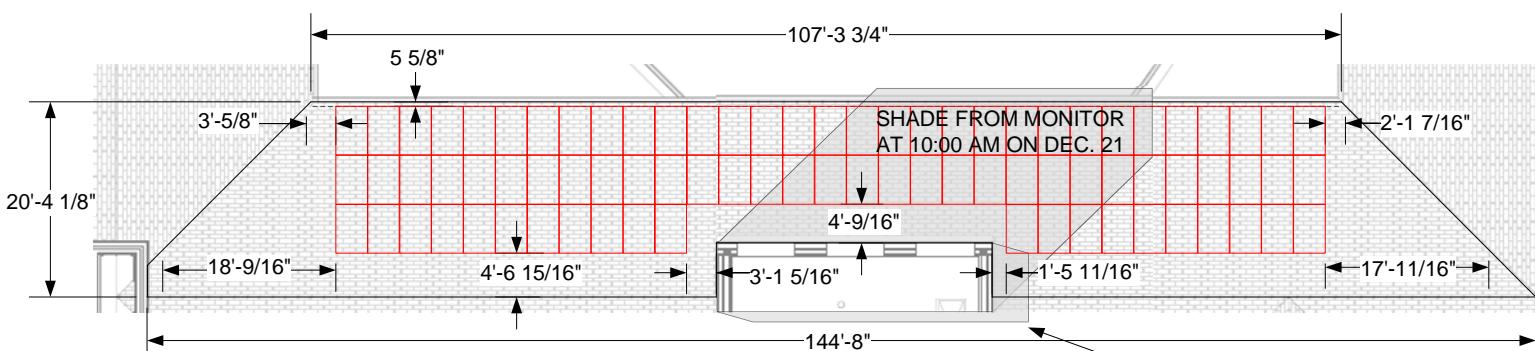
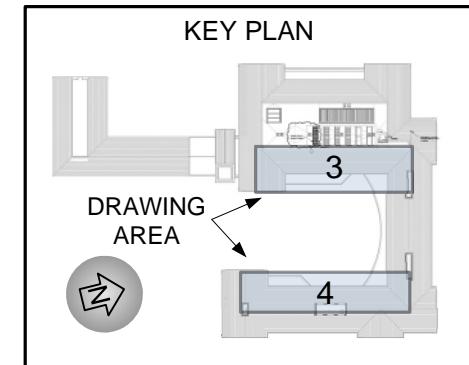
PROJECT: MICDS	SHEET TITLE: Sub-Array 1 & 2 Plan	2/28/13
SHEET NUMBER: PV-1A		3/05/13
VERSION: Record Drawings		3/08/13
03/19/2014	Scale: 1"=20'	5/20/13
	Drawn: TS	9/9/13
	Check: ML	
0	10	20
SCALE IN FEET		
1" = 20'		
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**SUB ARRAY 3**  
81 MODULES, 255W  
20.66 kW DC STC



**SUB ARRAY 4**  
83 MODULES, 255W  
21.16 kW DC STC  
Shaded 10%

0 10 20  
SCALE IN FEET  
1" = 20'

PROJECT:	MICDS	2/28/13
SHEET TITLE:	Sub-Array 3 & 4 Plan	3/06/13
SHEET NUMBER:	PV-1B	3/08/13
VERSION:	Record Drawings	5/20/13
		9/9/13
03/19/2014	Scale: 1"=20'	
	Drawn: TS	Floor 2
	Check: ML	St. Louis, MO 63105
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6IN SETBACK

A

B

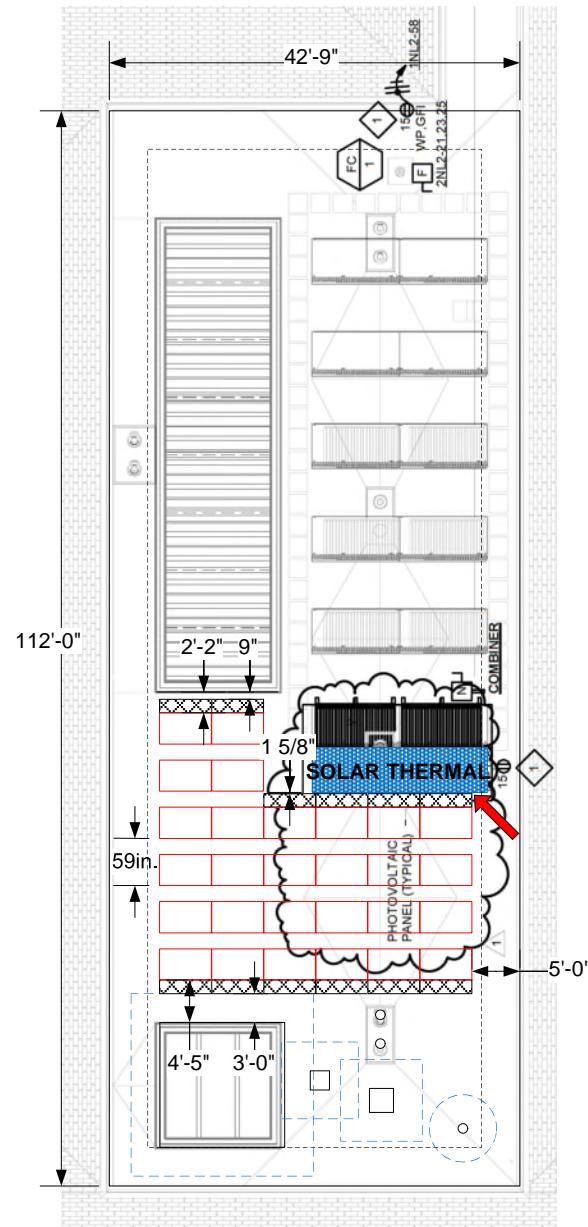
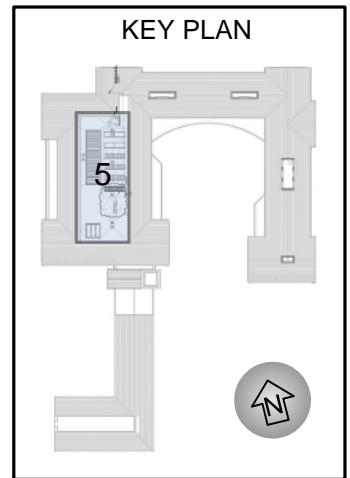
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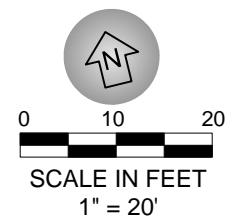




4 FOOT ROOF SETBACK

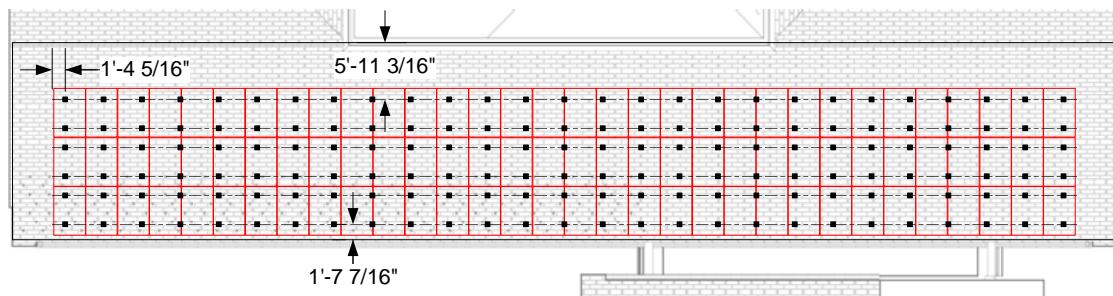
ARRAY ASSEMBLY REFERENCE POINT: SOLAR PV RACKING  
ASSEMBLY TO BE OFFSET FROM SOLAR THERMAL RACKING AS  
DETERMINED IN THE FIELD BY THE OWNER'S REPRESENTATIVE

**SUB ARRAY 5**  
28 MODULES, 255W  
7.14 kW



PROJECT:	MICDS	03/14/13
SHEET TITLE:	Sub-Array 5 Plan	5/20/13
SHEET NUMBER:	PV-1C	9/9/13
VERSION:	Record Drawings	9/26/13
		1/31/14
03/19/2014	8001 Forsyth Blvd.	
Scale: 1"=20'	Floor 2	
Drawn: TS	St. Louis, MO 63105	
Check: ML	Microgrid-Solar.com	
	314.292.5350	

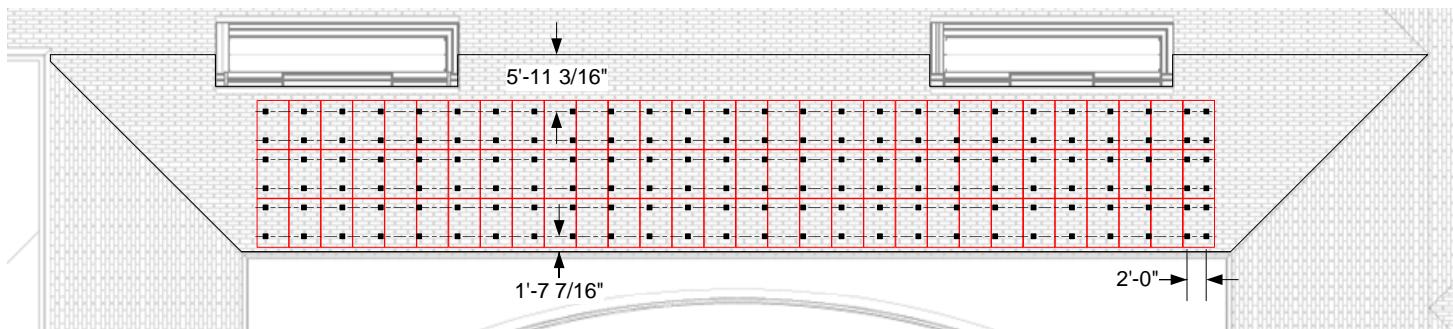




SUB-ARRAY 1 RACKING SCHEDULE

ROW	162" RAILS	122" RAILS	SPLICES	FEET
1	12	6	16	54
2	12	6	16	54
3	12	6	16	54

**SUB ARRAY 1**  
162 FASTEN POINTS



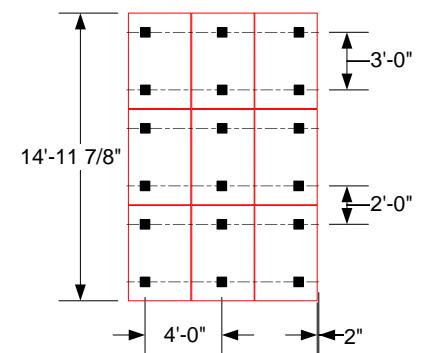
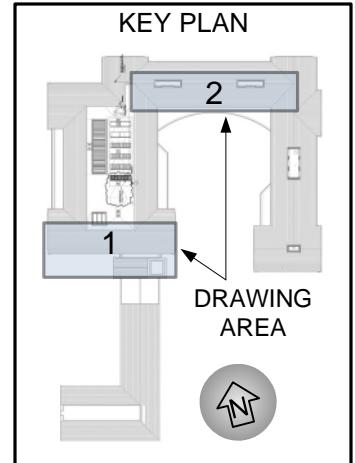
SUB-ARRAY 2 RACKING SCHEDULE

ROW	162" RAILS	122" RAILS	SPLICES	FEET
1	14	2	14	52
2	14	2	14	52
3	14	2	14	52

**SUB ARRAY 2**  
156 FASTEN POINTS

■ FOOT AND FLASHING ASSEMBLY  
(MAXIMUM 4 FT O.C.)

✓ MOUNTING RAIL  
(MAXIMUM 16 IN CANTILEVER)



TYPICAL  
SCALE: 1"=10"

0 10 20

SCALE IN FEET

1" = 20'

PROJECT: MICDS  
SHEET TITLE: Sub Array 1 & 2 Racking Plan  
SHEET NUMBER: PV-1D  
VERSION: Record Drawings

3/07/13  
3/08/13  
5/20/13  
9/9/13

03/19/2014  
Scale: 1"=20'  
Drawn: TS  
Check: ML

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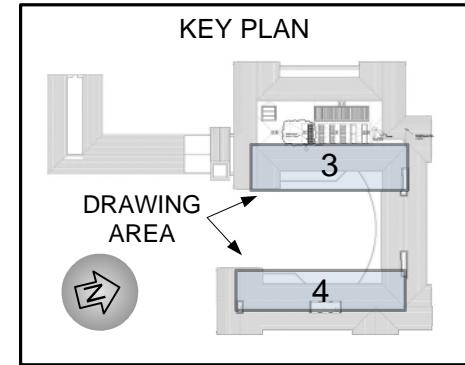
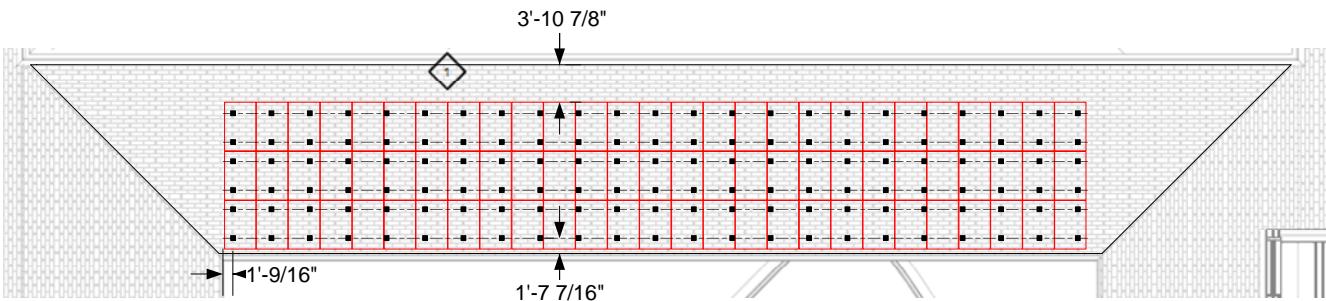
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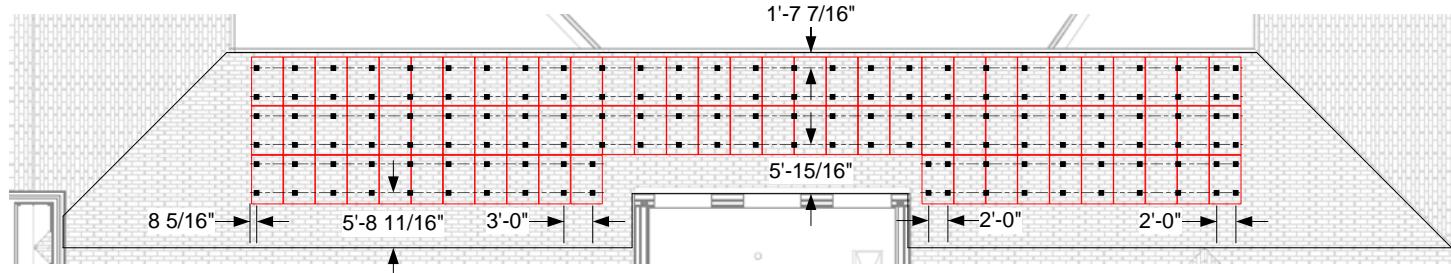


### SUB ARRAY 3

138 FASTEN POINTS

SUB-ARRAY 3 RACKING SCHEDULE

ROW	162" RAILS	122" RAILS	SPLICES	FEET
1	14	0	12	46
2	14	0	12	46
3	14	0	12	46



SUB-ARRAY 4 RACKING SCHEDULE

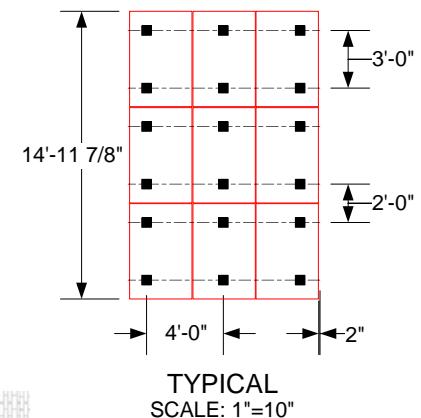
ROW	162" RAILS	122" RAILS	SPLICES	FEET
1	16	0	14	54
2	16	0	14	54
3A	6	0	4	20
3B	6	0	4	20

### SUB ARRAY 4

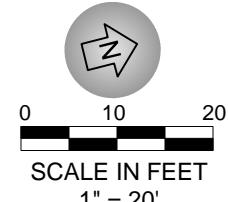
148 FASTEN POINTS

■ FOOT AND FLASHING ASSEMBLY  
(MAXIMUM 4 FT O.C.)

✓ MOUNTING RAIL  
(MAXIMUM 16 IN CANTILEVER)



TYPICAL  
SCALE: 1"=10"



SCALE IN FEET  
1" = 20'

PROJECT:	MICDS	3/08/13
SHEET TITLE:	Sub Array 3 & 4 Racking Plan	5/20/13
SHEET NUMBER:	PV-1E	9/9/13
VERSION:	Record Drawings	
03/19/2014	Scale: 1"=20'	
	Drawn: TS	
	Check: ML	

AMERICAN  
SOLAR  
INSTITUTE  
CERTIFIED  
Solar PV  
Inverter

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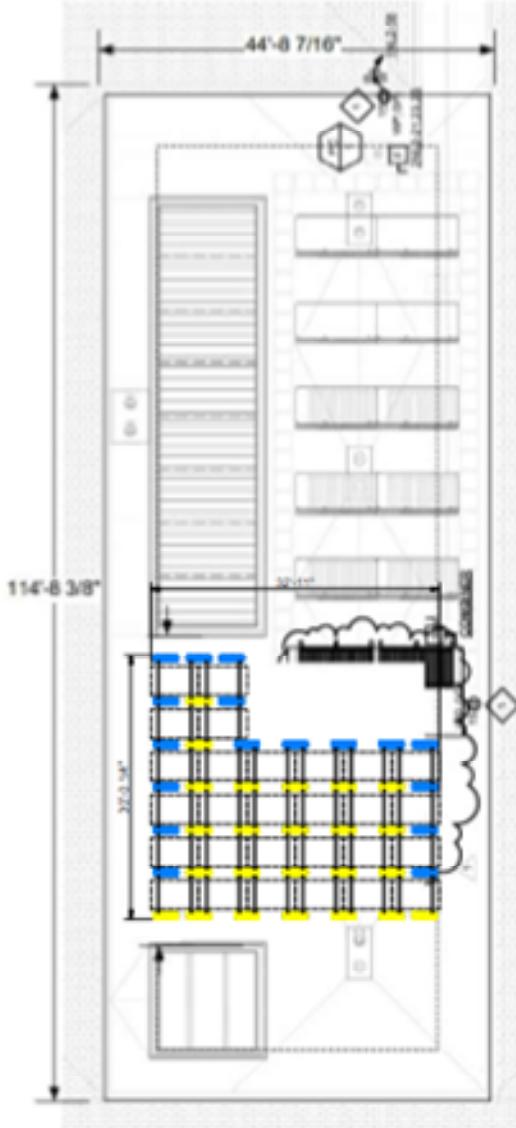
A

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Engineered Solar Mounting Systems

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586-482-3749/5848

**NOTES**  
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4. STANDARD RIBBED CORRUGATED ROOFING SHEET. REFER TO ZINC SHEET FOR SHEET WEIGHT.  
5. MINIMUM FLOOR AND ROOF DECK ALLOWABLE TOLERANCE: 1/8"

**ITEM**

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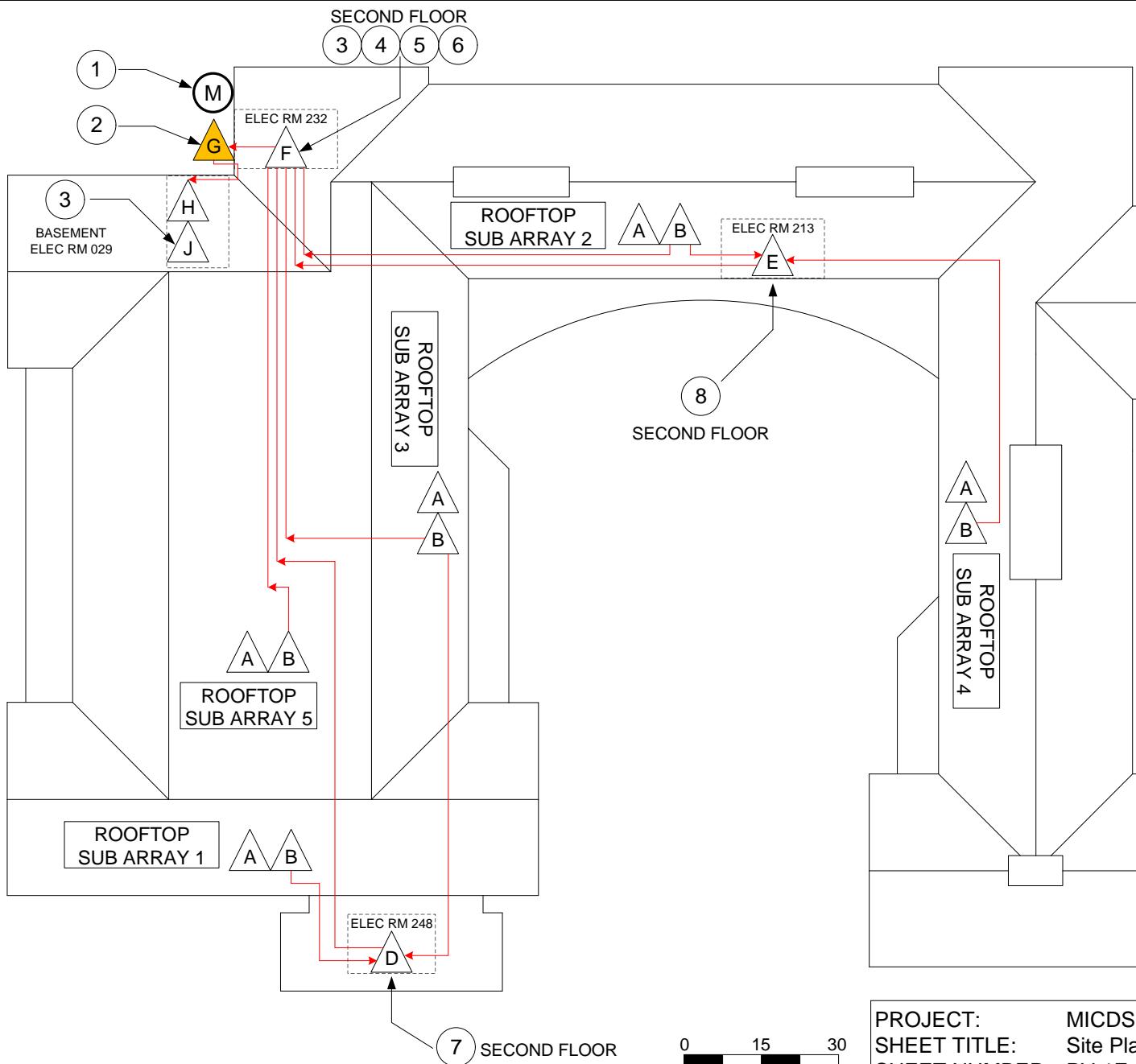
180

181

182

183

184</



- SYSTEM COMPONENTS AS SHOWN ON SHEET PV-2A, PV-2B & PV-2C
- AC DISCONNECT
- PLACARD LOCATION AS LISTED ON PS-1
- PV CONNECTION POINT
- UTILITY METER

0 15 30  
SCALE IN FEET  
1" = 30'



PROJECT: MICDS  
SHEET TITLE: Site Plan  
SHEET NUMBER: PV-1F  
VERSION: Record Drawings  
03/19/2014  
Scale: N.T.S.  
Drawn: TS  
Check: ML

5/20/13  
3/3/14

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NOTE: All components at ground level unless otherwise noted.

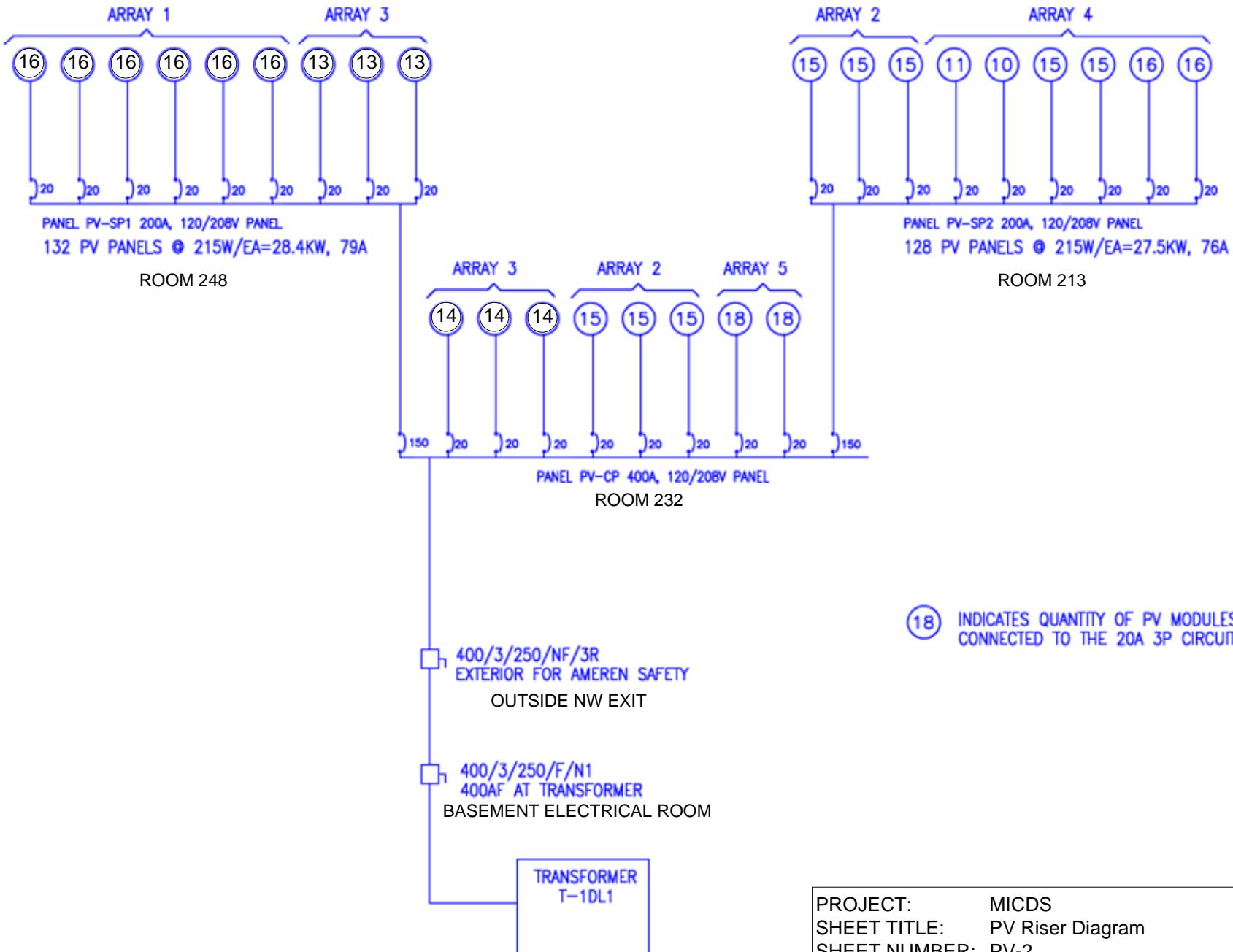
A

B

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D

E



(18) INDICATES QUANTITY OF PV MODULES/MICRO INVERTERS CONNECTED TO THE 20A 3P CIRCUIT

PROJECT:	MICDS	5/20/13
SHEET TITLE:	PV Riser Diagram	
SHEET NUMBER:	PV-2	
VERSION:	Record Drawings	
03/19/2014	8001 Forsyth Blvd. Floor 2 St. Louis, MO 63105 Microgrid-Solar.com 314.292.5350	
Scale: N.T.S.		
Drawn: TS		
Check: ML		

Diagram by Briner Electric

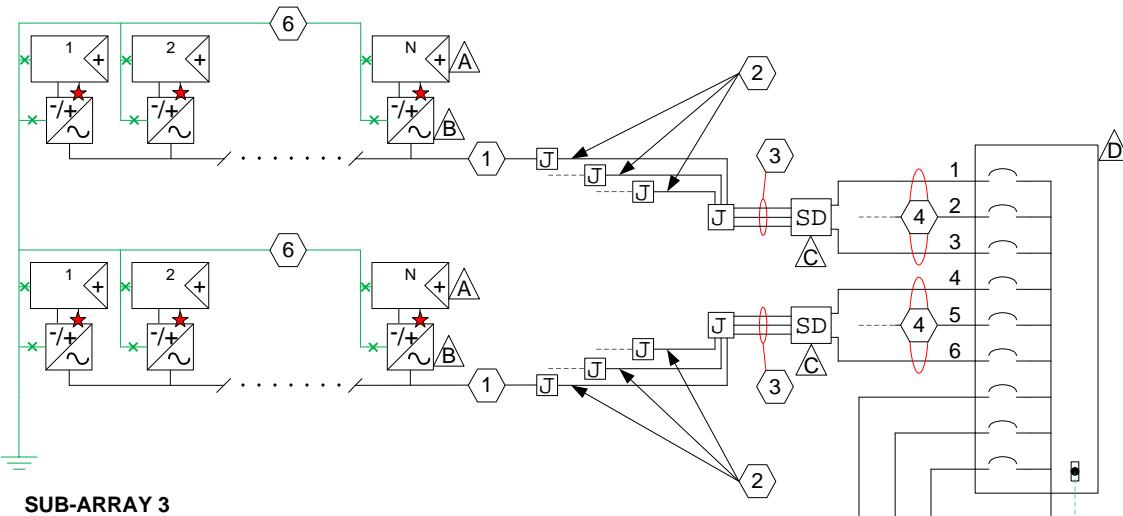


### EQUIPMENT SCHEDULE

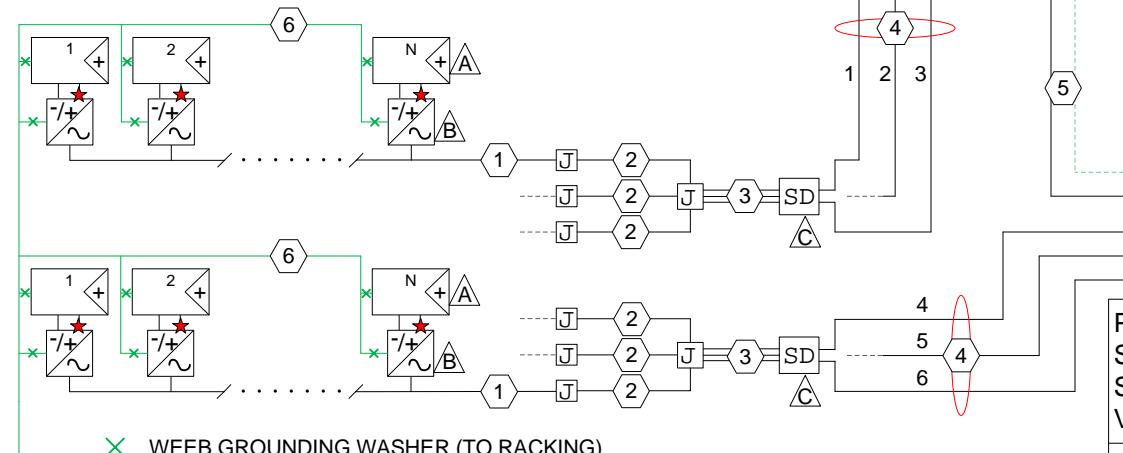
TAG	DESCRIPTION	QUANT	PART #	LOCATION	NOTES
A	PV MODULE(S)	177	ISFT-255	ROOF	255W, Isc=8.81A, Voc=37.9V
B	INVERTER(S)	177	M215	ROOF	0.58A/φ, 208V, 3φ, 4W
C	FLASHED JUNCTION BOX	4	"SD BOX"	ROOF	SOLADECk, 3R ENCLOSURE
D	AC COMBINER PANEL	1	"PV-SP1"	ELEC RM. 248	200A, 208V, 3φ, 4W

Components in heavy line type are EXISTING. All other components are NEW.

### SUB-ARRAY 1



### SUB-ARRAY 3



WEEB GROUNDING WASHER (TO RACKING)

EQUIPMENT GROUNDING CONDUCTOR (EGC)

GROUNDING ELECTRODE CONDUCTOR (GEC)

★ GROUNDING POINT OF THE CURRENT-CARRYING DC CONDUCTOR

### CONDUIT / CONDUCTOR SCHEDULE

TAG	DESC / CONDUCTOR TYPE	QUANT & GAUGE	CONDUIT
1	TRUNK CABLE, 3φ	3-#12C, 1-#12N, 1-#12G	NONE
2	THWN-2, AC EGC	3-#10C, 1-#12N, 1-#12G	3/4" EMT
3	THWN-2, AC EGC	9-#10C, 3-#12N, 1-#12G	(2) 3/4" EMT
4	THWN-2, AC EGC	SEE BRANCH SCHEDULE	1" & 3/4" EMT
5	THWN-2, AC EGC	3-3/0C, 1-#6N, 1-#6G	2" EMT
6	BARE CU DC GEC/EGC	1-#6G	NONE

BALANCED 3-PHASE AC SYSTEM, ONE PHASE SHOWN FOR CLARITY.

### SUB-ARRAY 1 BRANCH SCHEDULE

ID (#)	INVs (N)	VOLTS	AMP / φ	BREAKER	CONDUCTOR TAG ④
1-1	18	208	10.4	20/3	3-#10C, 1-#12N, 2-#12G
1-2	18	208	10.4	20/3	3-#10C, 1-#12N, 2-#12G
1-3	18	208	10.4	20/3	3-#10C, 1-#12N, 2-#12G
1-4	14	208	8.1	20/3	3-#10C, 1-#12N, 2-#12G
1-5	14	208	8.1	20/3	3-#10C, 1-#12N, 2-#12G
1-6	14	208	8.1	20/3	3-#10C, 1-#12N, 2-#12G

### SUB-ARRAY 3 BRANCH SCHEDULE

ID (#)	INVs (N)	VOLTS	AMP / φ	BREAKER	CONDUCTOR TAG ④
3-1	12	208	6.9	20/3	3-#10C, 1-#12N, 2-#12G
3-2	12	208	6.9	20/3	3-#10C, 1-#12N, 2-#12G
3-3	12	208	6.9	20/3	3-#10C, 1-#12N, 2-#12G
3-4	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
3-5	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
3-6	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G

TO AC COMBINER PANEL PV-CP IN  
MAIN MECHANICAL ROOM ON  
GROUND LEVEL, SEE SHEET PV-2C

PROJECT:	MICDS	5/20/13
SHEET TITLE:	Single-Line Diagram – Sub-Array 1 & 3	5/28/13
SHEET NUMBER:	PV-2A	3/3/14
VERSION:	Record Drawings	
03/19/2014	Scale: N.T.S.	8001 Forsyth Blvd.
	Drawn: TS	Floor 2
	Check: ML	St. Louis, MO 63105
		Microgrid-Solar.com
		314.292.5350

 CERTIFIED Solar PV Installer

A

B

C

D

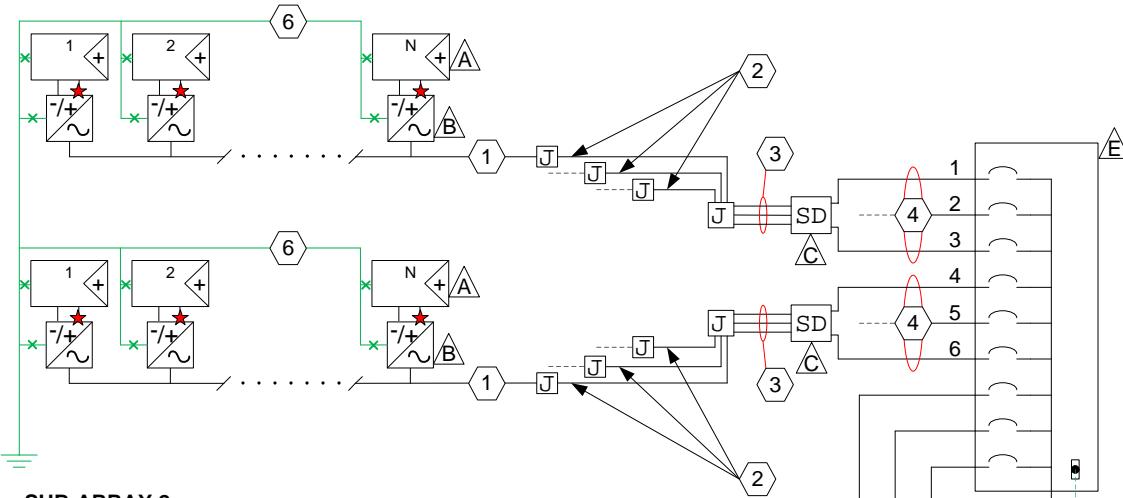
E

EQUIPMENT SCHEDULE

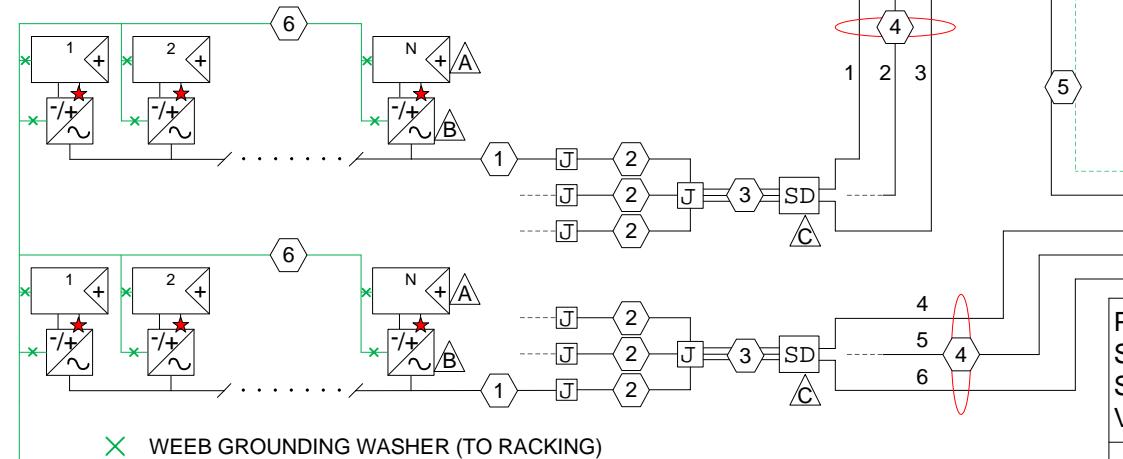
TAG	DESCRIPTION	QUANT	PART #	LOCATION	NOTES
A	PV MODULE(S)	173	ISFT-255	ROOF	255W, $I_{sc}=8.81A$ , $V_{oc}=37.9V$
B	INVERTER(S)	173	M215	ROOF	0.58A/ $\phi$ , 208V, 3 $\phi$ , 4W
C	FLASHED JUNCTION BOX	4	"SD BOX"	ROOF	SOLADECk, 3R ENCLOSURE
E	AC COMBINER PANEL	1	"PV-SP2"	ELEC RM. 213	200A, 208V, 3 $\phi$ , 4W

Components in heavy line type are EXISTING. All other components are NEW.

**SUB-ARRAY 4**



**SUB-ARRAY 2**



X WEEB GROUNDING WASHER (TO RACKING)

~ EQUIPMENT GROUNDING CONDUCTOR (EGC)

— GROUNDING ELECTRODE CONDUCTOR (GEC)

★ GROUNDING POINT OF THE CURRENT-CARRYING DC CONDUCTOR

CONDUIT / CONDUCTOR SCHEDULE

TAG	DESC / CONDUCTOR TYPE	QUANT & GAUGE	CONDUIT
1	TRUNK CABLE, 3 $\phi$	3-#12C, 1-#12N, 1-#12G	NONE
2	THWN-2, AC EGC	3-#10C, 1-#12N, 1-#12G	3/4" EMT
3	THWN-2, AC EGC	9-#10C, 3-#12N, 1-#12G	(2) 3/4" EMT
4	THWN-2, AC EGC	SEE BRANCH SCHEDULE	1" & 3/4" EMT
5	THWN-2, AC EGC	3-3/0C, 1-#6N, 1-#6G	2" EMT
6	BARE CU DC GEC/EGC	1-#6G	NONE

BALANCED 3-PHASE AC SYSTEM, ONE PHASE SHOWN FOR CLARITY.

**SUB-ARRAY 4 BRANCH SCHEDULE**

ID (#)	INVs (N)	VOLTS	AMP / $\phi$	BREAKER	CONDUCTOR TAG (4)
4-1	16	208	9.3	20/3	3-#8C, 1-#12N, 2-#12G
4-2	16	208	9.3	20/3	3-#8C, 1-#12N, 2-#12G
4-3	15	208	8.7	20/3	3-#8C, 1-#12N, 2-#12G
4-4	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
4-5	11	208	6.4	20/3	3-#10C, 1-#12N, 2-#12G
4-6	10	208	5.8	20/3	3-#10C, 1-#12N, 2-#12G

**SUB-ARRAY 2 BRANCH SCHEDULE**

ID (#)	INVs (N)	VOLTS	AMP / $\phi$	BREAKER	CONDUCTOR TAG (4)
2-1	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
2-2	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
2-3	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
2-4	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
2-5	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
2-6	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G

TO AC COMBINER PANEL PV-CP IN  
MAIN MECHANICAL ROOM ON  
GROUND LEVEL, SEE SHEET PV-2C

PROJECT:	MICDS	5/20/13 3/3/14
SHEET TITLE:	Single-Line Diagram – Sub-Array 1 & 3	
SHEET NUMBER:	PV-2B	
VERSION:	Record Drawings	
03/19/2014	Scale: N.T.S.	8001 Forsyth Blvd.
	Drawn: TS	Floor 2
	Check: ML	St. Louis, MO 63105
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		314.292.5350

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CERTIFIED Solar PV Installer

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## EQUIPMENT SCHEDULE

TAG	DESCRIPTION	QUANT	PART #	LOCATION	NOTES
A	PV MODULE(S)	36	SW 255	ROOF	255W, $I_{sc}=8.66A$ , $V_{oc}=37.8V$
B	INVERTER(S)	36	M215	ROOF	0.58A/ $\phi$ , 208V, 3 $\phi$ , 4W
F	AC COMBINER PANEL	1	"PV-CP"	ELEC RM. 232	400A, 208V, 3 $\phi$ , 4W
G	AC DISCONNECT	1	"PVD1"	N EXTERIOR WALL	208V, 3 $\phi$ , 4W
H	FUSED AC DISCONNECT	1	"PVFD2"	ELEC RM. 029	300A FUSE, 208V, 3 $\phi$ , 4W
J	CONNECTION POINT (POCC)	1	"T-1DL1"	ELEC RM. 029	300 kVA, 3 $\phi$ , 4W

Components in heavy line type are EXISTING. All other components are NEW.



## CONDUIT / CONDUCTOR SCHEDULE

TAG	DESC / CONDUCTOR TYPE	QUANT & GAUGE	CONDUIT
1	TRUNK CABLE, 3 $\phi$	3-#12C, 1-#12N, 1-#12G	NONE
2	THWN-2, AC EGC	SEE BRANCH SCHEDULE	3/4" EMT
3	THWN-2, AC EGC	3-3/0C, 1-#6N, 1-#6G	2" EMT
4	THWN-2, AC EGC	SEE BRANCH SCHEDULE	1" EMT
5	THWN-2, AC EGC	SEE BRANCH SCHEDULE	1" EMT
6	THWN-2, AC EGC	3-3/0C, 1-#6N, 1-#6G	2" EMT
7	THWN-2, AC EGC	3-500MCM, 1-500MCMN, 1-1/0G	2 1/2" EMT
8	BARE CU DC GEC/EGC	1-#6G	NONE

BALANCED 3-PHASE AC SYSTEM, ONE PHASE SHOWN FOR CLARITY.

## SUB-ARRAY 5 BRANCH SCHEDULE

ID (#)	INVs (N)	VOLTS	AMP / $\phi$	BREAKER	CONDUCTOR TAG (2)
1	18	208	10.4	20/3	3-#10C, 1-#12N, 2-#12G
2	18	208	10.4	20/3	3-#10C, 1-#12N, 2-#12G

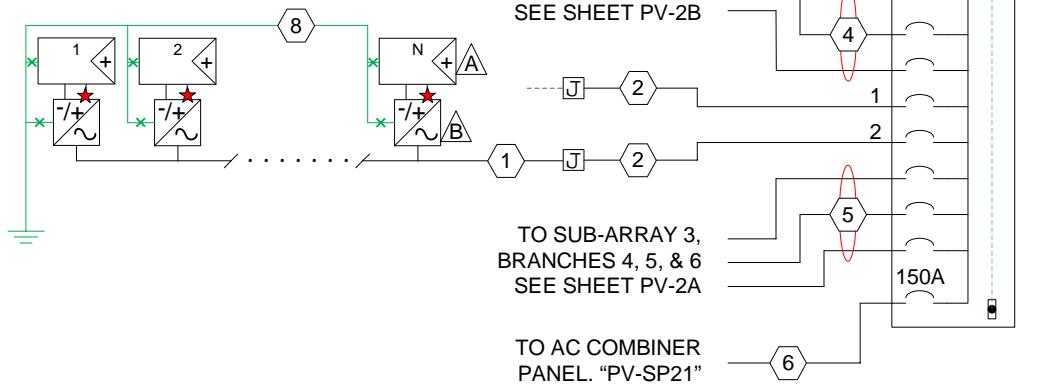
## SUB-ARRAY 2 BRANCH SCHEDULE

ID (#)	INVs (N)	VOLTS	AMP / $\phi$	BREAKER	CONDUCTOR TAG (4)
4	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
5	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G
6	15	208	8.7	20/3	3-#10C, 1-#12N, 2-#12G

## SUB-ARRAY 3 BRANCH SCHEDULE

ID (#)	INVs (N)	VOLTS	AMP / $\phi$	BREAKER	CONDUCTOR TAG (5)
4	15	208	8.7	15/3	3-#10C, 1-#12N, 2-#12G
5	15	208	8.7	15/3	3-#10C, 1-#12N, 2-#12G
6	15	208	8.7	15/3	3-#10C, 1-#12N, 2-#12G

## SUB-ARRAY 5



✖ WEEB GROUNDING WASHER (TO RACKING)

~~~~ EQUIPMENT GROUNDING CONDUCTOR (EGC)

~~~~ GROUNDING ELECTRODE CONDUCTOR (GEC)

★ GROUNDING POINT OF THE CURRENT-CARRYING DC CONDUCTOR

PROJECT: MICDS  
 SHEET TITLE: Single-Line Diagram – Sub-Array 5 & POCC  
 SHEET NUMBER: PV-2C  
 VERSION: Record Drawings

5/20/13  
 3/3/14

03/19/2014  
 Scale: N.T.S.  
 Drawn: TS  
 Check: ML

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## PV MODULE RATINGS @ STC

|                              |              |
|------------------------------|--------------|
| MODULE MAKE                  | SOLARWORLD   |
| MODULE MODEL                 | SW 255W MONO |
| MAX POWER-POINT CURRENT, Imp | 8.15 A       |
| MAX POWER-POINT VOLTAGE, Vmp | 31.4 V       |
| OPEN-CIRCUIT VOLTAGE, Voc    | 37.8 V       |
| SHORT-CIRCUIT CURRENT, Isc   | 8.66 A       |
| MAX SERIES FUSE (OCPD)       | 16 A         |
| MAXIMUM POWER, Pmax          | 255 W        |
| MAX VOLTAGE (TYP 600V)       | 600 V        |
| VOC TEMP COEFF [%/°C]        | -0.33        |

## INVERTER RATINGS

|                       |         |
|-----------------------|---------|
| INVERTER MAKE         | ENPHASE |
| INVERTER MODEL        | M215    |
| MAX DC VOLTAGE RATING | 45 V    |
| MAX POWER @ 40°C      | 215 W   |
| NOMINAL AC VOLTAGE    | 208 V   |
| MAX AC CURRENT        | 1.0 A   |
| MAX OCPD RATING       | N/A     |

### 1 AC METER - PRIMARY

**CAUTION**

ONSITE ENERGY GENERATION  
**SOLAR PHOTOVOLTAIC ARRAY**  
 IEEE-1547 COMPLIANT – WILL  
 NOT PRODUCE VOLTAGE  
 WHEN GRID POWER IS OFF

### 3 AC CONNECTION POINT

**PHOTOVOLTAIC  
 INVERTER CONNECTION**

|  |       |
|--|-------|
| AC OUTPUT CURRENT  | 300 A |
| NOMINAL AC VOLTAGE                                       | 208 V |
| THIS DEVICE IS FED BY MULTIPLE SOURCES (UTILITY & SOLAR) |       |

### 4 AC CONNECTION POINT

**WARNING**

ELECTRIC SHOCK HAZARD  
 IF A GROUND FAULT IS INDICATED  
 AT ANY INVERTER, NORMALLY  
 GROUNDED CONDUCTORS MAY BE  
 UNGROUNDED AND ENERGIZED

### 2 AC DISCONNECT

**SOLAR PV SYSTEM  
 AC DISCONNECT**

|  |       |
|--|-------|
| AC OUTPUT CURRENT  | 300 A |
| NOMINAL AC VOLTAGE                                       | 208 V |
| THIS DEVICE IS FED BY MULTIPLE SOURCES (UTILITY & SOLAR) |       |

### 5 PANEL PV-CP

BREAKERS FOR SUB-ARRAY 3  
 BRANCHES 1, 2 & 3 ON  
 PANEL PV-SP1 LOCATED IN  
 ELECTRICAL ROOM 248.

**KEY LOCATION NOTES**  
 LOCATED AS SHOWN ON  
 SHEET SERIES PV-1G

### 6 PANEL PV-CP

BREAKERS FOR SUB-ARRAY 2  
 BRANCHES 1, 2 & 3 ON  
 PANEL PV-SP2 LOCATED IN  
 ELECTRICAL ROOM 213

### 7 PANEL PV-SP1

BREAKERS FOR SUB-ARRAY 3  
 BRANCHES 4, 5 & 6 ON  
 PANEL PV-SP2 LOCATED IN  
 ELECTRICAL ROOM 213

### 8 PANEL PV-SP2

BREAKERS FOR SUB-ARRAY 2  
 BRANCHES 4, 5 & 6 ON  
 PANEL PV-SP2 LOCATED IN  
 ELECTRICAL ROOM 248

PROJECT: MICDS  
 SHEET TITLE: Placard Specification  
 SHEET NUMBER: PS-1  
 VERSION: Record Drawings

05/20/13  
 03/03/14

03/19/2014  
 Scale: N.T.S.  
 Drawn: TS  
 Check: ML



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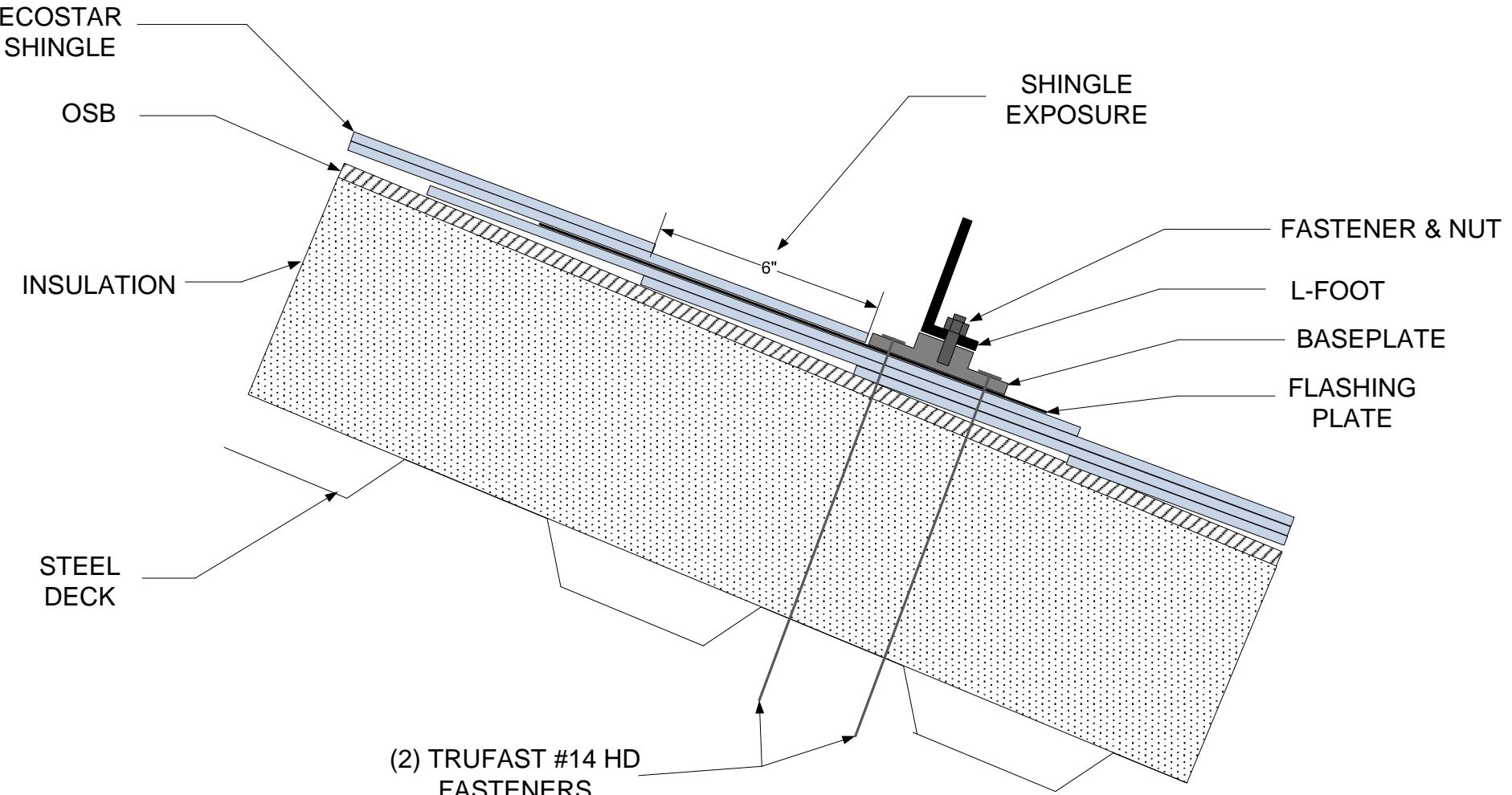
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0 3 6  
SCALE IN INCHES

3" = 1'

NOTES:

- (1) SHINGLE EXPOSURE OF 6" REQUIRED.
- (2) 18 GAUGE STEEL DECK – 1.5" FROM BOTTOM FLUTE TO TOP FLUTE.
- (2) INSULATION & OSB THICKNESS: 6.44"
- (3) ECOSTAR SHINGLE THICKNESS:  $\frac{1}{4}$ "

|   |                                     |   |
|---|-------------------------------------|---|
| PROJECT: MICDS  | SHEET TITLE: Flashing Cross Section | 04/09/13  |
| SHEET NUMBER: PS-1  | VERSION: Record Drawings            |   |
| 09/26/2013  | Scale: 3"=1'<br>Drawn: PK<br>Check: | 8001 Forsyth Blvd.<br>Floor 2<br>St. Louis, MO 63105<br>Microgrid-Solar.com<br>314.292.5350 |
|  Microgrid Solar |                                     |        |

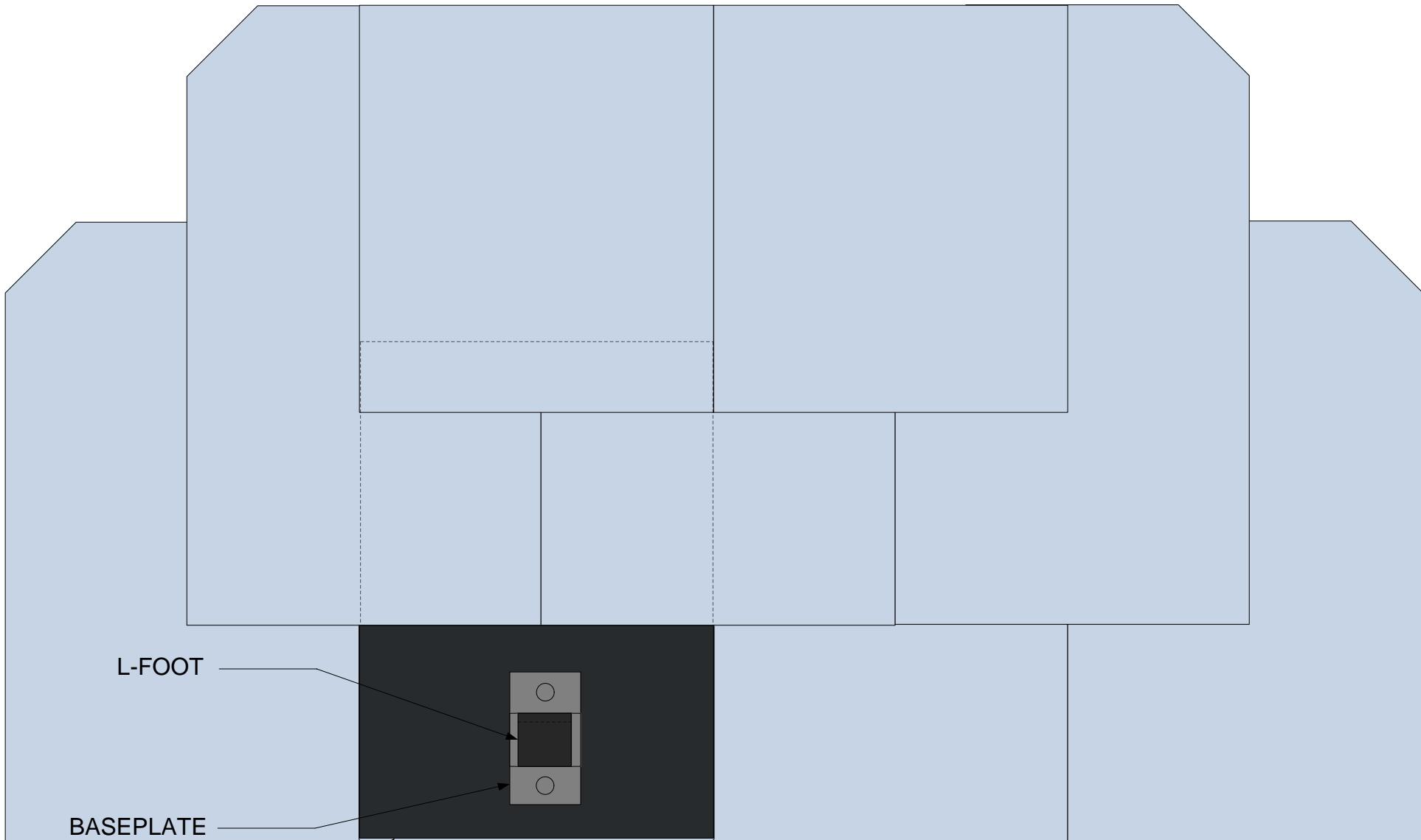
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0 3 6  
SCALE IN INCHES  
3" = 1'

|   |   |   |
|---|---|---|
| PROJECT: MICDS  | SHEET TITLE: Flashing Plan View   | ORIG.   |
| SHEET NUMBER: PS-1  |   |   |
| VERSION: Permit & Construction Set  |   |   |
| 09/26/2013  | Scale: 3"=1'<br>Drawn: PK<br>Check:   | 8001 Forsyth Blvd.<br>Floor 2<br>St. Louis, MO 63105<br>Microgrid-Solar.com<br>314.292.5350 |
|  |  |   |