

PHOTOVOLTAIC MODULE SINGLE AXIS TRACKER SYSTEM

FOR
ENNIS SOLAR, LLC

AT
447 SHERIFF JOHNSON ROAD,
LILLINGTON,
27546, HARNETT, NC

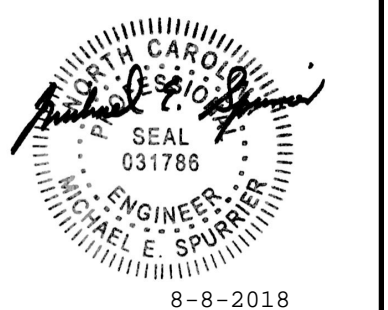


GREENGO ENERGY US, INC.
1447 S. TRYON STREET
SUITE 201
CHARLOTTE, NC 28203
+1 (866) 877 0778

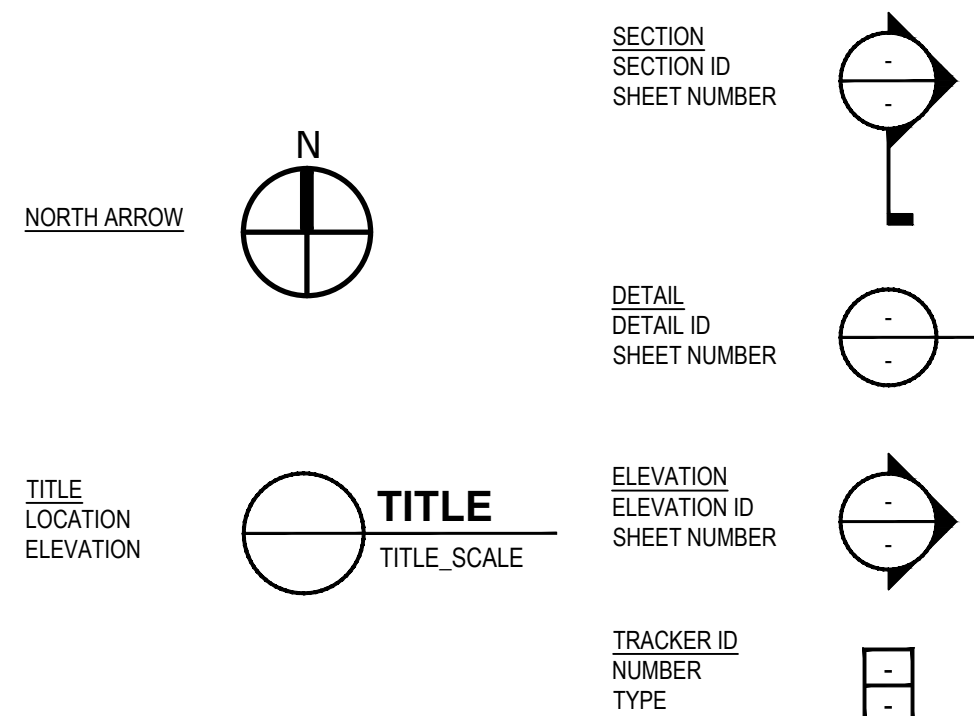


Total Solar Service: Design * Fabrication
Installation * Parts * Repair Service
5513 VINE STREET
CINCINNATI, OH 45217
513.242.2051
FAX: 513.242.0816

PROFESSIONAL SEAL



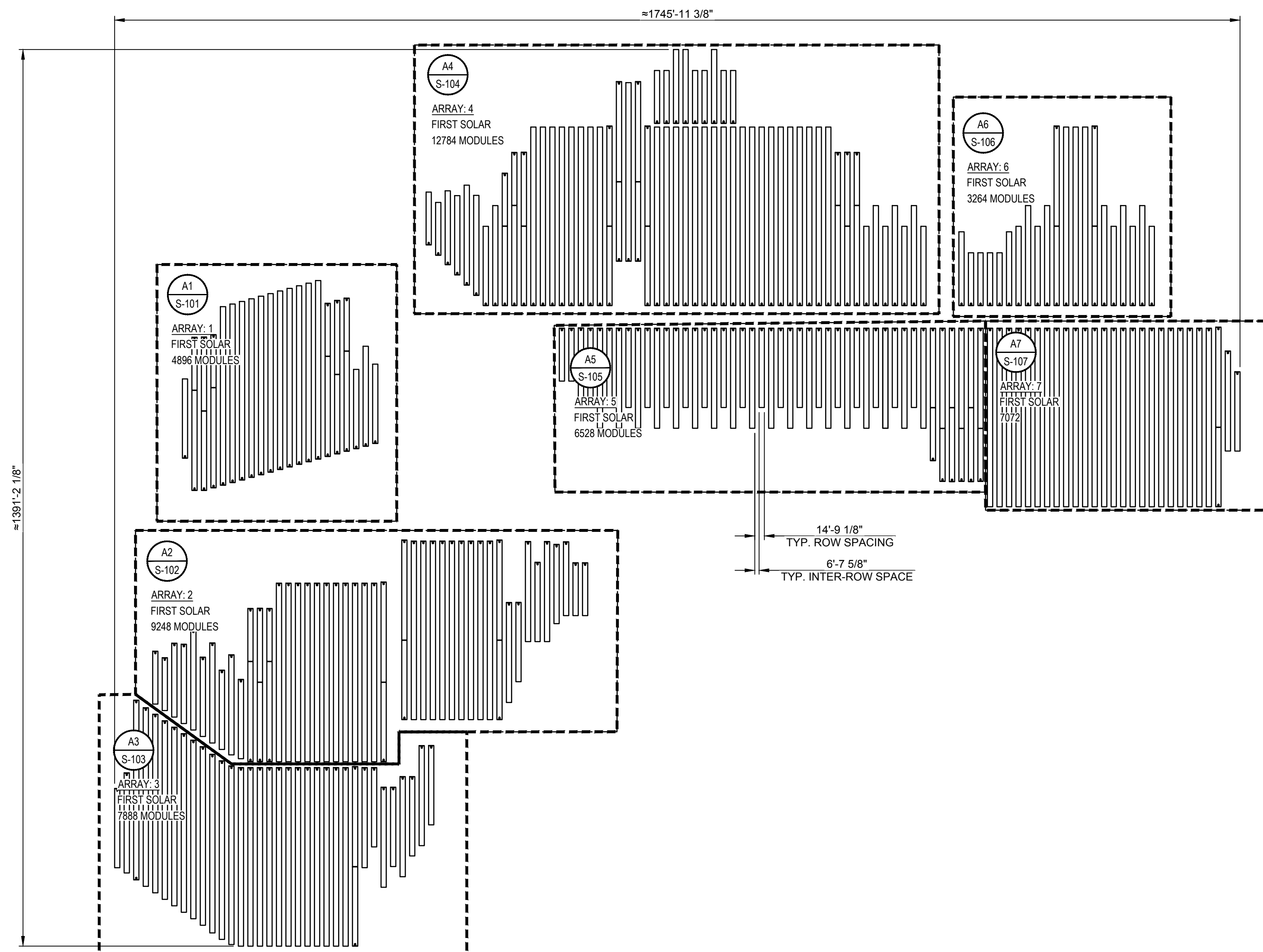
SYMBOLS LEGEND



GOVERNING CODE

- INTERNATIONAL BUILDING CODE (IBC 2012)
ASCE 7-10
RISK CATEGORY: I
DESIGN LOADS:
- DEAD LOADS:
 - STRUCTURE: 0.7 PSF
 - GLAZING: 3.4 PSF
 - $\Sigma \times 1.05 = 4.3$ PSF
 - ROOF LIVE LOAD = N/A
 - SNOW LOAD:
 - $P_g = 15$ PSF (GROUND SNOW)
 - $P_f = 9.1$ PSF (FLAT ROOF SNOW)
 - $P_s = 2.5$ PSF (SLOPED ROOF SNOW)
 - $C_e = 0.9$
 - $C_d = 1.2$
 - $C_s = 0.27$
 - $I_s = 0.8$
 - WIND LOAD: (MAIN WIND FORCE RESISTING SYSTEM)
 - $V_{BASE} = 116$ MPH AT 0 DEG TILT
 - $V_{DESIGN} = 50$ MPH AT >0 DEG TILT
 - $V_{STOW} = 40$ MPH TRIGGER STOW
 - EXPOSURE: C
 - SEISMIC:
 - $S_s = 0.173$
 - $S_1 = 0.086$
 - $S_2 = 0.185$
 - $S_{d1} = 0.138$
 - $I_m = 1.0$
 - SITE CLASS: D
 - SEISMIC DESIGN CATEGORY: B
 - SEISMIC FORCE RESISTING SYSTEM = INVERTED PENDULUM
 - DESIGN BASE SHEAR: $V = 0.082W$
 - $C_s = 0.082$
 - $R = 2$
 - EQUIVALENT LATERAL FORCE ANALYSIS

SITE PLAN OVERLAY



SHEET INDEX

SHEET	SHEET DESCRIPTION
S-001	COVER SHEET
S-002	GENERAL NOTES/MODULE SPECIFICATION SHEETS
S-003	CONTROLLER EQUIPMENT SITE LAYOUT
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S-102	ARRAY: 2 COMPONENT LAYOUT
S-103	ARRAY: 3 COMPONENT LAYOUT
S-104	ARRAY: 4 COMPONENT LAYOUT
S-105	ARRAY: 5 COMPONENT LAYOUT
S-106	ARRAY: 6 COMPONENT LAYOUT
S-107	ARRAY: 7 COMPONENT LAYOUT
S-401	ENLARGED TRACKER PLANS
S-501	DETAILS
S-502	DETAILS

SYSTEM SPECIFICATIONS

NOTE:
THIS SUBMITTAL/CONSTRUCTION SET WAS PRODUCED FROM DOCUMENTS RECEIVED FROM CUSTOMER ON 06/27/18.

PV MODULE MFR.	FIRST SOLAR
PV MODULE MODEL #	FS-4120-3
# OF PV MODULES/STRING	10
PV MODULE WATTAGE	120
# OF ACTIVE PV MODULES	51300
TOTAL PV SYSTEM WATTS	6,1560 MW
ARRAY TYPE	TRACKING
ARRAY TILT	55° FROM HORIZONTAL EAST TO WEST
TOTAL # OF TABLES	1396
ARRAY ROW SPACING (PITCH)	14'-9 1/8"
INTER-ROW SPACE	6'-7 5/8"
MINIMUM MODULE CLEARANCE	18"
GCR	0.55
NUMBER OF TRACKERS	288

PHOTOVOLTAIC POWER PLANT - 4,560 KWdc / 6,156 KWdc

ENNIS SOLAR, LLC
447 SHERIFF JOHNSON ROAD, LILLINGTON,
27546, HARNETT, NC

REVISIONS

DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

COVER SHEET

S-001

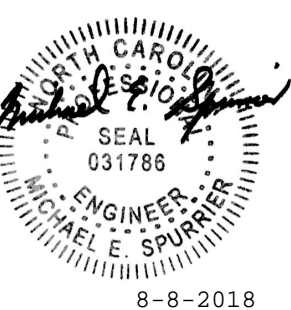


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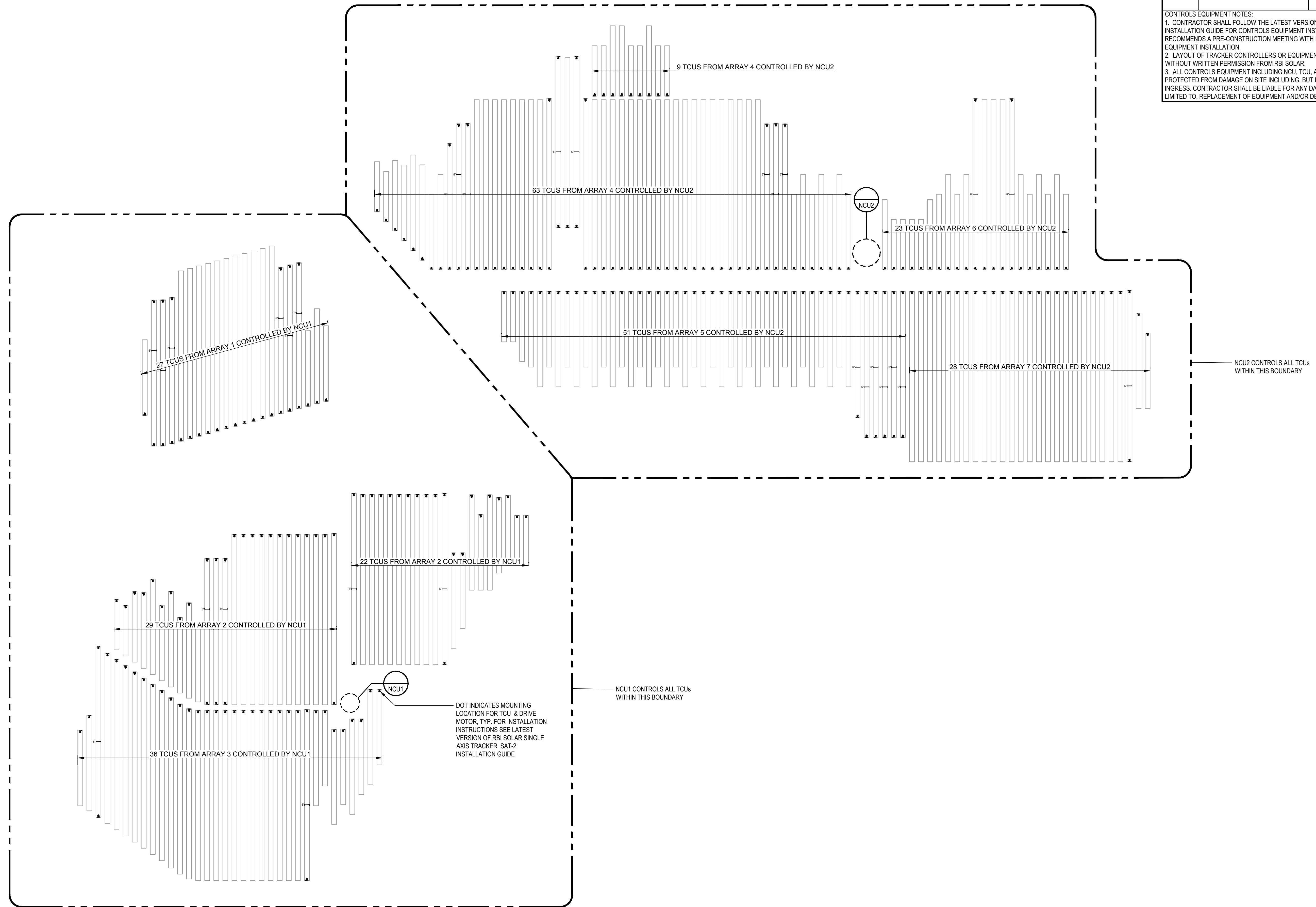
PROFESSIONAL SEAL



NETWORK CONTROL UNIT (NCU) SCHEDULE

MARK	# OF TCUS CONTROLLED BY	RSU PROVIDED	DETAIL
NCU1	114	YES	F8/S-502
NCU2	174	YES	F10/S-502

CONTROLS EQUIPMENT NOTES:
1. CONTRACTOR SHALL FOLLOW THE LATEST VERSION OF THE RBI SOLAR TRACKER INSTALLATION GUIDE FOR CONTROLS EQUIPMENT INSTALLATION. RBI SOLAR RECOMMENDS A PRE-CONSTRUCTION MEETING WITH INSTALLER TO REVIEW EQUIPMENT INSTALLATION.
2. LAYOUT OF TRACKER CONTROLLERS OR EQUIPMENT SHALL NOT BE CHANGED WITHOUT WRITTEN PERMISSION FROM RBI SOLAR.
3. ALL CONTROLS EQUIPMENT INCLUDING NCU, TCU, AND RSU EQUIPMENT SHALL BE PROTECTED FROM DAMAGE ON SITE INCLUDING, BUT NOT LIMITED TO, WATER INGRESS. CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE INCLUDING, BUT NOT LIMITED TO, REPLACEMENT OF EQUIPMENT AND/OR DELAY TO PROJECT COMPLETION.



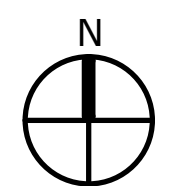
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REVISIONS

DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

CONTROLLER EQUIPMENT SITE LAYOUT

S-003



TRACKER TYPE SCHEDULE			
TYPE	QTY.	DESCRIPTION	DETAIL
A	11	272 Module FIRST SOLAR SC (5)T10 + (2)T09	A3/S-401
B	5	152 Module FIRST SOLAR SC (2)T10 + (2)T09	B3/S-401
C	5	120 Module FIRST SOLAR SC (1)T09 + (3)T07	D3/S-401
D	2	112 Module FIRST SOLAR SC (1)T10 + (2)T09	E3/S-401
E	4	80 Module FIRST SOLAR SC (2)T10	G3/S-401

NOTES:
 1. SEE ENLARGED TRACKER PLANS ON S-40X SHEETS FOR NOTES AND DIMENSIONS
 2. TRACKERS SHOWN REPRESENT OUTLINE OF MODULES AT 0 DEGREE TILT

POST SCHEDULE					
SYMBOL	TYPE	DESCRIPTION	LENGTH	QTY.	DETAIL
X # (")- POST PLAN	A	CEE 8X3	132"	282	A5/S-501

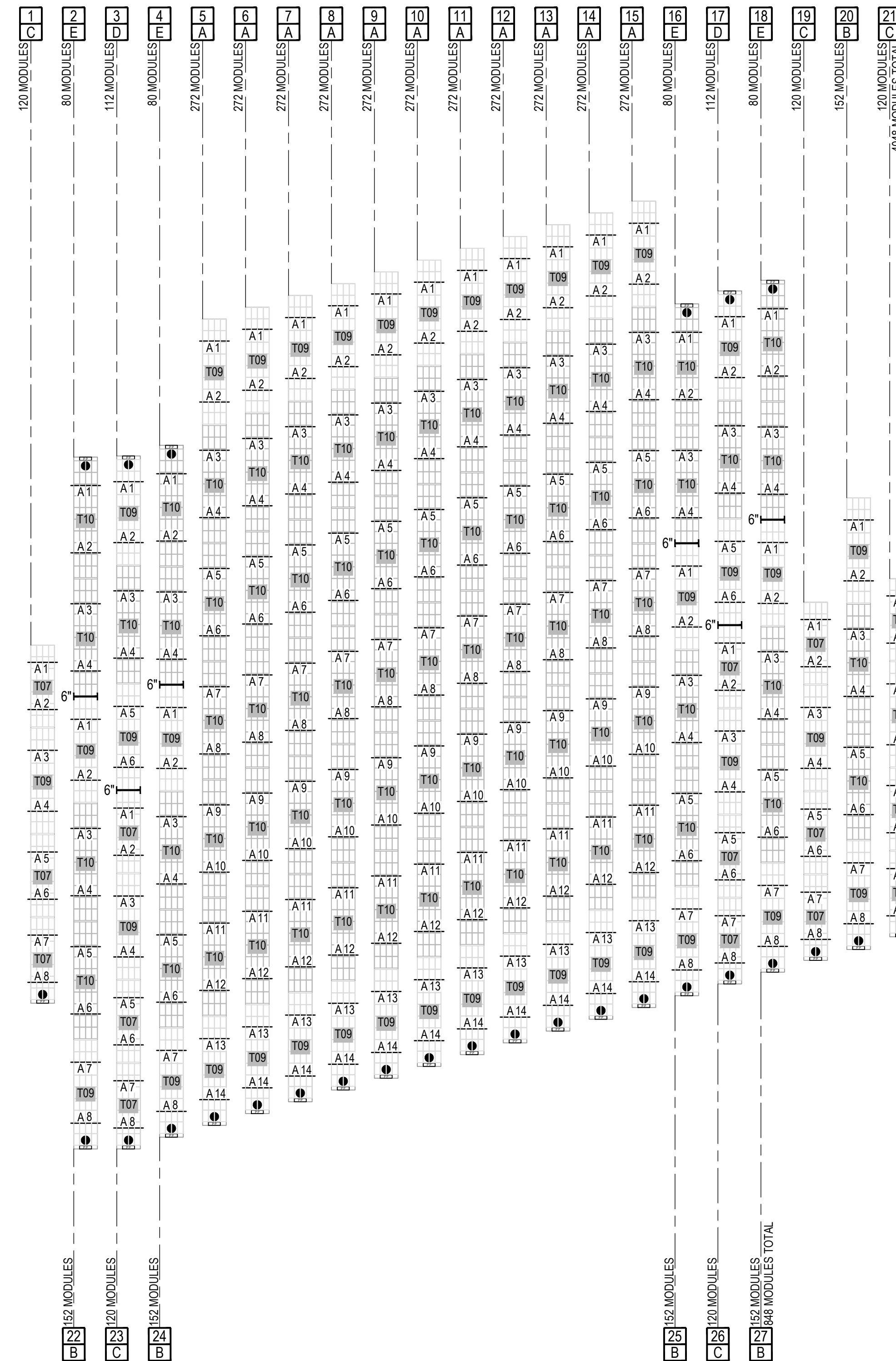
POST SETTING NOTES:
 1. ALL POST DIMENSIONS SHOWN ARE FACE TO FACE OF WEB - SEE PLAN VIEWS ON SHEET S-401
 2. REFERENCE DETAIL C7/S-501 FOR ADDITIONAL INFORMATION ON REQUIRED POST EMBED DEPTHS
 3. POST LENGTH INCLUDES ADDITIONAL MATERIAL TO ALLOW FOR TOPOGRAPHICAL VARIANCE

TABLE SCHEDULE											
TYPE	QTY.	POST-POST LENGTH	DESCRIPTION	PURLIN		DRIVE TUBE		PIVOT ARM			
				TYPE	LENGTH	QTY.	TYPE	LENGTH	QTY.	LENGTH	QTY.
T10	75	23'-1 7/16"	10 MODULES WIDE IN PORTRAIT ORIENTATION	Z10	40'-2 13/16"	150	DT10	22'-8"	75	4'-2 7/16"	150
T09	41	20'-11 3/16"	9 MODULES WIDE IN PORTRAIT ORIENTATION	Z09	36'-2 9/16"	82	DT09	20'-6"	41	4'-2 7/16"	82
T07	15	16'-2 11/16"	7 MODULES WIDE IN PORTRAIT ORIENTATION	Z07	16'-6"	30	DT07	15'-9"	15	4'-2 7/16"	30

NOTES:
 1. PURLINS ARE 7" x 2 1/2" x 7/8" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 2. PIVOT ARMS ARE 6" x 1 7/8" x 1 1/8" x 7/16" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 3. SEE SHEET S-401 FOR ENLARGED TABLE PLANS AND DRIVE TUBE LOCATIONS

DRIVE TUBE JUMPER SCHEDULE				
TYPE	QTY.	DESCRIPTION	LENGTH	DETAIL
J07-J07	5	DRIVE TUBE BETWEEN T07 AND T07	11'-2"	D3/S-401
J07-J09	10	DRIVE TUBE BETWEEN T07 AND T09	12'-10"	D3/S-401
J09-J10	36	DRIVE TUBE BETWEEN T09 AND T10	15'-5"	A3/S-401
J10-J10	53	DRIVE TUBE BETWEEN T10 AND T10	16'-4"	A3/S-401

NOTES:
 1. SEE SHEET S-401 FOR DRIVE TUBE JUMPER LOCATIONS



LEGEND	
X	DENOTES "X" WIDE GAP BETWEEN PV MODULE TABLES

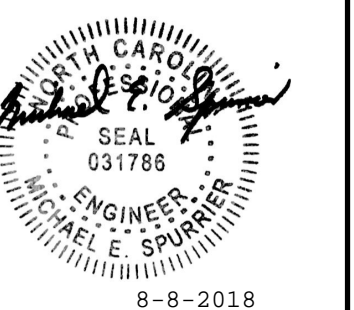


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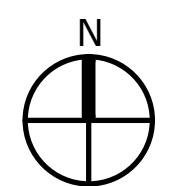
REVISIONS

DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

ARRAY: 1 COMPONENT LAYOUT

S-101

A1
 SCALE:
 1" = 30'-0"



TRACKER TYPE SCHEDULE			
TYPE	QTY.	DESCRIPTION	DETAIL
A	20	272 Module FIRST SOLAR SC (5)T10 + (2)T09	A3/S-401
B	11	152 Module FIRST SOLAR SC (2)T10 + (2)T09	B3/S-401
C	11	120 Module FIRST SOLAR SC (1)T09 + (3)T07	D3/S-401
D	3	112 Module FIRST SOLAR SC (1)T10 + (2)T09	E3/S-401
E	6	80 Module FIRST SOLAR SC (2)T10	G3/S-401

NOTES:
 1. SEE ENLARGED TRACKER PLANS ON S-40X SHEETS FOR NOTES AND DIMENSIONS
 2. TRACKERS SHOWN REPRESENT OUTLINE OF MODULES AT 0 DEGREE TILT

POST SCHEDULE					
SYMBOL	TYPE	DESCRIPTION	LENGTH	QTY.	DETAIL
X # (T) PER PLAN	A	CEE 8X3	132"	498	A5/S-501

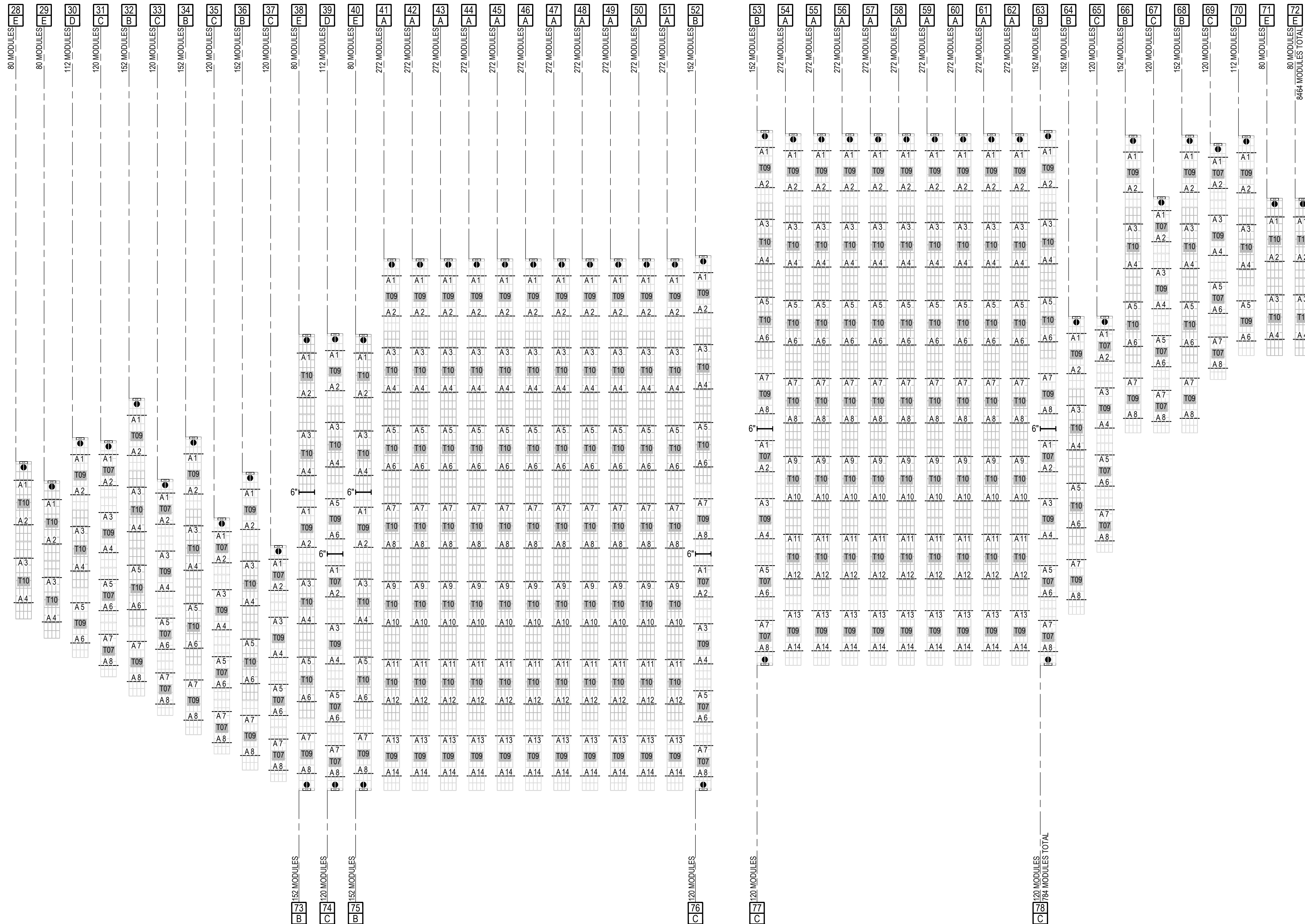
POST SETTING NOTES:
 1. ALL POST DIMENSIONS SHOWN ARE FACE TO FACE OF WEB - SEE PLAN VIEWS ON SHEET S-401
 2. REFERENCE DETAIL C7/S-501 FOR ADDITIONAL INFORMATION ON REQUIRED POST EMBED DEPTHS
 3. POST LENGTH INCLUDES ADDITIONAL MATERIAL TO ALLOW FOR TOPOGRAPHICAL VARIANCE

TABLE SCHEDULE											
TYPE	QTY.	POST-POST LENGTH	DESCRIPTION	PURLIN			DRIVE TUBE			PIVOT ARM	
				TYPE	LENGTH	QTY.	TYPE	LENGTH	QTY.	LENGTH	QTY.
T10	137	23'-1 7/16"	10 MODULES WIDE IN PORTRAIT ORIENTATION	Z10	40'-2 13/16"	274	DT10	22'-8"	137	4'-2 7/16"	274
T09	79	20'-11 3/16"	9 MODULES WIDE IN PORTRAIT ORIENTATION	Z09	36'-2 9/16"	158	DT09	20'-6"	79	4'-2 7/16"	158
T07	33	16'-2 11/16"	7 MODULES WIDE IN PORTRAIT ORIENTATION	Z07	16'-6"	66	DT07	15'-9"	33	4'-2 7/16"	66

NOTES:
 1. PURLINS ARE 7" x 2 1/2" x 7/8" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 2. PIVOT ARMS ARE 6" x 1 7/8" x 1 1/8" x 7/16" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 3. SEE SHEET S-401 FOR ENLARGED TABLE PLANS AND DRIVE TUBE LOCATIONS

DRIVE TUBE JUMPER SCHEDULE				
TYPE	QTY.	DESCRIPTION	LENGTH	DETAIL
J07-J07	11	DRIVE TUBE BETWEEN T07 AND T07	11'-2"	D3/S-401
J07-J09	22	DRIVE TUBE BETWEEN T07 AND T09	12'-10"	D3/S-401
J09-J10	68	DRIVE TUBE BETWEEN T09 AND T10	15'-5"	A3/S-401
J10-J10	97	DRIVE TUBE BETWEEN T10 AND T10	16'-4"	A3/S-401

NOTES:
 1. SEE SHEET S-401 FOR DRIVE TUBE JUMPER LOCATIONS



A1
 SCALE: 1" = 30'-0"
 ARRAY: 2
 COMPONENT LAYOUT

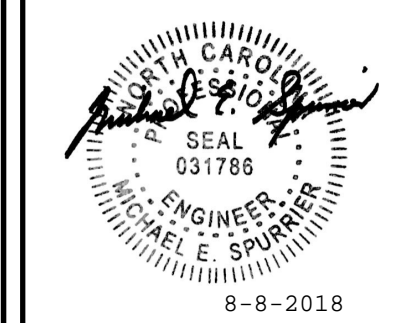


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PROFESSIONAL SEAL



PHOTOVOLTAIC POWER PLANT - 4,560 KWdc / 6,156 KWdc
 ENNIS SOLAR, LLC
 447 SHERIFF JOHNSON ROAD, LILLINGTON,
 27546, HARNETT, NC

REVISIONS	
DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

ARRAY: 2 COMPONENT LAYOUT

S-102

TRACKER TYPE SCHEDULE			
TYPE	QTY.	DESCRIPTION	DETAIL
A	22	272 Module FIRST SOLAR SC (5)T10 + (2)T09	A3/S-401
B	7	152 Module FIRST SOLAR SC (2)T10 + (2)T09	B3/S-401
C	7	120 Module FIRST SOLAR SC (1)T09 + (3)T07	D3/S-401

NOTES:
 1. SEE ENLARGED TRACKER PLANS ON S-40X SHEETS FOR NOTES AND DIMENSIONS
 2. TRACKERS SHOWN REPRESENT OUTLINE OF MODULES AT 0 DEGREE TILT

POST SCHEDULE					
SYMBOL	TYPE	DESCRIPTION	LENGTH	QTY.	DETAIL
X # PURLIN	A	CEE 8X3	132"	420	A5/S-501

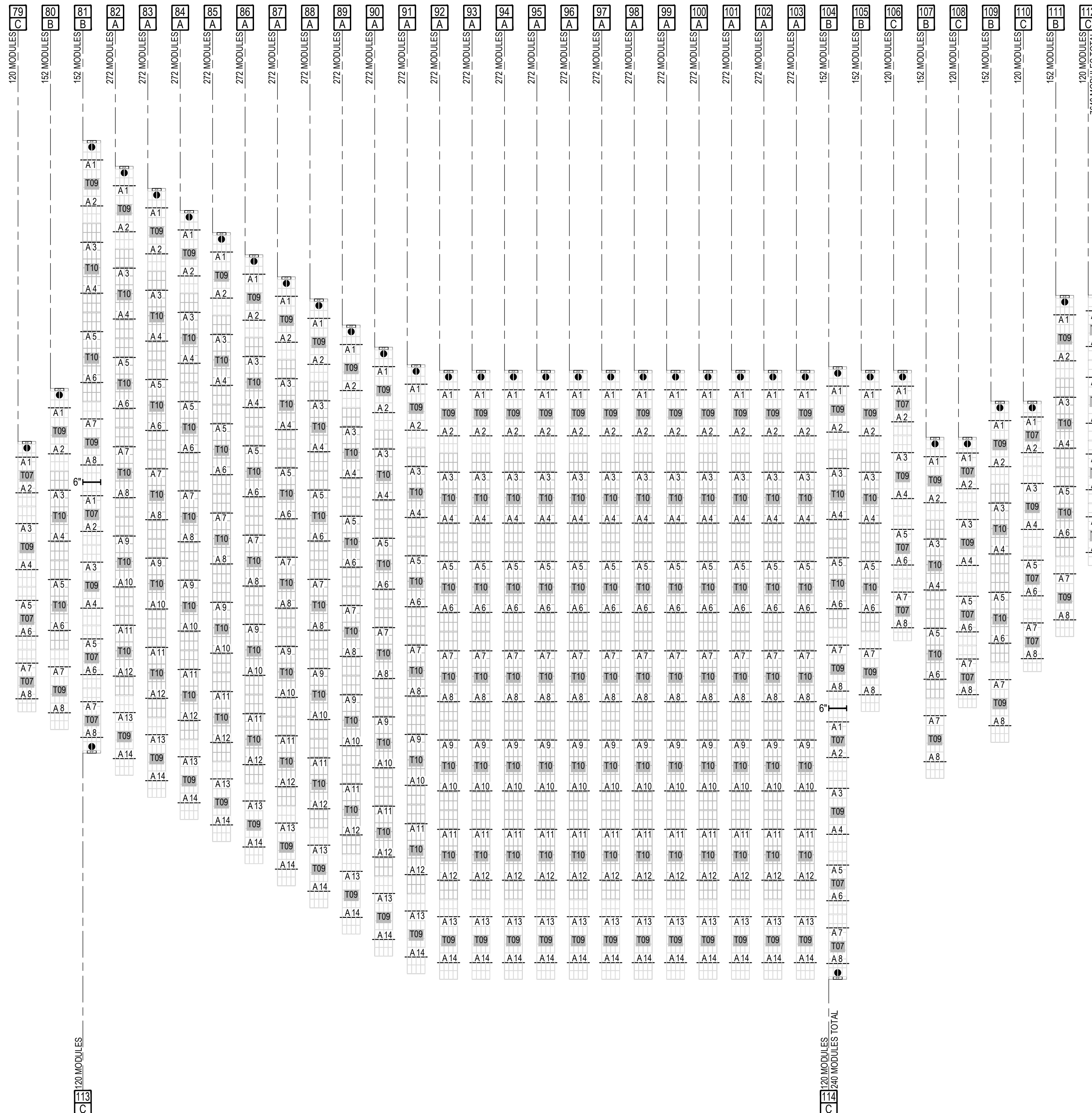
POST SETTING NOTES:
 1. ALL POST DIMENSIONS SHOWN ARE FACE TO FACE OF WEB - SEE PLAN VIEWS ON SHEET S-401
 2. REFERENCE DETAIL C7/S-501 FOR ADDITIONAL INFORMATION ON REQUIRED POST EMBED DEPTHS
 3. POST LENGTH INCLUDES ADDITIONAL MATERIAL TO ALLOW FOR TOPOGRAPHICAL VARIANCE

TABLE SCHEDULE											
TYPE	QTY.	POST-POST LENGTH	DESCRIPTION	PURLIN			DRIVE TUBE			PIVOT ARM	
				TYPE	LENGTH	QTY.	TYPE	LENGTH	QTY.	LENGTH	QTY.
T10	124	23'-1 7/16"	10 MODULES WIDE IN PORTRAIT ORIENTATION	Z10	40'-2 13/16"	248	DT10	22'-8"	124	4'-2 7/16"	248
T09	65	20'-11 3/16"	9 MODULES WIDE IN PORTRAIT ORIENTATION	Z09	36'-2 9/16"	130	DT09	20'-6"	65	4'-2 7/16"	130
T07	21	16'-2 11/16"	7 MODULES WIDE IN PORTRAIT ORIENTATION	Z07	16'-6"	42	DT07	15'-9"	21	4'-2 7/16"	42

NOTES:
 1. PURLINS ARE 7" x 2 1/2" x 7/8" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 2. PIVOT ARMS ARE 6" x 1 7/8" x 1 1/8" x 7/16" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 3. SEE SHEET S-401 FOR ENLARGED TABLE PLANS AND DRIVE TUBE LOCATIONS

DRIVE TUBE JUMPER SCHEDULE				
TYPE	QTY.	DESCRIPTION	LENGTH	DETAIL
J07-J07	7	DRIVE TUBE BETWEEN T07 AND T07	11'-2"	D3/S-401
J07-J09	14	DRIVE TUBE BETWEEN T07 AND T09	12'-10"	D3/S-401
J09-J10	58	DRIVE TUBE BETWEEN T09 AND T10	15'-5"	A3/S-401
J10-J10	95	DRIVE TUBE BETWEEN T10 AND T10	16'-4"	A3/S-401

NOTES:
 1. SEE SHEET S-401 FOR DRIVE TUBE JUMPER LOCATIONS

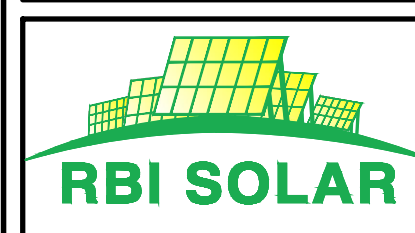


LEGEND

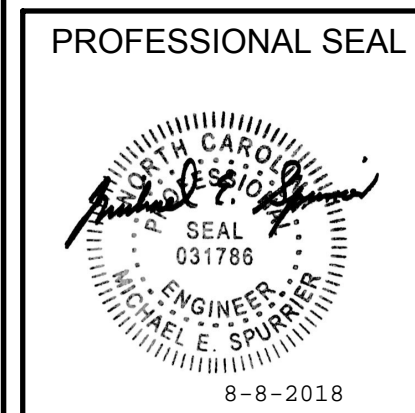
X" DENOTES X" WIDE GAP BETWEEN PV MODULE TABLES



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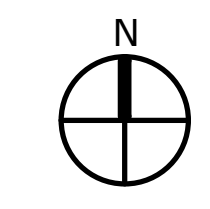
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REVISIONS	
DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

ARRAY: 3 COMPONENT LAYOUT

S-103

A1
 SCALE: 1" = 30'-0"
ARRAY: 3 COMPONENT LAYOUT



TRACKER TYPE SCHEDULE			
TYPE	QTY.	DESCRIPTION	DETAIL
A	28	272 Module FIRST SOLAR SC (5)T10 + (2)T09	A3/S-401
B	13	152 Module FIRST SOLAR SC (2)T10 + (2)T09	B3/S-401
C	13	120 Module FIRST SOLAR SC (1)T09 + (3)T07	D3/S-401
D	6	112 Module FIRST SOLAR SC (1)T10 + (2)T09	E3/S-401
E	12	80 Module FIRST SOLAR SC (2)T10	G3/S-401

NOTES:
 1. SEE ENLARGED TRACKER PLANS ON S-40X SHEETS FOR NOTES AND DIMENSIONS
 2. TRACKERS SHOWN REPRESENT OUTLINE OF MODULES AT 0 DEGREE TILT

POST SCHEDULE					
SYMBOL	TYPE	DESCRIPTION	LENGTH	QTY.	DETAIL
X # (*) POST PLAN	A	CEE 8X3	132"	684	A5/S-501

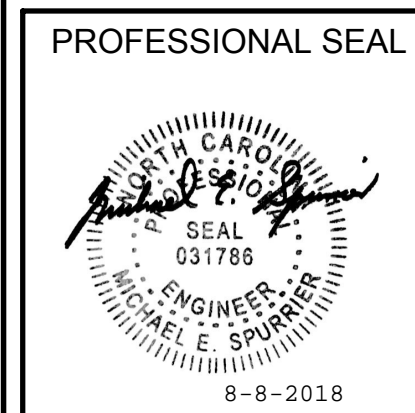
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 3. POST LENGTH INCLUDES ADDITIONAL MATERIAL TO ALLOW FOR TOPOGRAPHICAL VARIANCE

TABLE SCHEDULE											
TYPE	QTY.	POST-POST LENGTH	DESCRIPTION	PURLIN			DRIVE TUBE			PIVOT ARM	
				TYPE	LENGTH	QTY.	TYPE	LENGTH	QTY.	LENGTH	QTY.
T10	196	23'-1 7/16"	10 MODULES WIDE IN PORTRAIT ORIENTATION	Z10	40'-2 13/16"	392	DT10	22'-8"	196	4'-2 7/16"	392
T09	107	20'-11 3/16"	9 MODULES WIDE IN PORTRAIT ORIENTATION	Z09	36'-2 9/16"	214	DT09	20'-6"	107	4'-2 7/16"	214
T07	39	16'-2 1/16"	7 MODULES WIDE IN PORTRAIT ORIENTATION	Z07	16'-6"	78	DT07	15'-9"	39	4'-2 7/16"	78

NOTES:
 1. PURLINS ARE 7" x 2 1/2" x 7/8" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 2. PIVOT ARMS ARE 6" x 1 7/8" x 1 1/8" x 7/16" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 3. SEE SHEET S-401 FOR ENLARGED TABLE PLANS AND DRIVE TUBE LOCATIONS

DRIVE TUBE JUMPER SCHEDULE					
TYPE	QTY.	DESCRIPTION	LENGTH	DETAIL	
J07-J07	13	DRIVE TUBE BETWEEN T07 AND T07	11'-2"	D3/S-401	
J07-J09	26	DRIVE TUBE BETWEEN T07 AND T09	12'-10"	D3/S-401	
J09-J10	94	DRIVE TUBE BETWEEN T09 AND T10	15'-5"	A3/S-401	
J10-J10	137	DRIVE TUBE BETWEEN T10 AND T10	16'-4"	A3/S-401	

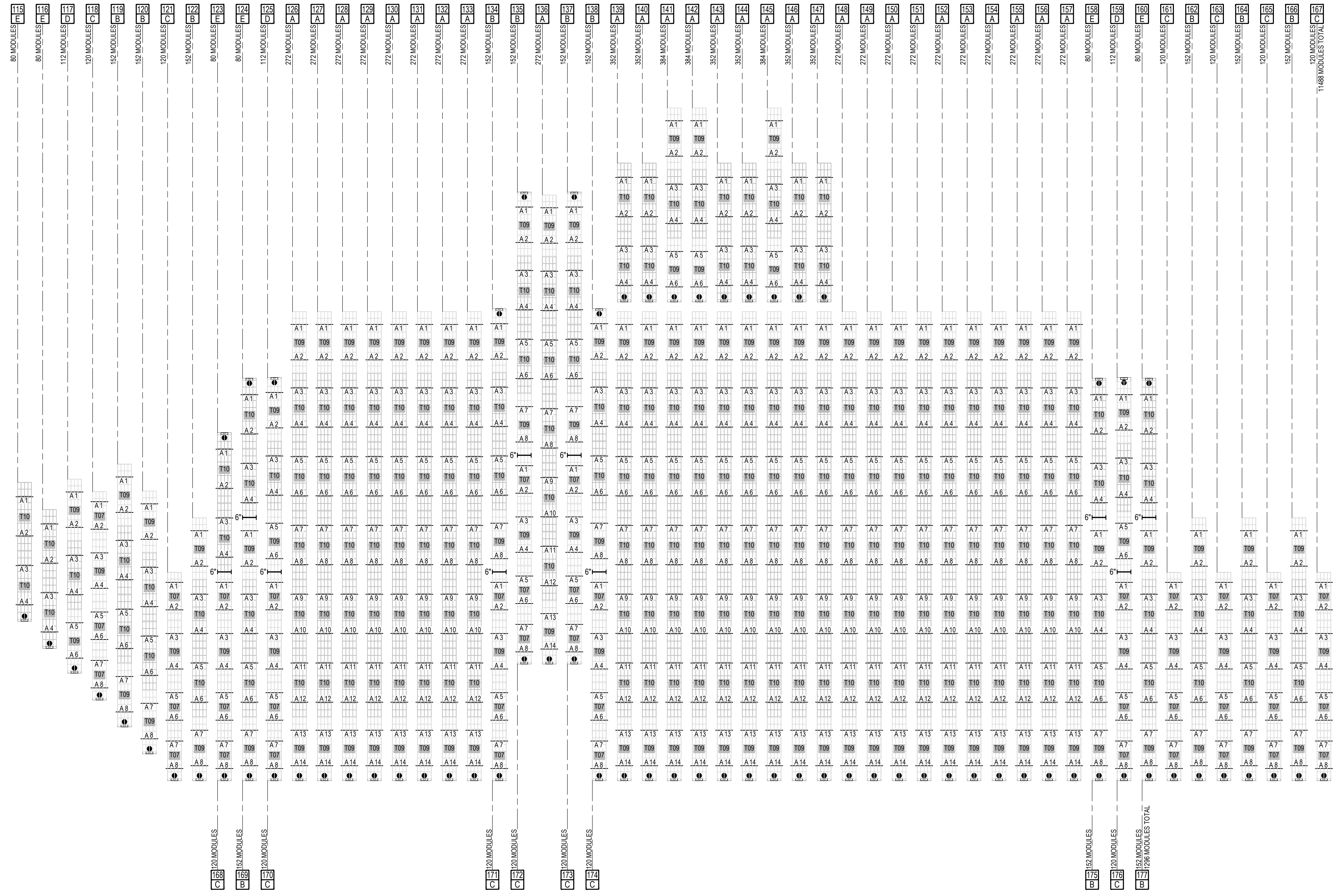
NOTES:
 1. SEE SHEET S-401 FOR DRIVE TUBE JUMPER LOCATIONS



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 ENNIS SOLAR, LLC
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REVISIONS	
DATE	COMMENT
08-08	FIRST SOLAR EMBEDMENT
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

ARRAY: 4 COMPONENT LAYOUT
S-104



A1
 SCALE: 1" = 30'-0"

TRACKER TYPE SCHEDULE			
TYPE	QTY.	DESCRIPTION	DETAIL
B	22	152 Module FIRST SOLAR SC (2)T10 + (2)T09	B3/S-401
C	21	120 Module FIRST SOLAR SC (1)T09 + (3)T07	D3/S-401
D	3	112 Module FIRST SOLAR SC (1)T10 + (2)T09	E3/S-401
E	6	80 Module FIRST SOLAR SC (2)T10	G3/S-401

NOTES:
 1. SEE ENLARGED TRACKER PLANS ON S-40X SHEETS FOR NOTES AND DIMENSIONS
 2. TRACKERS SHOWN REPRESENT OUTLINE OF MODULES AT 0 DEGREE TILT

POST SCHEDULE					
SYMBOL	TYPE	DESCRIPTION	LENGTH	QTY.	DETAIL
X # (---) PER PLAN	A	CEE 8X3	132"	378	A5/S-501

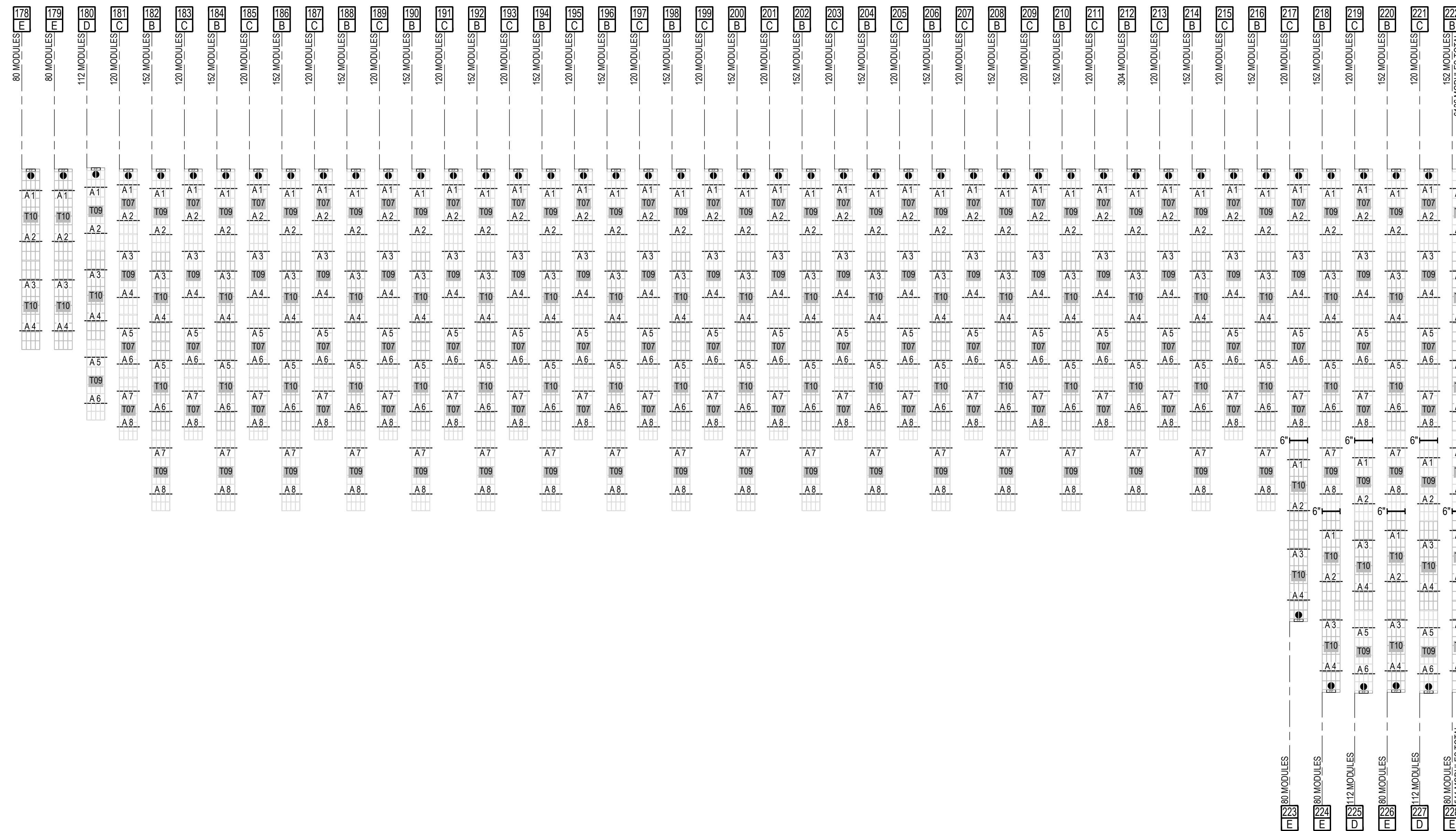
POST SETTING NOTES:
 1. ALL POST DIMENSIONS SHOWN ARE FACE TO FACE OF WEB - SEE PLAN VIEWS ON SHEET S-401
 2. REFERENCE DETAIL C7/S-501 FOR ADDITIONAL INFORMATION ON REQUIRED POST EMBED DEPTHS
 3. POST LENGTH INCLUDES ADDITIONAL MATERIAL TO ALLOW FOR TOPOGRAPHICAL VARIANCE

TABLE SCHEDULE											
TYPE	QTY.	POST-POST LENGTH	DESCRIPTION	PURLIN			DRIVE TUBE			PIVOT ARM	
				TYPE	LENGTH	QTY.	TYPE	LENGTH	QTY.	LENGTH	QTY.
T10	57	23'-1 7/16"	10 MODULES WIDE IN PORTRAIT ORIENTATION	Z10	40'-2 13/16"	114	DT10	22'-8"	57	4'-2 7/16"	114
T09	69	20'-11 3/16"	9 MODULES WIDE IN PORTRAIT ORIENTATION	Z09	36'-2 9/16"	138	DT09	20'-6"	69	4'-2 7/16"	138
T07	63	16'-2 11/16"	7 MODULES WIDE IN PORTRAIT ORIENTATION	Z07	16'-6"	126	DT07	15'-9"	63	4'-2 7/16"	126

NOTES:
 1. PURLINS ARE 7" x 2 1/2" x 7/8" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 2. PIVOT ARMS ARE 6" x 1 7/8" x 1 1/8" x 7/16" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 3. SEE SHEET S-401 FOR ENLARGED TABLE PLANS AND DRIVE TUBE LOCATIONS

DRIVE TUBE JUMPER SCHEDULE				
TYPE	QTY.	DESCRIPTION	LENGTH	DETAIL
J07-J07	21	DRIVE TUBE BETWEEN T07 AND T07	11'-2"	D3/S-401
J07-J09	42	DRIVE TUBE BETWEEN T07 AND T09	12'-10"	D3/S-401
J09-J10	48	DRIVE TUBE BETWEEN T09 AND T10	15'-2"	A3/S-401
J10-J10	27	DRIVE TUBE BETWEEN T10 AND T10	16'-4"	A3/S-401

NOTES:
 1. SEE SHEET S-401 FOR DRIVE TUBE JUMPER LOCATIONS

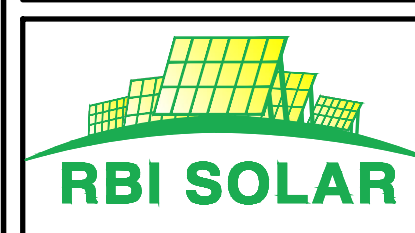


LEGEND

X" DENOTES X" WIDE GAP BETWEEN PV MODULE TABLES



GREENGO ENERGY US, INC.
 1447 S. TRYON STREET
 SUITE 201
 CHARLOTTE, NC 28203
 +1 (866) 877 0778



Total Solar Service: Design * Fabrication
 Installation * Parts * Repair Service

5513 VINE STREET
 CINCINNATI, OH 45217
 513.242.2051
 FAX: 513.242.0816

PROFESSIONAL SEAL

6-8-2018

PHOTOVOLTAIC POWER PLANT - 4,560 KWdc / 6,156 KWac
 ENNIS SOLAR, LLC
 447 SHERIFF JOHNSON ROAD, LILLINGTON,
 27546, HARNETT, NC

REVISIONS	
DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

ARRAY: 5 COMPONENT LAYOUT

S-105

A1
 SCALE:
 1" = 30'-0"

TRACKER TYPE SCHEDULE			
TYPE	QTY.	DESCRIPTION	DETAIL
A	3	272 Module FIRST SOLAR SC (5)T10 + (2)T09	A3/S-401
B	7	152 Module FIRST SOLAR SC (2)T10 + (2)T09	B3/S-401
C	7	120 Module FIRST SOLAR SC (1)T09 + (3)T07	D3/S-401
D	2	112 Module FIRST SOLAR SC (1)T10 + (2)T09	E3/S-401
E	4	80 Module FIRST SOLAR SC (2)T10	G3/S-401

NOTES:
 1. SEE ENLARGED TRACKER PLANS ON S-40X SHEETS FOR NOTES AND DIMENSIONS
 2. TRACKERS SHOWN REPRESENT OUTLINE OF MODULES AT 0 DEGREE TILT

POST SCHEDULE				
SYMBOL	TYPE	DESCRIPTION	LENGTH	QTY. DETAIL
X # (") PER PLAN	A	CEE 8X3	132"	182 A5/S-501

POST SETTING NOTES:
 1. ALL POST DIMENSIONS SHOWN ARE FACE TO FACE OF WEB - SEE PLAN VIEWS ON SHEET S-401
 2. REFERENCE DETAIL C7/S-501 FOR ADDITIONAL INFORMATION ON REQUIRED POST EMBED DEPTHS
 3. POST LENGTH INCLUDES ADDITIONAL MATERIAL TO ALLOW FOR TOPOGRAPHICAL VARIANCE

TABLE SCHEDULE											
TYPE	QTY.	POST-POST LENGTH	DESCRIPTION	PURLIN			DRIVE TUBE			PIVOT ARM	
				TYPE	LENGTH	QTY.	TYPE	LENGTH	QTY.	LENGTH	QTY.
T10	39	23'-1 7/16"	10 MODULES WIDE IN PORTRAIT ORIENTATION	Z10	40'-2 13/16"	78	DT10	22'-8"	39	4'-2 7/16"	78
T09	31	20'-11 3/16"	9 MODULES WIDE IN PORTRAIT ORIENTATION	Z09	36'-2 9/16"	62	DT09	20'-6"	31	4'-2 7/16"	62
T07	21	16'-2 11/16"	7 MODULES WIDE IN PORTRAIT ORIENTATION	Z07	16'-6"	42	DT07	15'-9"	21	4'-2 7/16"	42

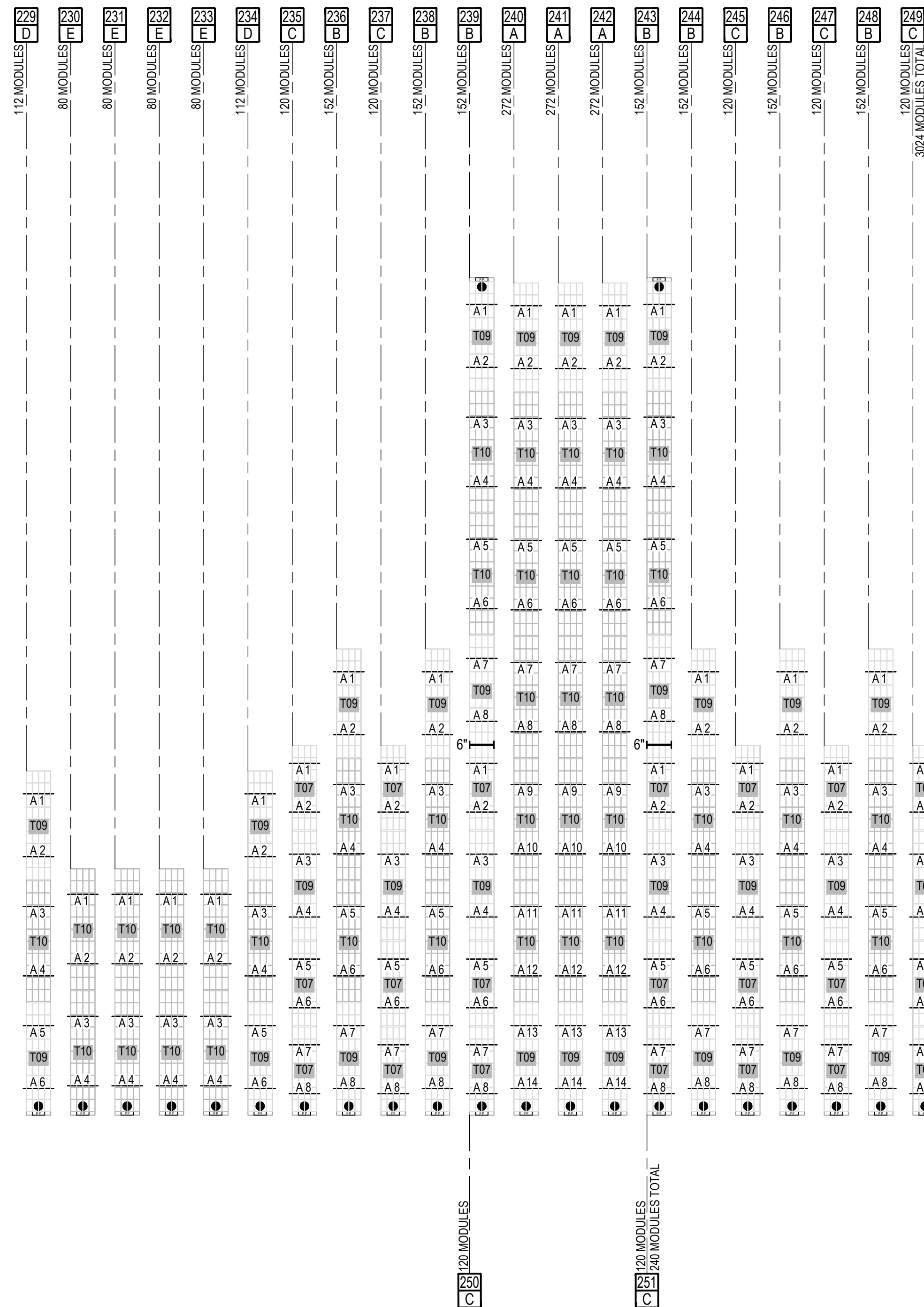
NOTES:
 1. PURLINS ARE 7" x 2 1/2" x 7/8" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 2. PIVOT ARMS ARE 6" x 1 7/8" x 1 1/8" x 7/16" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 3. SEE SHEET S-401 FOR ENLARGED TABLE PLANS AND DRIVE TUBE LOCATIONS

DRIVE TUBE JUMPER SCHEDULE				
TYPE	QTY.	DESCRIPTION	LENGTH	DETAIL
J07-J07	7	DRIVE TUBE BETWEEN T07 AND T07	11'-2"	D3/S-401
J07-J09	14	DRIVE TUBE BETWEEN T07 AND T09	12'-10"	D3/S-401
J09-J10	24	DRIVE TUBE BETWEEN T09 AND T10	15'-5"	A3/S-401
J10-J10	23	DRIVE TUBE BETWEEN T10 AND T10	16'-4"	A3/S-401

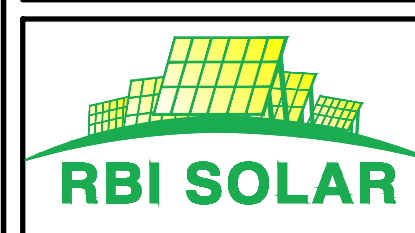
NOTES:
 1. SEE SHEET S-401 FOR DRIVE TUBE JUMPER LOCATIONS

LEGEND

X" DENOTES X" WIDE GAP BETWEEN PV MODULE TABLES

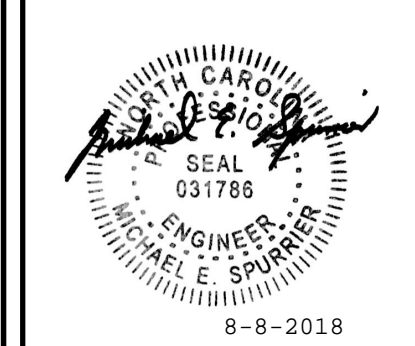


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Total Solar Service: Design * Fabrication
 Installation * Parts * Repair Service
 5513 VINE STREET
 CINCINNATI, OH 45217
 513.242.2051
 FAX: 513.242.0816

PROFESSIONAL SEAL



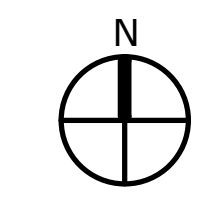
PHOTOVOLTAIC POWER PLANT - 4,560 KWdc / 6,156 KWdc
 ENNIS SOLAR, LLC
 447 SHERIFF JOHNSON ROAD, LILLINGTON, NC 27546, HARNETT, NC

REVISIONS	
DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

ARRAY: 6 COMPONENT LAYOUT

S-106

A1
 SCALE: 1" = 30'-0"
 ARRAY: 6 COMPONENT LAYOUT



TRACKER TYPE SCHEDULE			
TYPE	QTY.	DESCRIPTION	DETAIL
A	24	272 Module FIRST SOLAR SC (5)T10 + (2)T09	A3/S-401
B	2	152 Module FIRST SOLAR SC (2)T10 + (2)T09	B3/S-401
C	2	120 Module FIRST SOLAR SC (1)T09 + (3)T07	D3/S-401

NOTES:
 1. SEE ENLARGED TRACKER PLANS ON S-40X SHEETS FOR NOTES AND DIMENSIONS
 2. TRACKERS SHOWN REPRESENT OUTLINE OF MODULES AT 0 DEGREE TILT

POST SCHEDULE					
SYMBOL	TYPE	DESCRIPTION	LENGTH	QTY.	DETAIL
X # (7) PER PLAN	A	CEE 8X3	132"	368	A5/S-501

POST SETTING NOTES:
 1. ALL POST DIMENSIONS SHOWN ARE FACE TO FACE OF WEB - SEE PLAN VIEWS ON SHEET S-401
 2. REFERENCE DETAIL C7/S-501 FOR ADDITIONAL INFORMATION ON REQUIRED POST EMBED DEPTHS
 3. POST LENGTH INCLUDES ADDITIONAL MATERIAL TO ALLOW FOR TOPOGRAPHICAL VARIANCE

TABLE SCHEDULE											
TYPE	QTY.	POST-POST LENGTH	DESCRIPTION	PURLIN			DRIVE TUBE			PIVOT ARM	
				TYPE	LENGTH	QTY.	TYPE	LENGTH	QTY.	LENGTH	QTY.
T10	124	23'-1 7/16"	10 MODULES WIDE IN PORTRAIT ORIENTATION	Z10	40'-2 13/16"	248	DT10	22'-8"	124	4'-2 7/16"	248
T09	54	20'-11 3/16"	9 MODULES WIDE IN PORTRAIT ORIENTATION	Z09	36'-2 9/16"	108	DT09	20'-6"	54	4'-2 7/16"	108
T07	6	16'-2 11/16"	7 MODULES WIDE IN PORTRAIT ORIENTATION	Z07	16'-6"	12	DT07	15'-9"	6	4'-2 7/16"	12

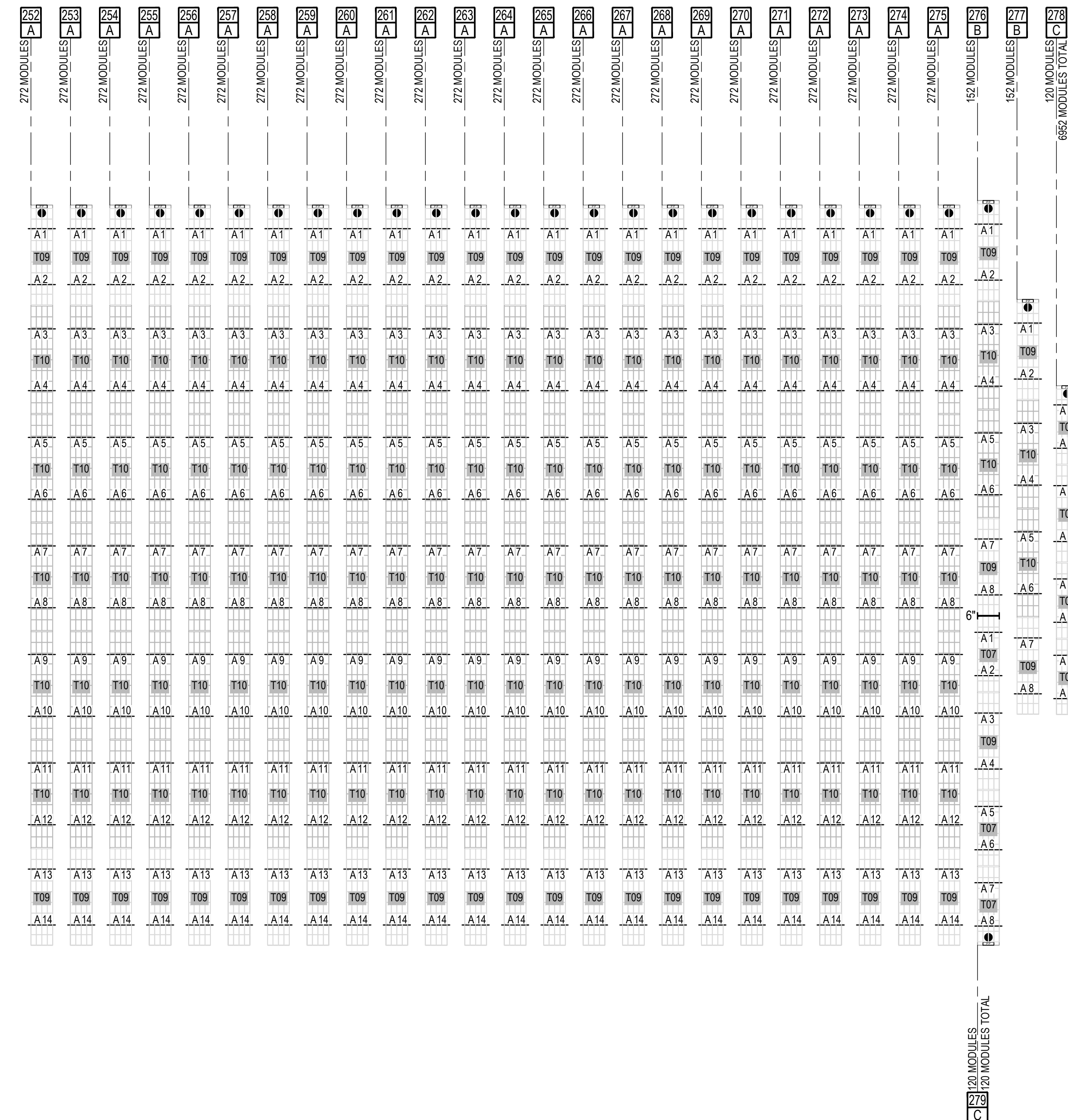
NOTES:
 1. PURLINS ARE 7" x 2 1/2" x 7/8" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 2. PIVOT ARMS ARE 6" x 1 7/8" x 1 1/8" x 7/16" ZEE 16 GA. GALVANIZED UNLESS NOTED OTHERWISE
 3. SEE SHEET S-401 FOR ENLARGED TABLE PLANS AND DRIVE TUBE LOCATIONS

DRIVE TUBE JUMPER SCHEDULE					
TYPE	QTY.	DESCRIPTION	LENGTH	DETAIL	
J07-J07	2	DRIVE TUBE BETWEEN T07 AND T07	11'-2"	D3/S-401	
J07-J09	4	DRIVE TUBE BETWEEN T07 AND T09	12'-10"	D3/S-401	
J09-J10	52	DRIVE TUBE BETWEEN T09 AND T10	15'-5"	A3/S-401	
J10-J10	98	DRIVE TUBE BETWEEN T10 AND T10	16'-4"	A3/S-401	

NOTES:
 1. SEE SHEET S-401 FOR DRIVE TUBE JUMPER LOCATIONS

LEGEND

X" DENOTES X" WIDE GAP BETWEEN PV MODULE TABLES



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RBI SOLAR
 Total Solar Service: Design * Fabrication
 Installation * Parts * Repair Service
 5513 VINE STREET
 CINCINNATI, OH 45217
 513.242.2051
 FAX: 513.242.0816

PROFESSIONAL SEAL

PHOTOVOLTAIC POWER PLANT - 4,560 KWdc / 6,156 KWdc

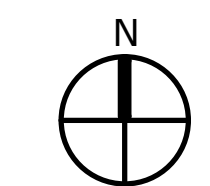
ENNIS SOLAR, LLC
 447 SHERIFF JOHNSON ROAD, LILLINGTON,
 27546, HARNETT, NC

REVISIONS	
DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

ARRAY: 7 COMPONENT LAYOUT

S-107

A1
 SCALE:
 1" = 30'-0"



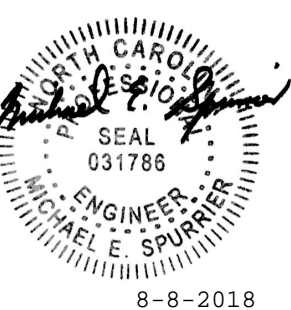


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513.242.2051
FAX: 513.242.0816

PROFESSIONAL SEAL



PHOTOVOLTAIC POWER PLANT - 4,560 KWdc / 6,156 KWdc

ENNIS SOLAR, LLC
447 SHERIFF JOHNSON ROAD, LILLINGTON,
27546, HARNETT, NC

REVISIONS

DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

ENLARGED TRACKER PLANS

S-401

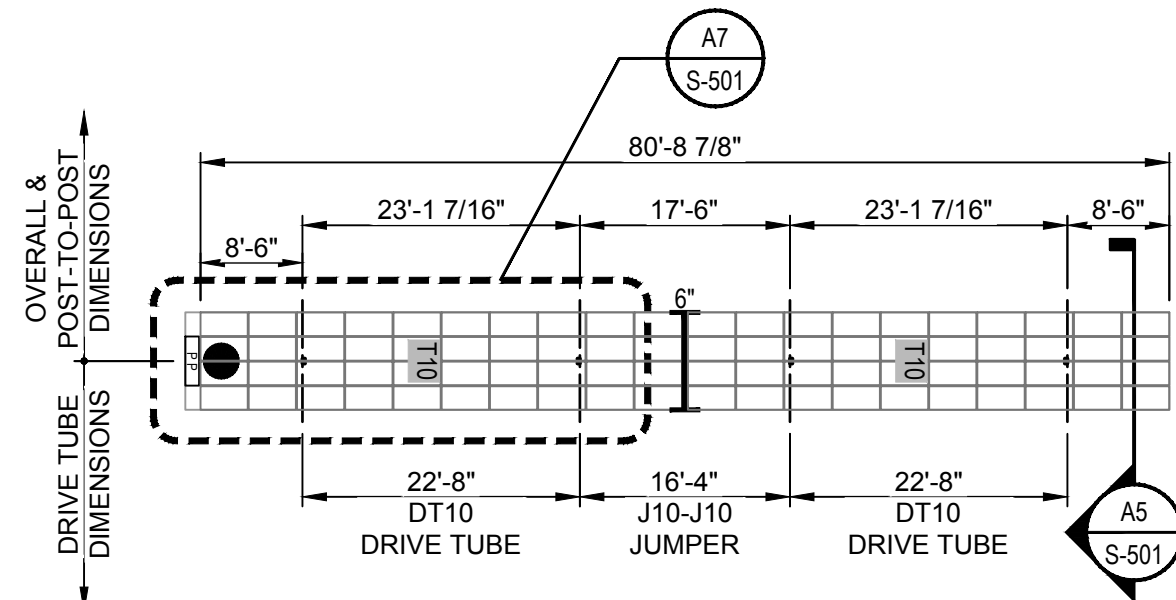
LEGEND

- DENOTES X" WIDE GAP BETWEEN PV MODULE TABLES
- DENOTES PONY PANEL LOCATION
- DENOTES TCU LOCATION

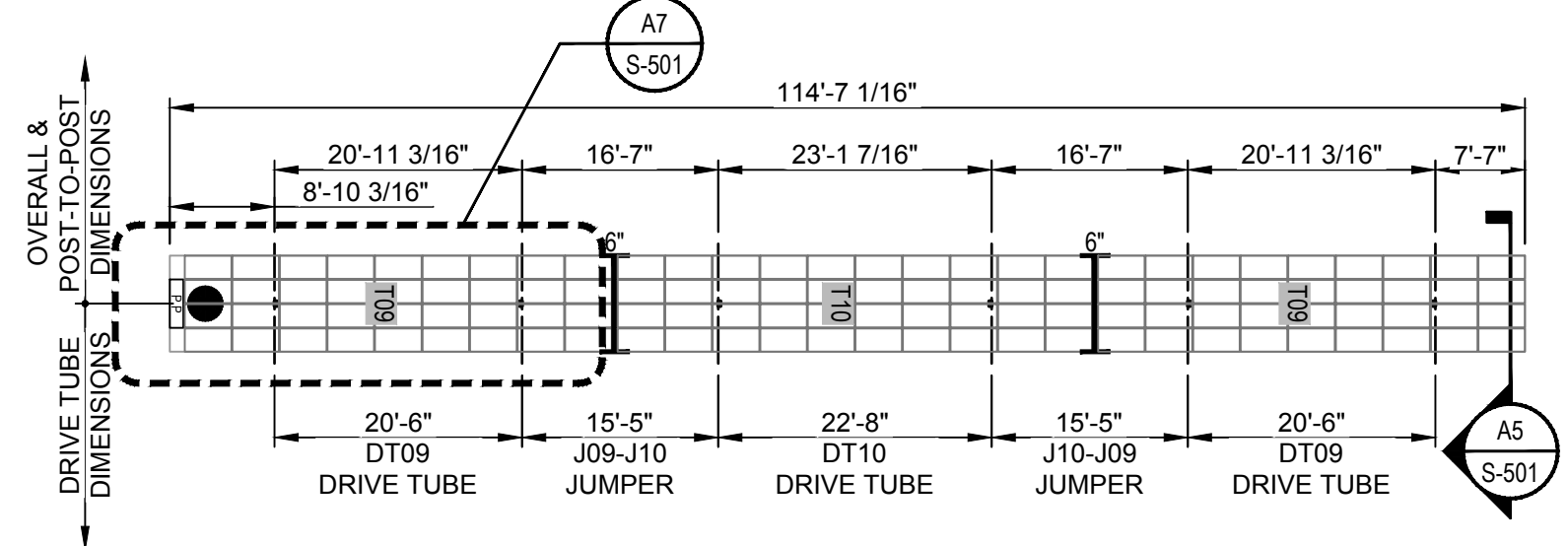
NOTE: PONY PANEL AND TCU CAN BE ON EITHER THE NORTH OR SOUTH END OF THE ROW. REFER TO S-1## SERIES SHEETS FOR ACTUAL LOCATIONS.



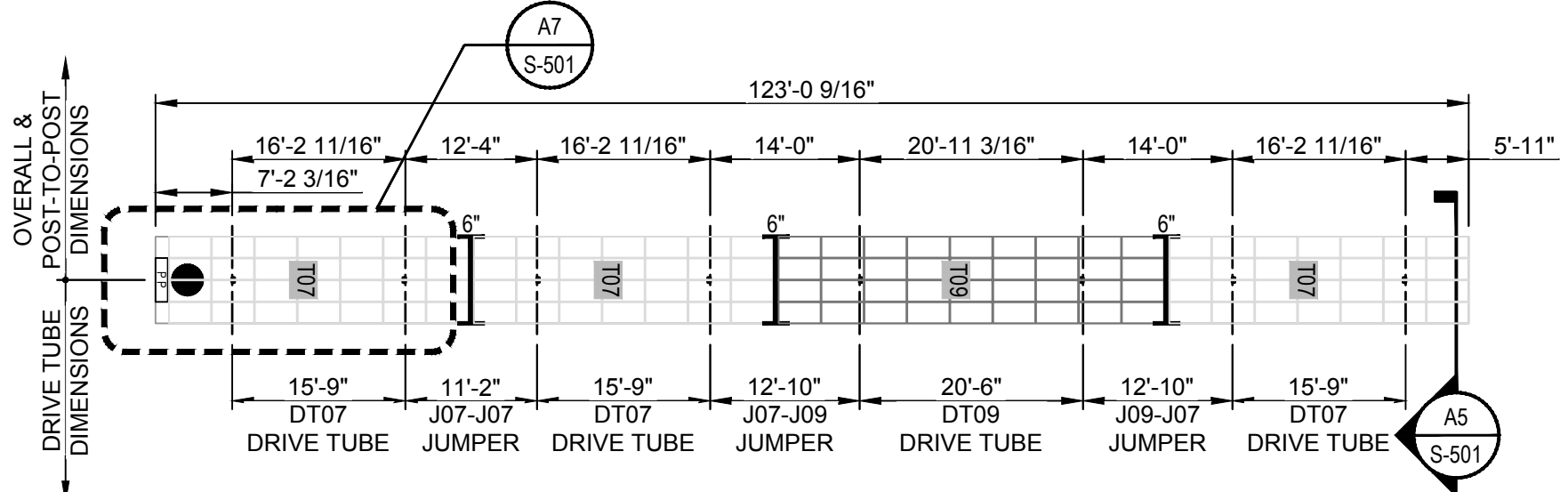
G3 E TYPE TRACKER
SCALE: 1/16" = 1'-0"
8 STRINGS, 80 MODULES [(2)T10]



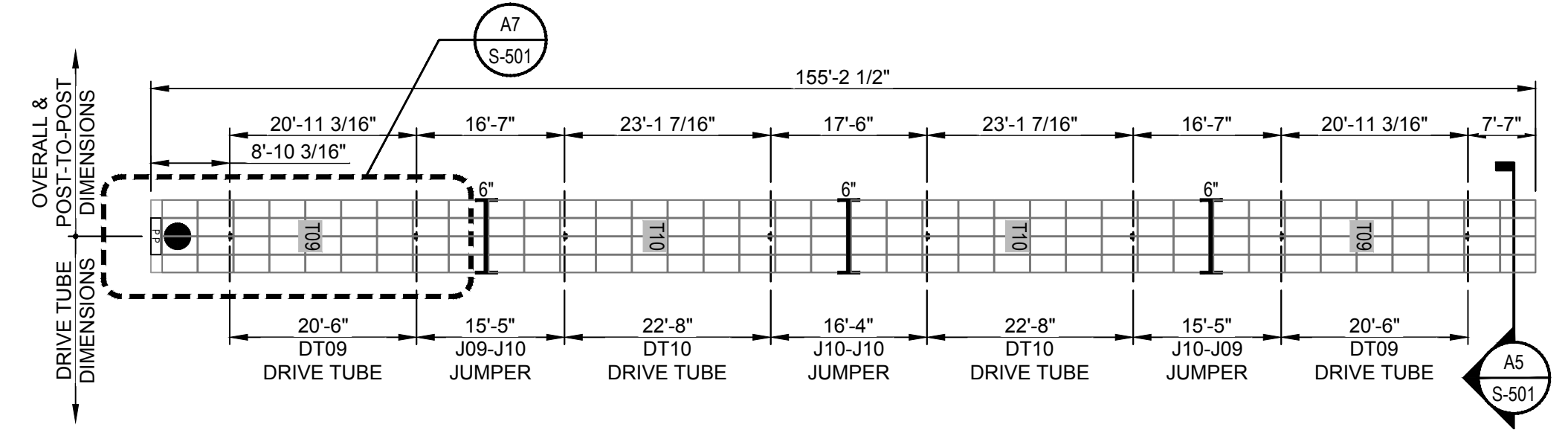
E3 D TYPE TRACKER
SCALE: 1/16" = 1'-0"
11 STRINGS, 110 ACTIVE MODULES, 2 SPARE MODULES [(1)T10 + (2)T09]



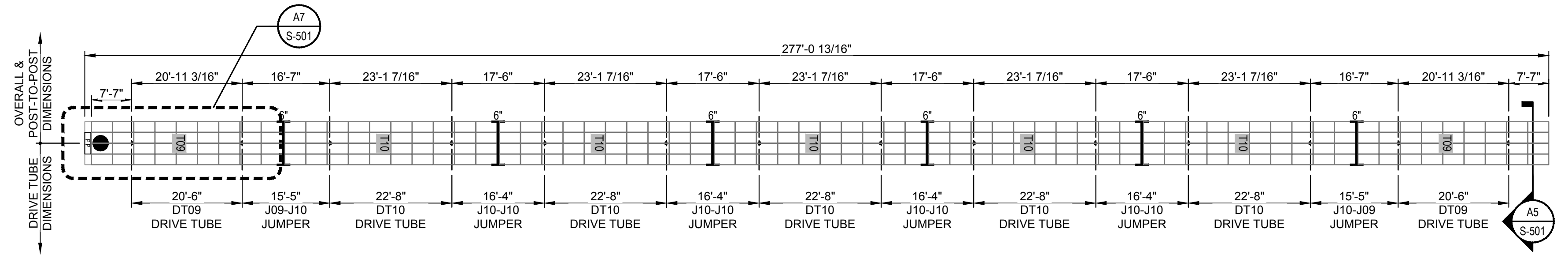
D3 C TYPE TRACKER
SCALE: 1/16" = 1'-0"
12 STRINGS, 120 MODULES [(1)T09 + (3)T07]



B3 B TYPE TRACKER
SCALE: 1/16" = 1'-0"
15 STRINGS, 150 ACTIVE MODULES, 2 SPARE MODULES [(2)T10 + (2)T09]



A3 A TYPE TRACKER
SCALE: 1/16" = 1'-0"
27 STRINGS, 270 ACTIVE MODULES, 2 SPARE MODULES [(5)T10 + (2)T09]

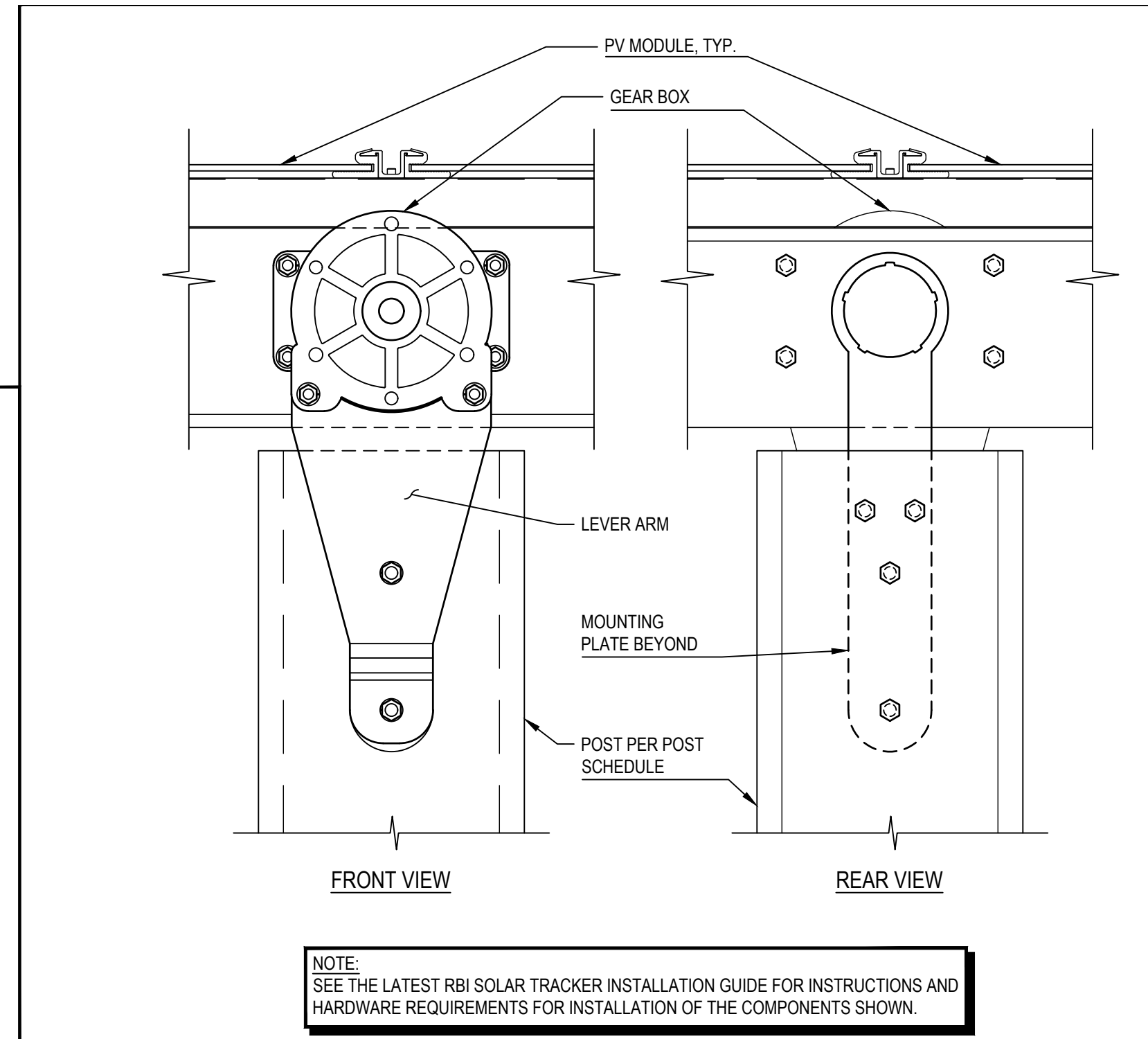


REVISIONS

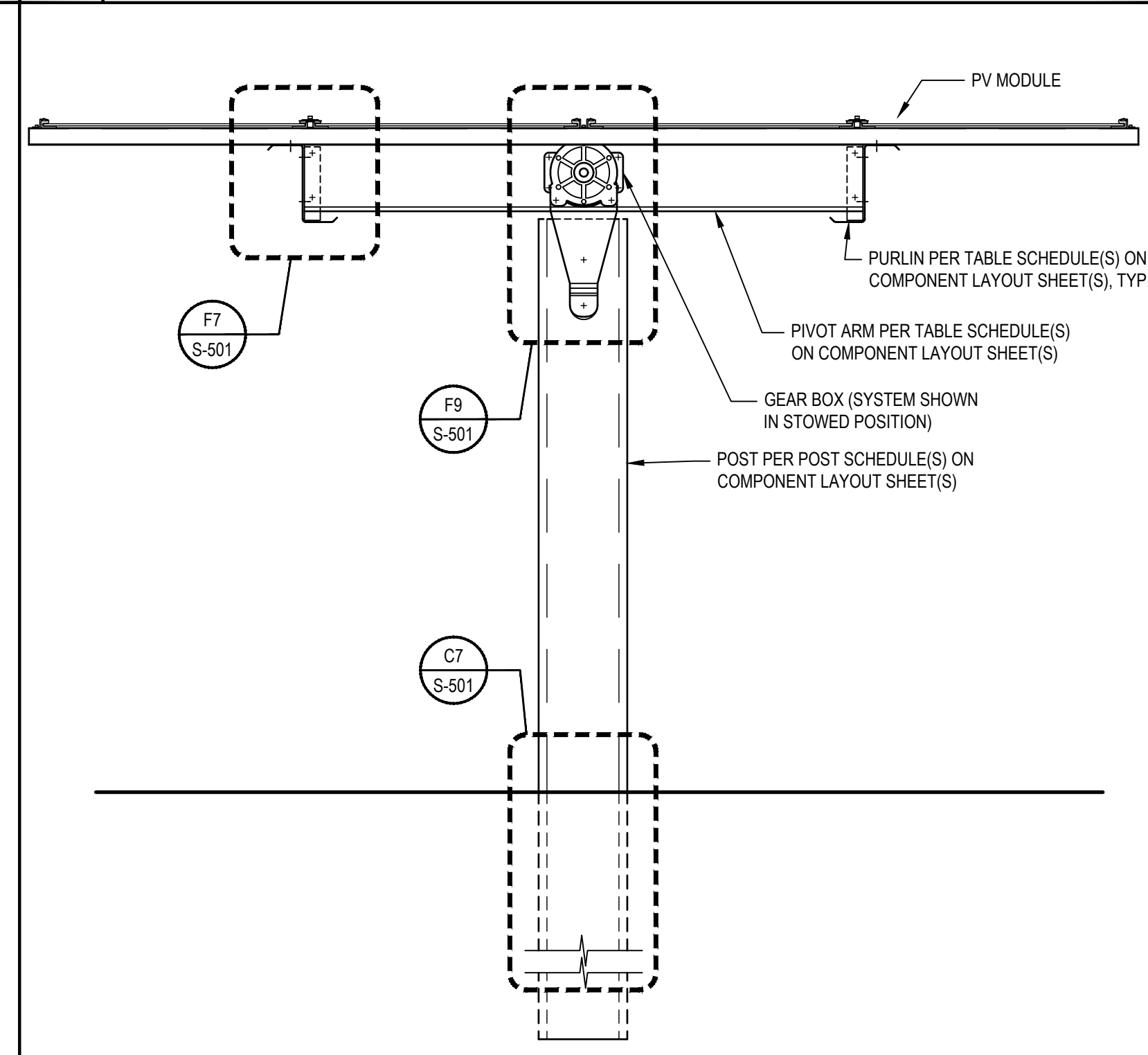
DATE	COMMENT
08-08	FIRST SOLAR
07-27	EMBEDMENT
PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

DETAILS

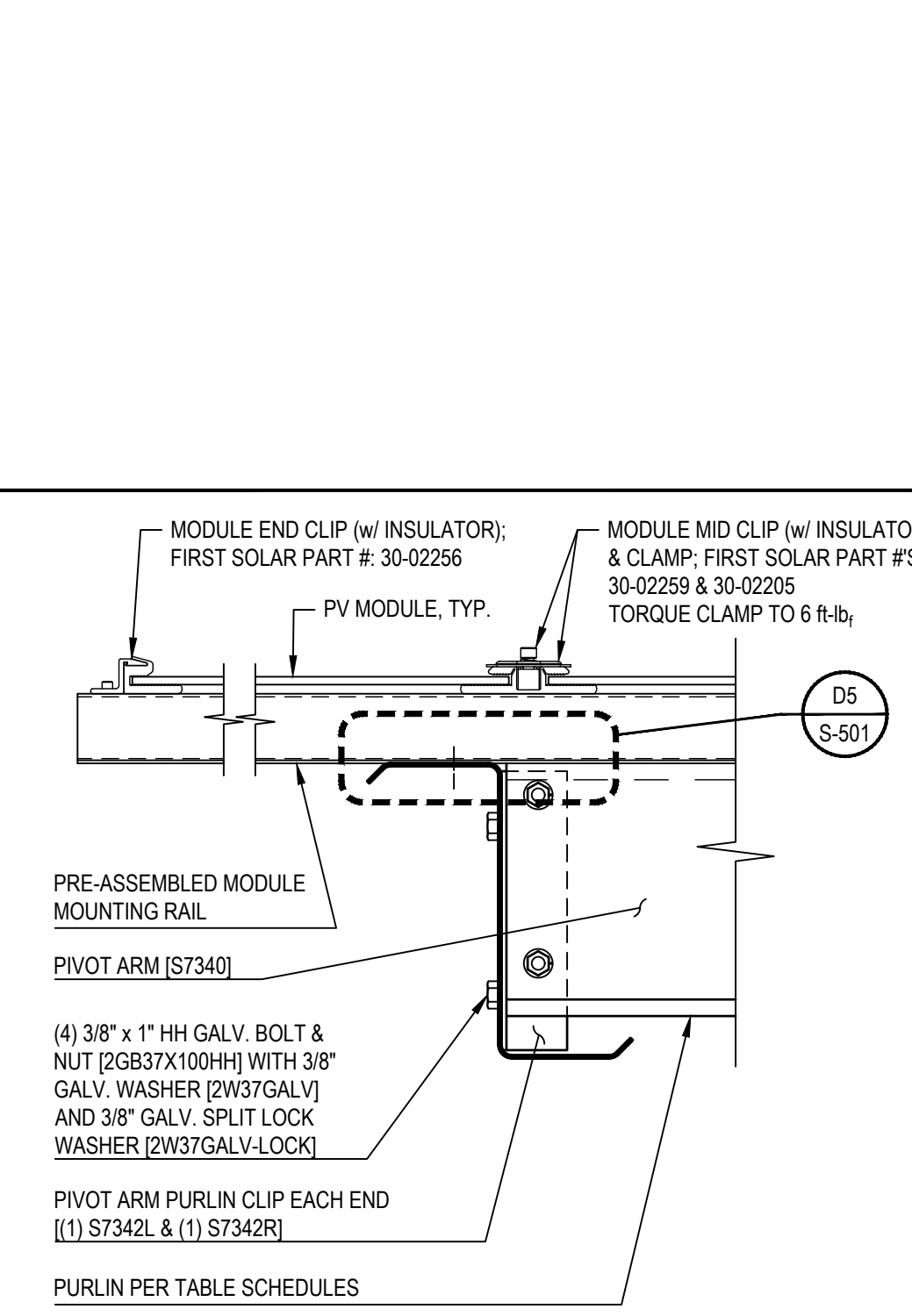
S-501



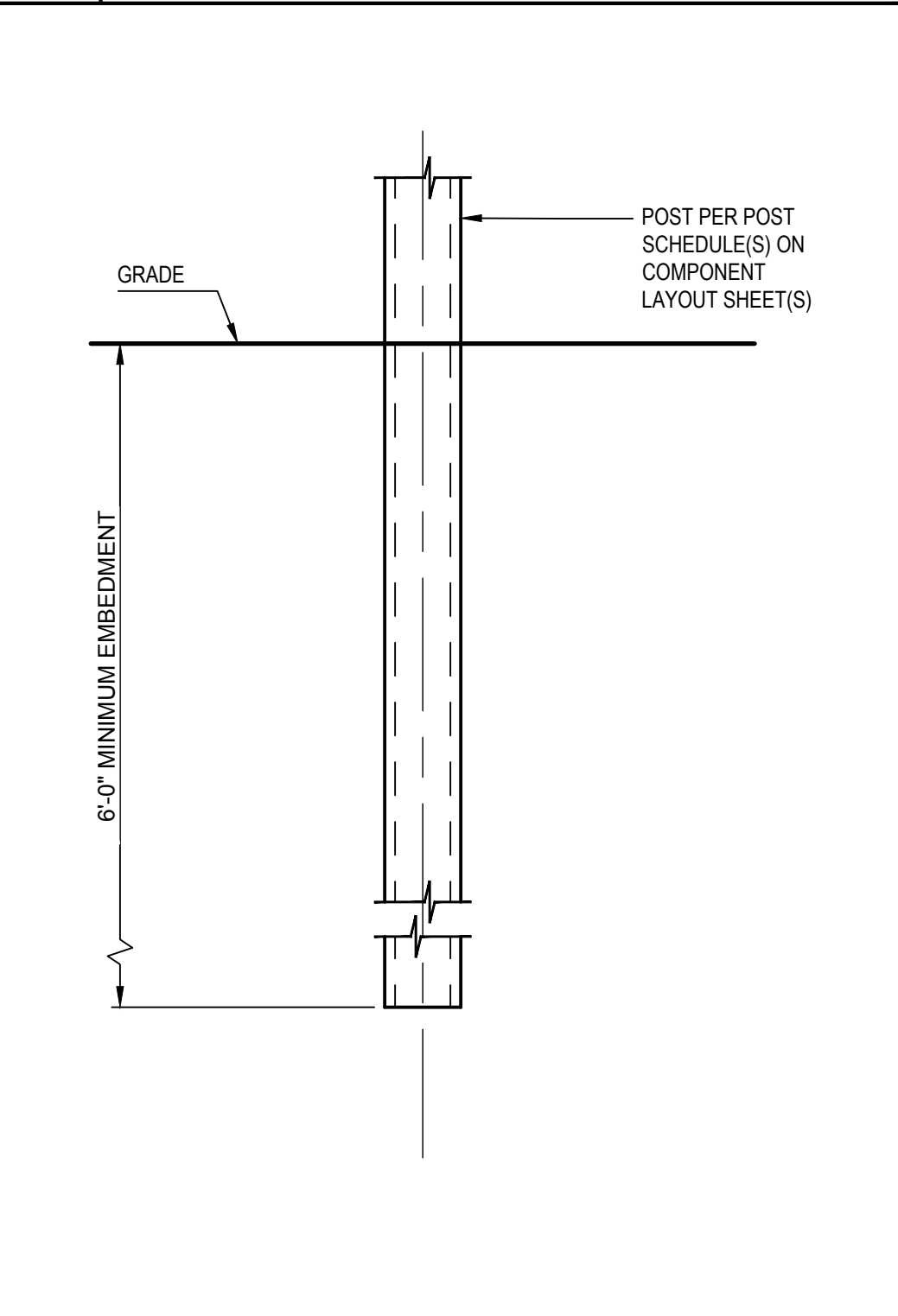
F9 GEAR BOX TO POST CONNECTION DETAIL
SCALE: 3" = 1'-0"



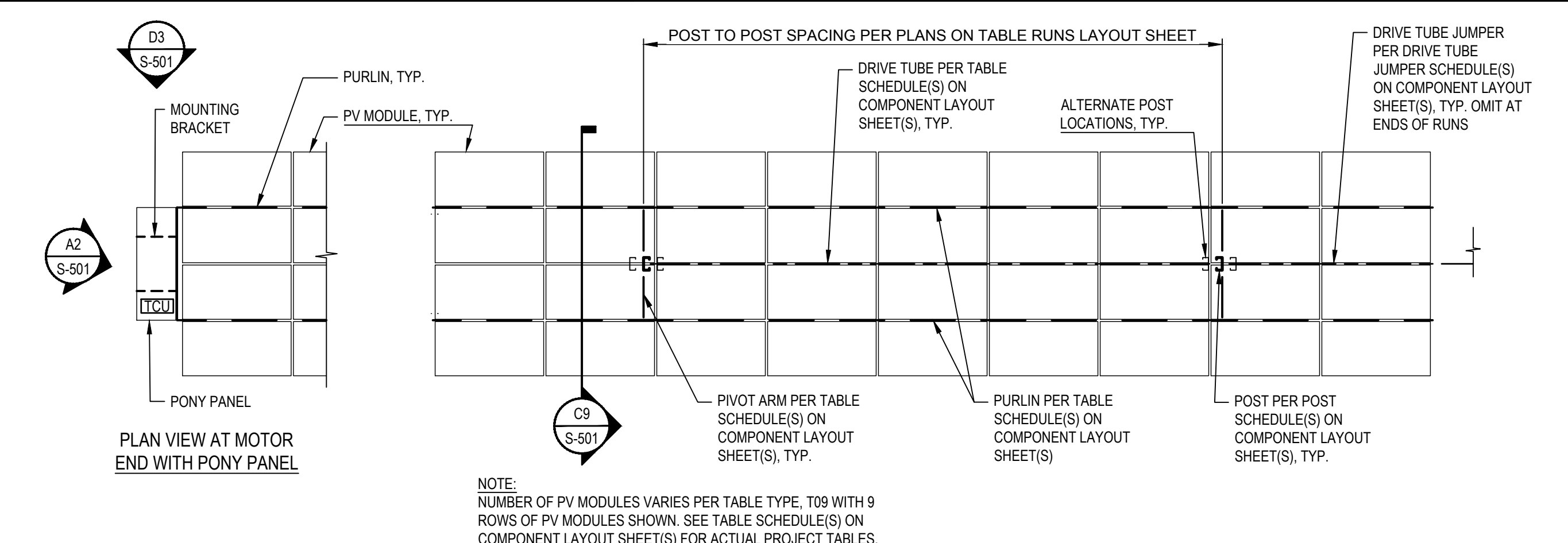
C9 TYPICAL RACK SECTION
SCALE: 1" = 1'-0"



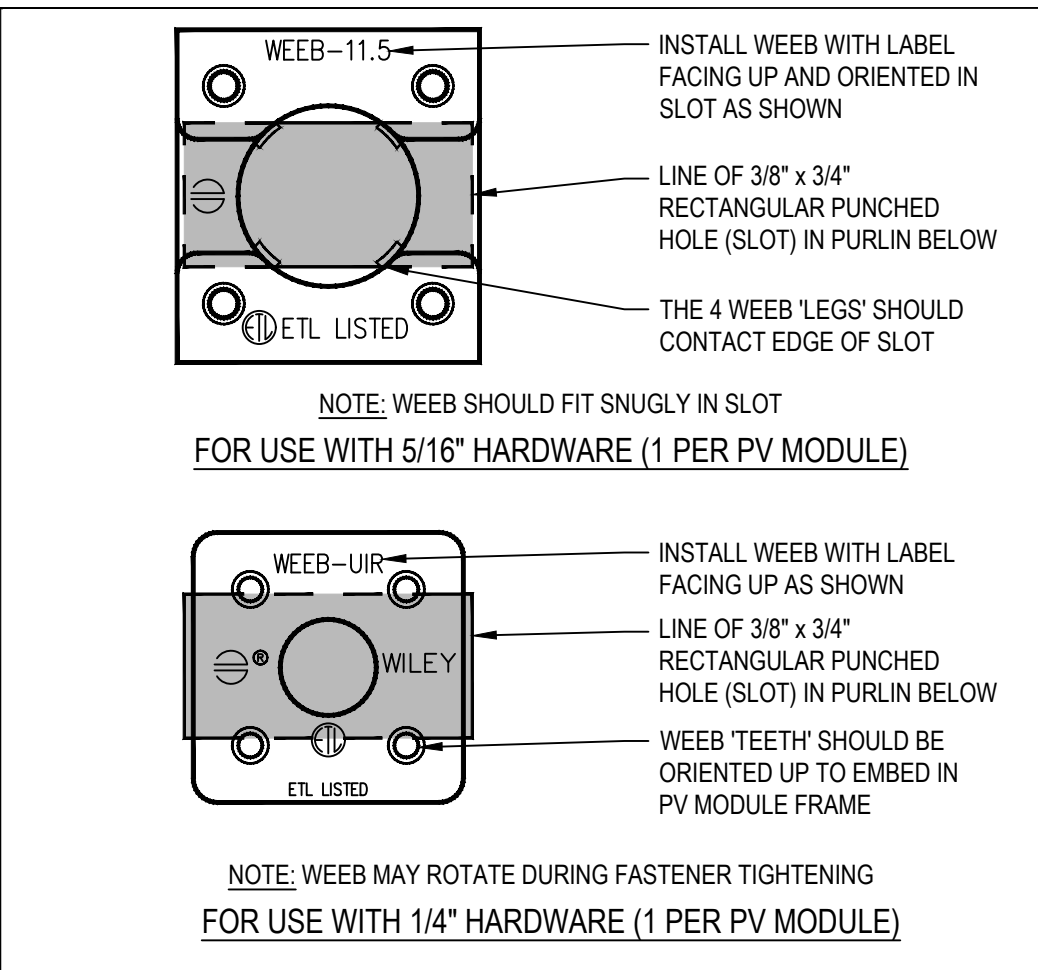
F7 PIVOT ARM TO PURLIN CONNECTION DETAIL
SCALE: 3" = 1'-0"



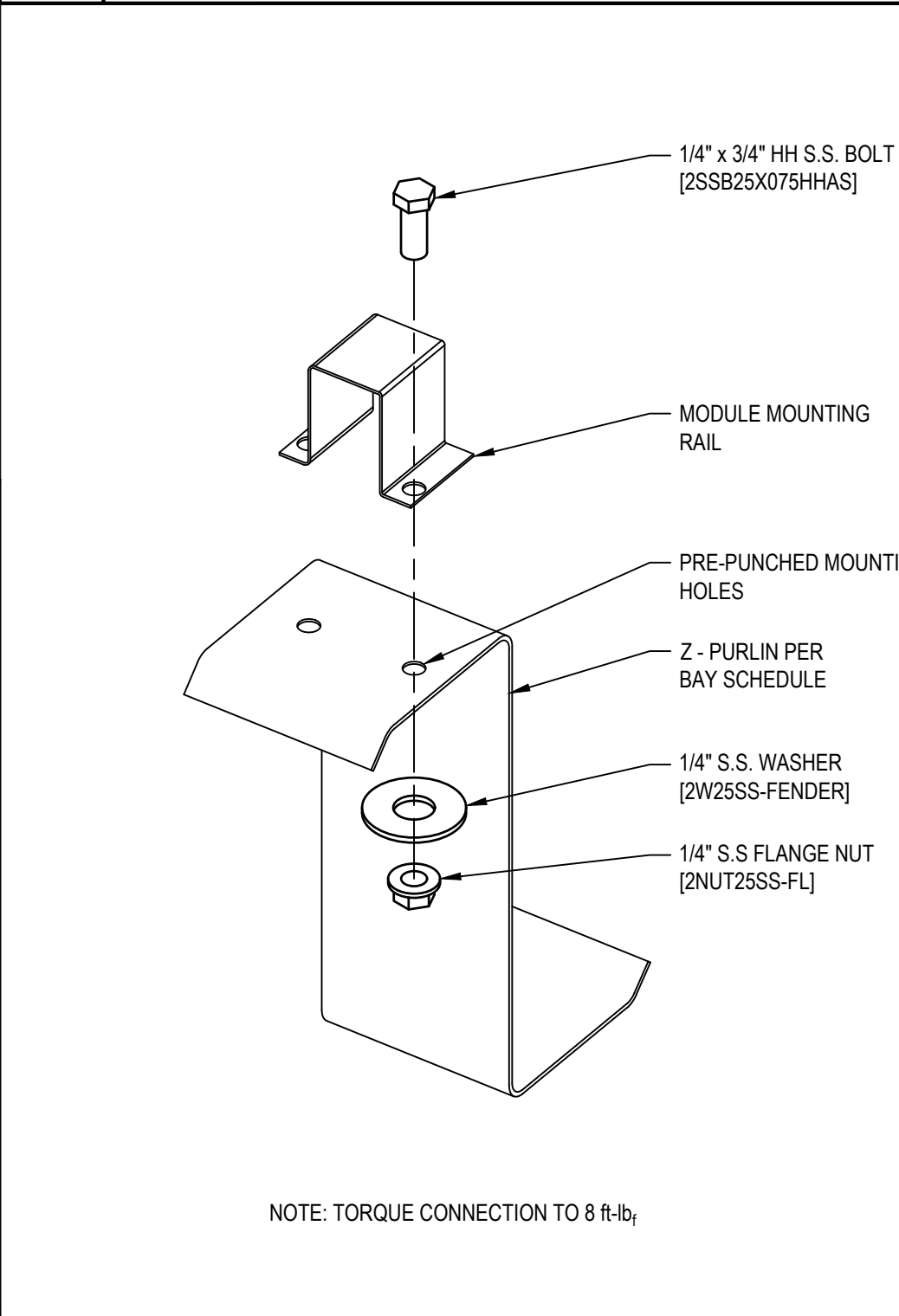
C7 POST TYPE 'A' EMBEDMENT DETAIL
SCALE: 1" = 1'-0"



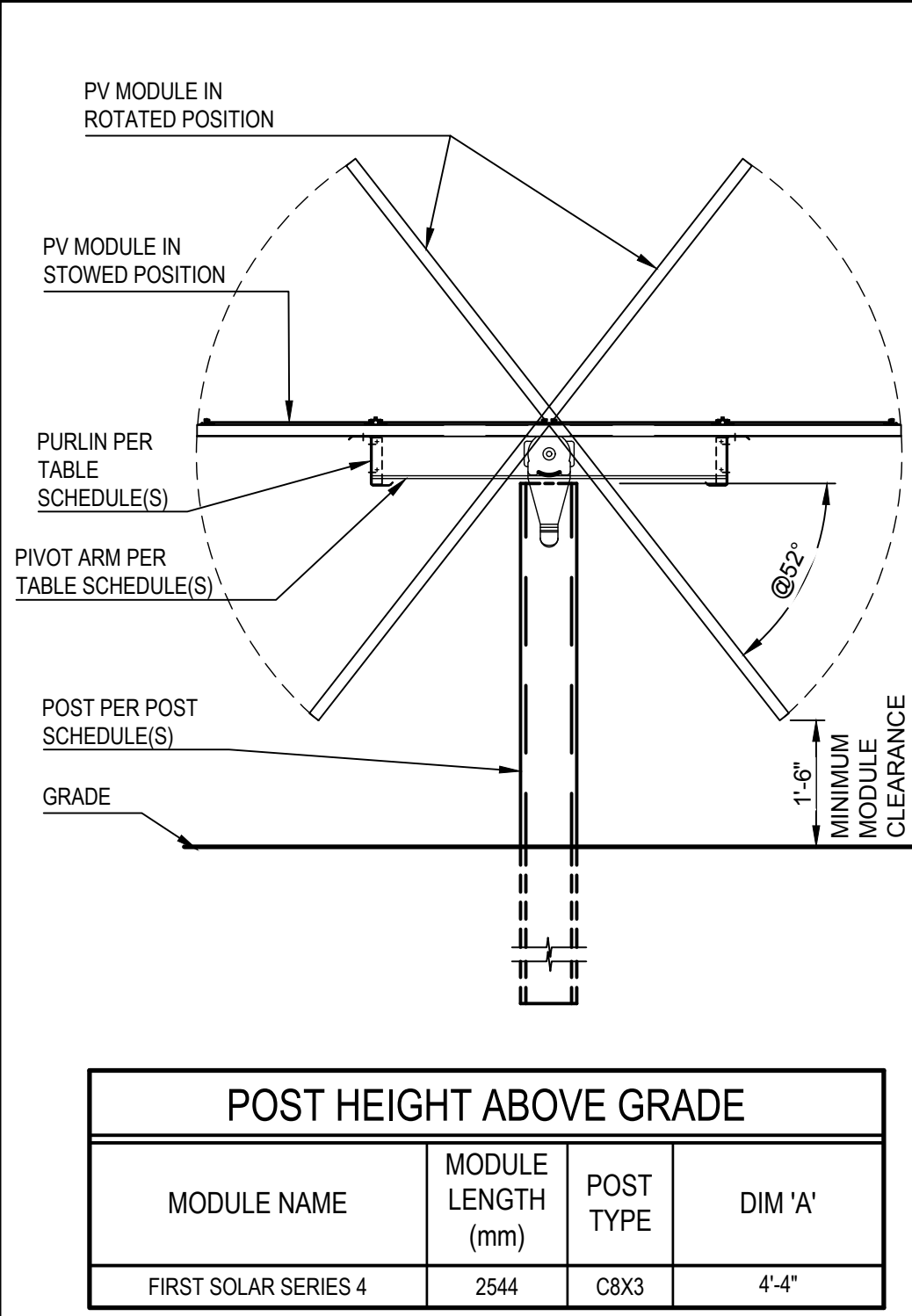
A7 TYPICAL TABLE PLAN DETAIL
SCALE: 1/4" = 1'-0"



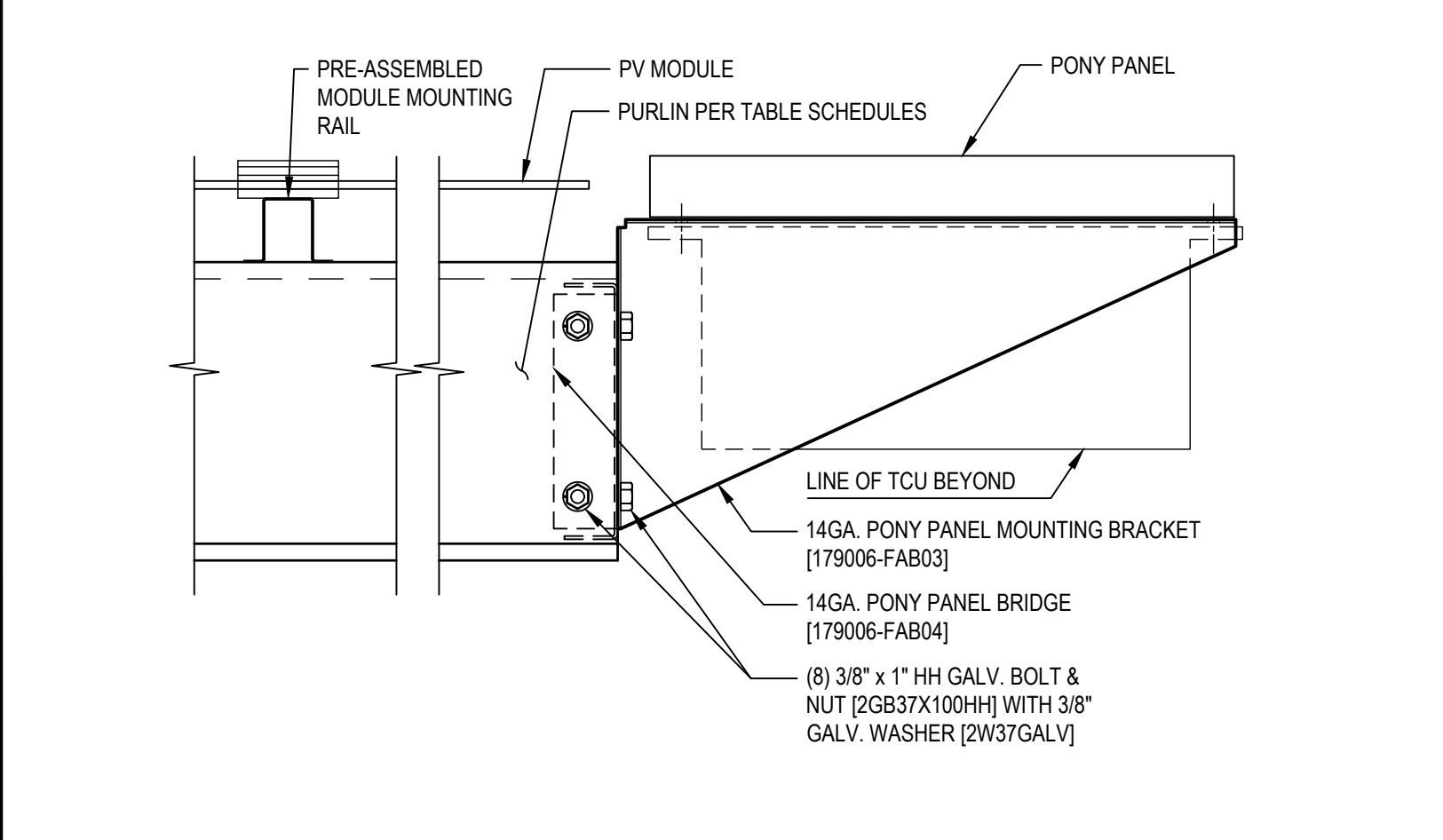
G5 WEBB PV MODULE BONDING WASHER DETAIL
SCALE: NONE



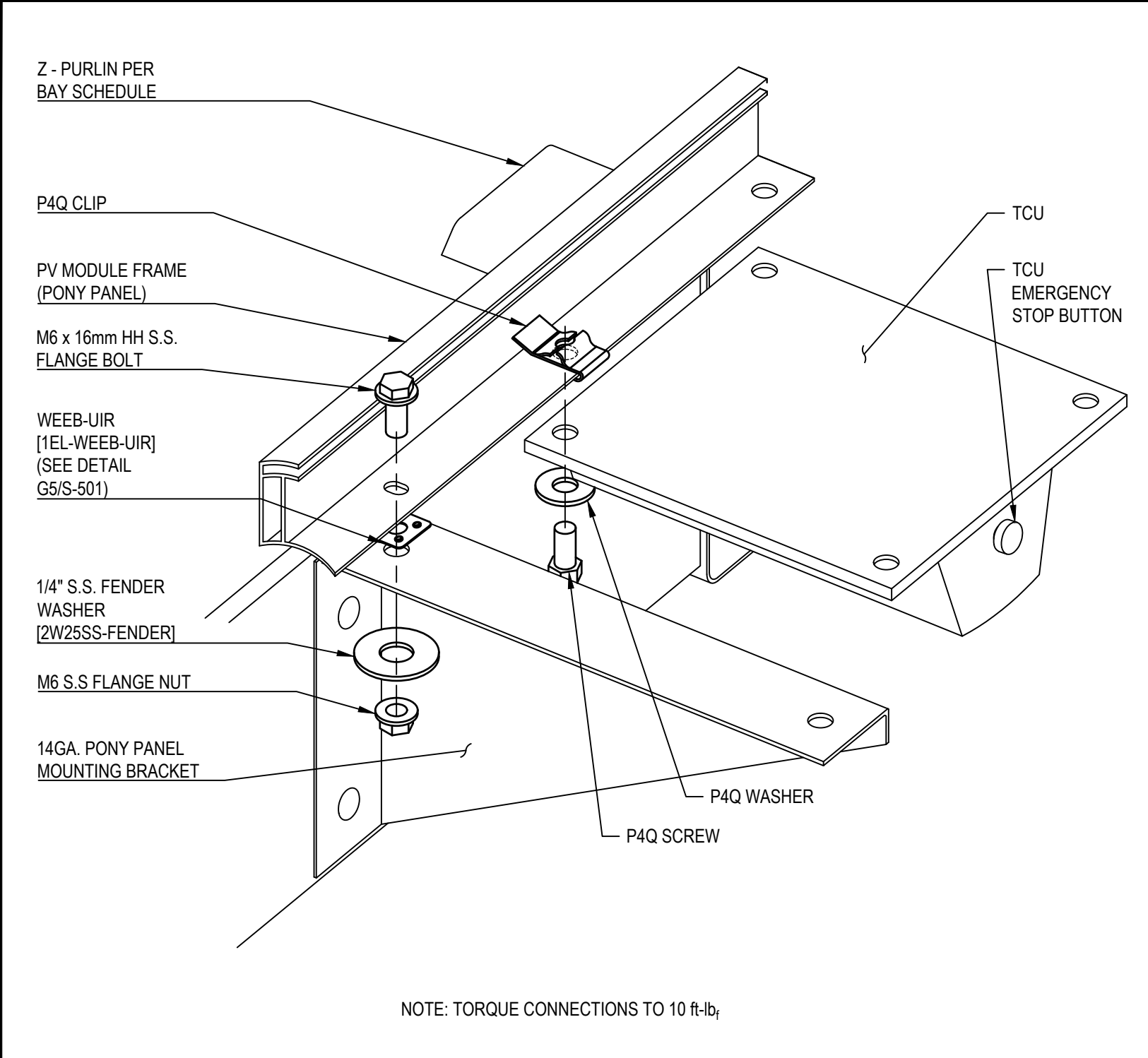
D5 PV MODULE TO PURLIN CONNECTION DETAIL
SCALE: NONE



A5 POST HEIGHT DETAIL
SCALE: 1/2" = 1'-0"



A2 PV MODULE (PONY PANEL) AND TCU MOUNTING BRACKET CONNECTION DETAIL
SCALE: NONE

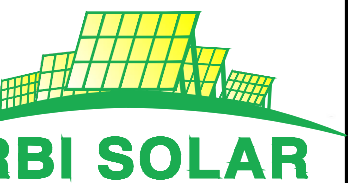


D3 PONY PANEL MOUNTING BRACKET DETAIL
SCALE: 3" = 1'-0"

A2 PV MODULE (PONY PANEL) AND TCU MOUNTING BRACKET CONNECTION DETAIL
SCALE: NONE

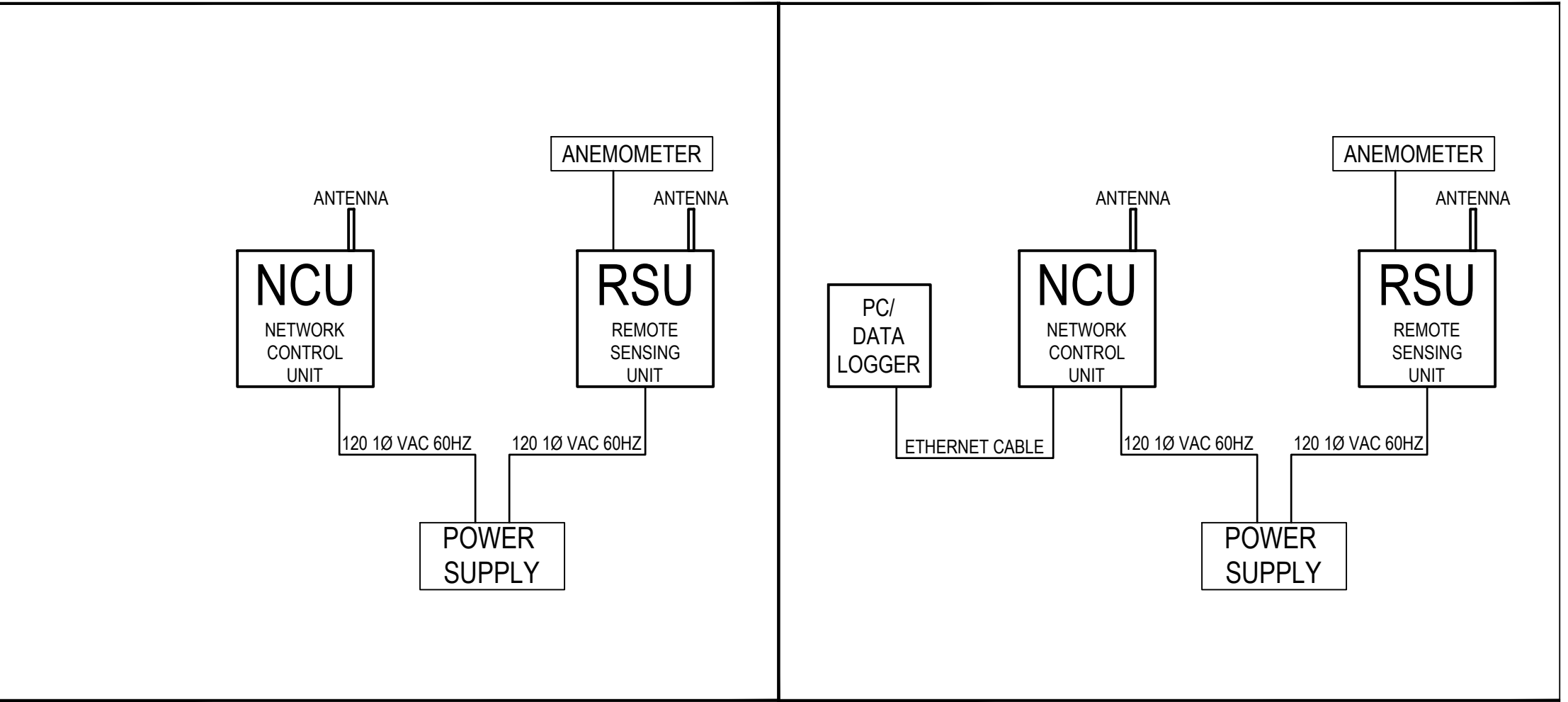
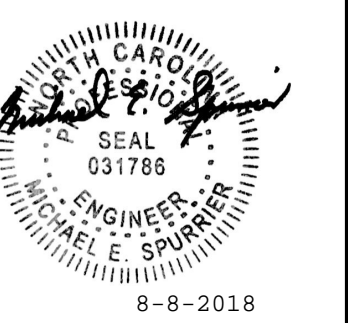


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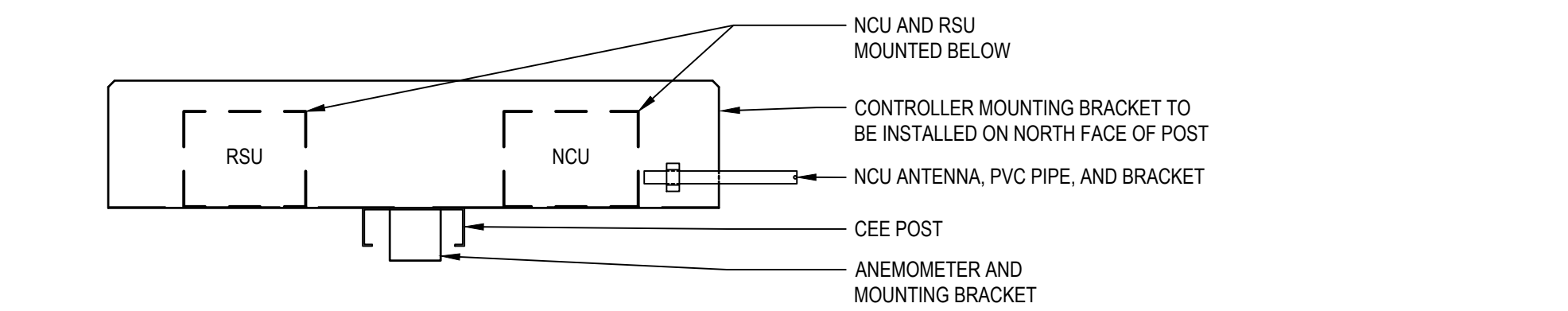


Total Solar Service: Design * Fabrication
Installation * Parts * Repair Service
5513 VINE STREET
CINCINNATI, OH 45217
513.242.2051
FAX: 513.242.0816

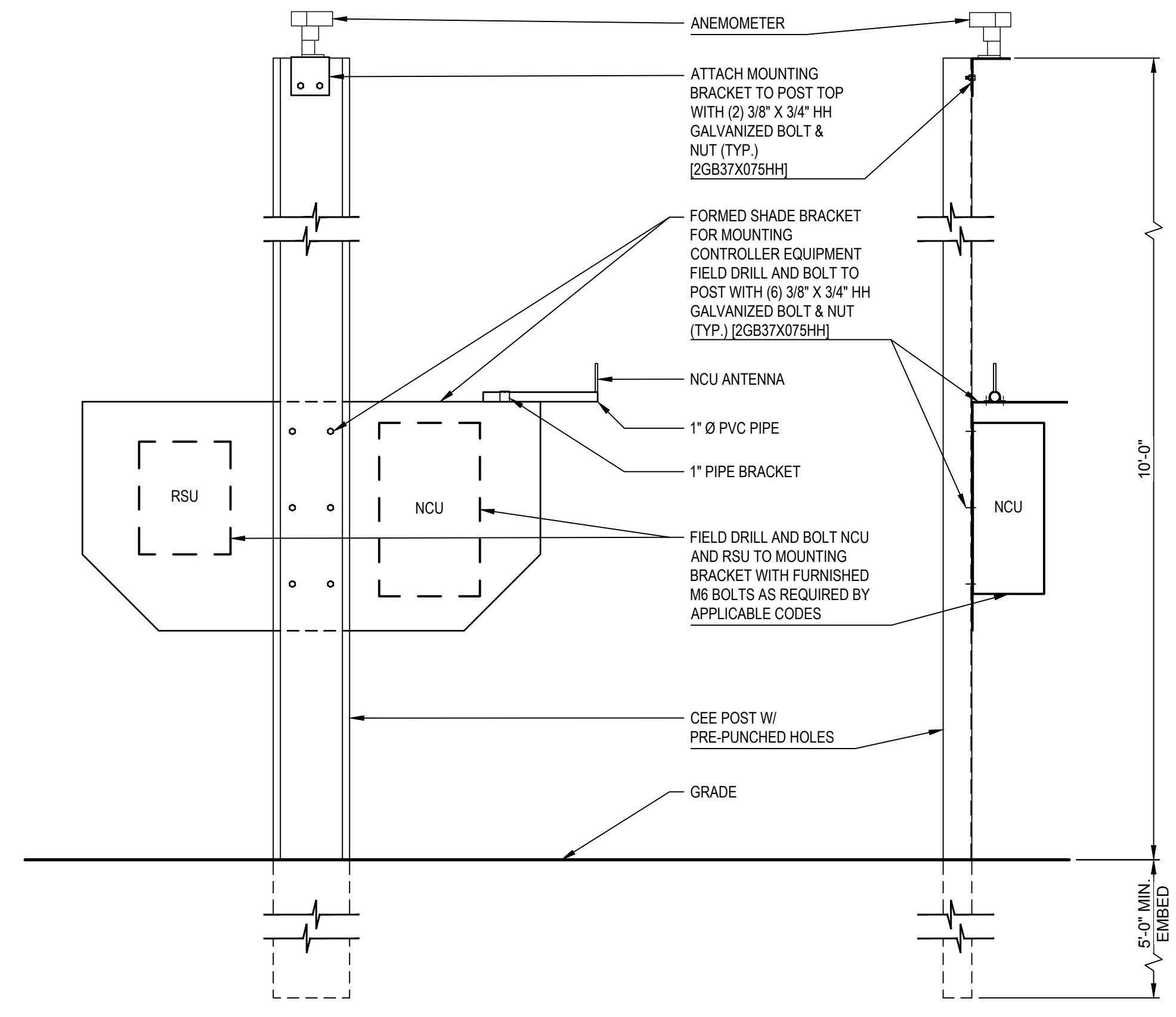
PROFESSIONAL SEAL



F8 NCU/RSU WIRING SCHEMATIC **F10 NCU/RSU WIRING SCHEMATIC**
SCALE: NONE SCALE: NONE



NOTE: CONTROLLER POST IS TO BE INSTALLED WITH THE WEB FACING NORTH AND FLANGES FACING SOUTH AS SHOWN



FRONT VIEW (LOOKING NORTH) **SIDE VIEW**

NOTE: ALTERNATE MOUNTING OPTIONS FOR NCU, RSU, AND WEATHER MONITORING EQUIPMENT ARE ALLOWED.
a. EQUIPMENT SHALL BE MOUNTED PER THE EQUIPMENT INSTALLATION MANUAL WITH APPROVED HARDWARE.
b. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING MATERIAL AND DESIGN FOR ANY ALTERNATE RACKING FOR EQUIPMENT.
c. ANEMOMETER EQUIPMENT SHALL BE MOUNTED AT HEIGHT ABOVE GRADE SHOWN. SNOW AND FLOOD SENSORS SHALL BE LOCATED PER EQUIPMENT INSTALLATION MANUALS WITH APPROVED REFERENCE PAD BELOW EQUIPMENT.

A8 NCU/RSU MOUNTING DETAIL
SCALE: 1" = 1'-0"

PHOTOVOLTAIC POWER PLANT - 4,560 KWdc / 6,156 KWdc
ENNIS SOLAR, LLC
447 SHERIFF JOHNSON ROAD, LILLINGTON, NC 27546, HARNETT, NC

REVISIONS

DATE	COMMENT

08-08 FIRST SOLAR
07-27 EMBEDMENT

PROJ #	2250-003
DRWN	EW
CHKD	JB/NA
SCALE	N/S
DATE	07-05-2018

DETAILS

S-502