

Series 200



Configuration Tables for Ground Mount System 31 to 40 psf Snow Loads (3 Module Panels)

130 mph Wind Load 31-40 psf Snow																	
Tilt Angle θ	Standard Installation							Braced Installation							Number of Rails Required Per Panel		
	Max (PS)		12" Dia Pier		Required Braces			Max (PS)		12" Dia Pier		Required Braces			Module Size		
	Sch 40	Sch 80	Short	Tall	A	C	D	Sch 40	Sch 80	Short	Tall	A	E	F	40" x 66"	40" x 78"	
$\theta = 0$	79	90	30	30	No	Every 3rd Bay	No	180	180	39	39	Yes	Yes	Yes	2	2	
$0 > \theta < 7.5$	74	85	30	30	Yes	Every 3rd Bay	No	180	180	39	39	Yes	Yes	Yes	2	2	
$7.5 > \theta < 15$	75	86	30	36	Yes	Every 3rd Bay	No	180	180	39	49	Yes	Yes	Yes	2	2	
$15 > \theta < 22.5$	77	87	30	42	Yes	Every 3rd Bay	Every 3rd Bay	180	180	30	58	Yes	Yes	Yes	2	2	
$22.5 > \theta < 30$	77	88	30	46	Yes	Every 3rd Bay	Every 3rd Bay	170	180	30	62	Yes	Yes	Yes	2	2	
$30 > \theta < 37.5$	82	94	30	50	Yes	Every 3rd Bay	Every 3rd Bay	159	180	30	64	Yes	Yes	Yes	2	2	
$37.5 > \theta < 45$	86	98	30	53	Yes	Every 3rd Bay	Every 3rd Bay	150	171	30	64	Yes	Yes	Yes	2	2	

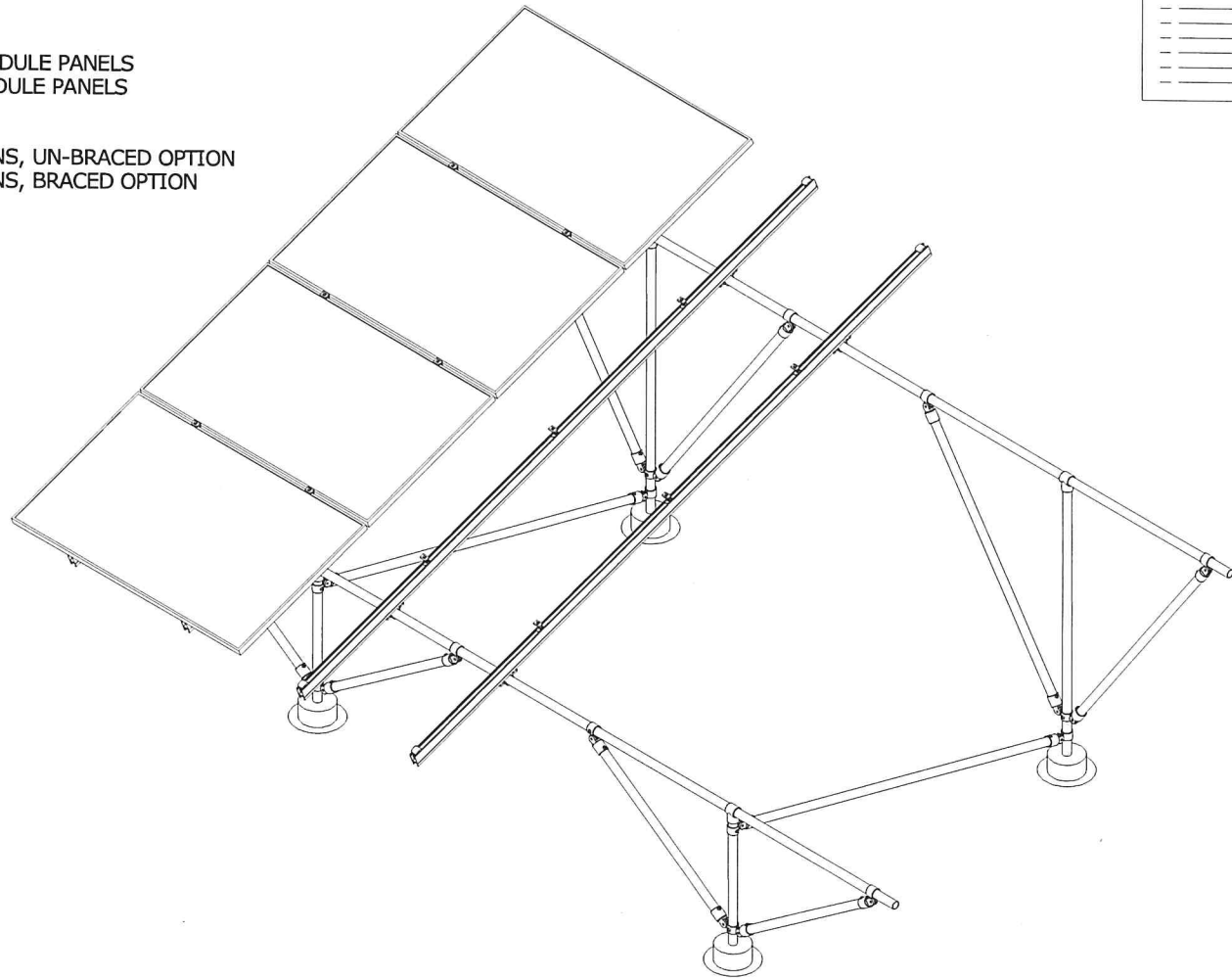
140 mph Wind Load 31-40 psf Snow																	
Tilt Angle θ	Standard Installation							Braced Installation							Number of Rails Required Per Panel		
	Max (PS)		12" Dia Pier		Required Braces			Max (PS)		12" Dia Pier		Required Braces			Module Size		
	Sch 40	Sch 80	Short	Tall	A	C	D	Sch 40	Sch 80	Short	Tall	A	E	F	40" x 66"	40" x 78"	
$\theta = 0$	77	88	30	30	No	Every 3rd Bay	No	180	180	41	41	Yes	Yes	Yes	2	2	
$0 > \theta < 7.5$	72	82	30	30	Yes	Every 3rd Bay	No	180	180	41	41	Yes	Yes	Yes	2	2	
$7.5 > \theta < 15$	73	83	30	37	Yes	Every 3rd Bay	No	180	180	30	52	Yes	Yes	Yes	2	2	
$15 > \theta < 22.5$	74	84	30	44	Yes	Every 3rd Bay	Every 3rd Bay	180	180	30	62	Yes	Yes	Yes	2	2	
$22.5 > \theta < 30$	73	83	30	48	Yes	Every 3rd Bay	Every 3rd Bay	158	180	30	64	Yes	Yes	Yes	2	2	
$30 > \theta < 37.5$	78	89	30	51	Yes	Every 3rd Bay	Every 3rd Bay	148	168	30	66	Yes	Yes	Yes	2	2	
$37.5 > \theta < 45$	80	91	30	54	Yes	Every 3rd Bay	Every 3rd Bay	139	158	30	69	Yes	Yes	Yes	2	2	

150 mph Wind Load 31-40 psf Snow																	
Tilt Angle θ	Standard Installation							Braced Installation							Number of Rails Required Per Panel		
	Max (PS)		12" Dia Pier		Required Braces			Max (PS)		12" Dia Pier		Required Braces			Module Size		
	Sch 40	Sch 80	Short	Tall	A	C	D	Sch 40	Sch 80	Short	Tall	A	E	F	40" x 66"	40" x 78"	
$\theta = 0$	76	86	30	30	No	Every 3rd Bay	No	180	180	44	44	Yes	Yes	Yes	2	2	
$0 > \theta < 7.5$	70	80	30	31	Yes	Every 3rd Bay	No	180	180	44	44	Yes	Yes	Yes	2	2	
$7.5 > \theta < 15$	71	80	30	39	Yes	Every 3rd Bay	No	180	180	30	56	Yes	Yes	Yes	2	2	
$15 > \theta < 22.5$	70	80	30	46	Yes	Every 3rd Bay	Every 3rd Bay	179	180	30	65	Yes	Yes	Yes	2	2	
$22.5 > \theta < 30$	69	79	30	50	Yes	Every 3rd Bay	Every 3rd Bay	147	168	30	66	Yes	Yes	Yes	2	2	
$30 > \theta < 37.5$	73	84	30	53	Yes	Every 3rd Bay	Every 3rd Bay	138	157	30	68	Yes	Yes	Yes	2	2	
$37.5 > \theta < 45$	75	85	30	56	Yes	Every 3rd Bay	Every 3rd Bay	130	148	30	71	Yes	Yes	Yes	2	2	

HEIGHT OF SOLAR
ARRAY APPEARS
TO BE OVER 7'-0"
- DRAWINGS
STAMPED BY A
COLORADO
LICENSED DESIGN
PROFESSIONAL
REQUIRED FOR
STRUCTURE AND
FOUNDATION

- S200 D00: SERIES 200 DRAWING SET COVER
- S200 D01: SERIES 200 OVERVIEW
- S200 D02: SERIES 200 SYSTEM DETAILS
- S200 D03: SERIES 200 BRACED OPTION
- S200 D04: SERIES 200 SYSTEM DETAILS, 3 MODULE PANELS
- S200 D05: SERIES 200 BRACED OPTION, 3 MODULE PANELS
- S200 D06: SERIES 200 PIER DETAILS
- S200 D07: SERIES 200 GRADE BEAM OPTION
- S200 D08: SERIES 200 3-RAIL CONFIGURATIONS, UN-BRACED OPTION
- S200 D09: SERIES 200 3-RAIL CONFIGURATIONS, BRACED OPTION

REVISION:	
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PV Mounting Systems

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DRAFTER: D Ryan
APPROVED BY: _____

SCALE: DNS
DATE: 120113

PART NUMBER:
S200 D00

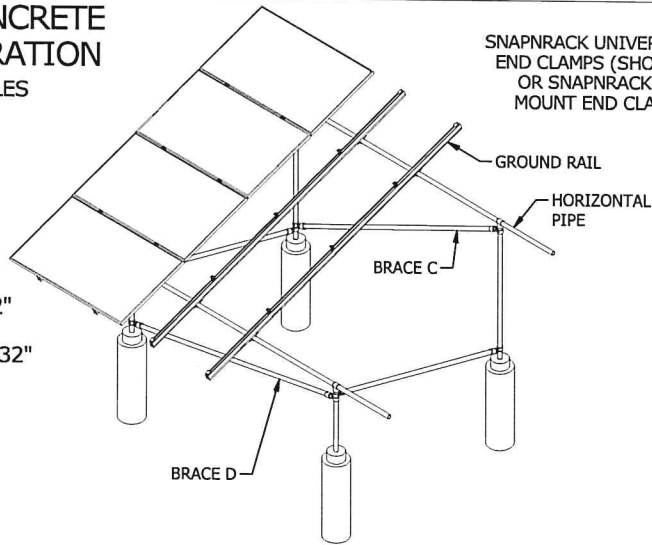
DESCRIPTION:
SERIES 200 DRAWING SET COVER

REV
G

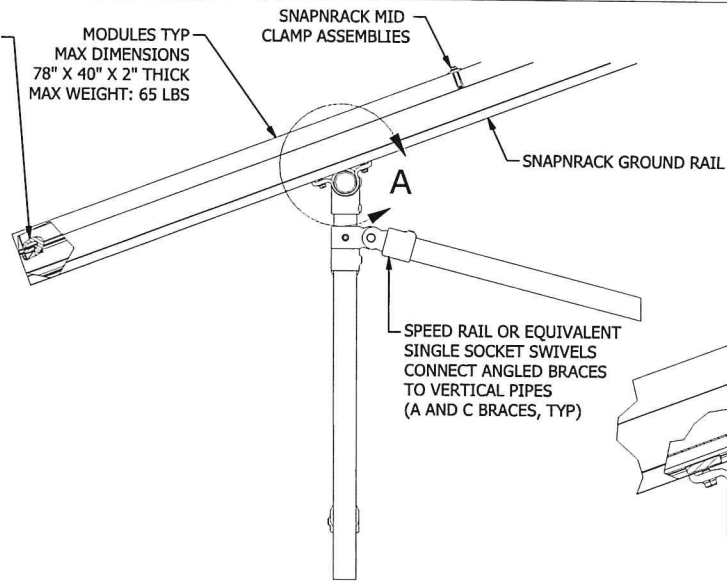
STANDARD CONCRETE PIER CONFIGURATION

SEE ENGINEERING TABLES FOR PIER DEPTHS AND SPAN LIMITATIONS.

UNLESS OTHERWISE SPECIFIED IN ENGINEERING DOCS, THE FOLLOWING VALUES APPLY:
 MAX RAIL LENGTH: 162"
 RAIL SPAN: 96"
 MAX RAIL OVERHANG: 32"

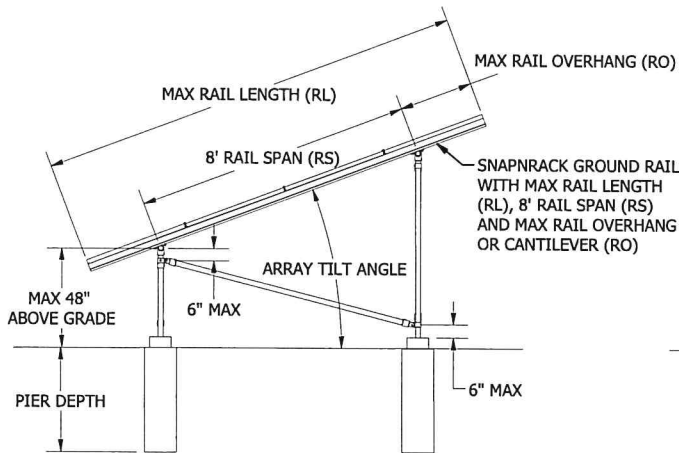
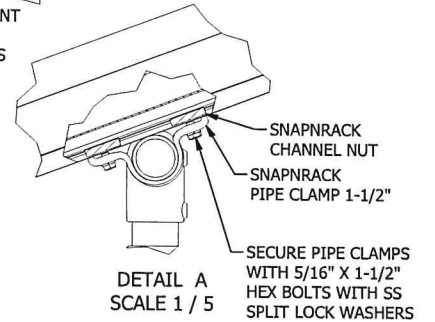


ISO VIEW OF RACKING ASSEMBLY

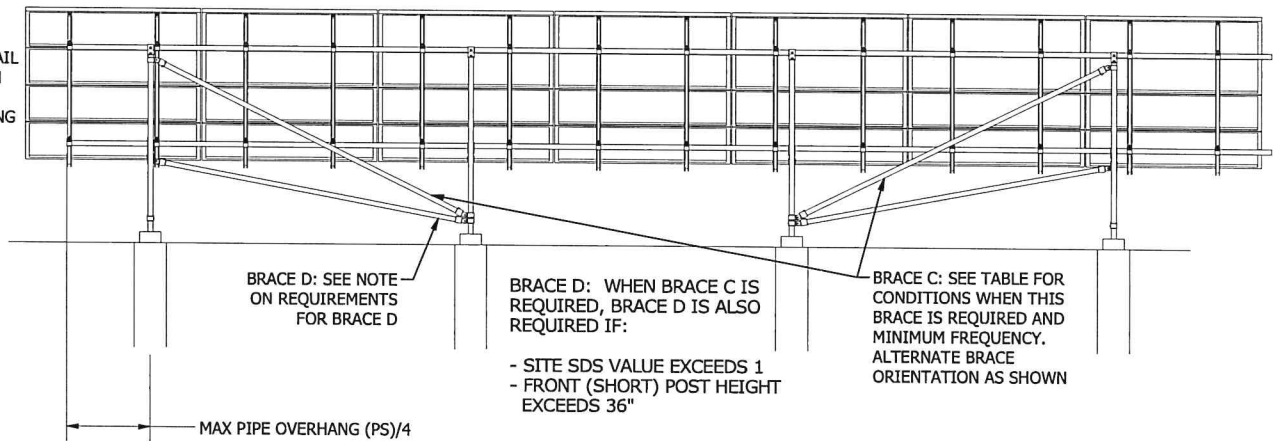


DETAILED VIEW OF PIPE TO RAIL AND BRACING INTERFACE

REVISION:



ARRAY SIDE VIEW



ARRAY BACK VIEW



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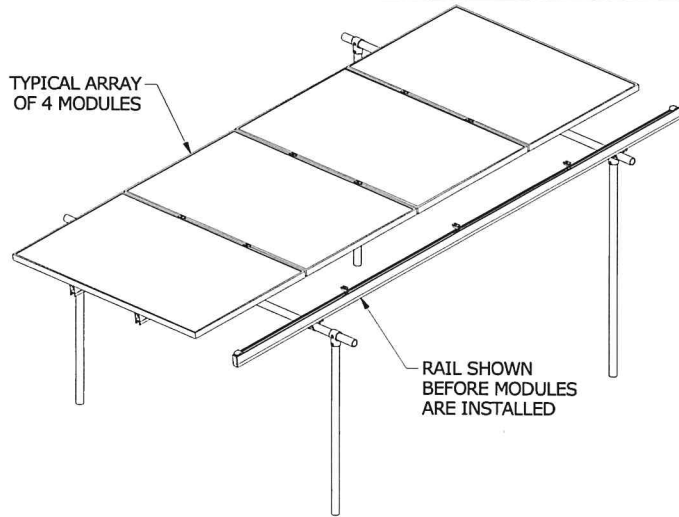
DESIGNER: G McPheeters
 DRAFTER: D Ryan
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PART NUMBER: S200 D01

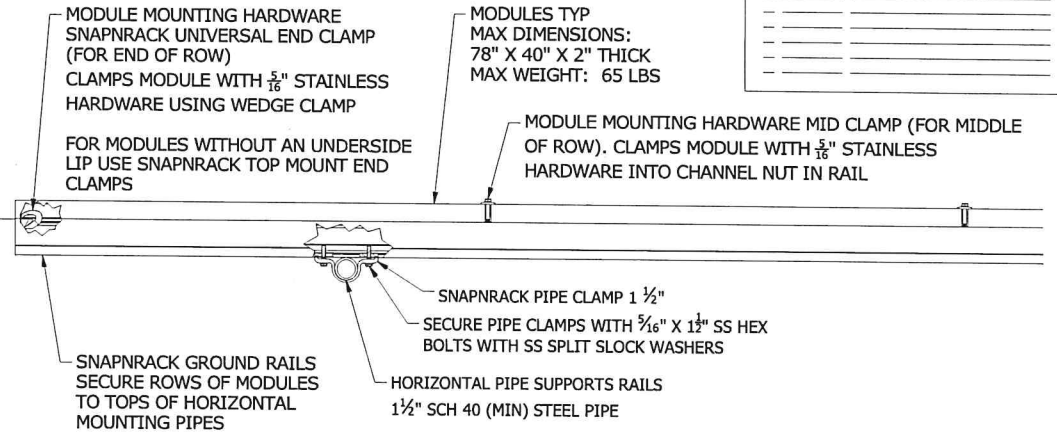
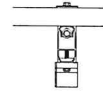
DESCRIPTION: SERIES 200 OVERVIEW

REV **G**



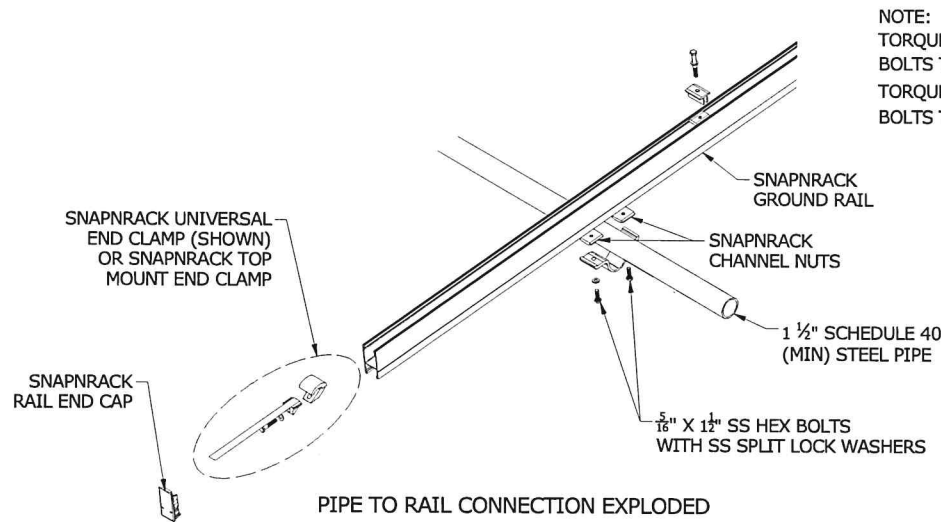
ISO VIEW OF RACKING ASSEMBLY

NOTE:
 TORQUE $\frac{5}{16}$ " SS SILVER HEX BOLTS TO 10-16 FT-LBS
 TORQUE $\frac{5}{16}$ " SS BLACK HEX BOLTS TO 7-9 FT-LBS



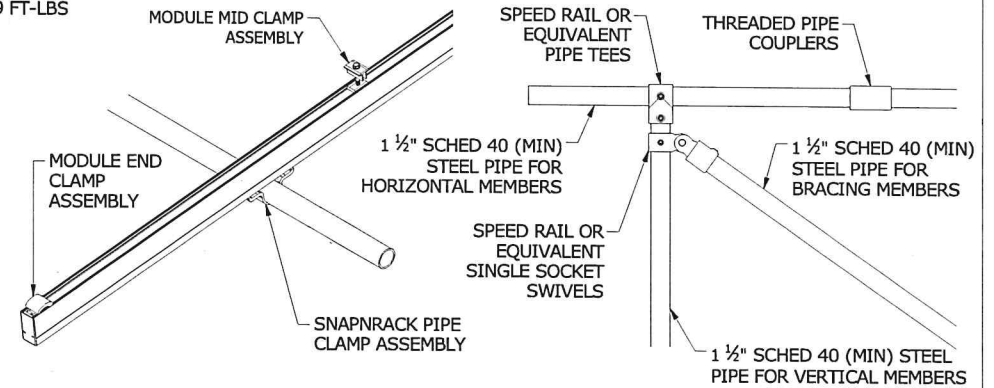
MODULE AND RAIL ATTACHMENT DETAILS

REVISION:



PIPE TO RAIL CONNECTION EXPLODED

NOTE:
 TORQUE $\frac{5}{16}$ " SS SILVER HEX BOLTS TO 10-16 FT-LBS
 TORQUE $\frac{5}{16}$ " SS BLACK HEX BOLTS TO 7-9 FT-LBS



PIPE TO RAIL CONNECTION

PIPE FITTING DETAILS

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DESIGNER: G. McPheeters
 DRAFTER: D. Ryan
 APPROVED BY: _____

SCALE: DNS
 DATE: 120131

PART NUMBER:
S200 D02

DESCRIPTION:
SERIES 200 SYSTEM DETAILS

REV
G

BRACING OPTION FOR HIGH LOAD OR LONGER SPAN APPLICATIONS

SEE ENGINEERING TABLES FOR PIER DEPTHS AND SPAN LIMITATIONS.

COMPATIBLE WITH ALL PIER OPTIONS INCLUDING STANDARD PIERS AND GRADE BEAMS

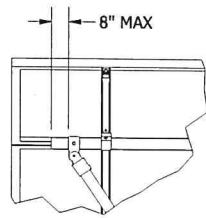
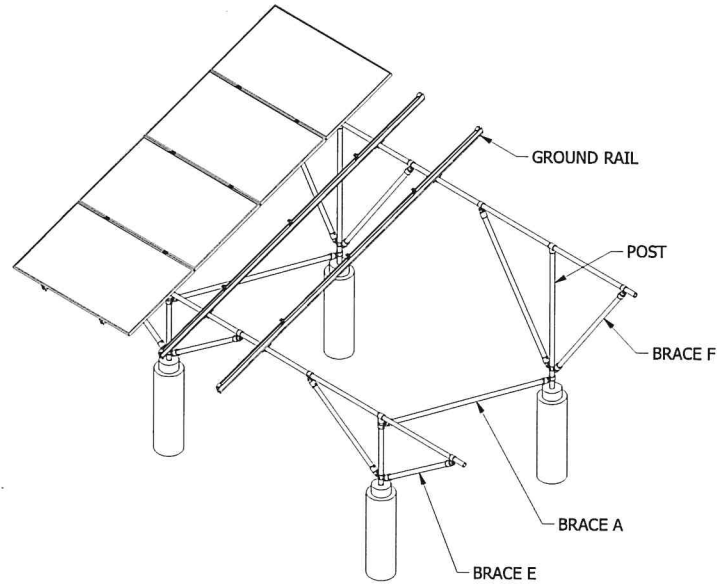
UNLESS OTHERWISE SPECIFIED IN ENGINEERING DOCS, THE FOLLOWING VALUES APPLY:

MAX RL: 162"

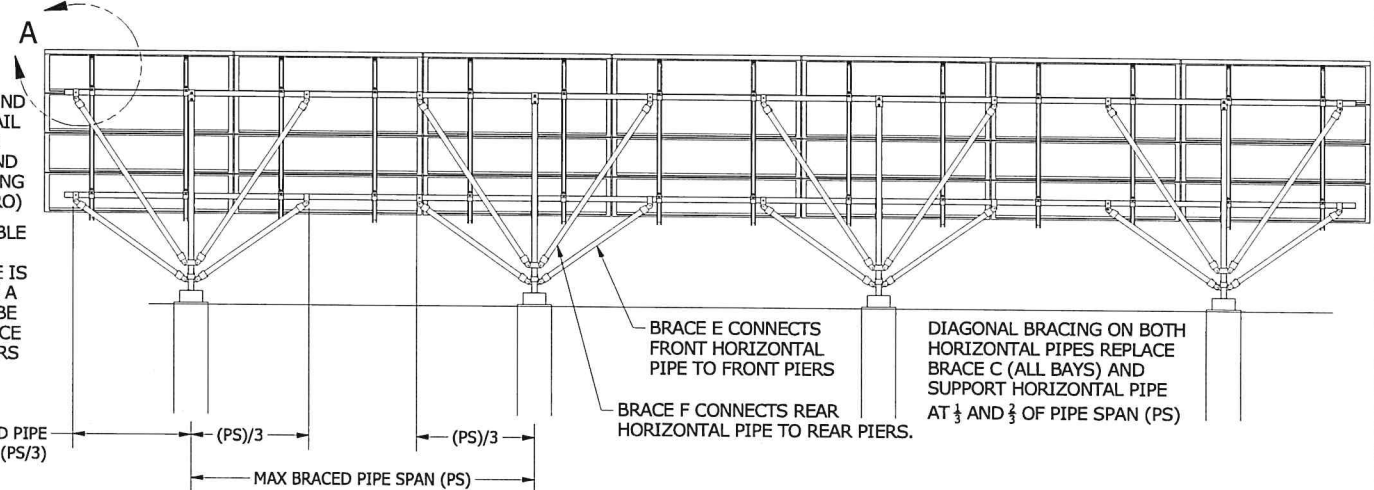
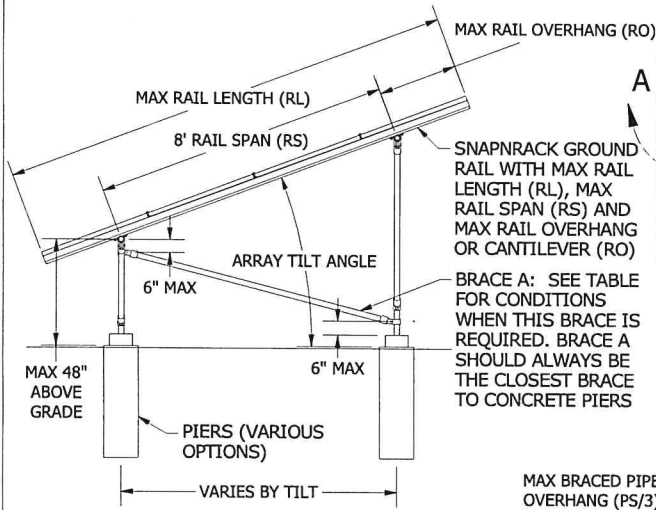
RS: 96"

MAX RO: 32"

REVISION:



DETAIL A



SNAPRACK GROUND RAIL WITH MAX RAIL LENGTH (RL), MAX RAIL SPAN (RS) AND MAX RAIL OVERHANG OR CANTILEVER (RO)

BRACE A: SEE TABLE FOR CONDITIONS WHEN THIS BRACE IS REQUIRED. BRACE A SHOULD ALWAYS BE THE CLOSEST BRACE TO CONCRETE PIERS

BRACE E CONNECTS FRONT HORIZONTAL PIPE TO FRONT PIERS

BRACE F CONNECTS REAR HORIZONTAL PIPE TO REAR PIERS.

DIAGONAL BRACING ON BOTH HORIZONTAL PIPES REPLACE BRACE C (ALL BAYS) AND SUPPORT HORIZONTAL PIPE AT $\frac{1}{3}$ AND $\frac{2}{3}$ OF PIPE SPAN (PS)



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DRAFTER: D. Ryan
APPROVED BY: _____

SCALE: DNS
DATE: 120113

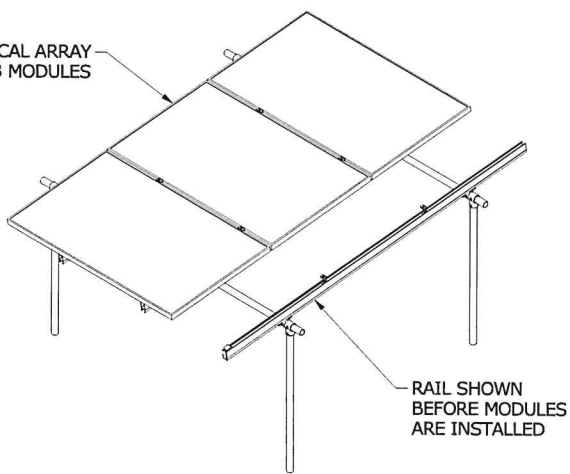
PART NUMBER:
S200 D03

DESCRIPTION:
SERIES 200 BRACED OPTION

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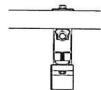
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TYPICAL ARRAY OF 3 MODULES

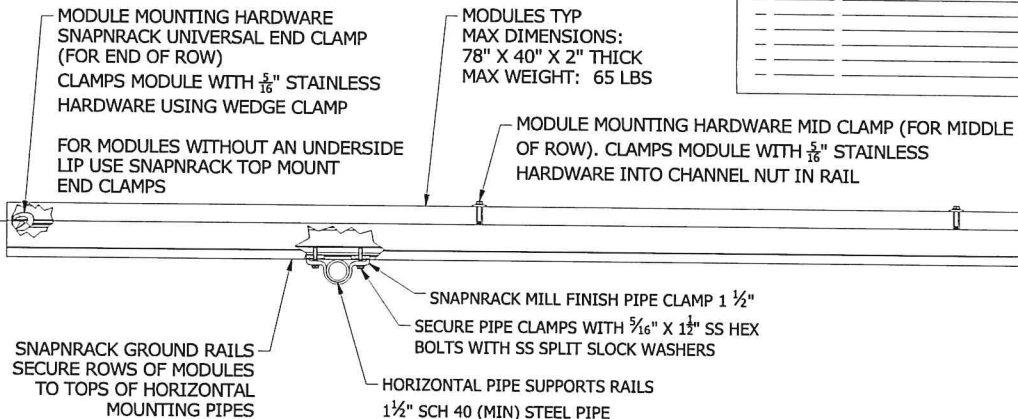


ISO VIEW OF RACKING ASSEMBLY

NOTE:
TORQUE $\frac{5}{16}$ " SS SILVER HEX BOLTS TO 10-16 FT-LBS
TORQUE $\frac{5}{16}$ " SS BLACK HEX BOLTS TO 7-9 FT-LBS

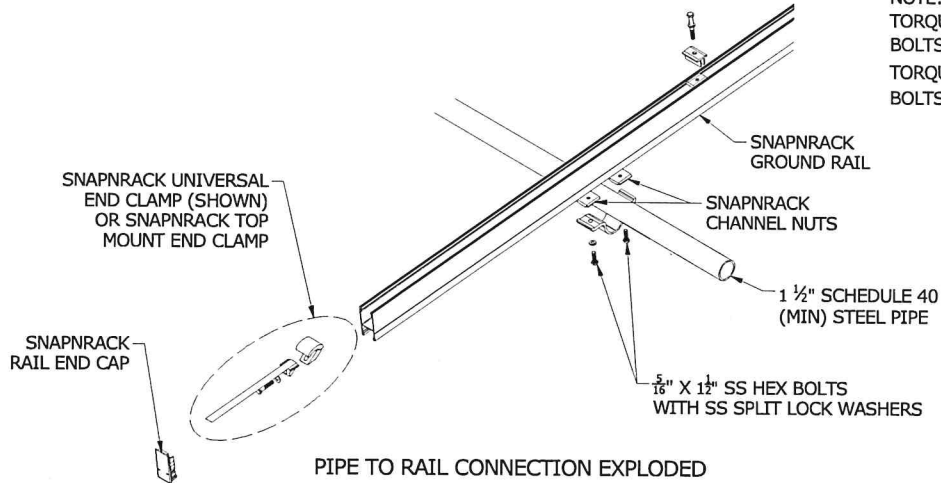


RAIL SHOWN BEFORE MODULES ARE INSTALLED



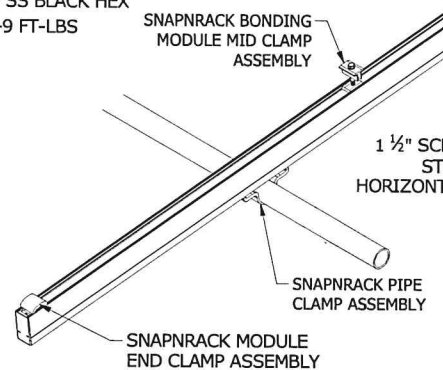
MODULE AND RAIL ATTACHMENT DETAILS

REVISION:

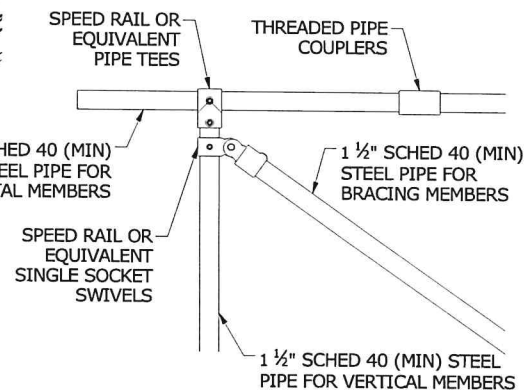


PIPE TO RAIL CONNECTION EXPLODED

NOTE:
TORQUE $\frac{5}{16}$ " SS SILVER HEX BOLTS TO 10-16 FT-LBS
TORQUE $\frac{5}{16}$ " SS BLACK HEX BOLTS TO 7-9 FT-LBS



PIPE TO RAIL CONNECTION



PIPE FITTING DETAILS

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DESIGNER: G. McPheeters
DRAFTER: D. Ryan
APPROVED BY: _____

SCALE: DNS
DATE: 120113

PART NUMBER:
S200 D04

DESCRIPTION:
SERIES 200 SYSTEM DETAILS, 3 MODULE PANELS

REV
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BRACING OPTION FOR HIGH LOAD OR LONGER SPAN APPLICATIONS - 3 MODULE PANELS

SEE ENGINEERING TABLES FOR PIER DEPTHS AND SPAN LIMITATIONS.

COMPATIBLE WITH ALL PIER OPTIONS INCLUDING STANDARD PIERS AND GRADE BEAMS

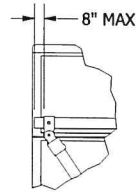
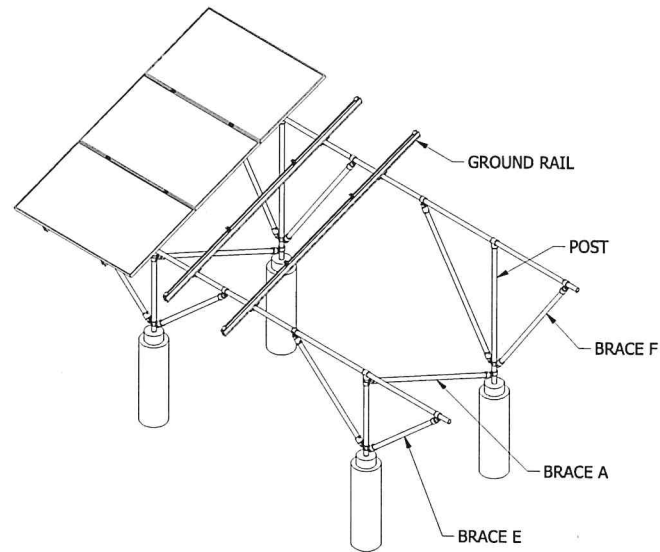
UNLESS OTHERWISE SPECIFIED IN ENGINEERING DOCS, THE FOLLOWING VALUES APPLY:

MAX RL: 122"

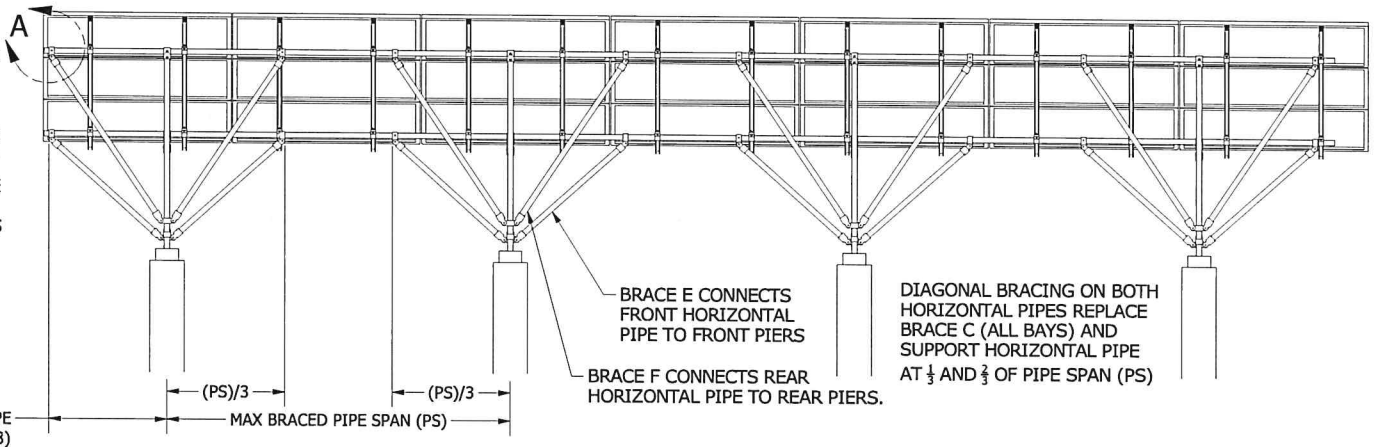
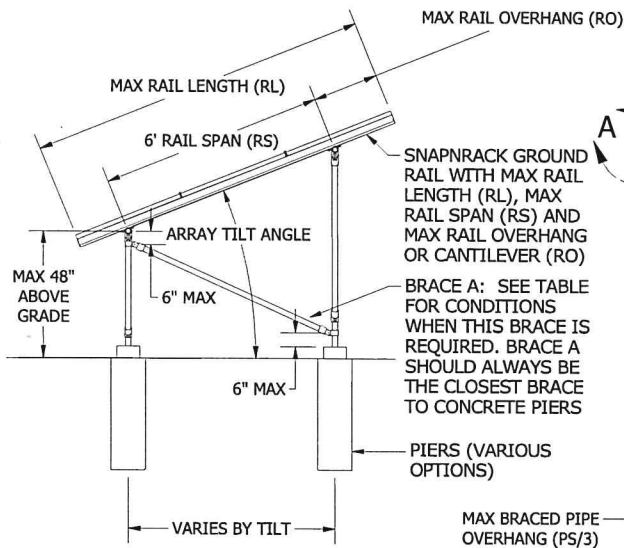
RS: 72"

MAX RO: 24"

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DETAIL A



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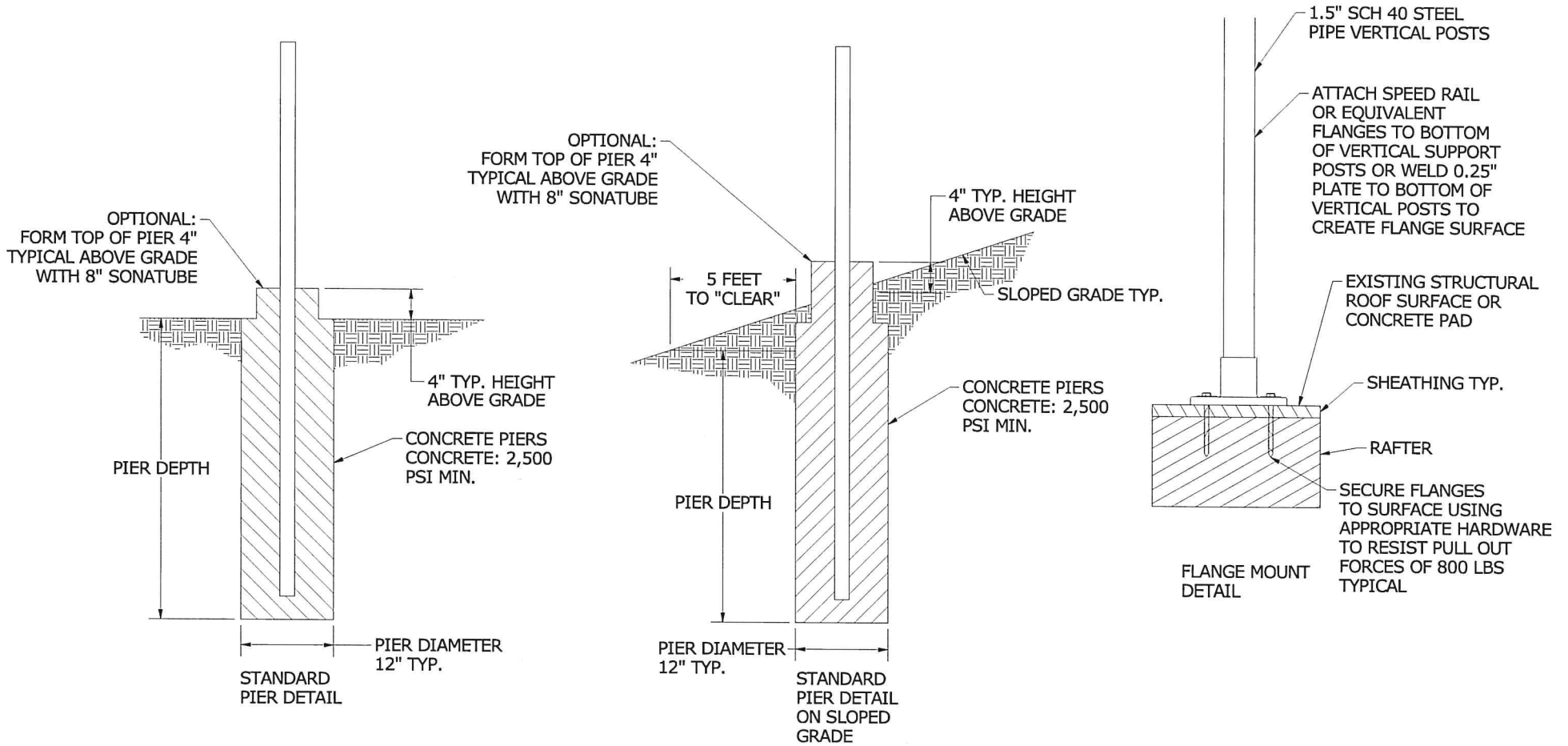
PART NUMBER:
S200 D05

DESCRIPTION:
SERIES 200 BRACED OPTION 3 MODULE PANELS

REV
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NOTE:
 FLANGE MOUNTS ARE A VIABLE OPTION FOR INSTALLATION
 OF GROUND MOUNT SYSTEMS ON CONCRETE PADS OR
 VARIOUS TYPES OF ROOF TOP STRUCTURES, BUT ARE NOT
 SPECIFIED IN DETAIL IN THE STANDARD ENGINEERING
 REVIEW FOR 2013.

REVISION:	



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DESIGNER: G. McPheeters
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 APPROVED BY: _____

SCALE: DNS
 DATE: 120113

PART NUMBER:
S200 D06

DESCRIPTION:
SERIES 200 PIER DETAILS

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GRADE BEAM FOUNDATION CONFIGURATION

SEE ENGINEERING TABLES FOR SPAN LIMITATIONS.

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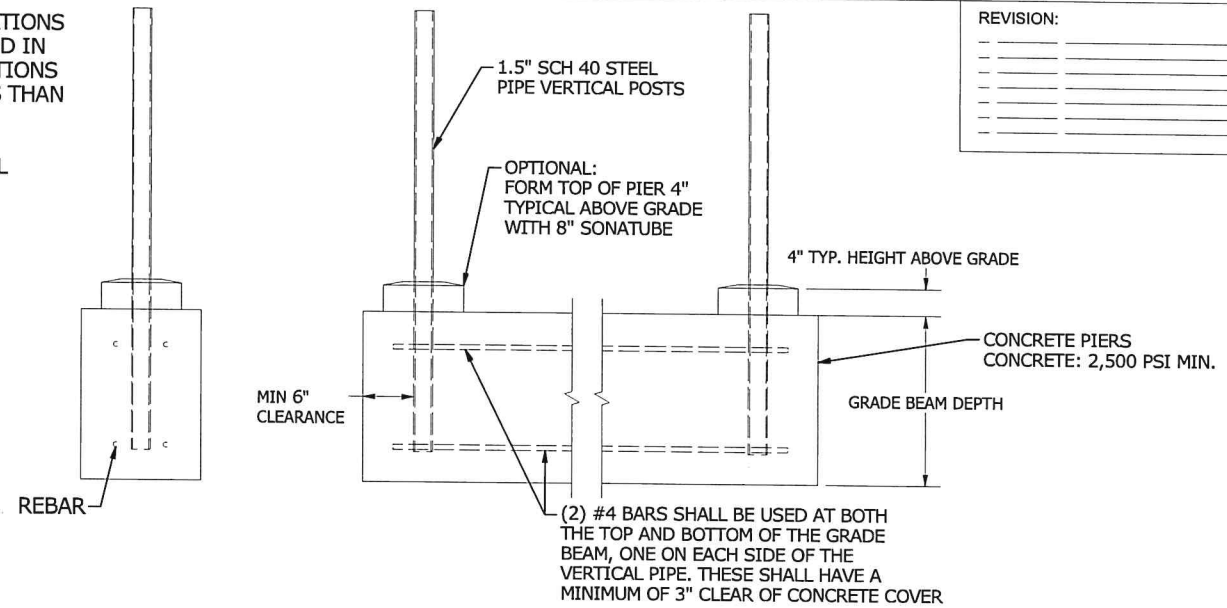
MAX RL: 162"
RS: 96"
MAX RO: 32"

MIN GBW: 12"
MIN GBD: 18"

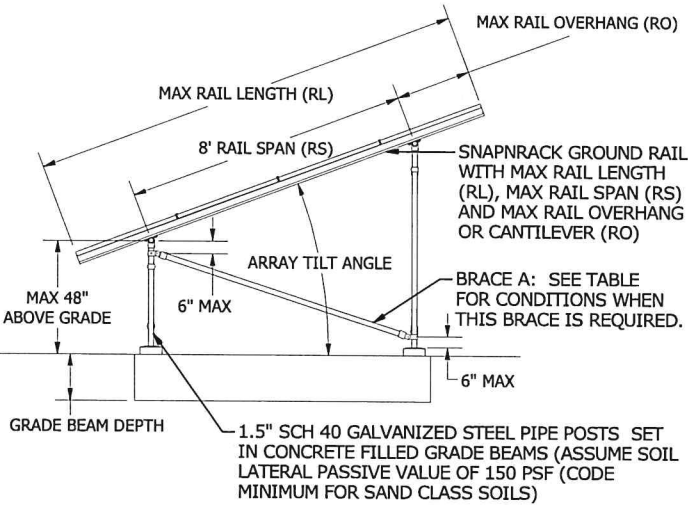
GRADE BEAM FOUNDATIONS SHOULD ONLY BE USED IN FLAT GROUND CONDITIONS (GROUND SLOPE LESS THAN 5 DEGREES TYPICAL)

COMPATIBLE WITH ALL BRACING OPTIONS

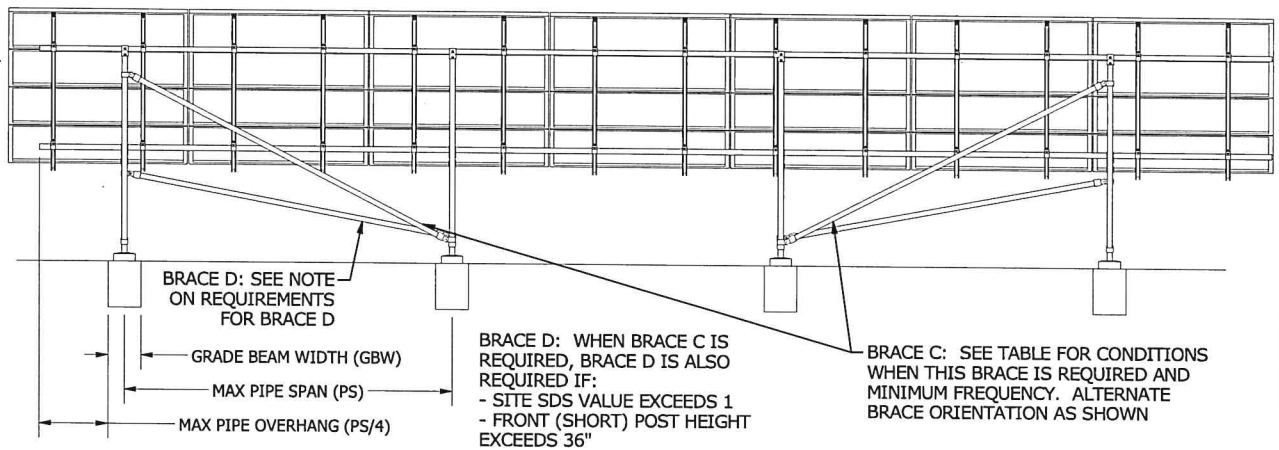
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GRADE BEAM FOUNDATION DETAIL



ARRAY SIDE VIEW



ARRAY BACK VIEW



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DRAFTER: D Ryan
APPROVED BY: _____

SCALE: DNS
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PART NUMBER:
S200 D07

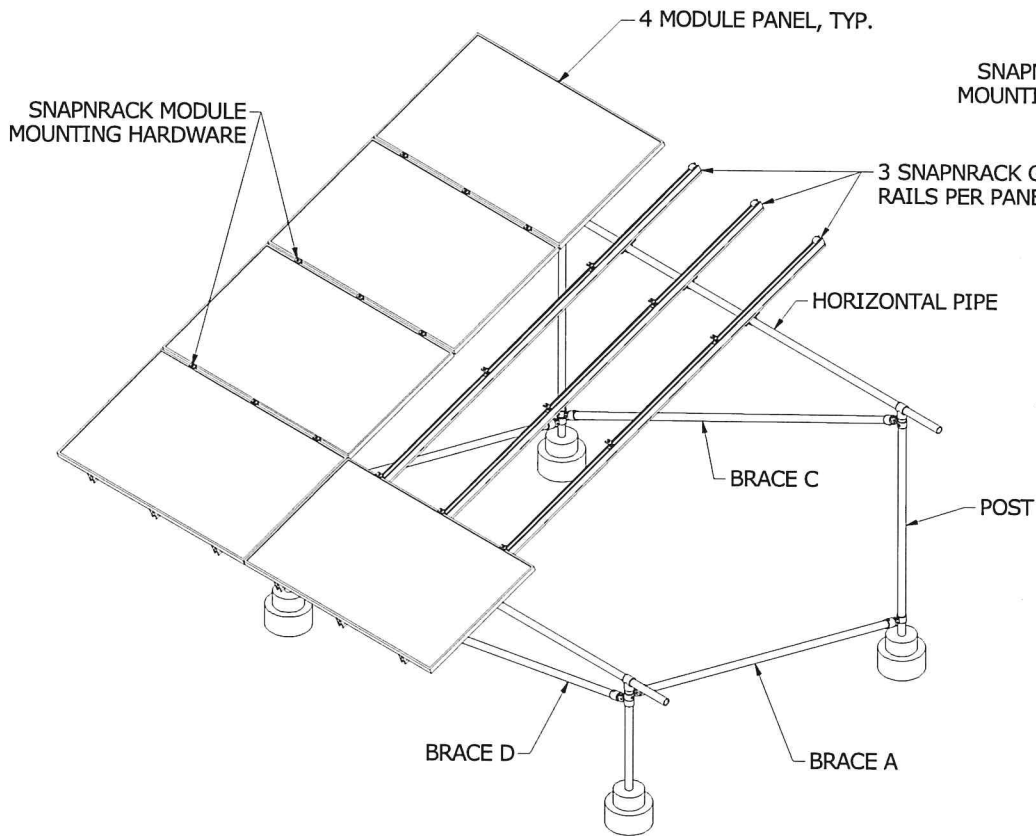
DESCRIPTION:
SERIES 200 GRADE BEAM OPTION

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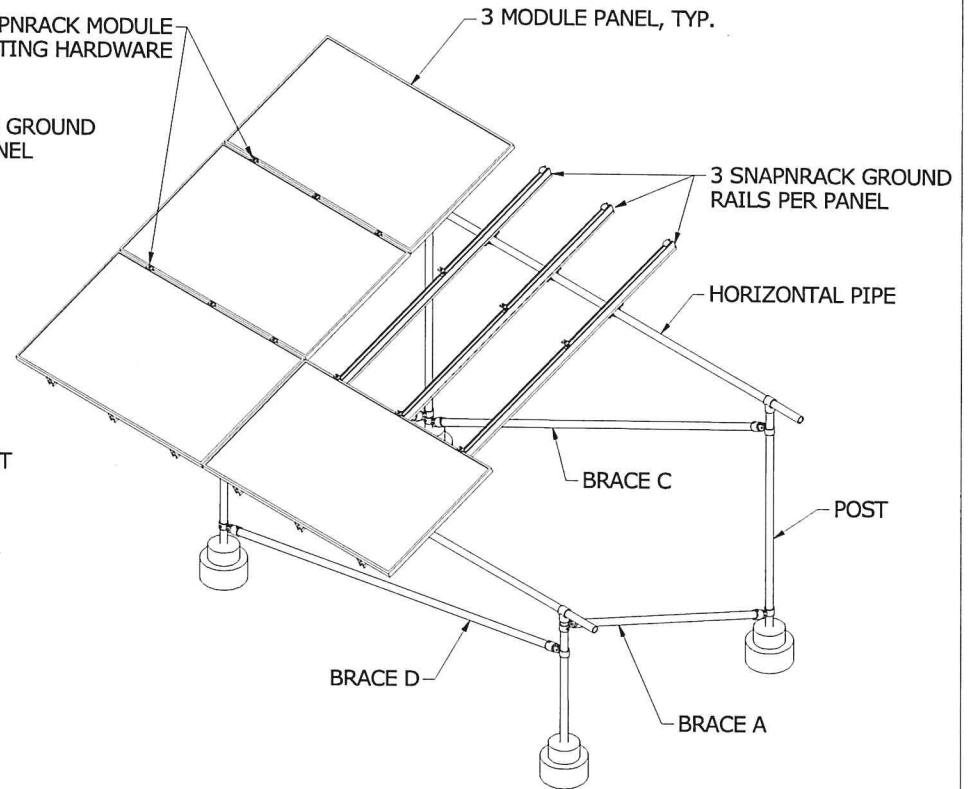
SERIES 200 3-RAIL CONFIGURATIONS

THE SERIES 200 3-RAIL OPTION CAN BE SET UP FOR 3 MODULE AND 4 MODULE PANELS USING 3 RAILS PER PANEL.

REVISION:



4 MODULE PANEL CONFIGURATION



3 MODULE PANEL CONFIGURATION

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DRAFTER: DRyan
APPROVED BY: _____

SCALE: DNS
DATE: 120113

PART NUMBER:
S200 D08

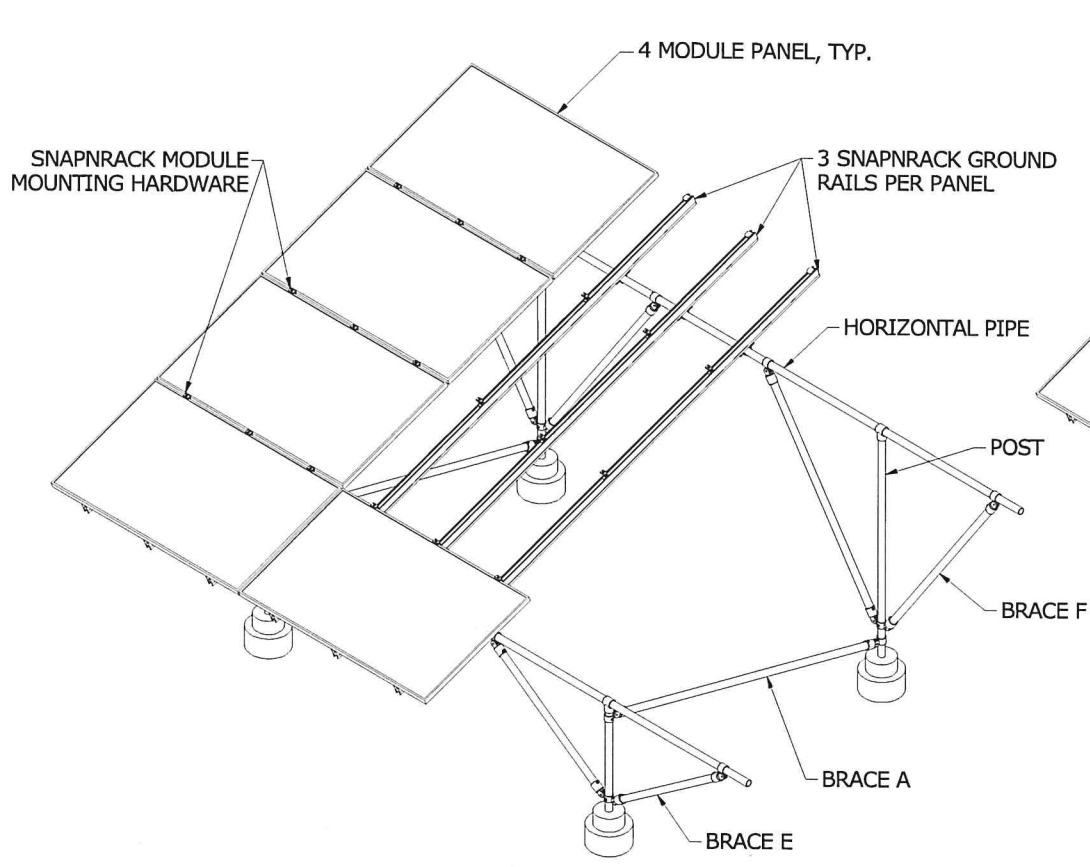
DESCRIPTION: SERIES 200, 3-RAIL CONFIGURATIONS, UN-BRACED OPTION

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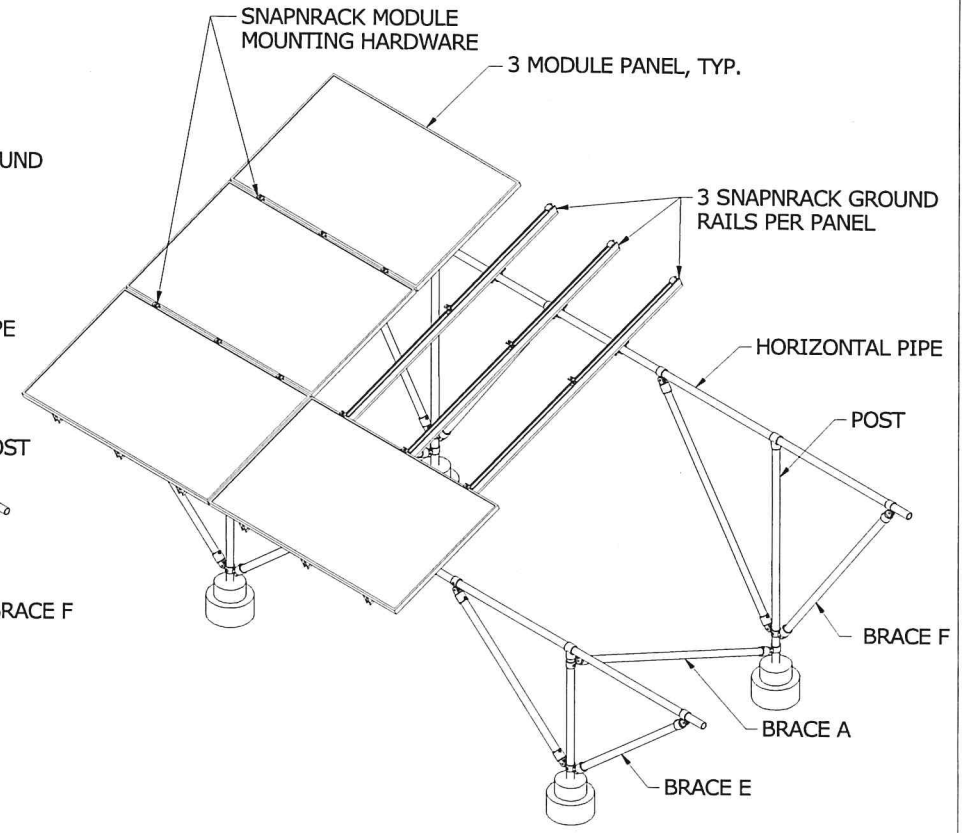
SERIES 200 3-RAIL CONFIGURATIONS

THE SERIES 200 3-RAIL OPTION CAN BE SET UP FOR 3 MODULE AND 4 MODULE PANELS USING 3 RAILS PER PANEL.

REVISION:	



4 MODULE PANEL CONFIGURATION



3 MODULE PANEL CONFIGURATION



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DESIGNER: GMcPheeters

DRAFTER: DRyan

APPROVED BY: _____

SCALE: DNS

DATE: 120113

PART NUMBER:
S200 D09

DESCRIPTION: SERIES 200, 3-RAIL CONFIGURATIONS, BRACED OPTION

REV
G