



ASSEMBLY INSTRUCTIONS

CrossRail Ground Mount System



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QUALITY TESTED – SEVERAL CERTIFICATIONS

Everest Solar Systems stands for secure connections, highest quality and precision. Our customers and business partners have known that for a long time. Independent institutes have tested, confirmed and certified our capabilities and components.

Please find our quality and product certificates under:
www.everest-solarsystems.com/technical-information



Engineering strength is at our core



With sophisticated product innovations and a deep customer focus, Everest Solar is the engineering leader for all your mounting system needs. We are the US division of K2 Systems, one of Europe's market leaders with more than 10 GW installed.

We offer proven product solutions and innovative designs. Wind tunnel testing along with advanced structural and electrical validation to facilitate permitting, design and installation. Our designs result in cost competitive racking systems with dedicated support that will position you to win more projects.

We partner with our customers and suppliers for the long-term. High quality materials and cutting edge designs provide a durable, yet functional system. Our product line is comprised of a few, coordinated components that lower the cost of materials, and simplify installation, saving you time and money. All backed by German engineering, a long track record of quality and a company that is here to stay.

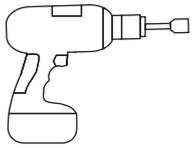
Thank you for choosing Everest Solar Systems for your Solar PV Project.

General safety information

Please note that our general mounting instructions must be followed at all times and can be viewed online at www.everest-solarsystems.com/technical-information

- ▶ The equipment may only be installed and operated by qualified and adequately trained installers.
- ▶ Prior to installation, ensure that the product complies with on-site static loading requirements. For roof-mounted systems, the roof load-bearing capacity must always be checked.
- ▶ National and local building regulations and environmental requirements must be adhered to.
- ▶ Compliance with health and safety regulations, accident prevention guidelines and applicable standards is required.
 - Protective equipment such as safety helmet, boots and gloves must be worn.
 - Roofing works must be in accordance with roofing regulations utilising fall protection safeguards when eaves height exceeds 3 m.
 - At least two people must be present for the duration of the installation work in order to provide rapid assistance in the event of an emergency.
- ▶ Everest mounting systems are continuously developed and improved and the installation process may thereby change at any time. Prior to installation consult our website at www.everest-solarsystems.com/technical-information for up-to-date instructions. We can send you the latest version on request.
- ▶ The assembly instructions of the module manufacturer must be adhered to.
- ▶ Equipotential bonding/grounding/earthing between individual parts is to be performed according to country specific standards, as well as national laws and regulations.
- ▶ At least one copy of the assembly instructions should be available on site throughout the duration of the installation.
- ▶ Failure to adhere to our general safety and assembly instructions and not using all system components, Everest Solar Systems is not liable for any resulting defects or damages. We do not accept liability for any damage resulting in the use of competitor's parts. Warranty is excluded in such cases.
- ▶ If all safety instructions are adhered to and the system is correctly installed, there is a product warranty entitlement of 25 years! We strongly recommend reviewing our terms of guarantee, which can be viewed at www.everest-solarsystems.com/technical-information. We will also send this information on request.
- ▶ The VdS 3145:2011-07 applies to the proper technical maintenance, inspection and any necessary repair. This includes regular visual inspections and visual inspections in case of events. We recommend annual regular inspections including: inspection of all system components for damage by e.g. weather, animals, dirt, debris, build-up, growth, roof penetration, sealing, structural stability and corrosion. In addition, the tight fit of screws must be checked and if necessary, re-tightened in accordance with the torques mentioned in the assembly instructions.
- ▶ Dismantling of the system is performed in reverse order to the assembly.

Tools overview



13 mm deep socket



Hollaender set screw



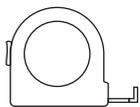
10-50 ft-lb
[6 - 35 Nm]



3/8" hex head wrench



Excavation equipment



≥ 10 ft



≥ 6,0 m

Torque overview

- ▶ M10 T-Bolts: 25.8 ft-lb [35 Nm]
- ▶ M8 Hex Bolts: 10.3 ft-lb [14 Nm]

Required Materials

In order to assemble the Everest Solar Systems CrossRail system, the following listed system components are essential. The piece quantities are calculated on the basis of the respective requirements. The listed item numbers facilitate the comparison of items.

UL 2703 LISTED COMPONENTS

All components evaluated under UL 2703 and encompassed within Everest Solar System's UL 2703 Listing shown below. If you seek a UL Listed System, only the parts shown on this page are acceptable.



CrossRail 80

| 4000508

Material: aluminum
Finish: mill



CrossRail Mid Clamp, 13 mm Hex

| 4000601-H
4000602-H

30-47 mm
Material: stainless steel
Finish: silver, dark



CrossRail End Clamp

| 4000429
4000430

30-50 mm
Material: stainless steel
Finish: silver, dark

NON UL LISTED COMPONENTS



Everest Pipe L Bracket Kit

| 4000107

Material: stainless steel, galvanized steel



JF3 Screw w/ EPDM

| 4000672

Material: stainless steel



T-Bolt and Serrated Hex Nut

| 4000122

Material: stainless steel



Hollaender No. 70 External Coupling

| 4000333

Material: aluminum



Aluminum Hollaender 5EXT Extended Barrel Tee OR Hollaender 5EX

| 4000101
4000102

Material: aluminum



Aluminum Hollaender 17 Adj. Elbow

| 4000334

Material: aluminum



Yeti Clamp (Hidden End Clamp), 13 mm Hex

| 4000050-H

30-50 mm
Material: aluminum
Hardware: stainless steel
Finish: mill

OR



Aluminum End Clamp

| multiple

Material: stainless steel
Finish: silver, black
Hardware: stainless steel



Optional: End Cap for CR80

| 4001221

Material: glass fiber reinforced polamide



Optional: TC Wire Clip

| 4000069

Material: polyamide, black

OR



Optional: External Omega Cable Clip

| 4005394

Material: polyamide, black

OR



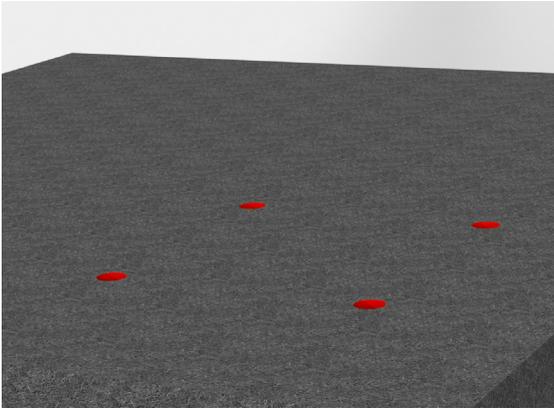
Optional: HEY Clip SunRunner Cable Clip SS, S6404

| 4000382

Material: stainless steel

Assembly

1 LOCATE FOOTINGS



Locate and excavate footings for spacing requirements consult layout plan [sheet S100], layout elevation [sheet S101], and installation schedule [sheet S102].

Materials required: Tape measure and string line.

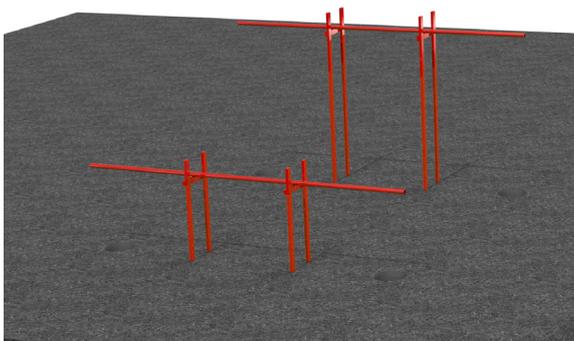
2 CUT GALVANIZED PIPE



Cut galvanized pipe, including vertical posts and horizontal beams, to required lengths. Drill holes and place rebar in pipe as shown on elevation [sheet S101].

T Slide Hollaender aluminum tees [#5EXT, #5EX], elbows [#17], and couplers [#70] if required on to horizontal pipe lengths.

3 ASSEMBLE HORIZONTAL PIPE

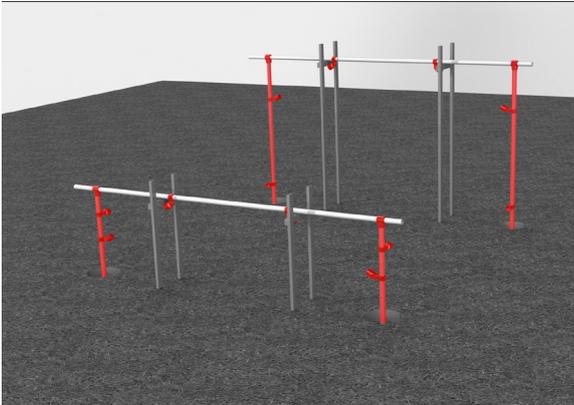


Use stakes or an alternative temporary shoring method to place horizontal galvanized pipe at the elevations required to achieve specified tilt [see sheet S101, sheet S102].

T Slide Hollaender aluminum tees [#5EXT, #5EX] and elbows [#17] and tighten set screw enough to prevent fittings from sliding.

Important Note: Set screws shall never be located or tightened on pipe threads.

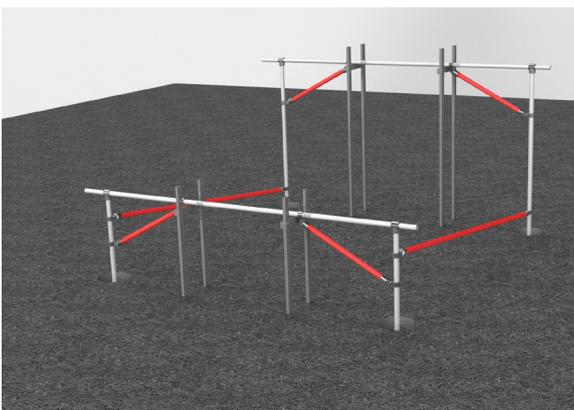
4 ASSEMBLE VERTICAL PIPE



Connect vertical posts to horizontal pipe using appropriate tee fitting and use Hollaender tool or hex drive to tighten bottom set screw to required torque value [sheet S103].

At this point, the vertical post pipe should still be able to rotate freely around the horizontal pipe.

5 ASSEMBLE BRACING



Attach all side bracing tubing into place. Do not torque to specified rating yet.

6 PLACE L-BRACKET ASSEMBLY



Attach U-Bolt to L-Bracket around horizontal pipe using hex nuts as shown on detail B [sheet S104].

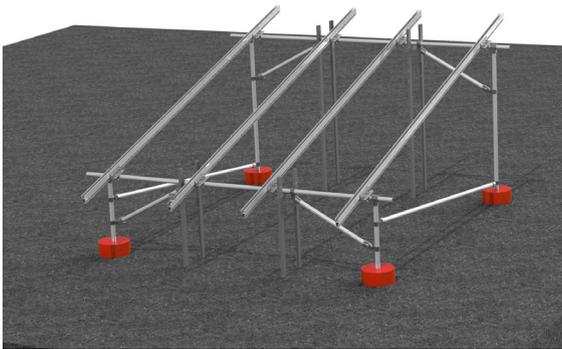
Attach L-Bracket to CrossRail 80 using M10 T-Bolts and Serrated Hex Nuts [sheet S104].

7 ATTACH RAIL TO BRACKET



Set CrossRail 80 on to horizontal galvanized pipe at spacing required to support PV modules per the panels' manufacturer guidelines.

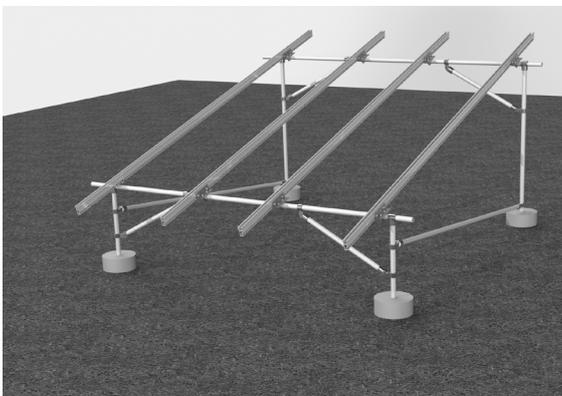
8 POUR CONCRETE IN PLACE



Ensure vertical pipe posts are plumb and located in foundation excavations per the spacing requirements shown in the layout plan, layout elevation, and installation schedule (sheets S100, S101, and S102).

Pour or pump mixed concrete into excavated footings and allow time for curing.

9 FINAL ASSEMBLY AND MISC. COMPONENTS



Remove temporary shoring and, if required, install piping for Tie-Brace (sheets S100, S101 and S103) and V-Brace (sheets S100, S101 and S105) as outlined in the installation schedule (sheet S102).

Tighten all set-screws as shown on the detail sheets (sheets S103, S104). Adjust CrossRail 80 to final location as required to support PV modules.

Important Note: Set screws shall never be located or tightened on pipe threads.

Tighten U-Bolt hex nuts to torque requirements shown on sheet S104. Ensure lock nuts are tightened to specified torque.



10 INSTALL SOLAR PV MODULES



Install solar PV modules per the steps outlined in the CrossRail Assembly Instructions [separate document]: <http://www.everest-solarsystems.com/>

11 OPTIONAL: FOR CA 17' SPANS

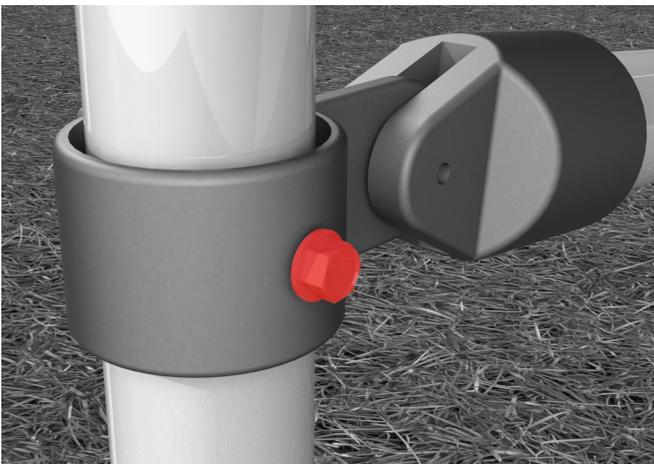


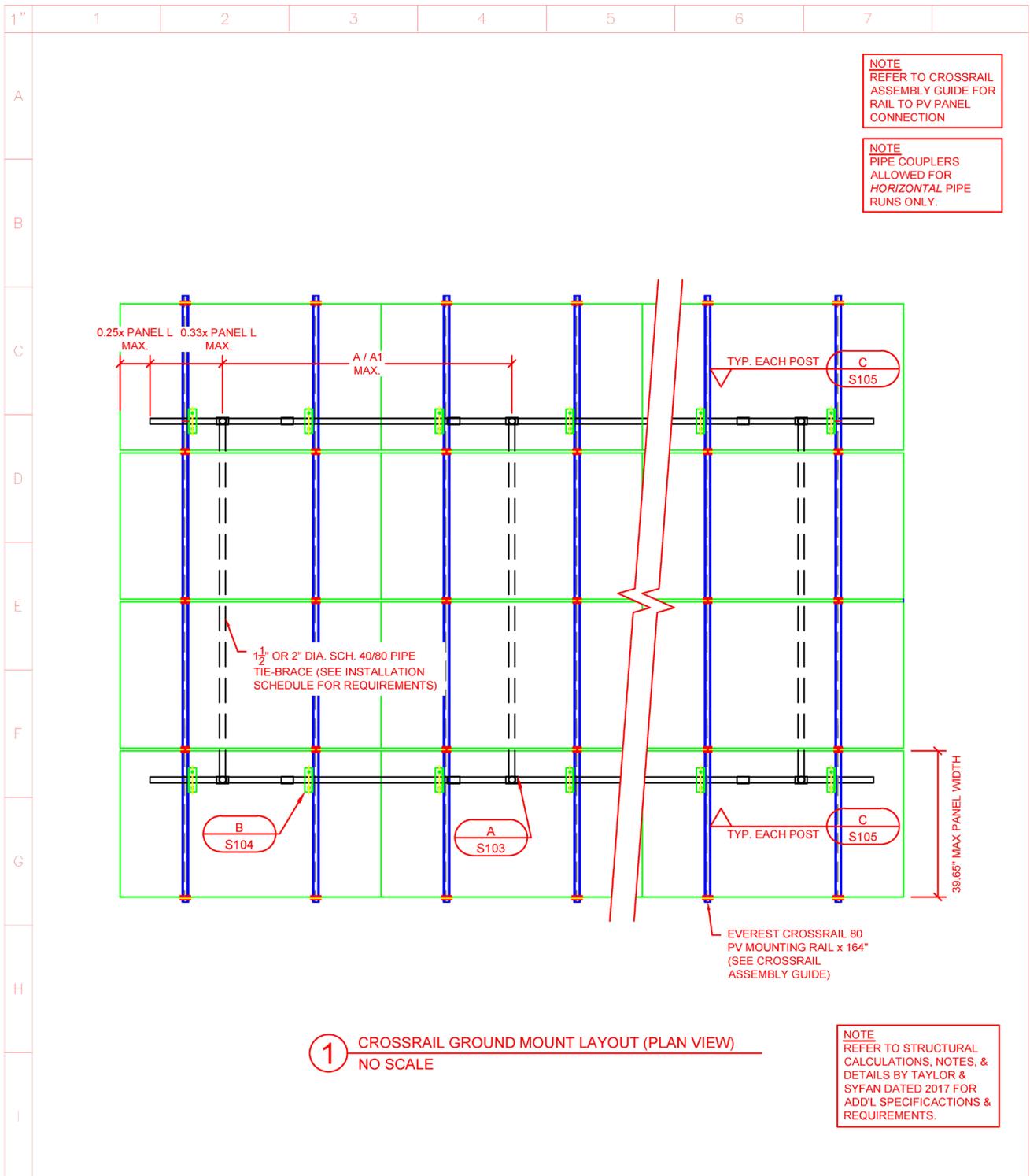
With all Hollander fittings properly torqued, locate the Tie Brace's #17 ADJ. ELBOW's. On the opposite side of the set screw, drill a pilot hole using a #3 Drill bit.

Using the pilot hole, screw in JF3 MiniRail Screw. Torque until flush against #17 ADJ. ELBOW. Repeat for opposite side of Tie Brace and for all Tie Braces within the system.

Note: Properly seated Tek Screw will sit flush with #17 ADJ. ELBOW.

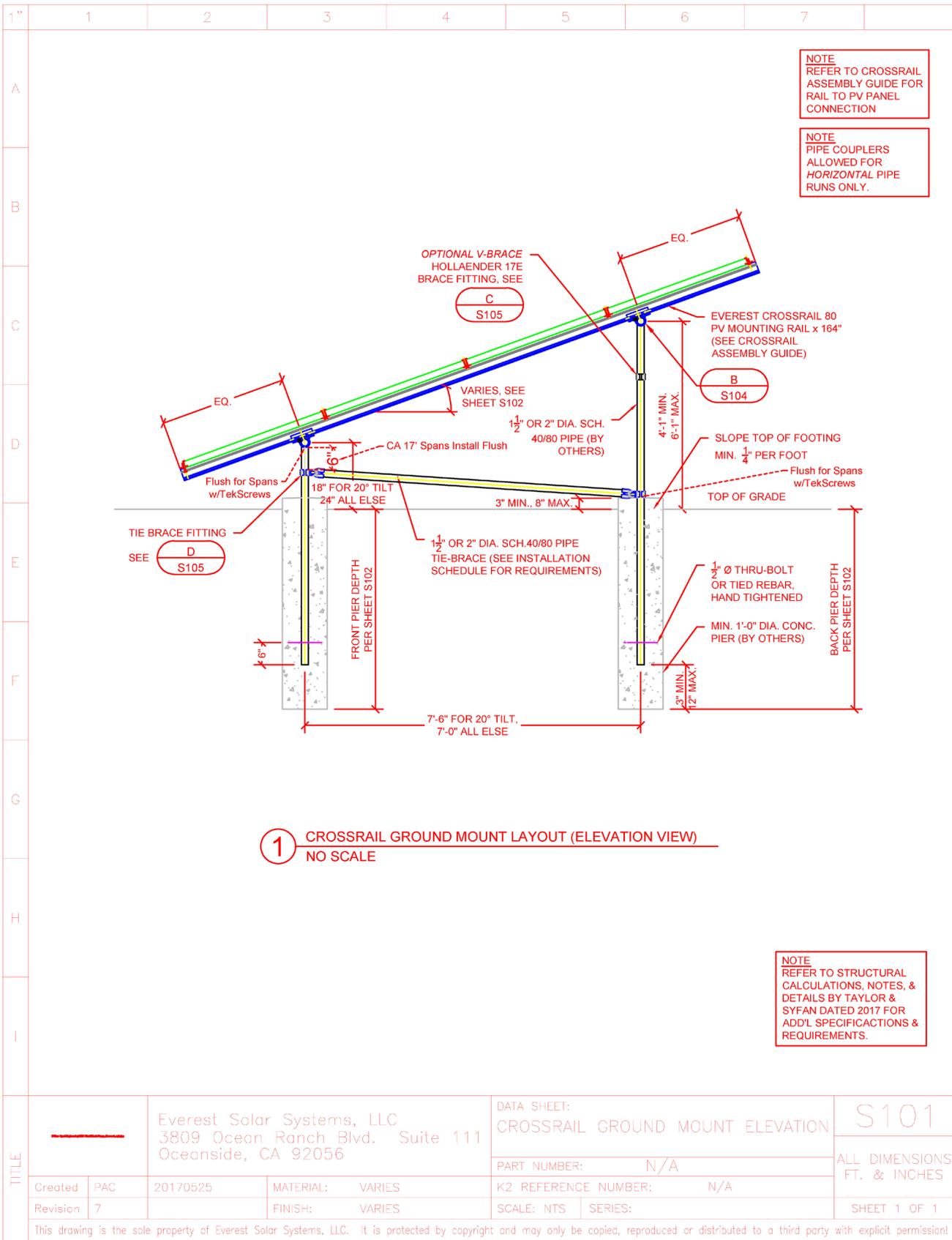
Materials required: #3 Drill bit, JF3 screw





TITLE	Everest Solar Systems, LLC 3809 Ocean Ranch Blvd. Suite 111 Oceanside, CA 92056			DATA SHEET: CROSSRAIL GROUND MOUNT PLAN		S100
	Created	PAC	20170525	MATERIAL:	VARIES	ALL DIMENSIONS FT. & INCHES
	Revision	7		FINISH:	VARIES	
				PART NUMBER:	N/A	
				K2 REFERENCE NUMBER:	N/A	
				SCALE:	NTS	
				SERIES:		SHEET 1 OF 1

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1"	1	2	3	4	5	6	7		
A									
B									
C									
D									
E									
F									
G	<p>A GROUND MOUNT T-FITTING NO SCALE</p>								
H									
I									
TITLE			Everest Solar Systems, LLC 3809 Ocean Ranch Blvd. Suite 111 Oceanside, CA 92056			DATA SHEET: CROSSRAIL GROUND MOUNT PARTS		S103	
						PART NUMBER: N/A		ALL DIMENSIONS FT. & INCHES	
	Created	PAC	20170525	MATERIAL:	VARIES	K2 REFERENCE NUMBER: N/A			
	Revision	7		FINISH:	VARIES	SCALE: NTS	SERIES: PARTS	SHEET 1 OF 1	
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NOTE
REFER TO MANUF.
SPECIFICATIONS FOR
FITTINGS & 3D PARTY
ACCESSORIES

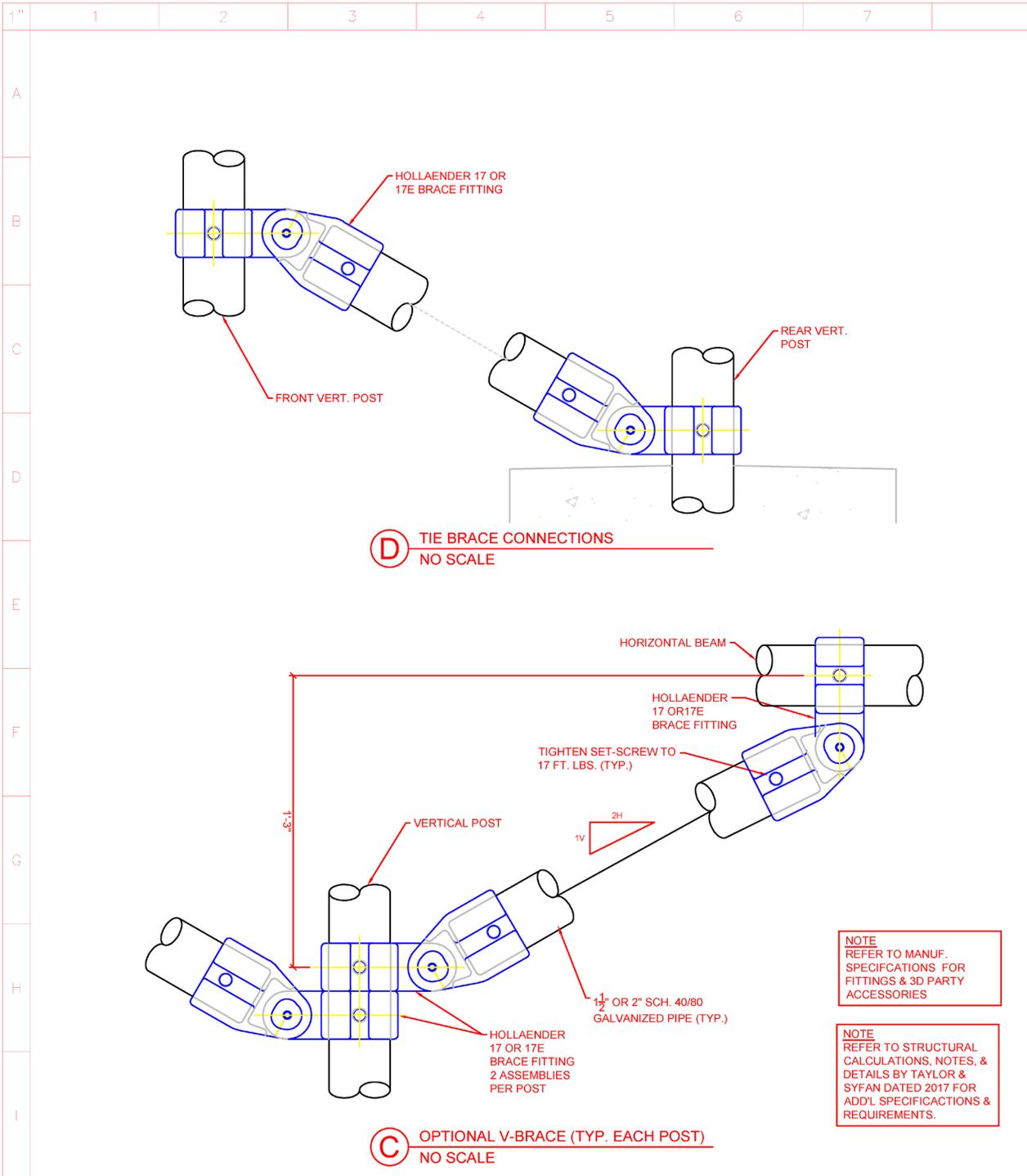
NOTE
REFER TO STRUCTURAL
CALCULATIONS, NOTES, &
DETAILS BY TAYLOR &
SYFAN DATED 2017 FOR
ADD'L SPECIFICATIONS &
REQUIREMENTS.

1"	1	2	3	4	5	6	7	
A								
B								
C								
D								
E								
F								
G	B EVEREST 1.5" PIPE L-BRACKET NO SCALE							
H								
I								
TITLE	Everest Solar Systems, LLC 3809 Ocean Ranch Blvd. Suite 111 Oceanside, CA 92056			DATA SHEET: CROSSRAIL GROUND MOUNT PARTS			S104	
	Created	PAC	20170525	MATERIAL:	VARIES		ALL DIMENSIONS FT. & INCHES	
Revision	7		FINISH:	VARIES		SCALE: NTS	SHEET 1 OF 1	
				PART NUMBER: N/A		K2 REFERENCE NUMBER: N/A		
				SCALE: NTS		SERIES: PARTS		

NOTE
REFER TO MANUF. SPECIFICATIONS FOR FITTINGS & 3D PARTY ACCESSORIES

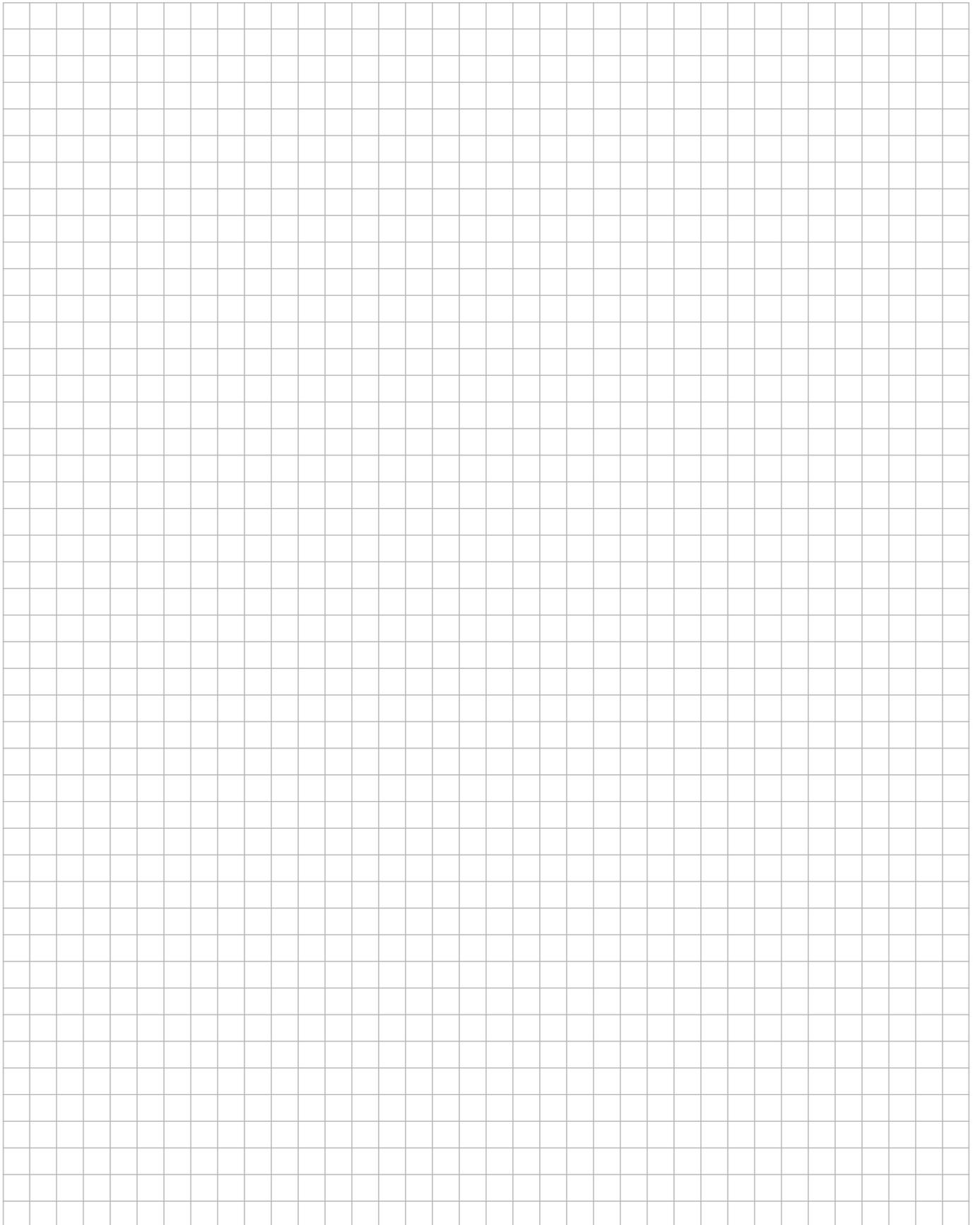
NOTE
REFER TO STRUCTURAL CALCULATIONS, NOTES, & DETAILS BY TAYLOR & SYFAN DATED 2017 FOR ADD'L SPECIFICATIONS & REQUIREMENTS.

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TITLE	Everest Solar Systems, LLC 3809 Ocean Ranch Blvd. Suite 111 Oceanside, CA 92056				DATA SHEET: CROSSRAIL GROUND MOUNT PARTS		S105	
	Created	PAC	20170525	MATERIAL:	VARIES		ALL DIMENSIONS FT. & INCHES	
	Revision	7		FINISH:	VARIES			
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Notes





THANK YOU FOR CHOOSING AN EVEREST MOUNTING SYSTEM.

Systems from Everest Solar Systems are quick and easy to install. We hope these instructions have helped. Please contact us with any questions or suggestions for improvement.
Our contact information:

- ▶ www.everest-solarsystems.com/contact
- ▶ **Service Hotline: +1.760.301.5300**

Our General Terms of Business apply. Please refer to:
www.everest-solarsystems.com

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