

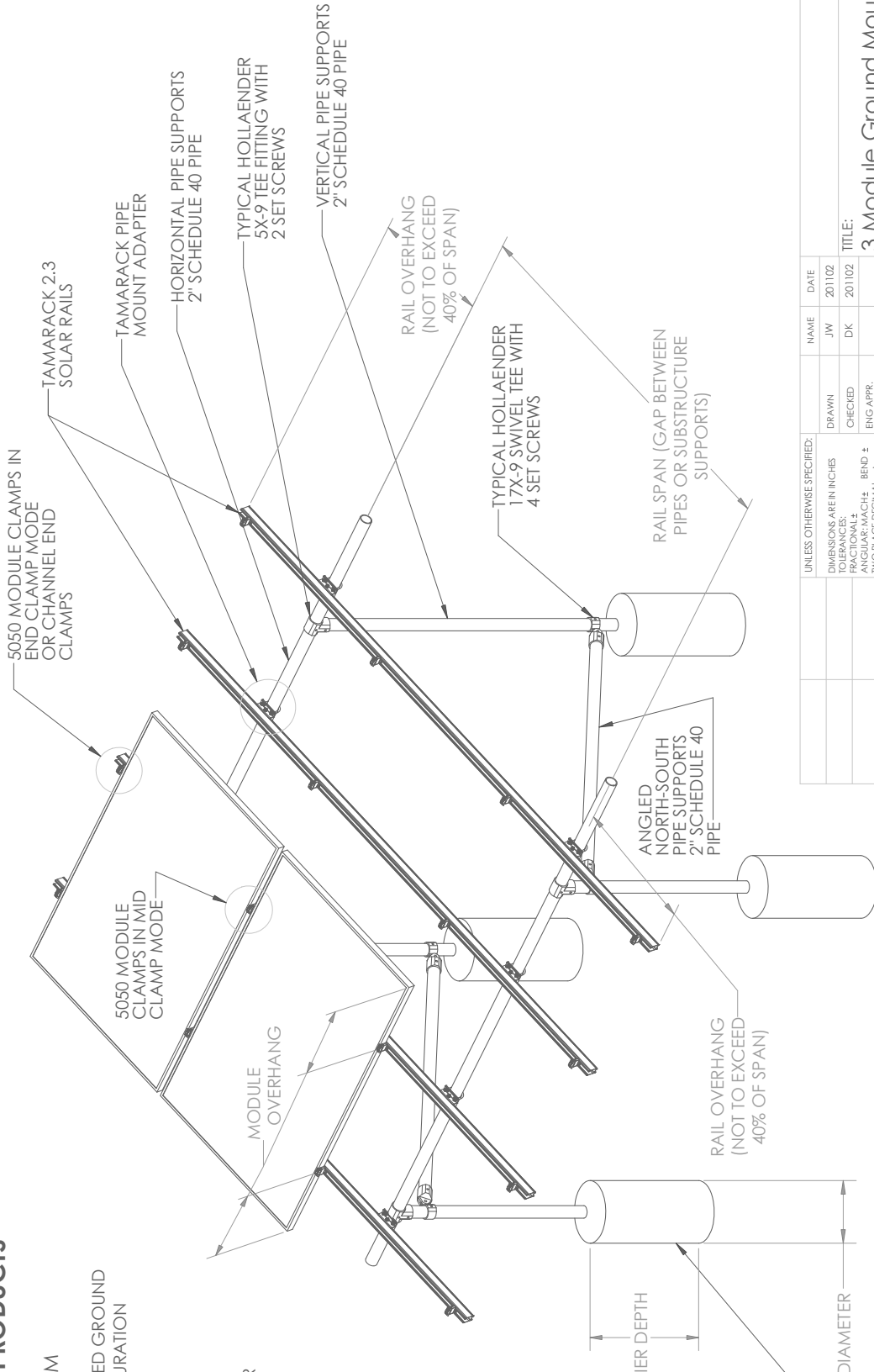
4 3 2 1

TAMARACK SOLAR PRODUCTS
GROUND MOUNT
SOLAR MOUNTING SYSTEM

SHOWING TYPICAL PIPE BASED GROUND MOUNT STRUCTURE CONFIGURATION

TORQUE ALL FASTENERS TO 12 FT-LBS

TORQUE ALL HOLLAENDER SET SCREWS TO HOLLAENDER SPECIFICATIONS



TYPICAL CONCRETE PIER FOUNDATION

PIER DEPTH

PIER DIAMETER

RAIL OVERHANG (NOT TO EXCEED 40% OF SPAN)

RAIL OVERHANG (NOT TO EXCEED 40% OF SPAN)

ANGLED NORTH-SOUTH PIPE SUPPORTS 2\"/>

RAIL SPAN (GAP BETWEEN PIPES OR SUBSTRUCTURE SUPPORTS)

TYPICAL HOLLAENDER 17X-9 SWIVEL TEE WITH 4 SET SCREWS

RAIL OVERHANG (NOT TO EXCEED 40% OF SPAN)

VERTICAL PIPE SUPPORTS 2\"/>

TYPICAL HOLLAENDER 5X-9 TEE FITTING WITH 2 SET SCREWS

HORIZONTAL PIPE SUPPORTS 2\"/>

TAMARACK PIPE MOUNT ADAPTER

TAMARACK 2.3 SOLAR RAILS

PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TAMARACK SOLAR PRODUCTS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TAMARACK SOLAR PRODUCTS IS PROHIBITED.
 <INSERT COMPANY NAME HERE>

| UNLESS OTHERWISE SPECIFIED: | | NAME | DATE |
|--------------------------------------|-----------|------|--------|
| DIMENSIONS ARE IN INCHES | DRAWN | JW | 201102 |
| TOLERANCES: | CHECKED | DK | 201102 |
| FRACTIONAL: ± | ENG APPR. | | |
| ANGULAR: MACH: ± | BEND: ± | | |
| TWO PLACE DECIMAL: ± | ENG APPR. | | |
| THREE PLACE DECIMAL: ± | MFG APPR. | | |
| INTERPRET GEOMETRIC TOLERANCING PER: | Q.A. | | |
| MATERIAL: | COMMENTS: | | |
| FINISH: | | | |
| DO NOT SCALE DRAWING | | | |
| APPLICATION | | | |
| NEXT ASSY | USED ON | | |
| | | | |

TITLE: 3 Module Ground Mount System 2.3 Rail

SIZE DWG. NO. REV
B GM-3M2R **B**

SCALE: DWS\WEIGHT: SHEET 1 OF 4

4 3 2 1

B

A

B

A

4

3

2

1

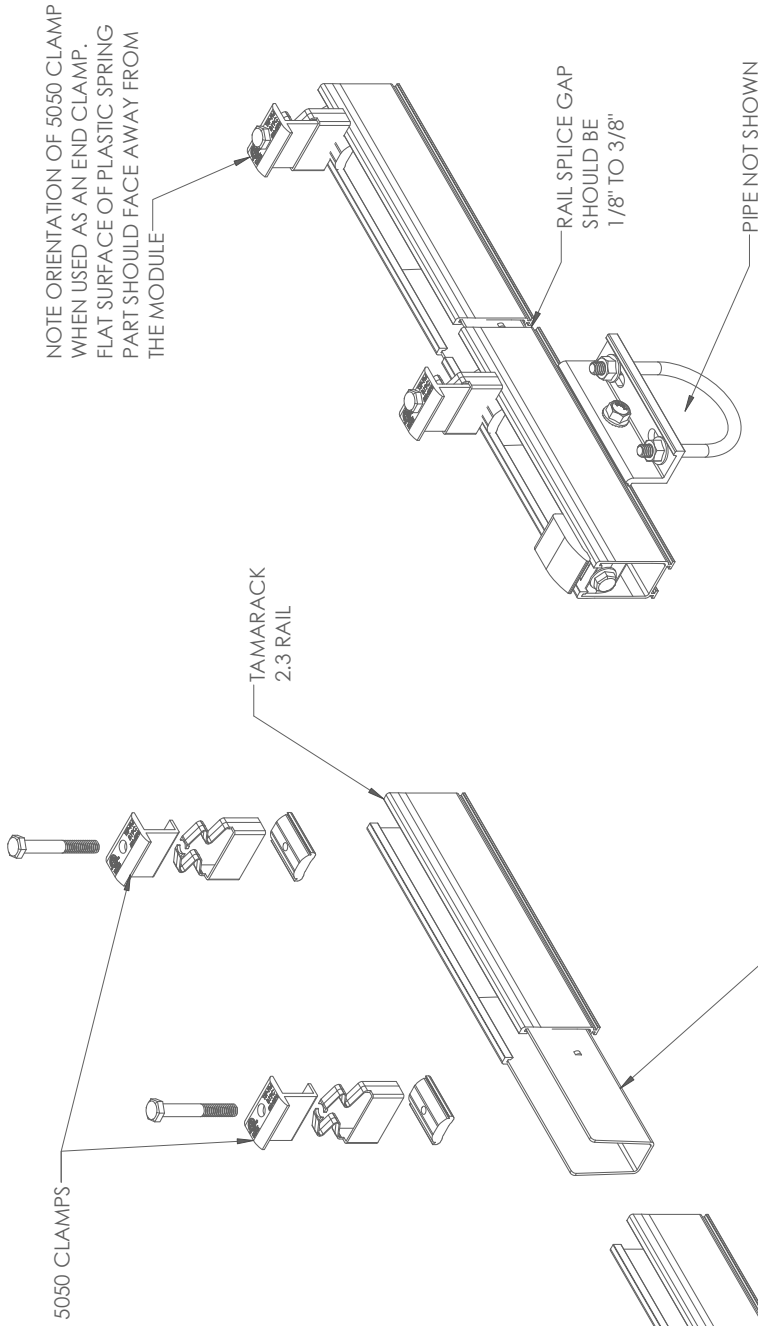
TAMARACK SOLAR PRODUCTS
GROUND MOUNT
SOLAR MOUNTING SYSTEM

SHOWING SYSTEM RAILS, SPLICES
 MOUNTS, 5050 MODULE CLAMPS
 (WORK IN MID OR END CONDITION),
 AND CHANNEL END CLAMPS.

SHOWN WITH PIPE MOUNT, WHICH CLAMPS
 THE RAILS TO STANDARD 2" SCHEDULE 40 PIPE
 (PIPE NOT SHOWN IN RENDERINGS)

TORQUE ALL FASTENERS TO 12 FT-LBS

CHANNEL END CLAMPS
 ALLOW RAILS TO BE CUT
 FLUSH TO EDGE OF ARRAY



NOTE ORIENTATION OF 5050 CLAMP
 WHEN USED AS AN END CLAMP.
 FLAT SURFACE OF PLASTIC SPRING
 PART SHOULD FACE AWAY FROM
 THE MODULE

TAMARACK
 2.3 RAIL

RAIL SPLICE GAP
 SHOULD BE
 1/8" TO 3/8"

PIPE NOT SHOWN

RAIL SPLICE IS FRICTION FIT BETWEEN THE RAILS.
 SQUEEZE THE TOP OF THE SPLICE TO ALLOW IT
 TO BE SLID INTO THE CHANNEL OF THE RAIL

PIPE MOUNT
 ASSEMBLY

5/16" U BOLT TO
 FIT 2" SCHEDULE
 40 PIPE

PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED IN THIS
 DRAWING IS THE SOLE PROPERTY OF
 TAMARACK SOLAR PRODUCTS. ANY
 REPRODUCTION IN PART OR AS A WHOLE
 WITHOUT THE WRITTEN PERMISSION OF
 TAMARACK SOLAR PRODUCTS IS
 PROHIBITED.

| UNLESS OTHERWISE SPECIFIED: | | NAME | DATE |
|---|-----------|------|--------|
| DIMENSIONS ARE IN INCHES | DRAWN | JW | 201102 |
| TOLERANCES: | CHECKED | DK | 201102 |
| FRACTIONAL: ± | ENG APPR: | | |
| ANGULAR: MACH: ± | MFG APPR: | | |
| TWO PLACE DECIMAL: ± | Q.A. | | |
| THREE PLACE DECIMAL: ± | COMMENTS: | | |
| INTERPRET GEOMETRIC TOLERANCING PER: | | | |
| MATERIAL: | | | |
| FINISH: | | | |
| DO NOT SCALE DRAWING | | | |
| APPLICATION | | | |
| NEXT ASSY | USED ON | | |

TITLE:
**3 Module Ground Mount
 System 2.3 Rail**

SIZE DWG. NO. REV
B GM-3M2R B

SCALE: DWS\WEIGHT: SHEET 2 OF 4

4

3

2

1

B

A

4

3

2

1

TAMARACK SOLAR PRODUCTS

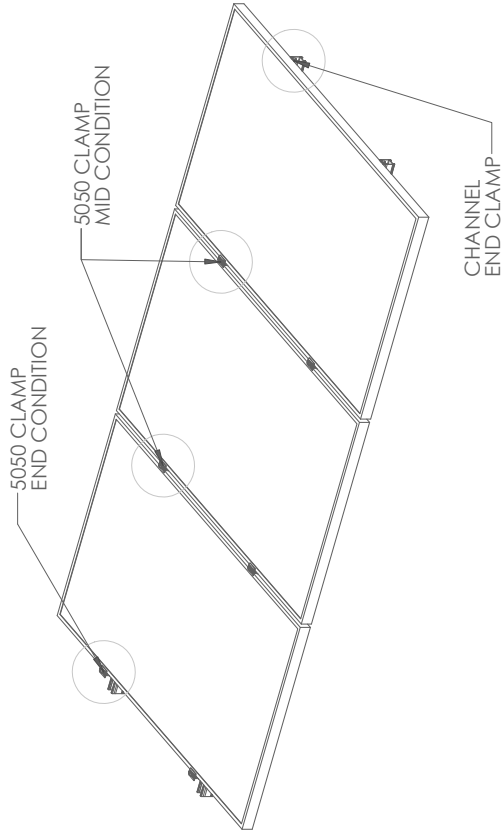
GROUND MOUNT SOLAR MOUNTING SYSTEM

MODULE CLAMP DETAILS

5050 CLAMPS CAN BE INSTALLED IN EITHER MID OR END CLAMP CONDITIONS AS SHOWN. HALF INCH MODULE GAP. IN END CONDITION OPEN SIDE OF PLASTIC SPRING SHOULD FACE IN TO THE MODULE AS SHOWN

CHANNEL END CLAMPS INSTALL IN THE RAIL CHANNEL AND ALLOW THE MODULE FRAMES TO BE FLUSH TO THE END OF THE MOUNTING RAILS

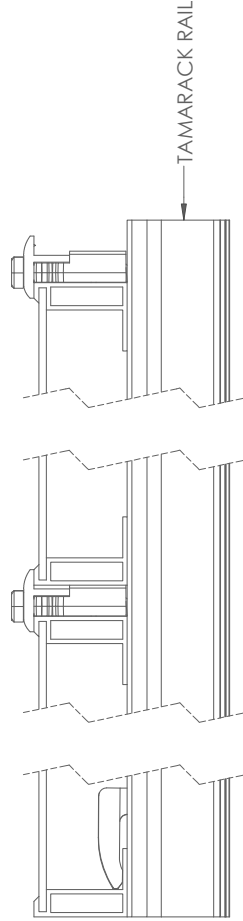
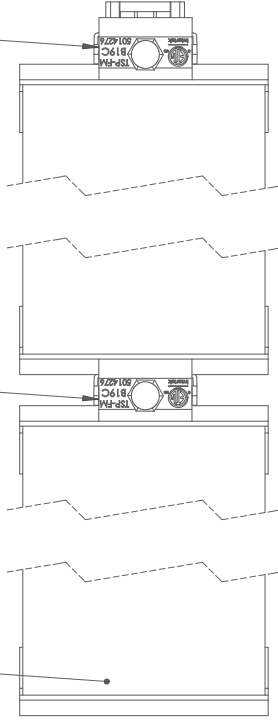
TORQUE ALL FASTENERS TO 12 FT-LBS



CHANNEL END CLAMP. FULLY SEAT TO INSIDE OF MODULE FRAME FLANGE

5050 CLAMP MID CONDITION. PRESS CLAMP TIGHT BETWEEN MODULES WHEN TIGHTENING. CAN BE ORIENTED EITHER WAY

5050 CLAMP END CONDITION. PRESS CLAMP TIGHT TO MODULE WHEN TIGHTENING. ORIENT AS SHOWN



PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TAMARACK SOLAR PRODUCTS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TAMARACK SOLAR PRODUCTS IS PROHIBITED.
INSERT COMPANY NAME HERE 5

| UNLESS OTHERWISE SPECIFIED: | | NAME | DATE |
|--------------------------------------|----|---------------------------------------|----------|
| DRAWN | JW | 201102 | |
| CHECKED | DK | 201102 | |
| ENG APPR. | | | |
| MFG APPR. | | | |
| Q.A. | | | |
| COMMENTS: | | | |
| INTERPRET GEOMETRIC TOLERANCING PER: | | | |
| MATERIAL: | | | |
| FINISH: | | | |
| NEXT ASSY | | USED ON | |
| APPLICATION | | | |
| DO NOT SCALE DRAWING | | | |
| TITLE: | | 3 Module Ground Mount System 2.3 Rail | |
| SIZE | | DWG. NO. | REV |
| B | | GM-3M2R | B |
| SCALE: DNS | | WEIGHT: SHEET 3 OF 4 | |

4

3

2

1

B

A

4

3

2

1

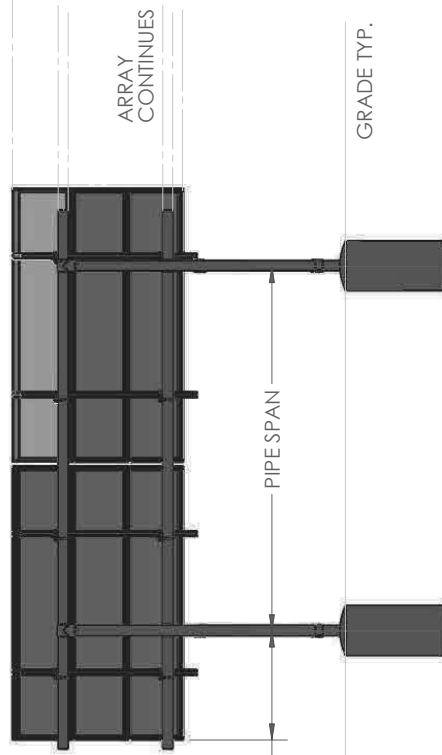
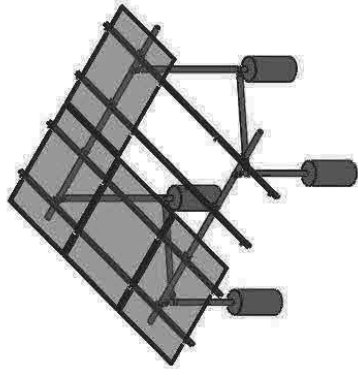
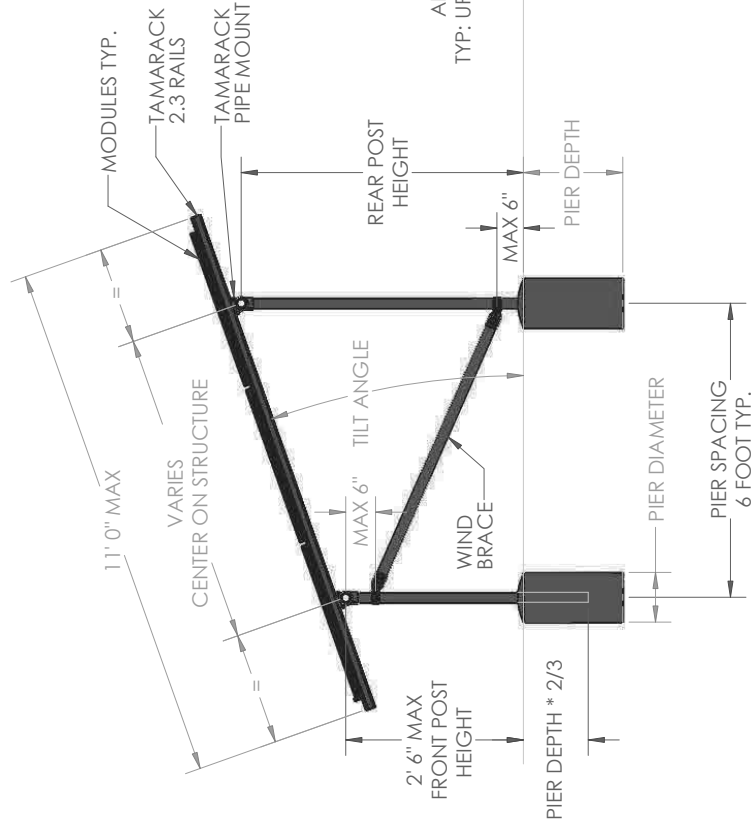
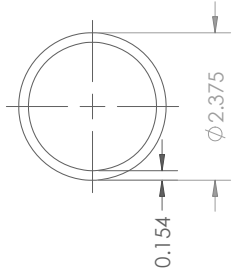
TAMARACK SOLAR PRODUCTS

GROUND MOUNT
2 OR 3 RAILS PER COLUMN
SOLAR MOUNTING SYSTEM

TYPICAL CONFIGURATION OF ARRAY WITH
3 MODULE COLUMNS, 2 RAILS PER COLUMN

REFER TO STRUCTURAL ENGINEERING TABLES
FOR PIER AND SPAN VALUES BASED ON LOCAL
DESIGN VALUES.

APPROVED 2" PIPE
SPECIFICATIONS:
ASTM A53 GR B
35 KSI MINIMUM YIELD STRENGTH
HOT DIPPED GALVANIZED
OUTSIDE DIAMETER: 2.375"
WALL THICKNESS: 0.154"



B

A

4

3

2

1

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS
DRAWING IS THE SOLE PROPERTY OF
TAMARACK SOLAR PRODUCTS. ANY
REPRODUCTION IN PART OR AS A WHOLE
WITHOUT THE WRITTEN PERMISSION OF
TAMARACK SOLAR PRODUCTS IS
PROHIBITED.

| UNLESS OTHERWISE SPECIFIED: | | NAME | DATE |
|---------------------------------------|-----------|--------------------|--------------|
| DRAWN | JW | 201102 | |
| CHECKED | DK | 201102 | |
| DIMENSIONS ARE IN INCHES | | | |
| TOLERANCES: | | | |
| FRACTIONAL ± | BEND ± | | |
| ANGULAR: MACH ± | ENG APPR. | | |
| TWO PLACE DECIMAL ± | MFG APPR. | | |
| THREE PLACE DECIMAL ± | Q.A. | | |
| INTERPRET GEOMETRIC TOLERANCING PER: | | | |
| MATERIAL: | | | |
| FINISH: | | | |
| DO NOT SCALE DRAWING | | | |
| NEXT ASSY | USED ON | | |
| APPLICATION | | | |
| TITLE: | | SCALE: DWS\WEIGHT: | |
| 3 Module Ground Mount System 2.3 Rail | | 1 | |
| SIZE | DWG. NO. | REV | |
| B | GM-3M2R | B | |
| | | | SHEET 4 OF 4 |