

# IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM WITH QUICKMOUNT L-MOUNT ROOF ATTACHMENTS

## GENERAL NOTES:

1. THIS SYSTEM MEETS ALL OF THE REQUIREMENTS OF THE 7TH EDITION (2020) FLORIDA BUILDING CODE, INCLUDING THE HVHZ PROVISIONS.
2. THIS SYSTEM HAS BEEN TESTED PER TAS 100(A) AND ASTM D7147. IT IS NOT A PART OF THE BUILDING ENVELOPE, AND IMPACT RESISTANCE IS NOT REQUIRED.
3. THIS SYSTEM SHALL BE INSTALLED PER THE IRONRIDGE AIRE INSTALLATION MANUAL.
4. THE PV PANELS ARE BY OTHERS AND ARE NOT A PART OF THIS APPROVAL.
5. RAIL SPACING TO BE AS SPECIFIED BY THE PV PANEL MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. THE DESIGN OF THE ROOF SUBSTRATE IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD OR OTHER SPECIALTY ENGINEER, AND IS NOT A PART OF THIS APPROVAL. THE SUBSTRATE MUST SAFELY TRANSMIT THE LOADS APPLIED TO THIS SYSTEM TO THE BUILDING STRUCTURE.
7. FIRE RATINGS OR FIRE RESISTANCE IS NOT A PART OF THIS REVIEW.
8. ALL ANCHORS SECURING THE SYSTEM TO PRESSURE TREATED WOOD SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE CHEMICALS IN THE WOOD.
9. MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL BE PROTECTED PER FBC REQUIREMENTS.
10. NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT. Cd=1.6 WAS USED FOR WOOD SCREWS ONLY.

## WINDLOAD NOTES:

1. DESIGN WINDLOADS MUST BE CALCULATED BY A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT FOR EACH PROJECT, PER ASCE 7-16 SECTION 29.4.4. DESIGN WINDLOADS MAY NOT EXCEED THE ALLOWABLE WINDLOADS SHOWN IN THIS CHART.
2. PANEL SYSTEM LOCATION, HEIGHT, AND SPACING MUST MEET THE REQUIREMENTS OF ASCE 7-16 SECTION 29.4.4. WINDLOADS ACT NORMAL TO THE SURFACE OF THE PV PANEL SYSTEM.
3. OTHER CONFIGURATIONS REQUIRE PROJECT SPECIFIC ANALYSIS BY A LICENSED PROFESSIONAL ENGINEER OR ARCHITECT.
4. ALLOWABLE WINDLOADS ARE BASED ON ANCHORING IN WOOD RAFTERS WITH S.G.=0.45 MIN.

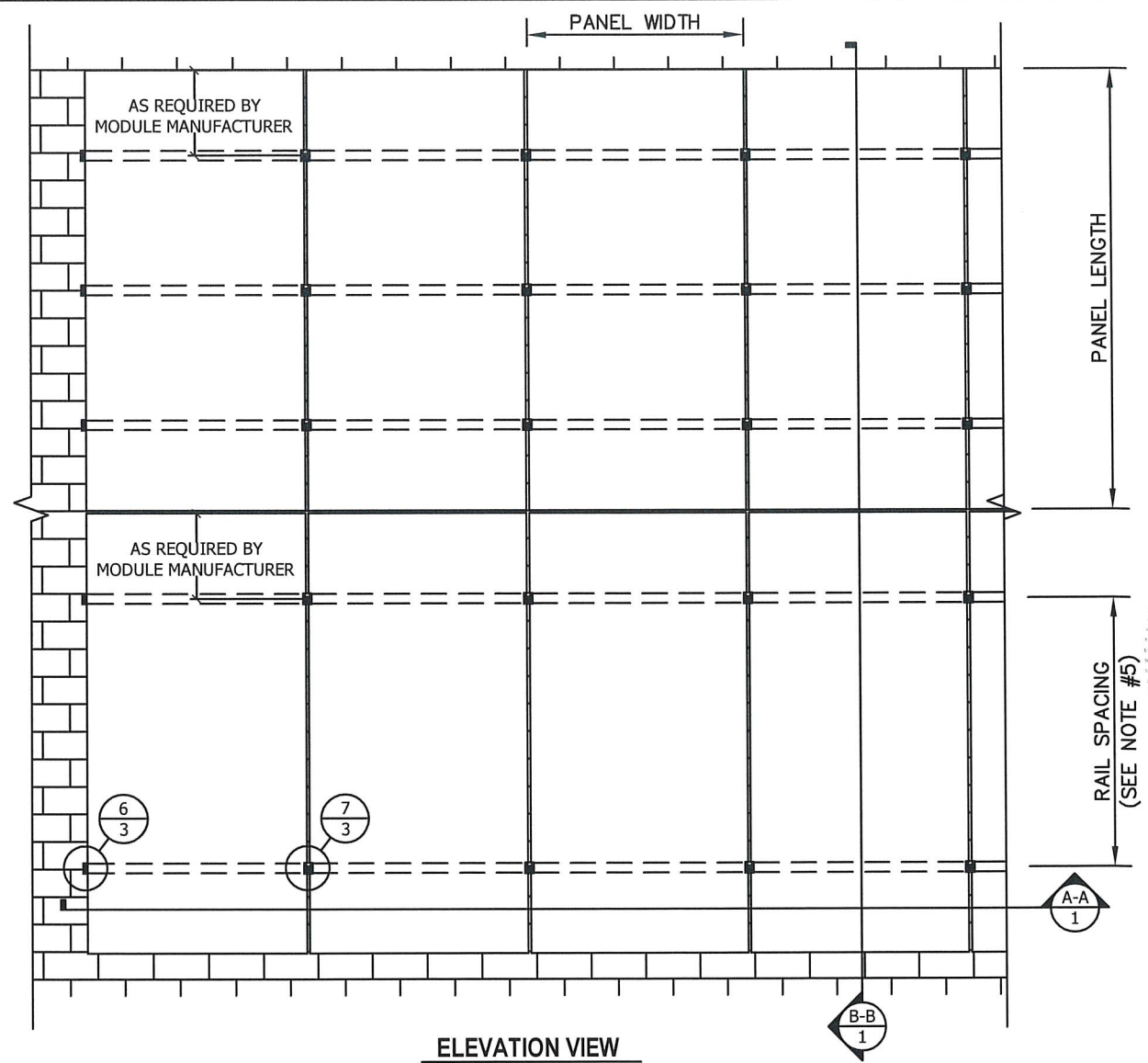
## ALLOWABLE WINDLOADS

TWO RAIL SYSTEM					THREE RAIL SYSTEM				
PANEL WIDTH (in)	PANEL LENGTH (in)	ANCHOR SPAN (L) (in)	A1 RAIL (+/- psf)	A2 RAIL (+/- psf)	PANEL WIDTH (in)	PANEL LENGTH (in)	ANCHOR SPAN (L) (in)	A1 RAIL (+/- psf)	A2 RAIL (+/- psf)
45	67 1/2	16	108.7	108.7	45	67 1/2	16	163.1	163.1
		24	89.1	108.7			24	133.7	163.1
		32	79.6	108.7			32	119.4	163.1
		36	78.2	103.5			36	117.3	155.3
		48	64.5	97.1			48	96.8	145.6
		64	39.3	66.4			64	59.0	99.6
		72	31.3	54.0			72	47.0	81.0
45	80	16	91.7	91.7	45	80	16	137.6	137.6
		24	75.2	91.7			24	112.8	137.6
		32	67.2	91.7			32	100.8	137.6
		36	66	87.4			36	99.0	131.0
		48	54.4	81.9			48	81.6	122.9
		64	33.2	56.0			64	49.8	84.0
		72	26.4	45.6			72	39.6	68.4
45	86	16	85.3	85.3	45	86	16	128.0	128.0
		24	70	85.3			24	105.0	128.0
		32	62.5	85.3			32	93.8	128.0
		36	61.4	81.3			36	92.1	121.9
		48	50.6	76.2			48	75.9	114.3
		64	30.9	52.1			64	46.4	78.2
		72	24.5	42.4			72	36.8	63.6
45	92 1/2	16	79.3	79.3	45	92 1/2	16	119.0	119.0
		24	65	79.3			24	97.5	119.0
		32	58.1	79.3			32	87.2	119.0
		36	57.1	75.6			36	85.7	113.3
		48	47	70.8			48	70.5	106.2
		64	28.7	48.4			64	43.1	72.6
		72	22.8	39.4			72	34.2	59.1

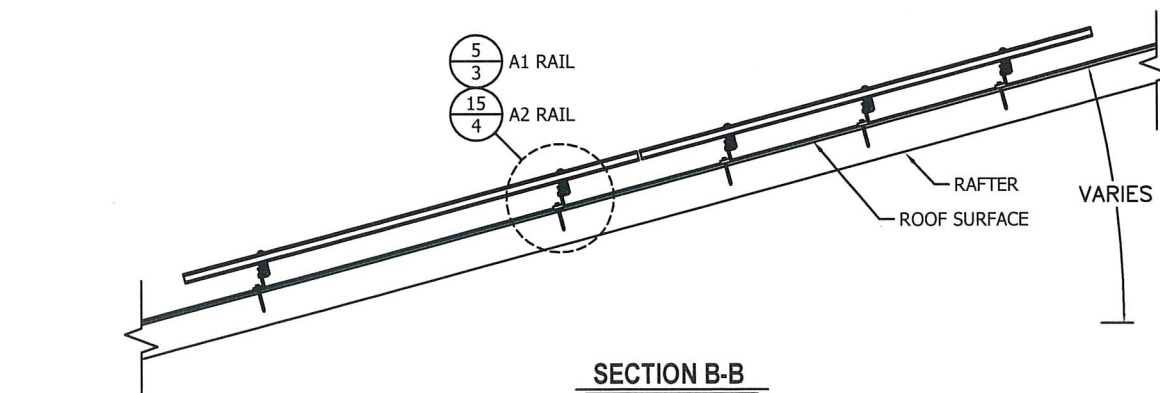
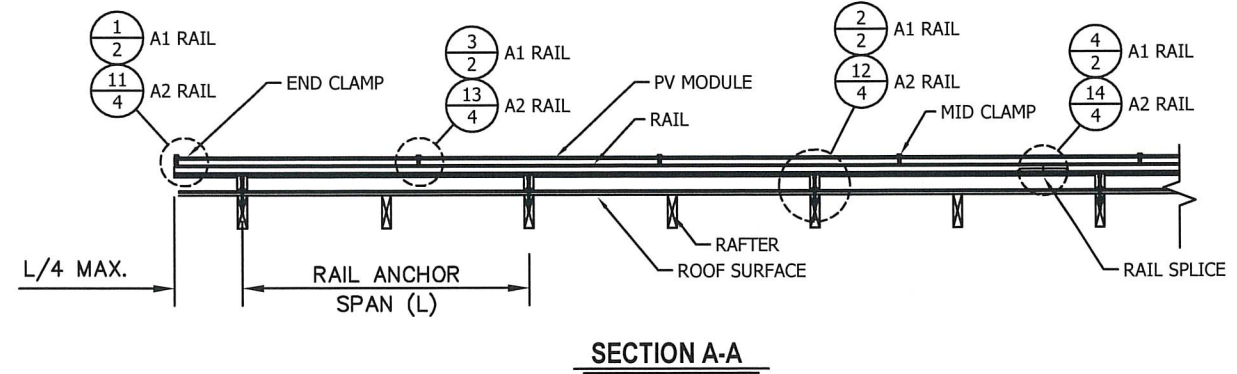
## LANDSCAPE LAYOUT:

45	92 1/2	16	79.3	79.3	45	92 1/2	16	119.0	119.0
		24	71.2	79.3			24	106.8	119.0
		32	55.3	79.3			32	83.0	119.0
		36	48.4	75.6			36	72.6	113.3
		48	32.2	54.6			48	48.3	81.9
		64	28.4	48.4			64	42.6	72.6
		72	27.7	48.4			72	41.6	72.6

THREE RAIL SYSTEM:



TWO RAIL SYSTEM:



SCOTT WOLTERS  
FL PE# 62354

WOLTERS ENGINEERING  
(COA# 27194)  
15211 97TH ROAD N  
WEST PALM BEACH, FL 33412  
(561) 225-1982

STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
DECEMBER 30 2022

REV# DATE  
12/30/22

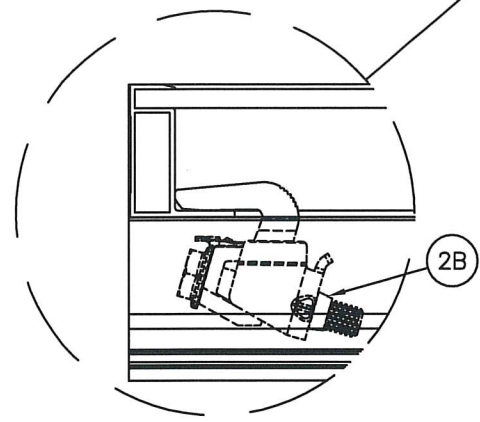
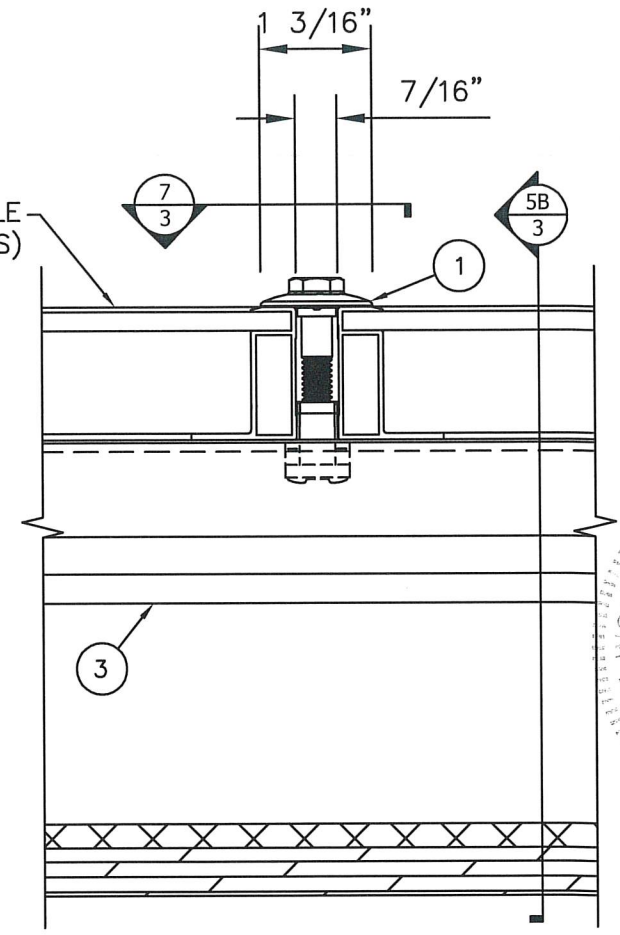
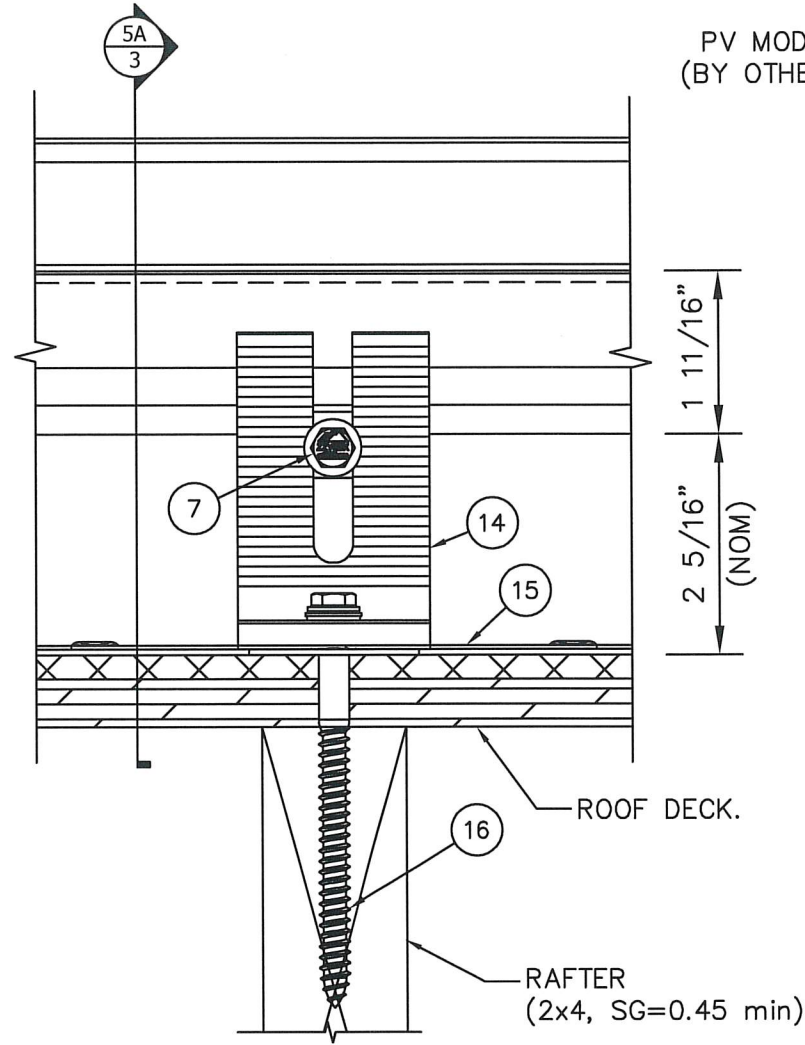
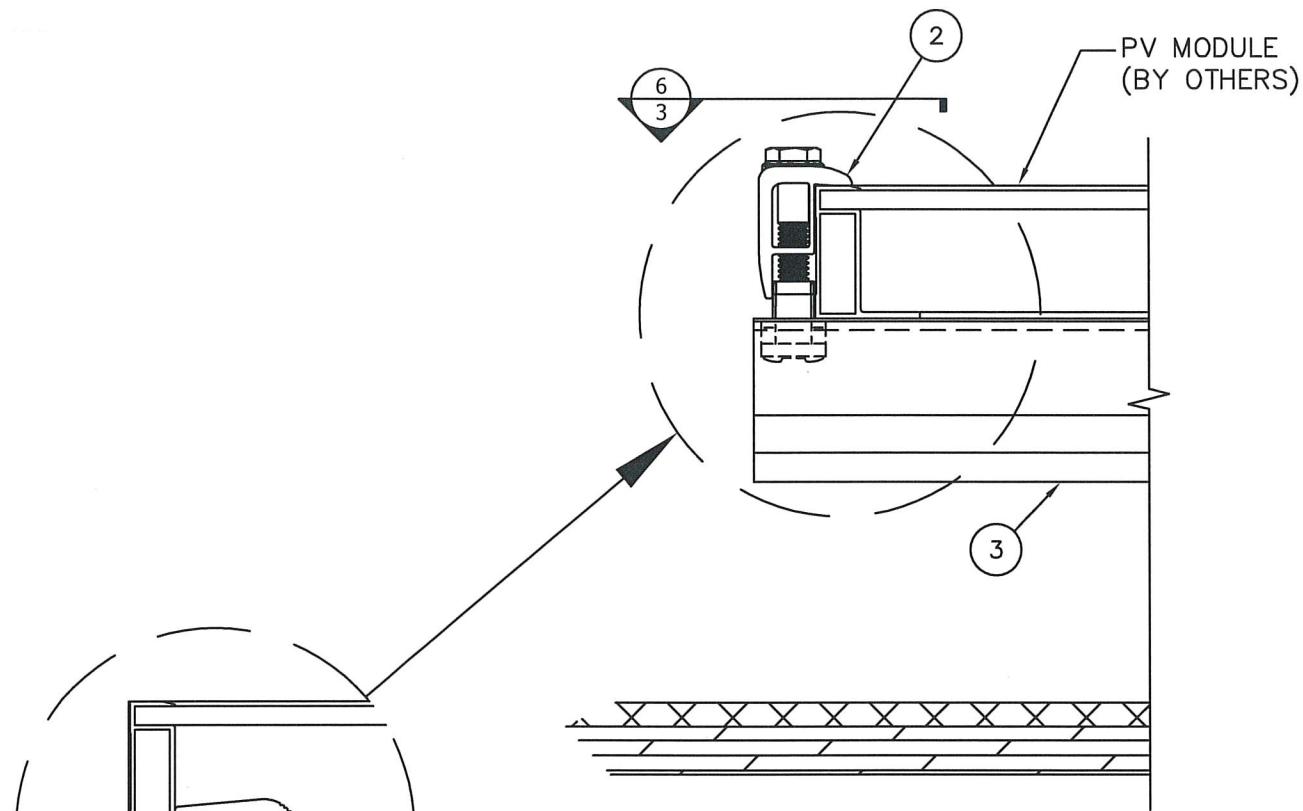
1ST SUBMITTAL PRINTS ISSUED FOR

DWG: AIRE-LF  
SHEET: 1/9

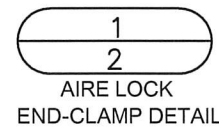
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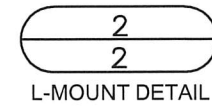
**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM  
WITH QUICKMOUNT L-MOUNT ROOF ATTACHMENTS**



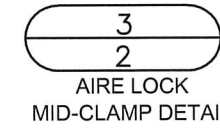
ALTERNATE AIRE LOCK  
STEALTH END-CLAMP DETAIL



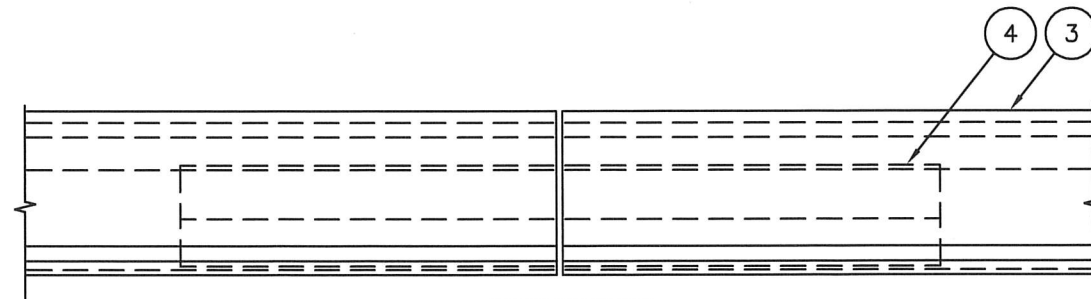
AIRE LOCK  
END-CLAMP DETAIL



L-MOUNT DETAIL



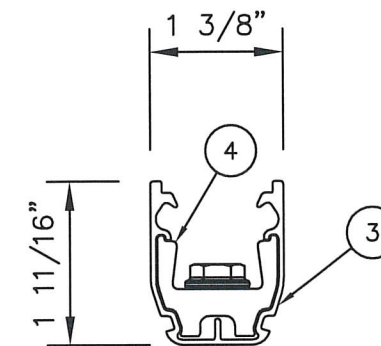
AIRE LOCK  
MID-CLAMP DETAIL



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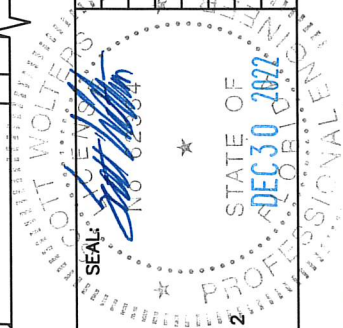
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AIRE TIE  
SPLICE DETAIL



SPLICE MAY NOT BE  
LOCATED IN A CANTILEVER.

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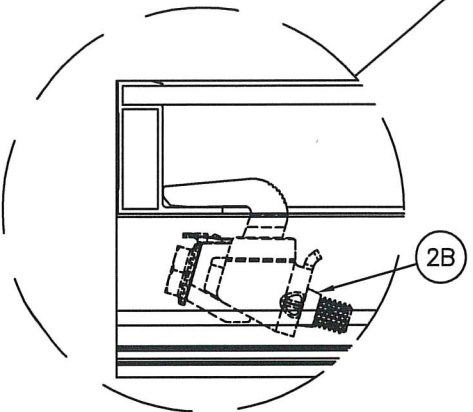
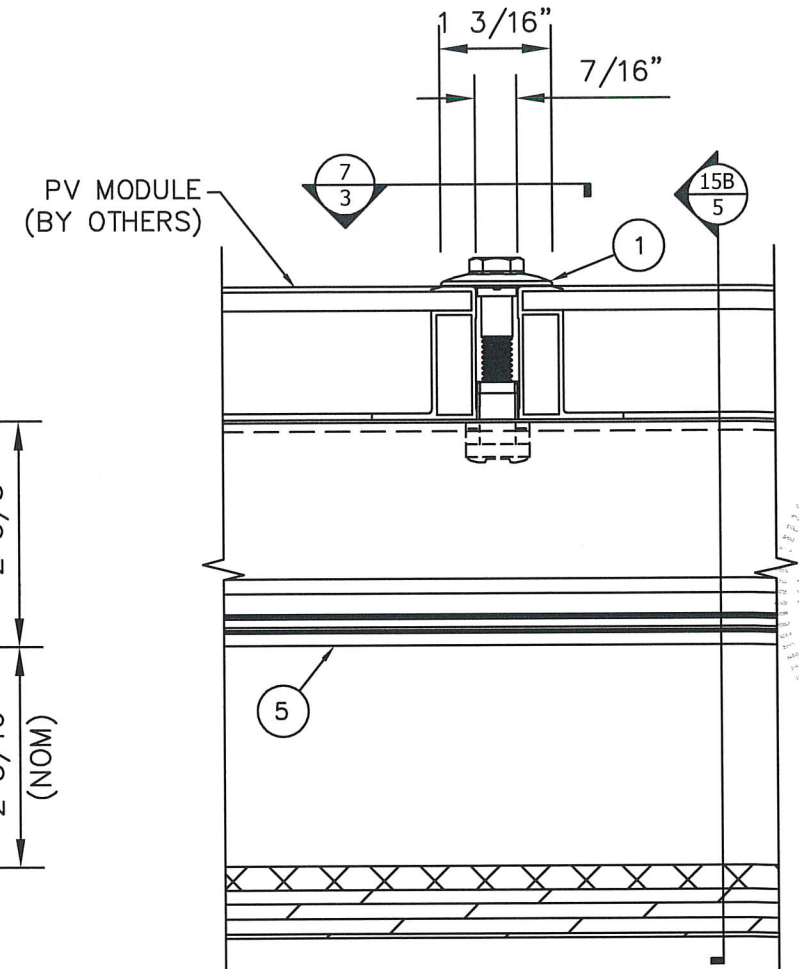
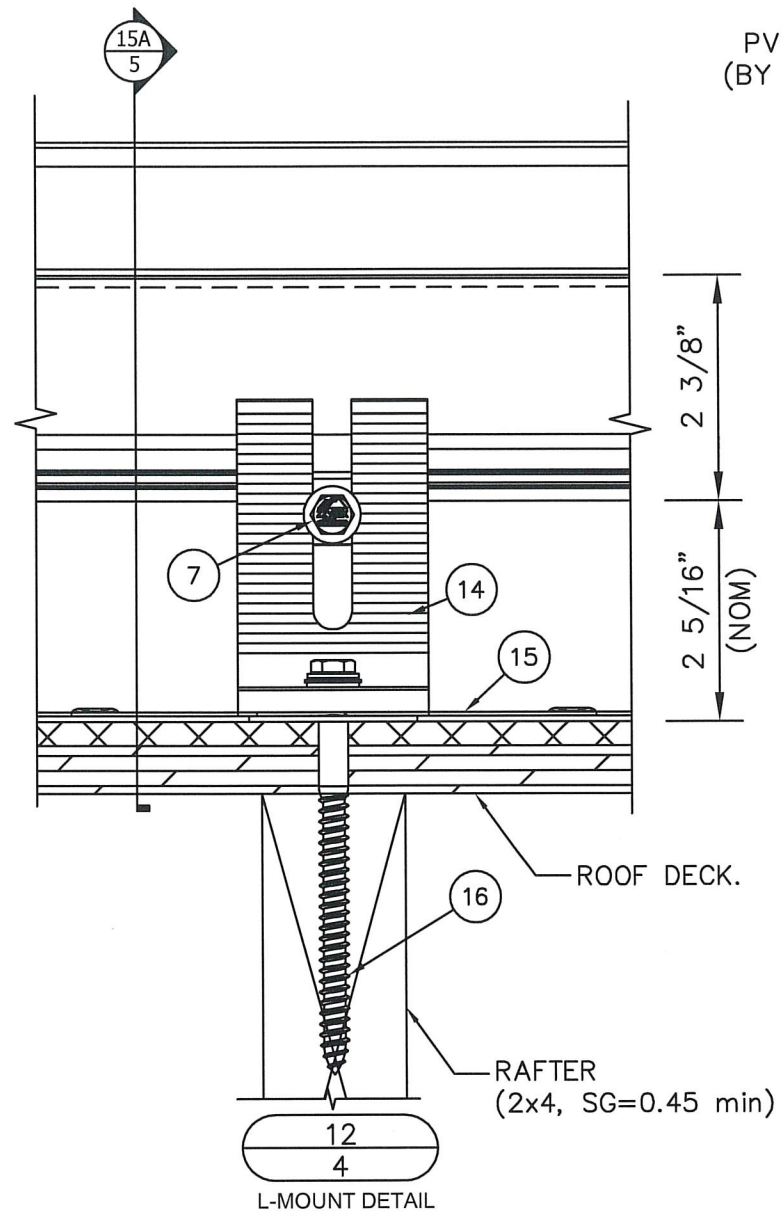
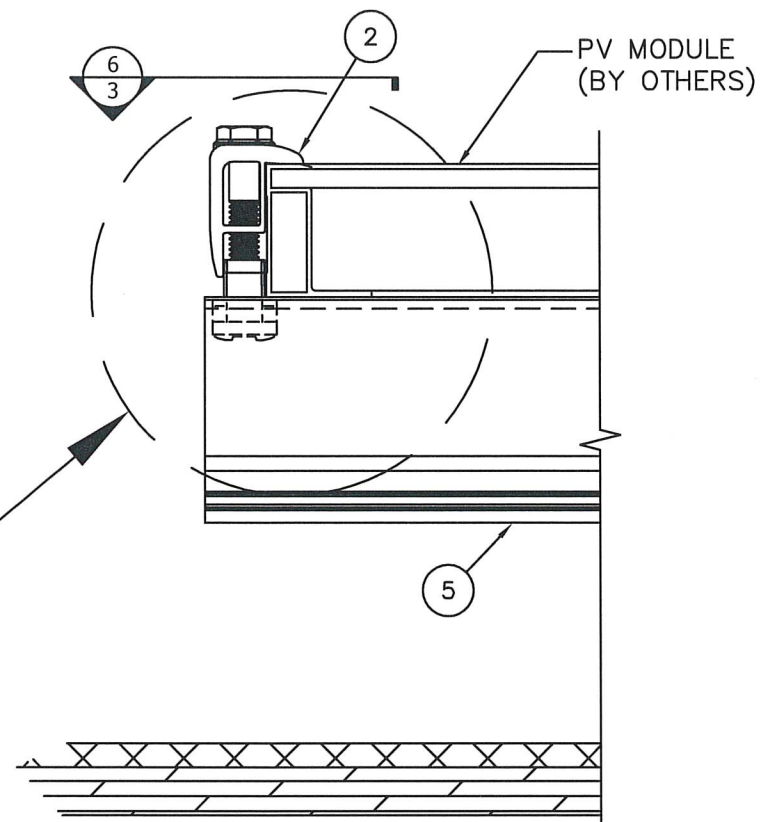
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11B  
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ALTERNATE AIRE LOCK  
STEALTH END-CLAMP DETAIL

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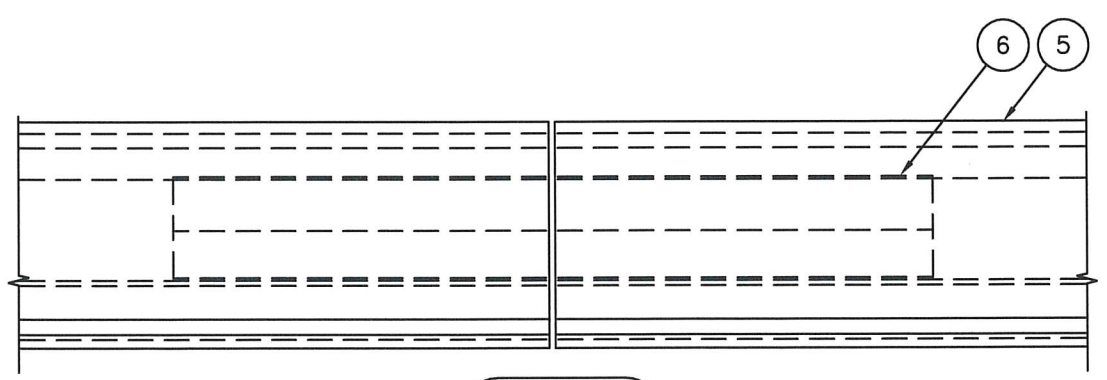
AIRE LOCK  
END-CLAMP DETAIL

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AIRE LOCK  
MID-CLAMP DETAIL

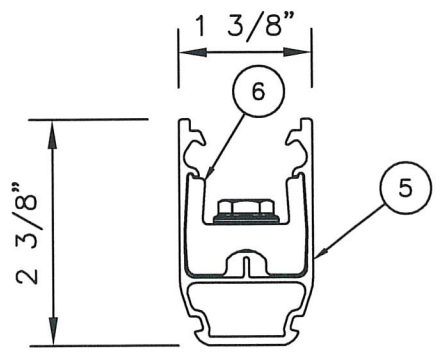
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L-MOUNT DETAIL



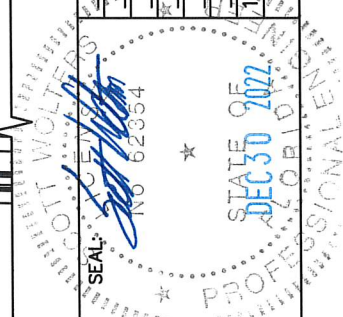
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AIRE TIE  
SPLICE DETAIL



SPLICE MAY NOT BE  
LOCATED IN A CANTILEVER.

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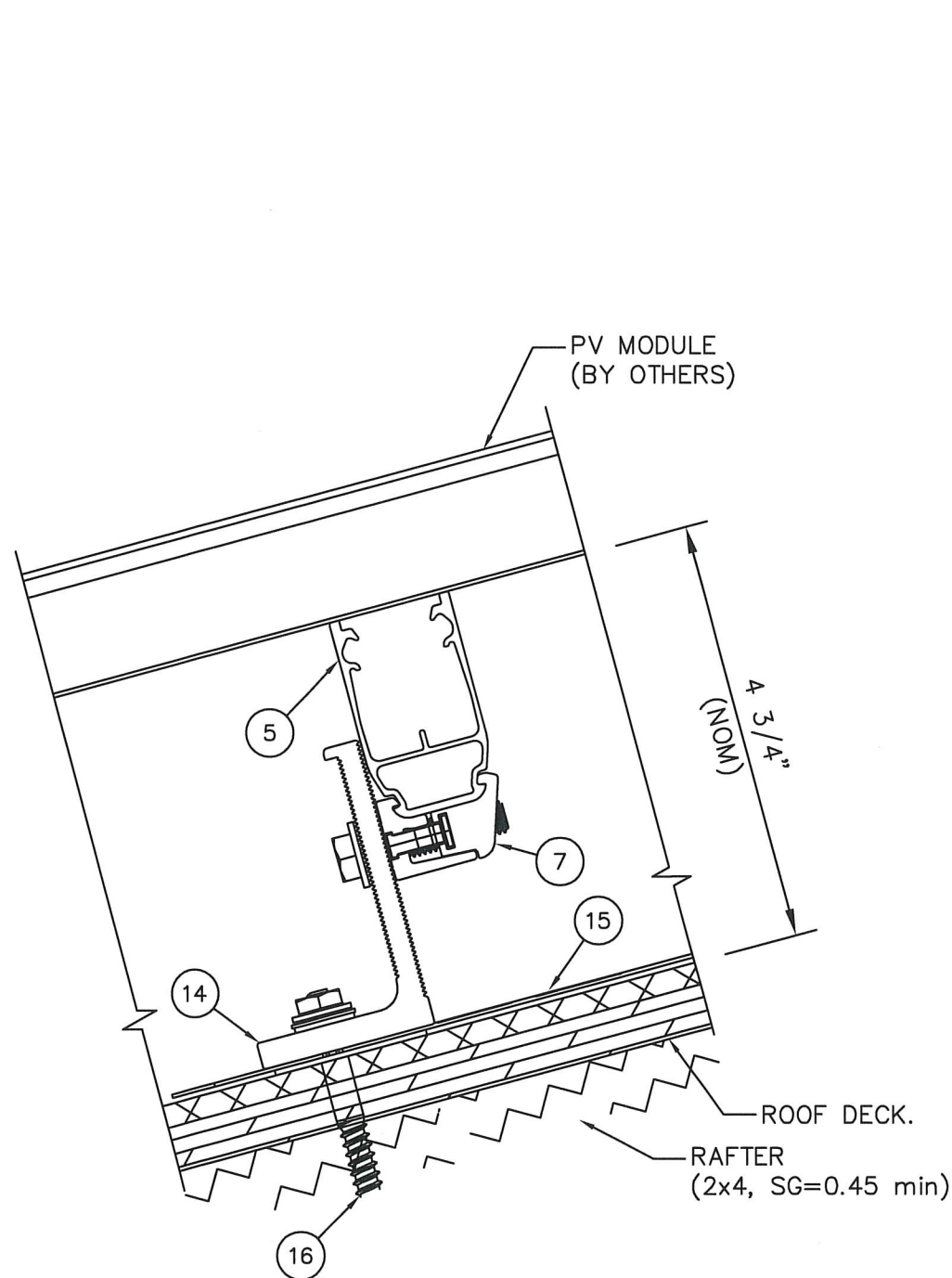


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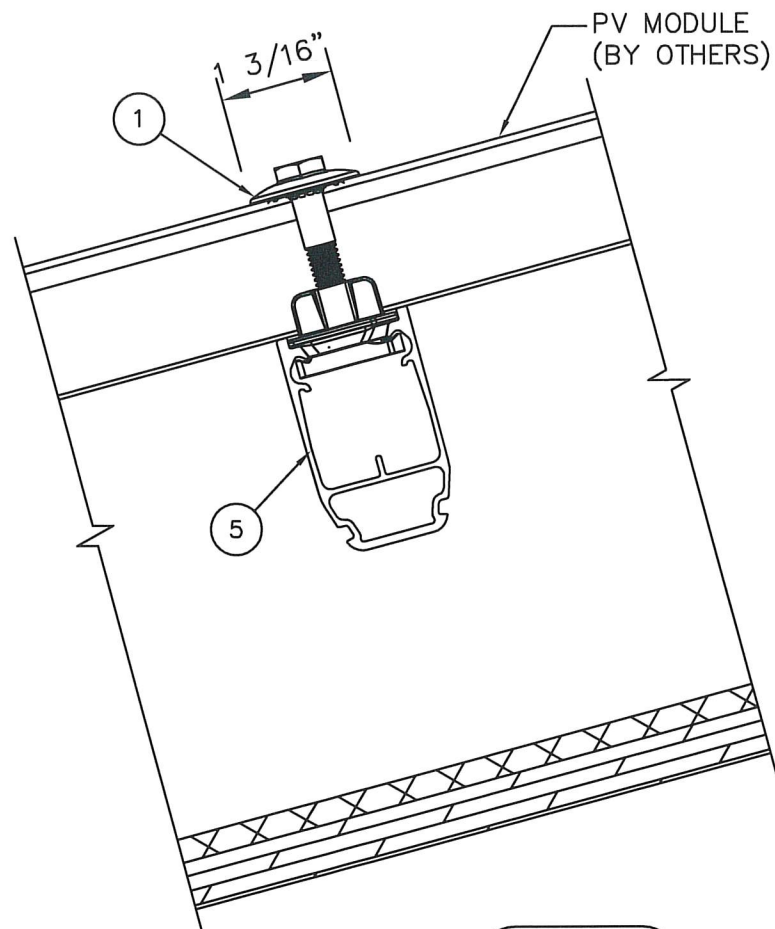


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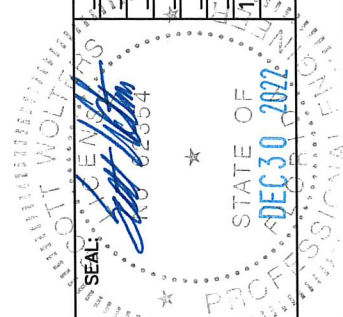
**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM  
WITH QUICKMOUNT L-MOUNT ROOF ATTACHMENTS**



15A  
5  
AIRE A2 RAIL AND  
L-MOUNT DETAIL



15B  
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AIRE A2 RAIL AND  
MID-CLAMP DETAIL



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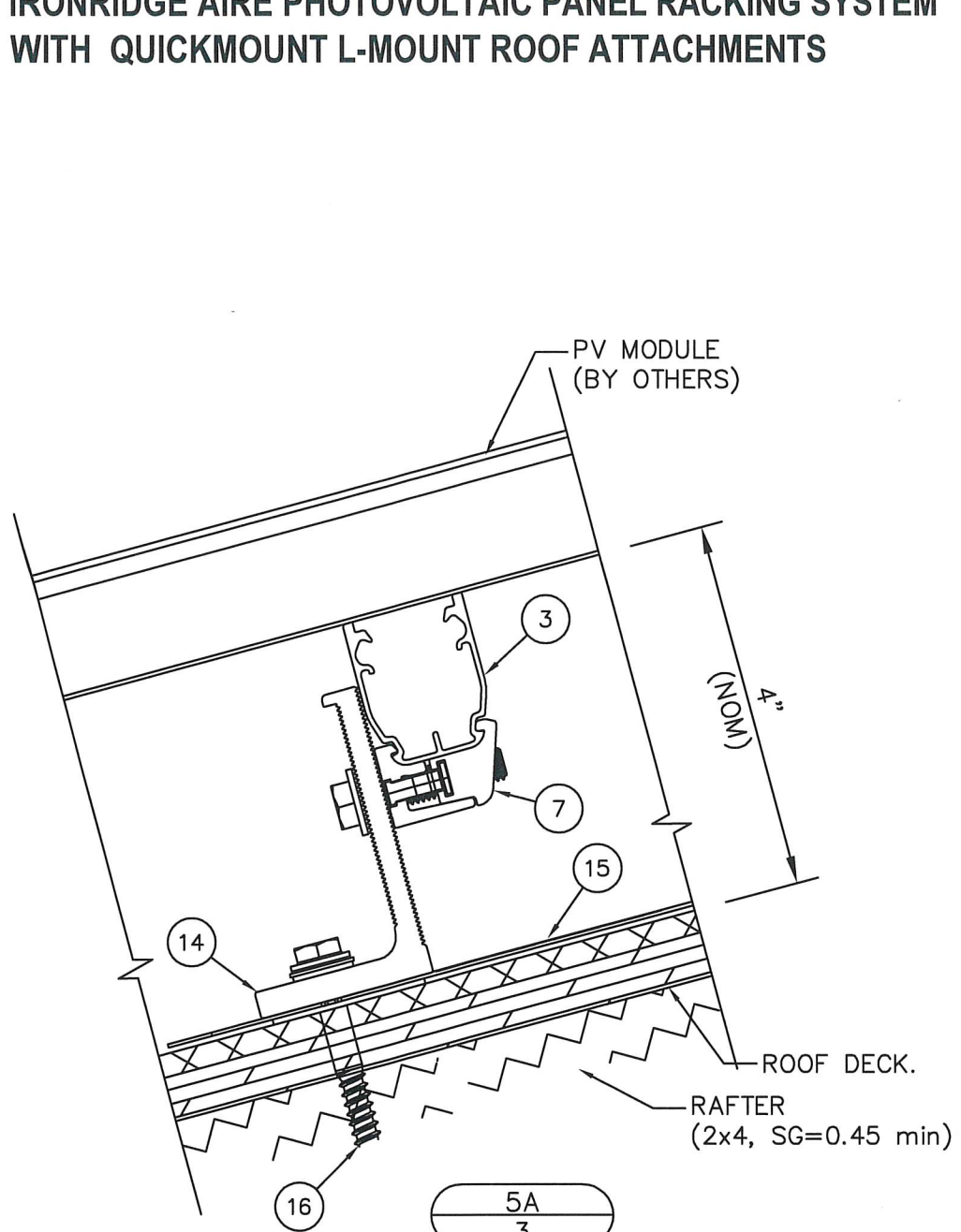
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DWG: **AIRE-LF**  
SHEET: **5/9**

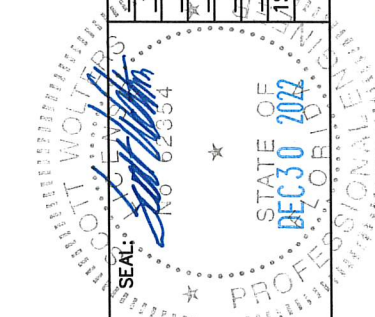
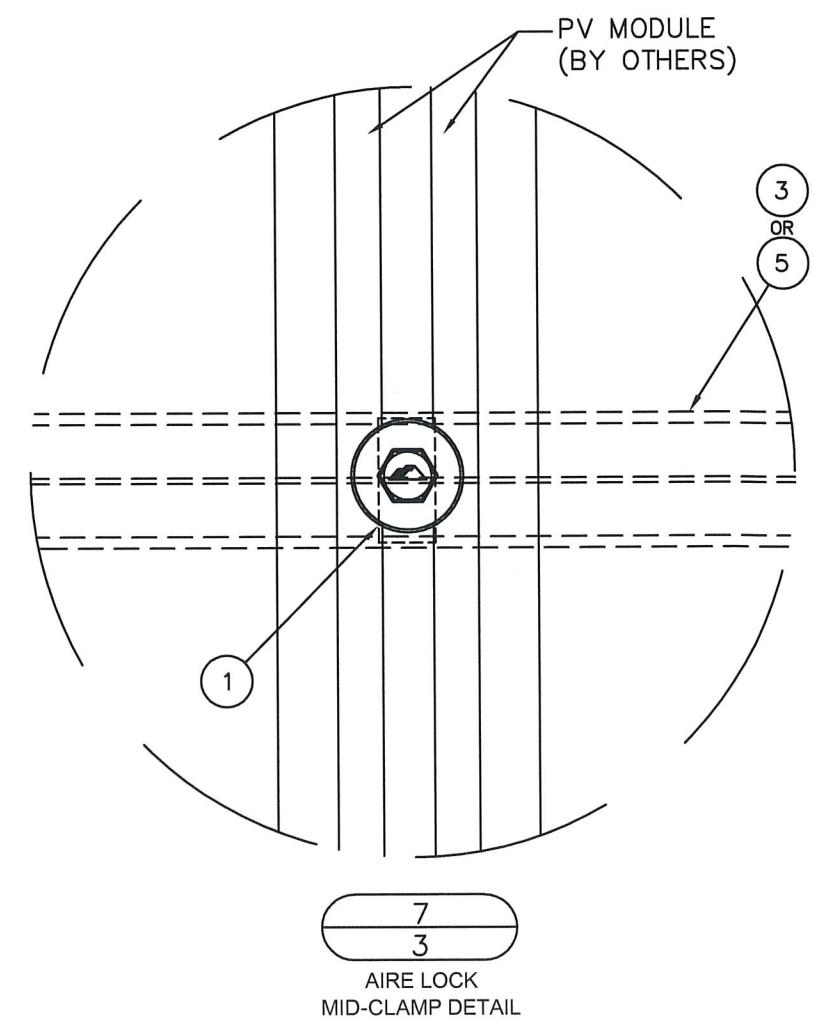
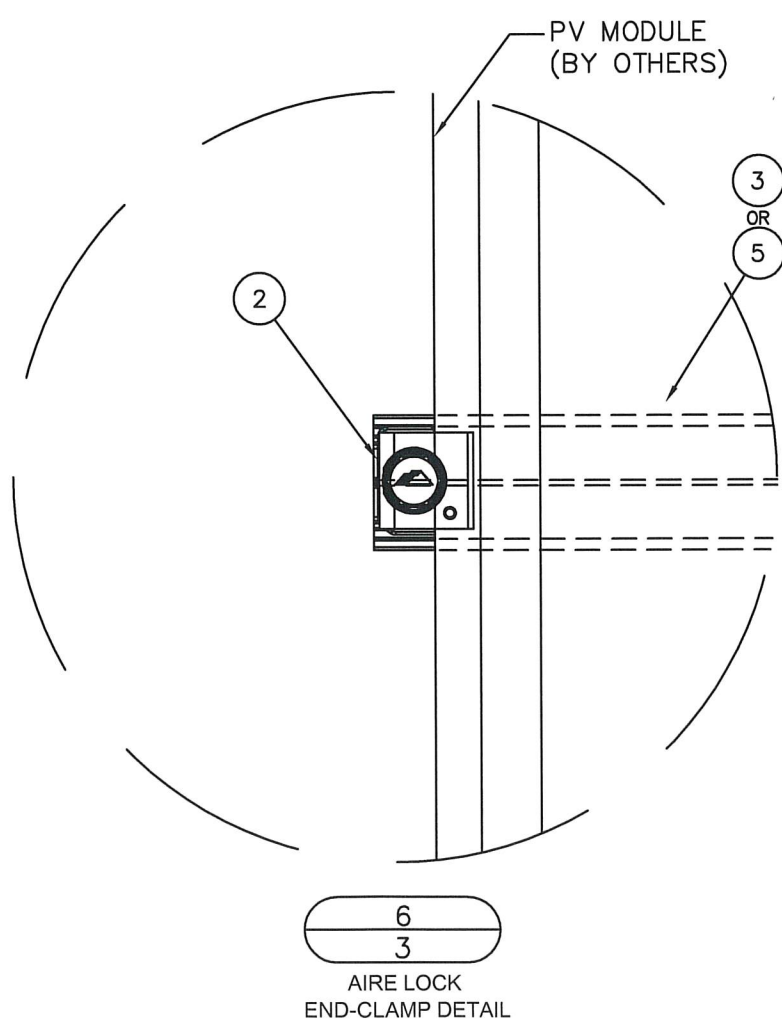
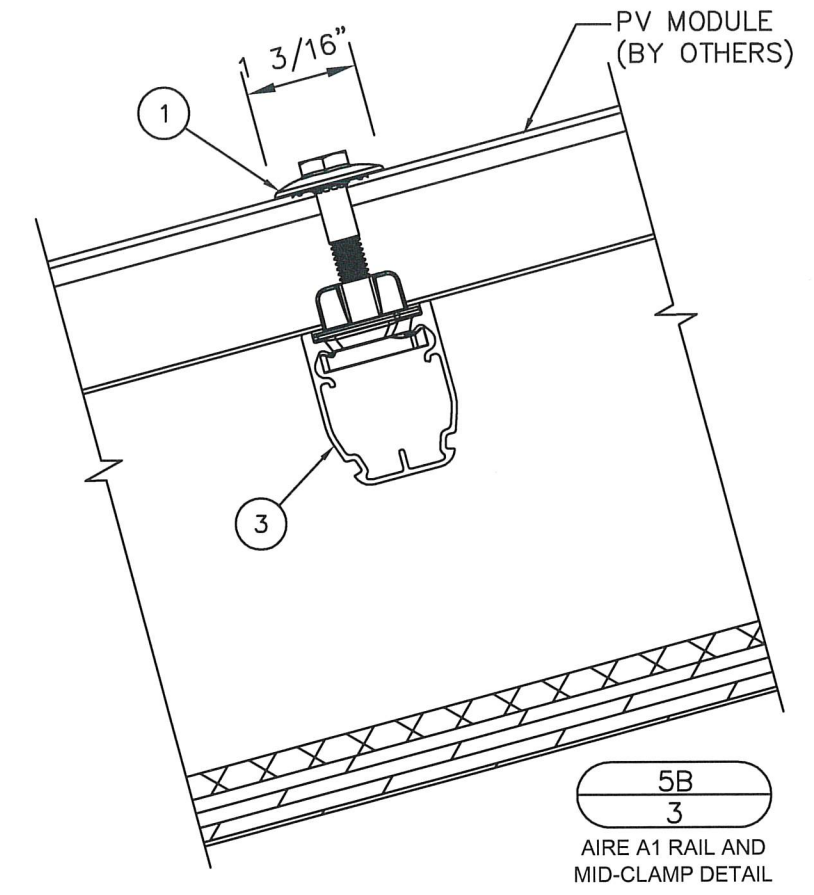
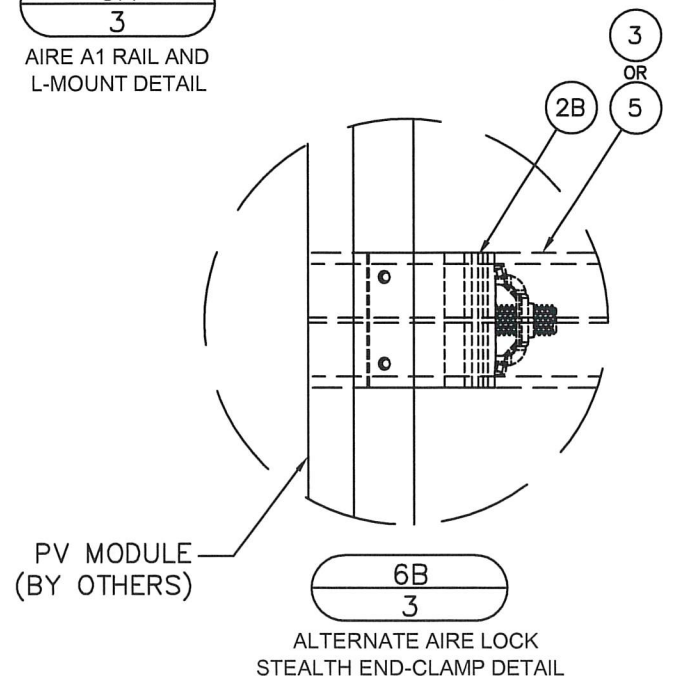
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**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM  
WITH QUICKMOUNT L-MOUNT ROOF ATTACHMENTS**



5A  
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AIRE A1 RAIL AND L-MOUNT DETAIL



REV.#	DATE
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SCOTT WOLTERS  
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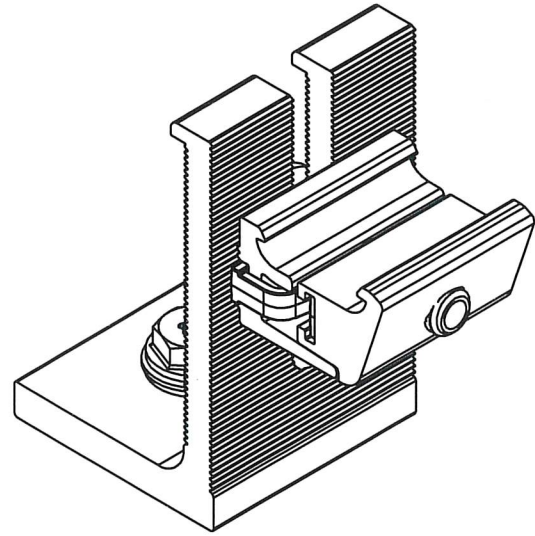
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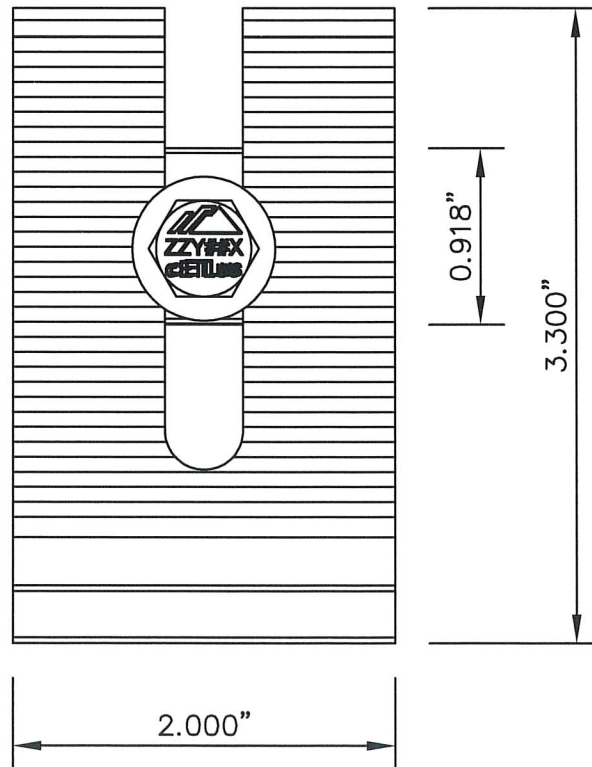
**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM  
WITH QUICKMOUNT L-MOUNT ROOF ATTACHMENTS**

BILL OF MATERIALS- QuickMount L-Mount		
#	DESCRIPTION	MATERIALS/NOTES
14	OPEN SLOT L-FOOT, MILL OR BLACK	6000 SERIES AL
15	QM FLASHING, MILL OR BLACK	300 SERIES AL
16	5/16" X 4" HEX HEAD LAG SCREW WITH EPDM WASHER	300 SERIES SS & EPDM

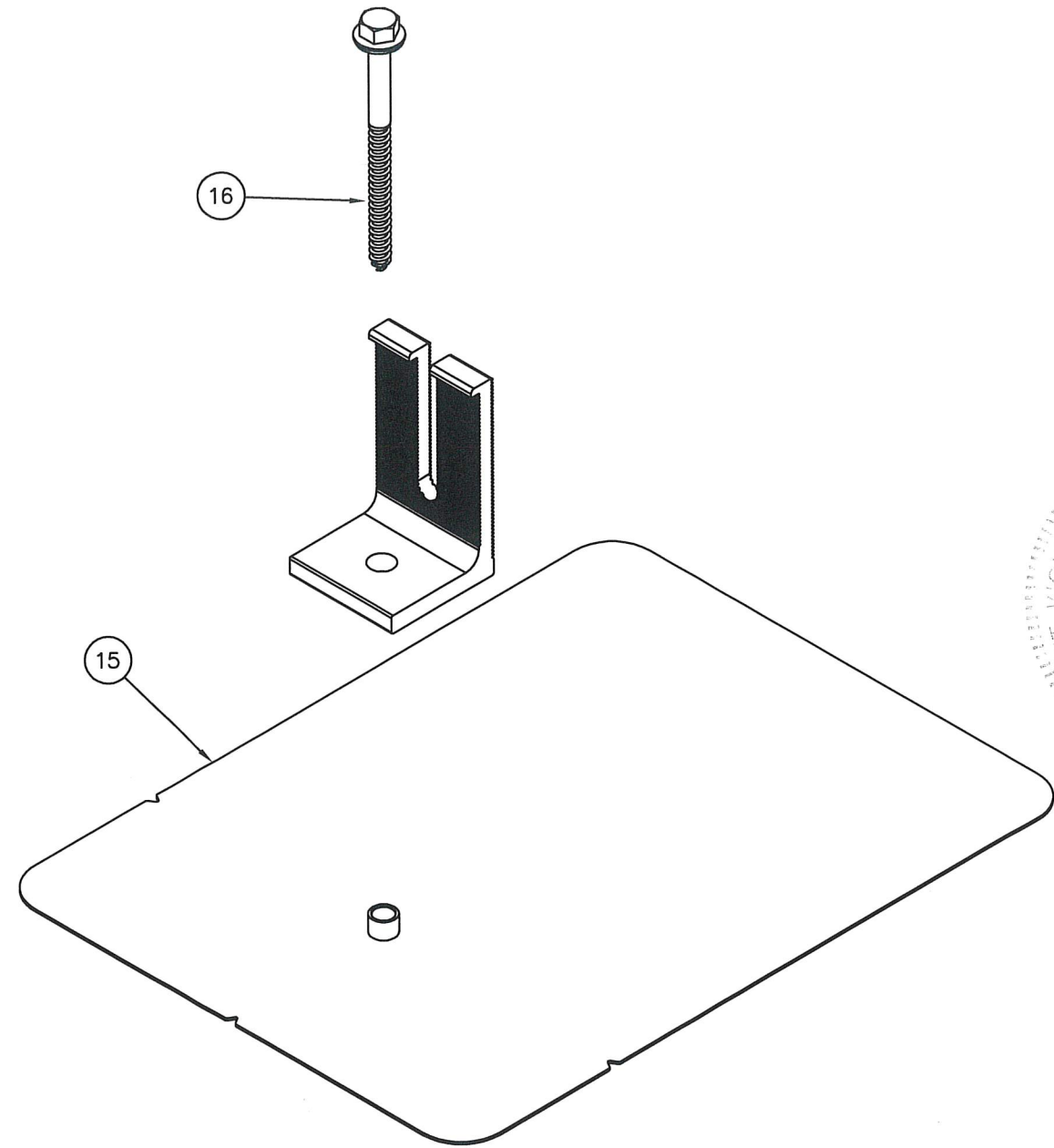


**F1 = 1092 lb (max)  
(Direct Tension/Uplift)**

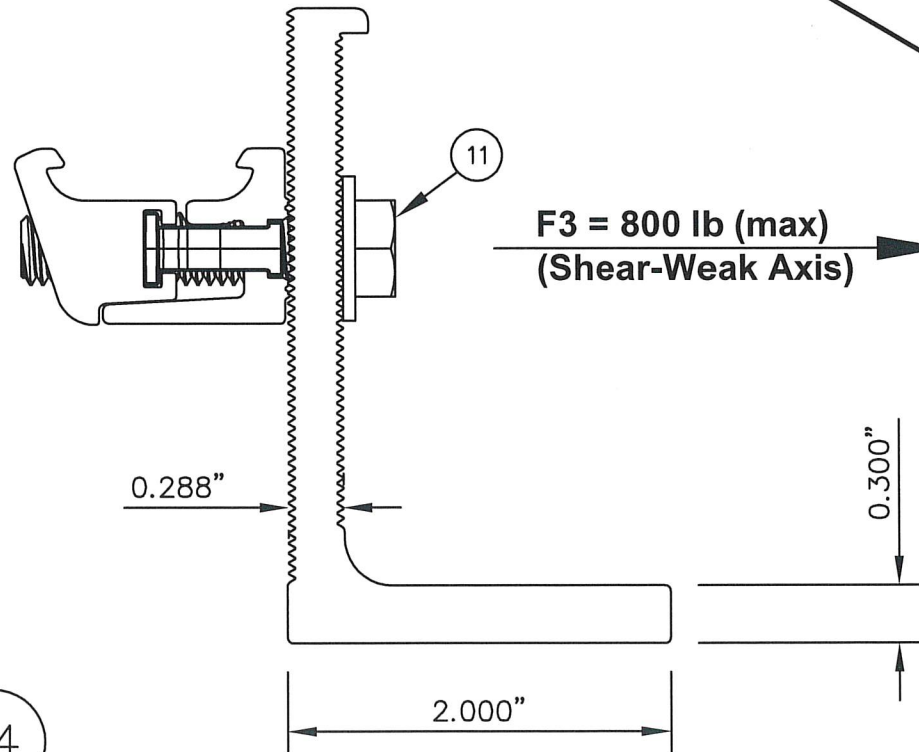
**F2 = 1025 lb (max)  
(Shear-Strong Axis)**



14



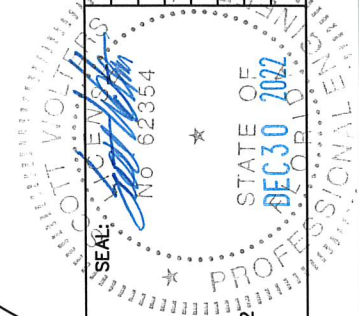
**F3 = 800 lb (max)  
(Shear-Weak Axis)**



**ANCHOR CAPACITY:**

ANCHOR CAPACITIES LISTED ARE PER FLPA# 29846.

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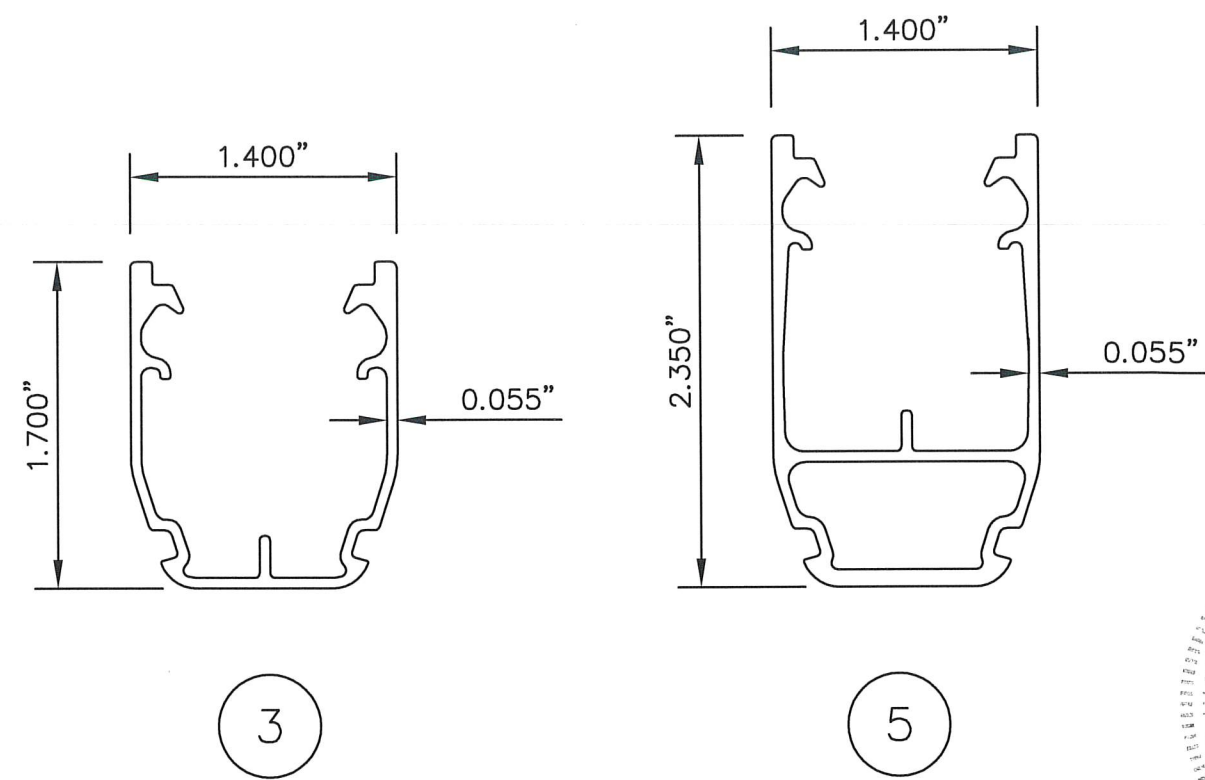
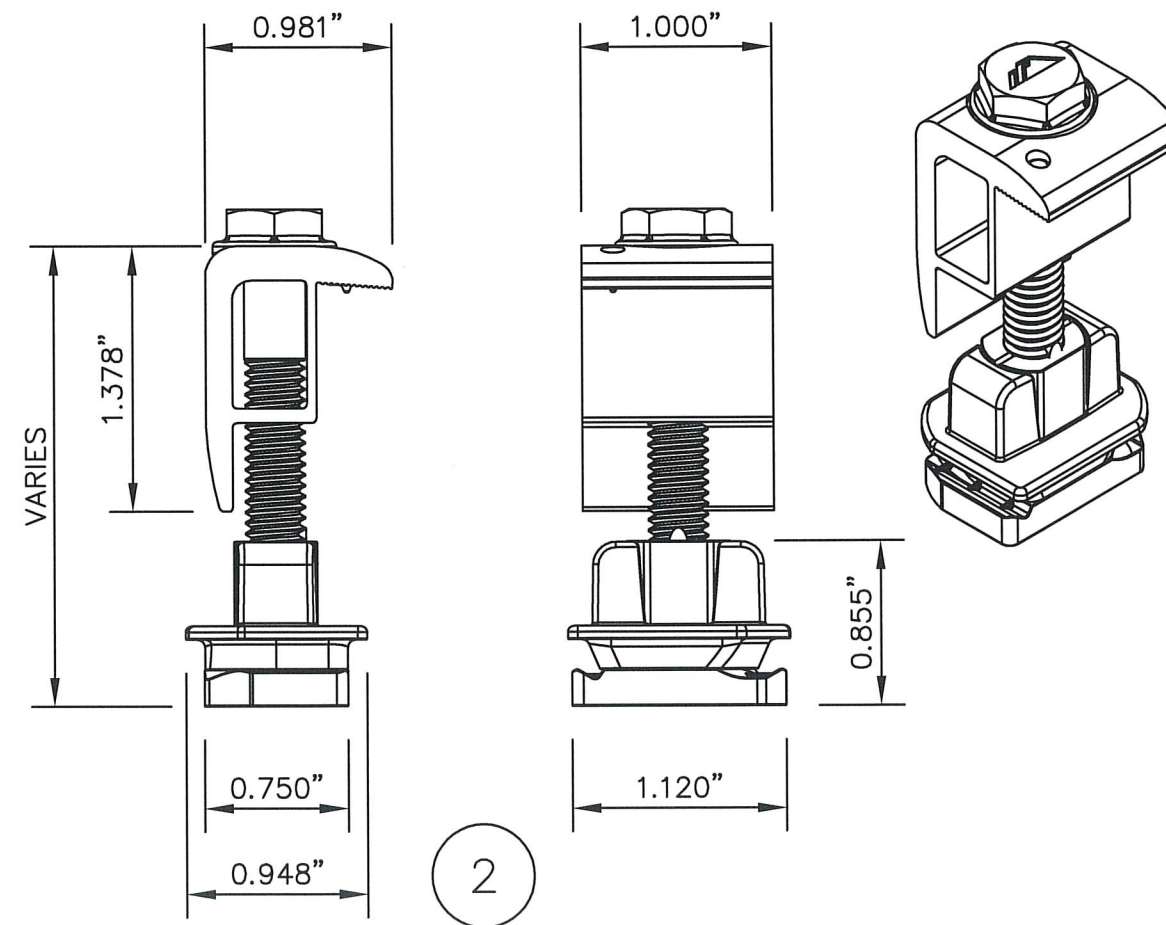
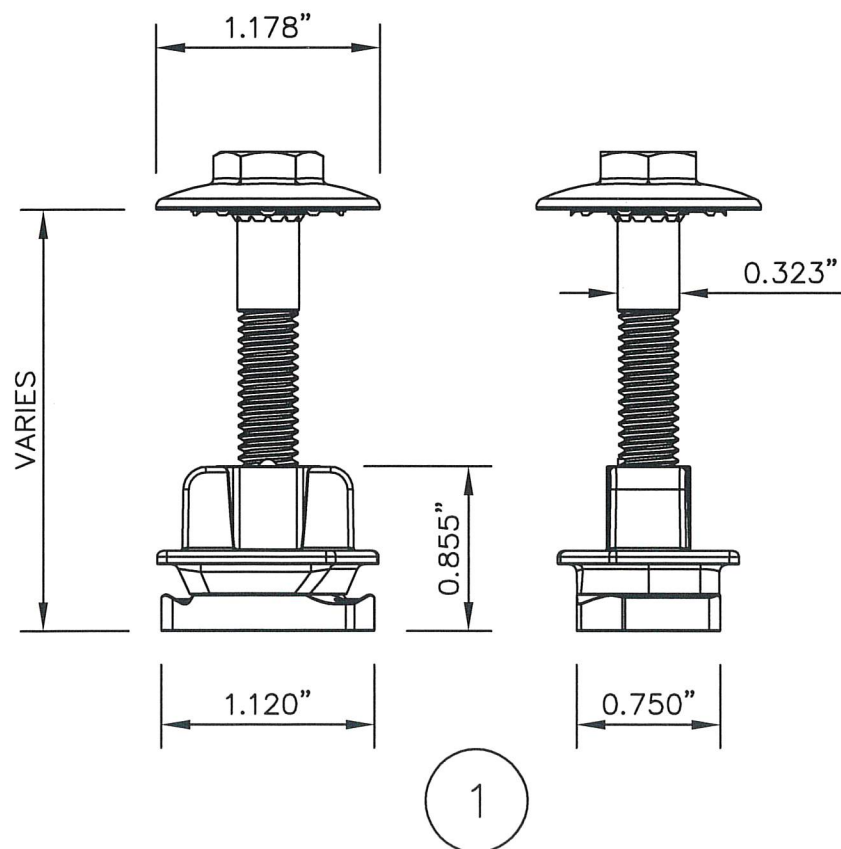
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DWG: **AIRE-LF**  
SHEET: **6/9**

**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM  
WITH QUICKMOUNT L-MOUNT ROOF ATTACHMENTS**

BILL OF MATERIALS- Aire System		
#	DESCRIPTION	MATERIALS/NOTES
1	AIRE LOCK MID-CLAMP ASSEMBLY	6000 SERIES AL & 300 SERIES SS
2	AIRE LOCK END-CLAMP ASSEMBLY	6000 SERIES AL & 300 SERIES SS
2A	AIRE LOCK STEALTH END-CLAMP ASSEMBLY	6000 SERIES AL & 300 SERIES SS
3	A1 RAIL	6000 SERIES AL
4	A1 TIE (SPlice)	6000 SERIES AL & 300 SERIES SS
5	A2 RAIL	6000 SERIES AL
6	A2 TIE (SPlice)	6000 SERIES AL & 300 SERIES SS
7	AIRE RAIL DOCK ASSEMBLY WITH 3/8" X 1 3/4" HWH CAP SCREW	6000 SERIES AL & 300 SERIES SS
8	A1 END CAP (OPTIONAL)	POLYMERIC
9	A2 END CAP (OPTIONAL)	POLYMERIC
10	CONTOUR CLAMP ASSEMBLY (OPTIONAL)	6000 SERIES AL & 300 SERIES SS
11	CONTOUR TRIM (OPTIONAL)	6000 SERIES AL

FOR 6000 SERIES EXTRUSIONS  $F_{UT}=38$  ksi min,  $F_Y=34$  ksi min.  
FOR 300 SERIES STAINLESS STEEL  $F_Y=65$  ksi min



SEAL: *[Signature]*  
SCOTT WOLTERS  
FL PE# 62354  
NO 62354

STATE OF FLORIDA  
DEC 30 2012  
PROFESSIONAL ENGINEER

1ST SUBMITTAL  
PRINTS ISSUED FOR

REV.#	DATE
1	12/30/22

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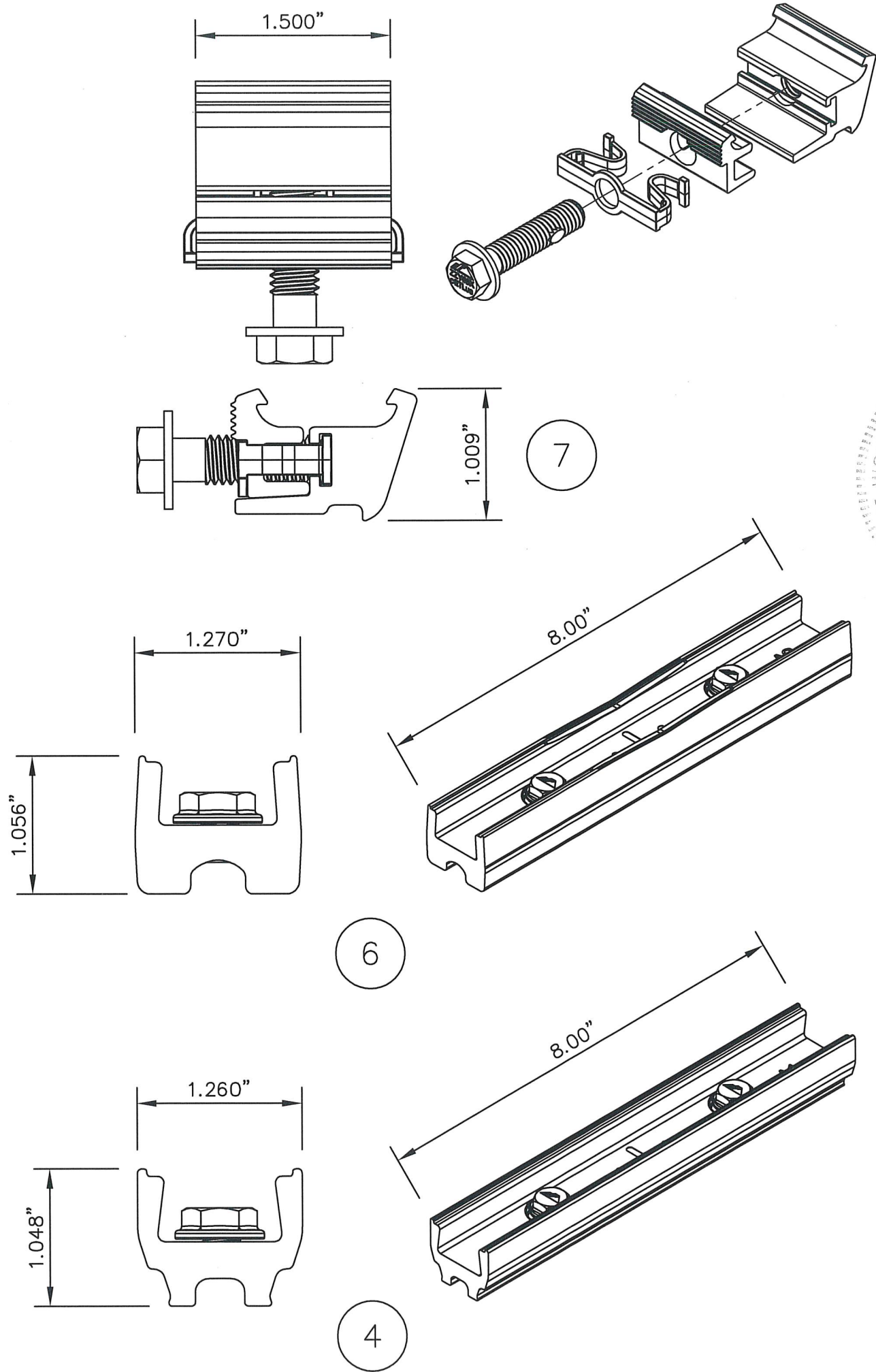
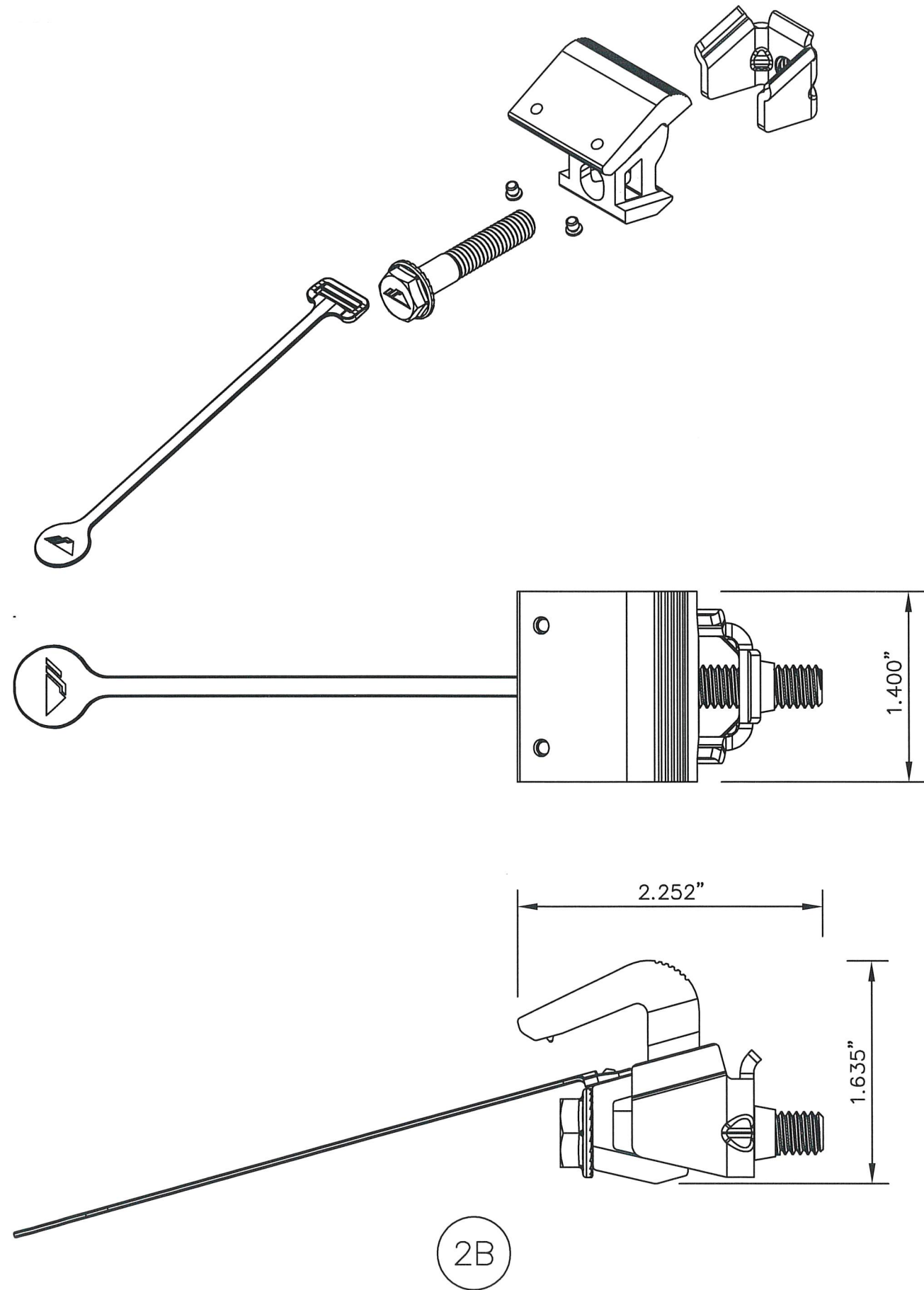
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DWG: AIRE-LF  
SHEET: 7/9

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WITH QUICKMOUNT L-MOUNT ROOF ATTACHMENTS**



**IRONRIDGE**

28357 INDUSTRIAL BLVD.  
HAYWARD, CA 94545

PHONE: (800) 227-9523  
info@ironridge.com

DWG: **AIRE-LF**  
SHEET: **8/9**

SCOTT WOLTERS  
FL PE# 62354

WOLTERS ENGINEERING  
(COA# 27194)  
15211 97TH ROAD N  
WEST PALM BEACH, FL 33412  
(561) 225-1982

SEAL: [Signature] No 62354

STATE OF FLORIDA  
DEC 30 2022

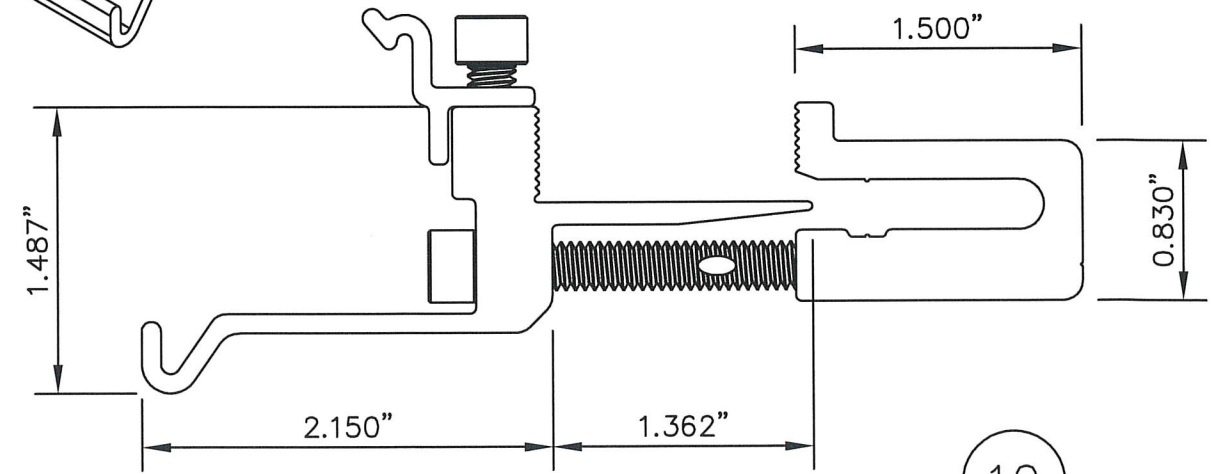
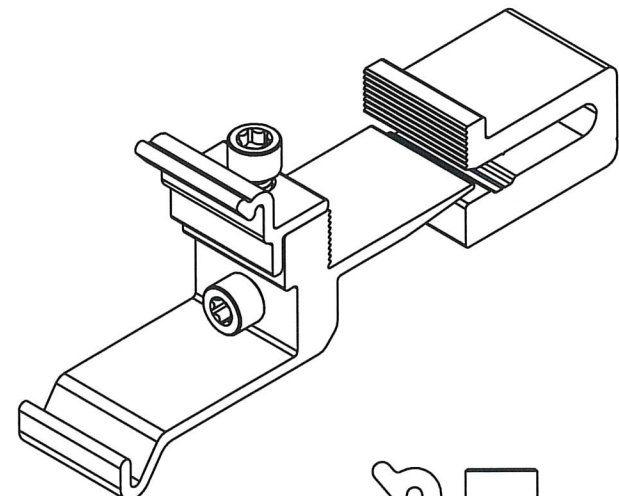
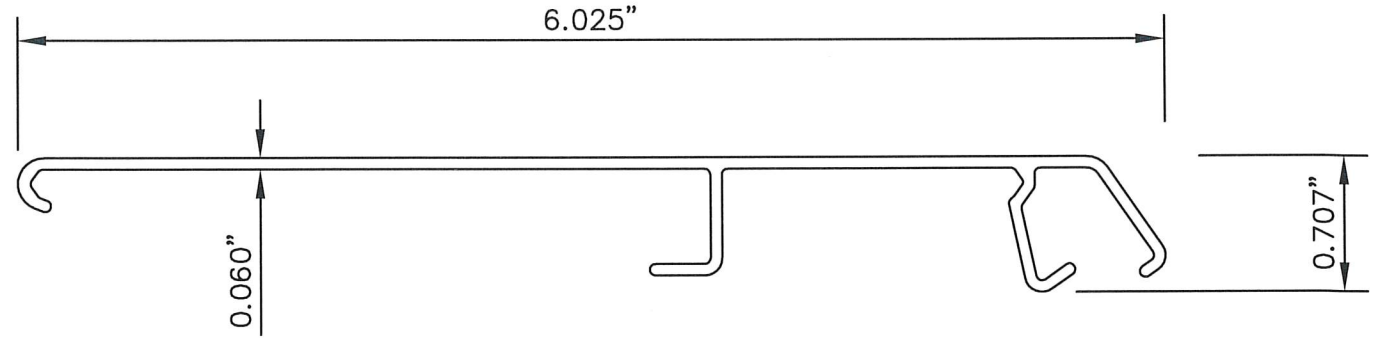
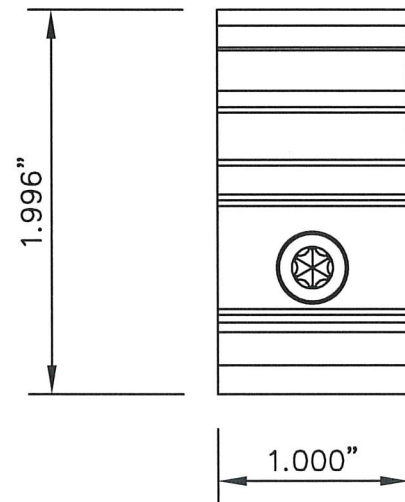
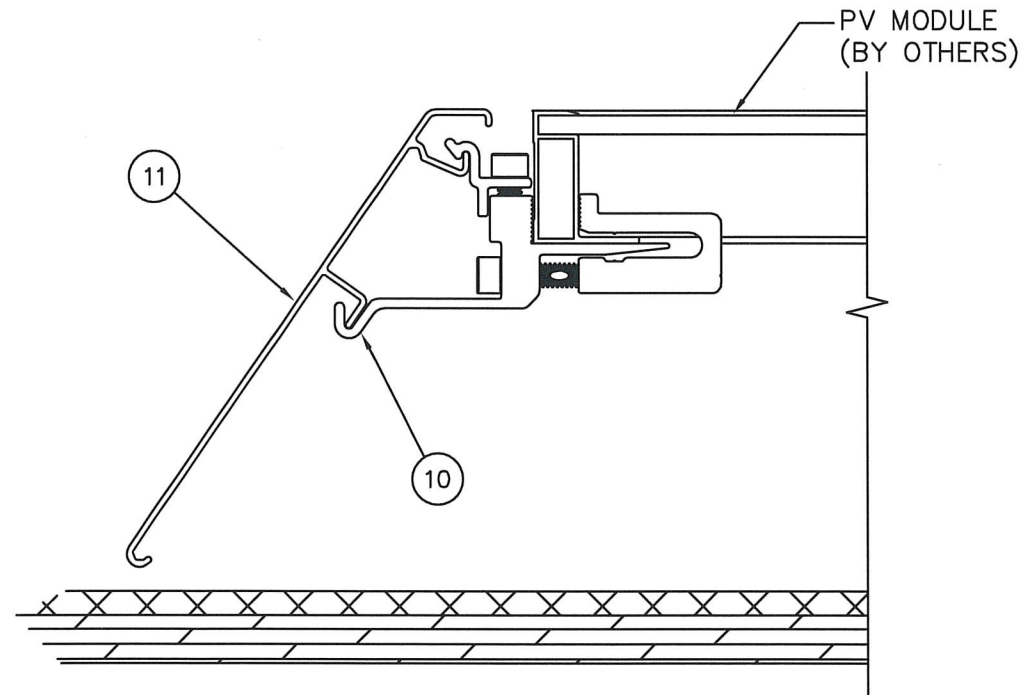
PROFESSIONAL ENGINEER

REV.#	ISSUED FOR	DATE
1	TST SUBMITTAL	12/30/22
2	PRINTS	
3		
4		



**IRONRIDGE AIRE PHOTOVOLTAIC PANEL RACKING SYSTEM  
WITH QUICKMOUNT L-MOUNT ROOF ATTACHMENTS**

OPTIONAL CONTOUR TRIM:



DATE	12/30/22
REV.#	1
ISSUED FOR	PRINTS
REV.#	1
ISSUED FOR	1ST SUBMITTAL

SEAL: [Signature] No. 62354

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PROFESSIONAL ENGINEER

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