



Site Plan

Village of East Troy, Wisconsin

Version: Sept. 18, 2025

Village of East Troy
2015 Energy Drive
East Troy, WI 53120

Overview: The site plan review process ensures that proposed land uses and development activity complies with the requirements of the Village's zoning regulations. This review must occur before any building, occupancy, and building permits can be issued; except that development activity associated with an approved final plat of subdivision or certified survey map, and development activity associated with an approved final development plan of a planned development, is exempt from this requirement.

Governing regulations: The procedures and standards governing the review of this application are found in § 510-160 of the Village's zoning code.

General instructions: Complete this application and submit one copies to the Village Clerk at the mailing address shown above. Before you formally submit your application, you are encouraged to meet with the zoning administrator who can answer any questions you may have. If you have any questions, do not hesitate to contact the zoning administrator at (414) 336-7915 or via email at orin.sumwalt@foth.com. You may download this form at <https://villageofeasttroy.zoninghub.com/highlights/procedures/procedure.aspx?id=142>.

When you fill out this application, you should think about how your business operation may expand or be different in the future. For example, if your business will have 5 employees to start and you hope to have 25, tell us. Also, if you foresee an expansion to a building or a parking lot, your site plan should show that. If you invest time to do this now, you will end up with a more thoughtful plan. Not only that, you will save time and the expense of having to submit a new site plan sometime in the future. So, think ahead.

Application fee: none

Application submittal deadline: Applications must be submitted by the second Monday of the month by 12:00 pm at the Village Hall.

1. Applicant and property owner information

	Applicant	Property owner
Name	Lehmann Electrical & Design	Three Taps Saloon LLC
Street address	12012 W Fairview Ave	2079 Division St
City, state, zip code	Wauwatosa, WI 53226	East Troy, WI 53120
Daytime telephone number	414-219-0527	262-379-9607
Email	permitting@lehmannelectrical.com	spudnsammyb@yahoo.com

2. Agent contact information.

Include the names of those agents, if any, that helped prepare this application including the supplemental information. Agents may include surveyors, engineers, landscape architects, architects, planners, and attorneys.

	Agent 1	Agent 2
Name	Eugene Munyanziza	Anthony Gianfrancesco
Company	EV Engineering LLC	GBI
Street address	11720 Amber Park Dr. Suite 160	
City, state, zip code	Alpharetta, GA 30009	Denver, CO
Daytime telephone number	470-359-9201	
Email	vm@evengineersnet.com	anthony@connectgbi.com

3. Type of application (select one)

- ☒ New site plan
- ☐ An amendment of a previously approved site plan (i.e., revision and/or expansion)

4. Business information

Current business name	Sammy's Place
Date business began	2008
Previous name, if any	

5. Subject property information

Physical address

2079 Division St. East Troy, WI 53120

Tax key number(s)

ROP00065

Note: The tax key number can be found on the tax bill for the property or it may be obtained from the Village Clerk.

6. Zoning information (refer to the Village’s current zoning map)

The subject property is located in the following base zoning district(s). (check all that apply)

☐ RH-35 Rural Holding
 ☐ TR-8 Two-Family Residential
 ☐ NB Neighborhood Business

☐ SR-3 Estate Residential
 ☐ AR-9 Attached Residential
 ☐ HB Highway Business

☐ SR-4 Suburban Residential
 ☐ MR-10 Multi-Family Residential
 ☒ CB Central Business

☐ SR-5 Neighborhood Residential
 ☐ MHR-6 Mobile Home Residential
 ☐ BP Business Park

☐ SR-6 Traditional-Front Residential
 ☐ LI Light Industrial

☐ SR-7 Traditional-Rear Residential
 ☐ GI General Industrial

The subject property is also located in the following overlay zoning district(s). (check all that apply)

☐ PD Planned Development
 ☐ GP Groundwater Protection
 ☐ FP 100-Year Floodplain

☒ DD Downtown Design
 ☐ NFC Natural Features Conservancy
 ☐ FP 500-Year Floodplain

☐ SW Shoreland-Wetland

7. Adjoining land uses and zoning

	Zoning district(s)	Current uses
North		
South		
East		
West		

Note: If the subject property abuts a property located in a different zoning district, a bufferyard may be required. You will need to submit a Landscaping and Bufferyard Worksheet if a bufferyard is required.

8. Current use. Describe the current use of the subject property.

Commercial/Central Business

9. Proposed use. Describe the proposed use or the proposed amendment.

11.18kW Grid Tied Photovoltaic System

10. Hours of operation. Describe when the proposed use will be open for business (i.e., hours and days).

11. Employees. Describe number by type, number on largest works shift, etc.

12. Customers / patrons of business. Describe the customers and patrons, including peak loads.

13. Miscellaneous

☐ Yes ☐ No Has the Village approved a variance for the subject property?

If yes, provide the year of issuance and a short description for each one.

☐ Yes ☐ No Is the subject property currently in violation of the Village's zoning code?

If yes, describe the nature of the violation and what is being done to bring the property into compliance.

☐ Yes ☐ No Are there any nonconforming buildings on the subject property? A nonconforming building does not meet the dimensional requirements for the zoning district in which it is located.

If yes, describe what building is nonconforming and the nature of the nonconformity.

☐ Yes ☒ No Will the proposed use create any detectable ground vibrations? (See § 510-99 of the zoning code.) If

yes, describe.

☐ Yes ☒ No Will the proposed use create any detectable noise beyond the property boundary lines? (See § 510-100 of the zoning code.)

If yes, describe.

☐ Yes ☒ No Will the proposed use create any air pollution? (See § 510-101 of the zoning code.)

If yes, describe.

☐ Yes ☒ No Will the proposed use create any detectable odor beyond the property boundary lines? (See § 510-102 of the zoning code.)

If yes, describe.

☐ Yes ☒ No Will the proposed use create any detectable glare or heat beyond the property boundary lines? (See § 510-104 of the zoning code.)

If yes, describe.

☐ Yes ☒ No Will the proposed use involve any materials which could detonate by any means? (See § 510-105 of the zoning code.)

If yes, describe.

☐ Yes ☒ No Will the proposed use involve any materials that are toxic or noxious or that are considered waste materials? (See § 510-106 of the zoning code.)

If yes, describe.

☐ Yes ☒ No Will the proposed use involve any outdoor storage of materials?

If yes, describe.

☐ Yes ☒ No If the proposed use involves processing or manufacturing of materials, will water be used in any of those processes?

If yes, describe the nature of the activity and anticipated water demand and sanitary loading

☐ Yes ☒ No Is expansion of the proposed use or building anticipated?

If yes, describe the nature of the expansion and potential timeline for such expansion

14. Utilities

Water ☒ Municipal ☐ Private well

If private well, when was the well installed and approved?

Sewer ☒ Municipal ☐ On-site septic system

If septic system, when was the system installed and approved?

15. Licenses and permits

Required

- ☐ Beer ☐ Have ☐ To Get
☐ Liquor ☐ Have ☐ To Get
☐ Cigarette ☐ Have ☐ To Get
☐ Food service ☐ Have ☐ To Get
☐ Amusement Device ☐ Have ☐ To Get
☐ Other: _____ ☐ Have ☐ To Get
☐ Other: _____ ☐ Have ☐ To Get
☐ Other: _____ ☐ Have ☐ To Get

16. Property access (refer to § 510-91 of the zoning code for details)

	<u>Current</u>	<u>New</u>
Local street	_____	_____
County highway	_____	_____
State highway	_____	_____

17. On-site parking (refer to § 510-91.1 of the zoning code for details)

	Current	Required [1]	New
Standard spaces			
Accessible spaces			

Notes:

[1] On-site parking is not required in the Central Business (CB) zoning district

☐ Yes ☐ No Are you proposing shared parking pursuant to § 510-93(G) of the zoning code?

If yes, attach a draft shared parking agreement.

18. Calculations for maximum building coverage and impervious surface coverage

- | | | |
|--|---------|-------|
| a. Area of subject property as determined by site survey | acres | <hr/> |
| b. Land located within proposed rights-of-ways of roads and within proposed boundaries of public facilities that are designated within the Village's comprehensive plan and/or required for dedication per subdivision regulations | acres | <hr/> |
| c. Land which, although part of the same parcel, is not contiguous to or is not accessible from the proposed road network serving the project | acres | <hr/> |
| d. Land which is proposed for a different development option or a different zoning district | acres | <hr/> |
| e. Navigable waters (lakes & streams not within a designated floodplain) | acres | <hr/> |
| f. Designated floodplains | acres | <hr/> |
| g. Wetlands | acres | <hr/> |
| h. Lakeshores | acres | <hr/> |
| i. Woodlands | acres | <hr/> |
| j. Steep slopes (12 percent or greater) | acres | <hr/> |
| k. Total of "b" through "j" | acres | <hr/> |
| l. Net developable area (subtract "k" from "a") | acres | <hr/> |
| m. Building coverage ratio (see the standard for the appropriate zoning district) | percent | <hr/> |
| n. Impervious surface coverage ratio (see the standard for the appropriate zoning district) | percent | <hr/> |
| o. Maximum building coverage on property (multiply "l" by "m") | acres | <hr/> |
| p. Maximum impervious surface coverage on property (multiply "l" by "n") | acres | <hr/> |

	Maximum (acres)	Proposed (acres)
Building coverage (For Maximum, enter calculated value for "o" from above table)		
Impervious surface (For Maximum, enter calculated value for "p" from above table)		

19. Supplemental materials. Attach each of the following as appropriate. Upon written petition, the Village Administrator, Village Engineer, Village Planner, or the Zoning Administrator may waive specific site plan requirements.

Site plan with the following information:

- Title block showing the name, address, and phone of the current property owner and/or agent(s) (i.e. developer, architect, engineer, or planner) for project.
- The date of the original plan and the latest date of revision to the plan.
- A north arrow and a graphic scale (at a minimum scale of 1" = 100').
- A legal description of the subject property.
- All property lines and existing and proposed right-of-way lines with bearings and dimensions clearly labeled.
- All existing and proposed easement lines and dimensions with a key provided and explained on the margins of the plan as to ownership and purpose.
- Ground contours when any slope exceeds 12 percent
- All required building setback lines.

9. All existing and proposed buildings, structures, and paved areas, including building entrances, walks, drives, decks, patios, fences, utility poles, drainage facilities, and walls.
10. If the project is designed to be completed in phases or allow expansion of the building and other features, indicate these.
11. The location and dimension (cross-section and entry throat) of all access points onto public streets.
12. The location and dimension of all on-site parking (and off-site parking provisions if they are to be employed), including a summary of the number of parking stalls provided versus required by this Chapter.
13. The location and dimension of all loading and service areas on the subject property and labels indicating the dimension of such areas.
14. The location of all outdoor storage areas and the design of all screening devices.
15. Floodplains, wetlands, lakeshores, woodlands, steep slopes, and other environmentally sensitive lands.
16. The location, type, height, size, and lighting of all signage on the subject property.
17. The location and type of any permanently protected green space areas.
18. The location of existing and proposed drainage facilities.
19. Environmental and manmade development constraints and hazards including brownfields, contaminated sites, unstable soils, high groundwater, bedrock, and high-pressure natural gas lines
20. In the legend, the following data for the subject property: lot area, building coverage, building coverage ratio, floor area ratio, impervious surface area, impervious surface ratio, and building height.
21. Any additional information as requested by the Plan Commission or Village Board.

Landscaping plan prepared at the same scale as the main plan showing the location of all required bufferyard and landscaping areas, and existing and proposed landscape point fencing and berm options for meeting said requirements. The landscaping plan shall demonstrate complete compliance with the requirements of Article XIV of Chapter 510 of the zoning code. Be sure to show the individual plant locations and species, fencing types and heights, and berm heights. In addition to the drawing, include the Worksheet for Landscaping and Bufferyards.

Grading and erosion control plan prepared at the same scale as the main plan, showing existing and proposed grades, including retention walls and related devices, and erosion control measures.

Outdoor lighting plan (photometric plan) prepared at the same scale as the main plan that shows all existing and proposed exterior light fixtures. Calculations for the photometric plan shall be rounded to the nearest 0.10 foot-candles. A legend must be included to show the following information for each type of fixture: (1) manufacturer name, (2) product number, (3) mounting height, and (4) any other pertinent information. Be sure that current and proposed lighting will not exceed the 0.50 foot-candles threshold at the property boundary line. See § 510-95 of the zoning code for more details.

Plat of survey prepared by a registered land surveyor if in the judgment of the Zoning Administrator such accuracy is needed to ensure compliance with all dimensional standards, including setback requirements. The survey shall depict property lines, easements, and other existing and proposed improvements, and other information as may be needed to establish compliance with zoning requirements.

Architectural review application for any new buildings or for remodeling of existing buildings. The application must include elevation drawings showing finished exterior treatment, with adequate labels to clearly depict exterior materials, texture, color, and overall appearance. Perspective renderings of the proposed project and/or photos of similar structures may be submitted, but not in lieu of adequate drawings showing the actual intended appearance of the buildings. (Refer to § 510-90 of the zoning code for additional details.)

20. Attachments. List any attachments included with your application.

Plan set and Structural Certification

21. Other information. You may provide any other information you feel is relevant to the review of your application.

22. Applicant certification

- ◆ I certify that all of the information in this application, along with any attachments, is true and correct to the best of my knowledge and belief.
- ◆ I understand that I may be charged additional fees (above and beyond the initial application fee) consistent with § 510-149 (D) of the Village's municipal code to pay for the services of independent consultants the Village elects to retain to help review this application. Depending on the nature of the proposed project, such independent consultants may include planners, engineers, architects, attorneys, environmental specialists, recreation specialists, and other experts. I further understand, the Village may delay acceptance of the application as complete, or may delay final approval of the proposal, until all outstanding fees have been paid. I further understand that such fees must be paid even if this application is withdrawn or denied. If the applicant or the property owner does not pay such fees upon request, such fees may be assigned to the property owner as a special assessment to the subject property. [Please use the link above to download the form and visit FAQ for current year rates.](#)
- ◆ I understand that submission of this application authorizes Village officials and employees, Plan Commission members, Village Board members, and other designated agents, including those retained by the Village, to enter the property to conduct whatever site investigations are necessary

to review this application. This does not authorize any such individual to enter any building on the subject property, unless such inspection is specifically related to the review of this application and the property owner gives his or her permission to do so.

- ♦ I understand that this application and any written materials relating to this application will become a permanent public record and that by submitting this application I acknowledge that I have no right to confidentiality. Any person has the right to obtain copies of this application and related materials or view it online.
- ♦ I understand that the zoning administrator will review this application to determine if it contains all of the required information. If he or she determines that the application is incomplete, it will not be scheduled for review until it is deemed to be complete.

Property Owner:

Sam Bresler

Name – print

Sam Bresler

Sam Bresler (May 20, 2026 13:36:31 CDT)

Name – Signature

May 20, 2026

Date

Name – print

Sam Bresler

Sam Bresler (May 20, 2026 13:36:31 CDT)

Name – Signature

Date

Applicant (if different than Property Owner):

Jacob Lehmann

Name – print

Jacob Lehmann

Name – Signature

5/20/2026

Date

Name – print

Name – Signature

Date

SOLAR INDIVIDUAL PERMIT PACKAGE
SAM BRESLER

11.18 KW GRID TIED PHOTOVOLTAIC SYSTEM
2079 DIVISION ST, EAST TROY, WI 53120
AHJ: EAST TROY VILLAGE
UTILITY: WE ENERGIES

CODE INFORMATION

- INTERNATIONAL BUILDING CODE, 2021 EDITION
- INTERNATIONAL RESIDENTIAL CODE, 2015 EDITION
- NATIONAL ELECTRICAL CODE, 2023 EDITION
- INTERNATIONAL FIRE CODE, 2021 EDITION WITH AMENDMENTS

SHEET INDEX

PAGE #	DESCRIPTION
P1.0	COVER SHEET
P2.0	SITE PLAN
P3.0	LAYOUT
P3.1	MOUNTING DETAILS
P4.0	ELECTRICAL DIAGRAM
P5.0	PLACARDS



Lehmann Electrical and Design
12012 W. Fairview Ave.
Wauwatosa, WI 53226
414-207-0109
LICENCE #1492849

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH 2021 IRC/IBC, MUNICIPAL CODE, AND ALL MANUFACTURERS' LISTINGS AND INSTALLATION INSTRUCTIONS.
- PHOTOVOLTAIC SYSTEM WILL COMPLY WITH NEC 2023.
- ELECTRICAL SYSTEM GROUNDING WILL COMPLY WITH NEC 2023.
- PHOTOVOLTAIC SYSTEM IS UNGROUNDED. NO CONDUCTORS ARE SOLIDLY GROUNDED IN THE INVERTER. SYSTEM COMPLIES WITH 690.35.
- MODULES CONFORM TO AND ARE LISTED UNDER UL 1703.
- INVERTER CONFORMS TO AND IS LISTED UNDER UL 1741.
- RACKING CONFORMS TO AND IS LISTED UNDER UL 2703.
- INSTALLED RACKING SYSTEMS, IN COMBINATION WITH TYPE I, OR TYPE II MODULES, ARE CLASS A FIRE RATED.
- RAPID SHUTDOWN REQUIREMENTS MET WHEN INVERTERS AND ALL CONDUCTORS ARE WITHIN ARRAY BOUNDARIES PER NEC 690.12(1).
- CONSTRUCTION FOREMAN TO PLACE CONDUIT RUN PER 690.31(G).
- ARRAY DC CONDUCTORS ARE SIZED FOR DERATED CURRENT.
- PV INSTALLATION COMPLIES WITH THE NEC 2023 ARTICLE 690.12(B)(2).
CONTROLLED CONDUCTORS LOCATED INSIDE THE ARRAY BOUNDARY ARE LIMITED TO 80 VOLTS WITHIN 30 SECOND OF A RAPID SHUTDOWN INITIATION

LEGEND AND ABBREVIATIONS

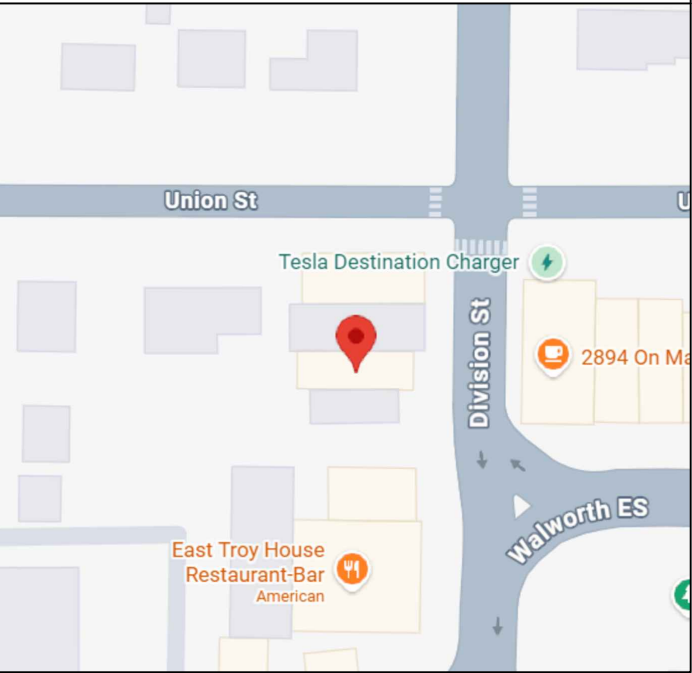
UM	UTILITY METER	INV	INVERTER(S)
MP	MAIN PANEL	AC	AC DISCONNECT(S)
SP	SUB-PANEL	DC	DC DISCONNECT(S)
LC	PV LOAD CENTER	CB	IQ COMBINER BOX
PM	DEDICATED PV METER		INTERIOR EQUIPMENT SHOWN AS DASHED
ESS	ENERGY STORAGE SYSTEM		

AMP	AMPERE
AC	ALTERNATING CURRENT
AFCI	ARC FAULT CIRCUIT INTERRUPTER
COMP	COMPOSITION
DC	DIRECT CURRENT
(E)	EXISTING
ESS	ENERGY STORAGE SYSTEM
EXT	EXTERIOR
INT	INTERIOR
LBW	LOAD BEARING WALL
MAG	MAGNETIC
MSP	MAIN SERVICE PANEL
(N)	NEW
NTS	NOT TO SCALE
OC	ON CENTER
PRE-FAB	PRE-FABRICATED
PSF	POUNDS PER SQUARE FOOT
PV	PHOTOVOLTAIC
TL	TRANSFORMERLESS
TYP	TYPICAL
V	VOLTS
W	WATTS

AERIAL VIEW



VICINITY MAP



CUSTOMER RESIDENCE:

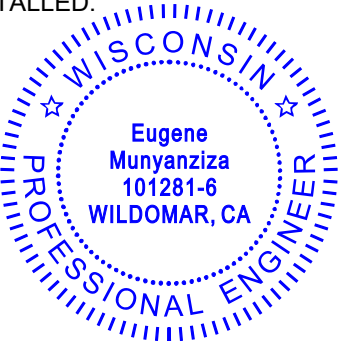
SAM BRESLER
2079 DIVISION ST, EAST TROY, WI 53120
METER #: 1367432

SCOPE OF WORK

- CONNECT SYSTEM VIA INSULATION PIERCING ON SUPPLY SIDE OF MAIN BREAKER IN MAIN PANEL ENCLOSURE. CONDUCTORS ARE FIELD INSTALLED.
- SIZE OF THE SYSTEM:
 - A. DC SIZE = 11.18kW
 - B. AC SIZE = 7.54kW

Eugene
Munyanzi
za

Digitally signed
by Eugene
Munyanzi
Date: 2026.05.15
14:23:51 +02'00'



REV	NAME
A	INITIAL PLANSET
JOB CODE	261-BRES
DRAWN BY	ANTHONY G.
PHONE NO.	
DRAWN DATE	5/15/2026
SCALE	AS INDICATED
SHEET TITLE	
COVER SHEET	
PAGE	P1.0

ARRAY #	PITCH	TRUE AZIMUTH	PV AREA (SQ.FT)
ARRAY 01	10°	181°	559.26

SYSTEM SIZE	11.18kW
CONTRACT MODULE TYPE AND QUANTITY	(26) JINKO SOLAR JKM430N-54HL4R-B - 430W
INVERTER TYPE AND QUANTITY	(26) ENPHASE IQ8PLUS-72-M-US MICRO-INVERTERS 240VAC
ENERGY STORAGE TYPE	NA
CONSUMPTION MONITORING	N/A
MSP BUS BAR RATING	200 AMP
MAIN BREAKER RATING	200 AMP



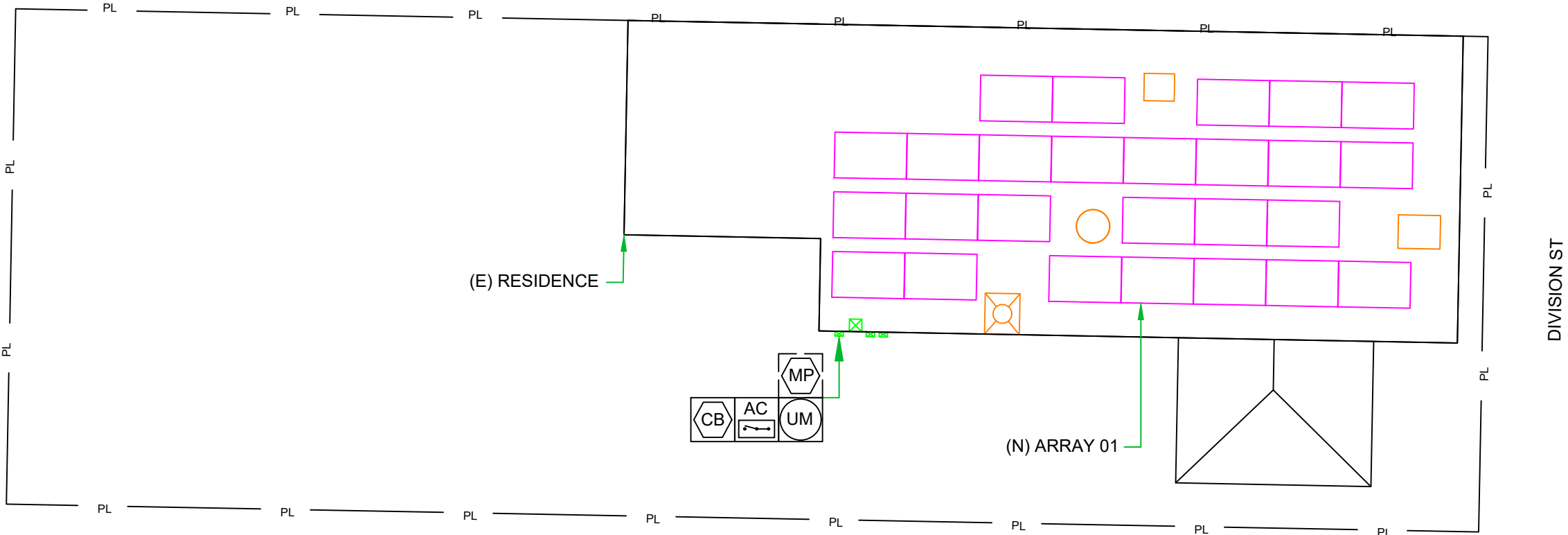
Lehmann Electrical and Design
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Wauwatosa, WI 53226
414-207-0109
LICENCE #1492849

CUSTOMER RESIDENCE:
SAM BRESLER
2079 DIVISION ST, EAST TROY, WI 53120
METER #: 1367432

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SCALE	AS INDICATED

SHEET TITLE
SITE PLAN

PAGE
P2.0



SITE PLAN - SCALE = 3/32" = 1'-0"
NOTE: MICRO-INVERTERS INSTALLED UNDER EACH MODULE

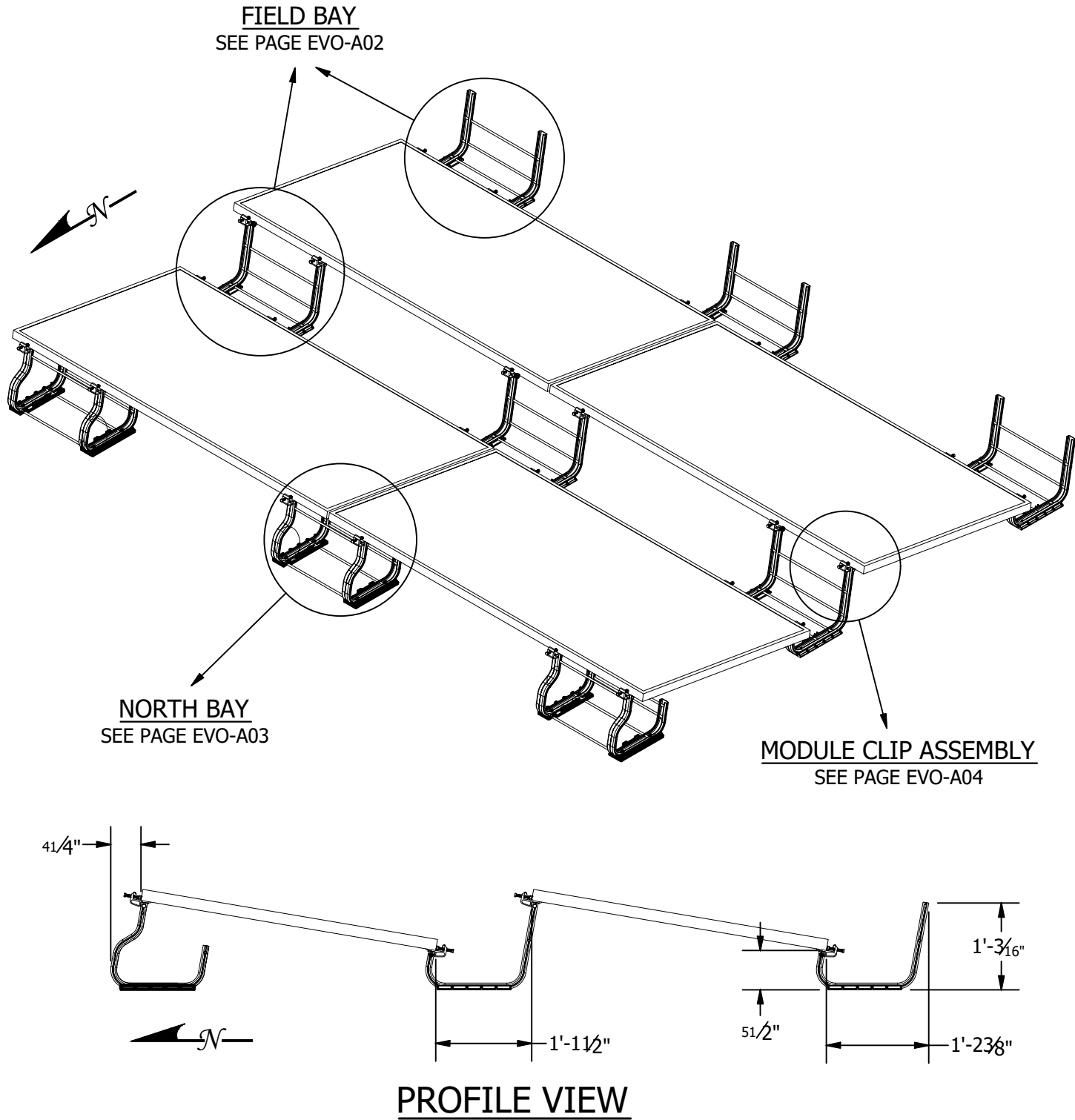


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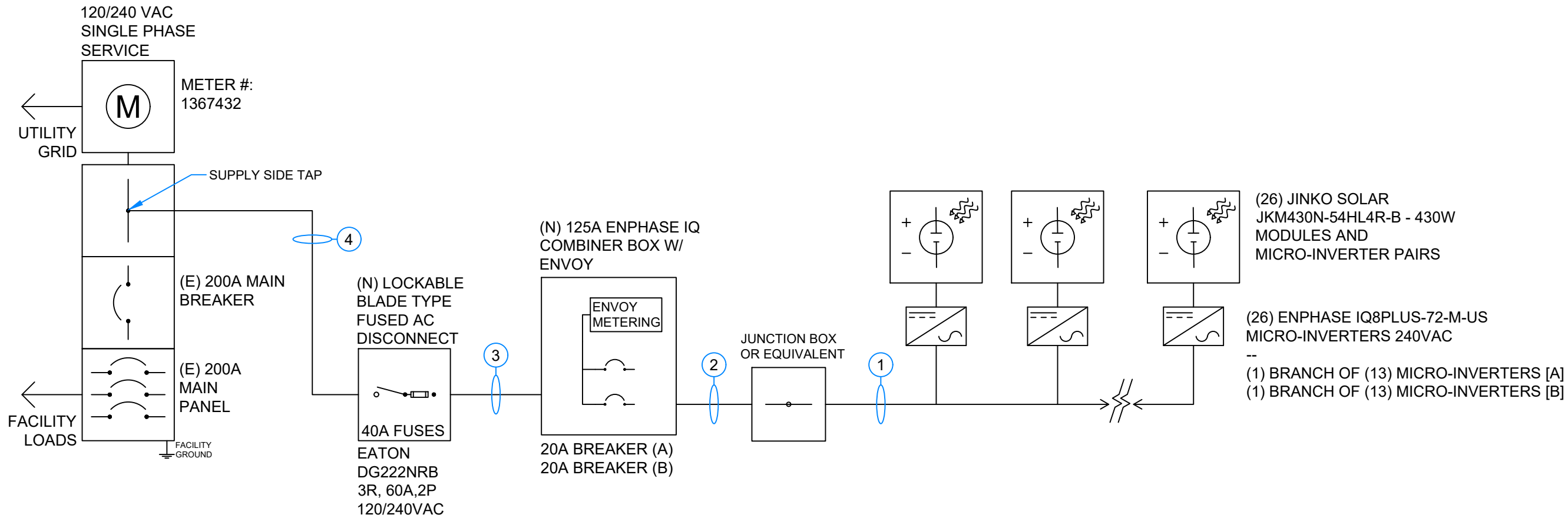
CUSTOMER RESIDENCE:
SAM BRESLER
2079 DIVISION ST, EAST TROY, WI 53120
METER #: 1367432

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A	INITIAL PLANSET
JOB CODE	261-BRES
DRAWN BY	ANTHONY G.
PHONE NO.	
DRAWN DATE	5/15/2026
SCALE	AS INDICATED

SHEET TITLE
MOUNTING DETAILS



NOTES:
1. ARRAY DIMENSIONS WILL VARY BASED ON
MODULE WIDTH, LENGTH AND RETURN FLANGE.



CONDUIT SCHEDULE

#	CONDUIT	CONDUCTOR	NEUTRAL	GROUND
1	NONE	(2) 12 AWG PER ENPHASE Q CABLE BRANCH	NONE	(1) 6 AWG BARE COPPER
2	3/4" EMT OR EQUIV.	(4) 10 AWG THHN/THWN-2	NONE	(1) 10 AWG THHN/THWN-2
3	3/4" EMT OR EQUIV.	(2) 8 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2
4	3/4" EMT OR EQUIV.	(2) 6 AWG THHN/THWN-2	(1) 6 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2

- SIZE OF THE SYSTEM:
 - A. DC SIZE = 11.18kW
 - B. AC SIZE = 7.54kW



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SHEET TITLE	
ELECTRICAL DIAGRAM	
PAGE	P4.0

!

WARNING

ELECTRICAL SHOCK HAZARD

TERMINALS ON LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION:
INVERTER(S), AC/DC DISCONNECT(S),
AC COMBINER PANEL (IF APPLICABLE).
PER CODE(S): NEC 2023: 690.13(B),
705.20(7), 706.15(C)

!

WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID
AND PV SOLAR ELECTRIC
SYSTEM

LABEL LOCATION:
UTILITY SERVICE METER AND MAIN
SERVICE PANEL.
PER CODE(S): CEC 2016: 705.12(D)(3),
NEC 2014: 705.12(D)(3), NEC 2011:
705.12(D)(4)

!

WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID
AND PV SOLAR ELECTRIC
SYSTEM

LABEL LOCATION:
UTILITY SERVICE METER AND MAIN
SERVICE PANEL.
PER CODE(S): NEC 2023: 705.30(C)

!

WARNING

POWER SOURCE OUTPUT CONNECTION

DO NOT RELOCATE THIS
OVERCURRENT DEVICE

LABEL LOCATION:
ADJACENT TO PV BREAKER AND ESS
OCPD (IF APPLICABLE).
PER CODE(S): NEC 2023: 705.12(B)(2)

!

WARNING

THIS EQUIPMENT FED BY
MULTIPLE SOURCES. TOTAL
RATING OF ALL OVERCURRENT
DEVICES EXCLUDING MAIN
SUPPLY OVERCURRENT DEVICE
SHALL NOT EXCEED AMPACITY OF
BUSBAR

LABEL LOCATION:
PV LOAD CENTER (IF APPLICABLE) AND
ANY PANEL THAT UTILIZES "THE SUM
OF BREAKERS RULE".
PER CODE(S): NEC 2023: 705.12 (B)(3)

PHOTOVOLTAIC AC DISCONNECT

MAXIMUM AC OPERATING CURRENT: 31 AMPS

NOMINAL OPERATING AC VOLTAGE: 240 VAC

LABEL LOCATION:
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF
INTERCONNECTION.
PER CODE(S): NEC 2017: 690.54, NEC 2014: 690.54, NEC
2011: 690.54

RAPID SHUTDOWN SWITCH
FOR SOLAR PV SYSTEM

LABEL LOCATION:
INSTALLED WITHIN 3' OF RAPID SHUT DOWN
SWITCH PER CODE(S): NEC 2023: 690.12(D)(2), IFC
2018: 1204.5.3

4"

3"

SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN
SWITCH TO THE "OFF"
POSITION TO SHUT DOWN
PV SYSTEM AND REDUCE
SHOCK HAZARD IN THE
ARRAY.

SOLAR ELECTRIC
PV PANELS

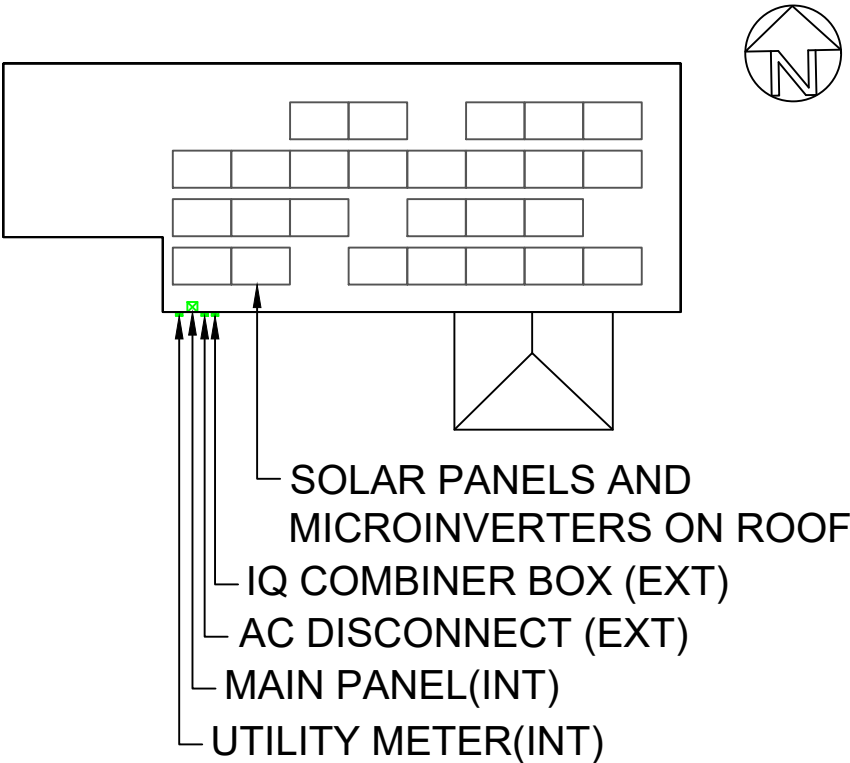
LABEL LOCATION:
ON OR NO MORE THAT 1 M (3 FT) FROM THE SERVICE
DISCONNECTING MEANS TO WHICH THE PV SYSTEMS
ARE CONNECTED.
PER CODE(S): NEC 2023: 690.12(D)

- NOTES AND SPECIFICATIONS:
- SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE NEC 2023 ARTICLE 110.21(B), UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 690, OR IF REQUESTED BY THE LOCAL AHJ.
 - SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE WORDS, COLORS AND SYMBOLS.
 - LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HAND WRITTEN.
 - LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
 - SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.
 - DO NOT COVER EXISTING MANUFACTURER LABELS.



Lehmann Electrical and Design
12012 W. Fairview Ave.
Wauwatosa, WI 53226
414-207-0109
LICENCE #1492849

CAUTION:
MULTIPLE SOURCES OF POWER



2079 Division St, East Troy, WI 53120

PER CODE(S): NEC 2023 : 705.10(2)

CUSTOMER RESIDENCE:

SAM BRESLER
2079 DIVISION ST, EAST TROY, WI 53120
METER #: 1367432

REV	NAME
A	INITIAL PLANSET
JOB CODE	261-BRES
DRAWN BY	ANTHONY G.
PHONE NO.	
DRAWN DATE	5/15/2026
SCALE	AS INDICATED
SHEET TITLE	
PLACARDS	
PAGE	P5.0

Tiger Neo N-type 54HL4R-B 425-445 Watt ALL-BLACK MODULE

N-Type

Positive power tolerance of 0~+3%

IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018

Occupational health and safety management systems



Key Features



SMBB Technology

Better light trapping and current collection to improve module power output and reliability.



Hot 2.0 Technology

The N-type module with Hot 2.0 technology has better reliability and lower LID/LETID.



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



Enhanced Mechanical Load

Certified to withstand: wind load (4000 Pascal) and snow load (6000 Pascal).



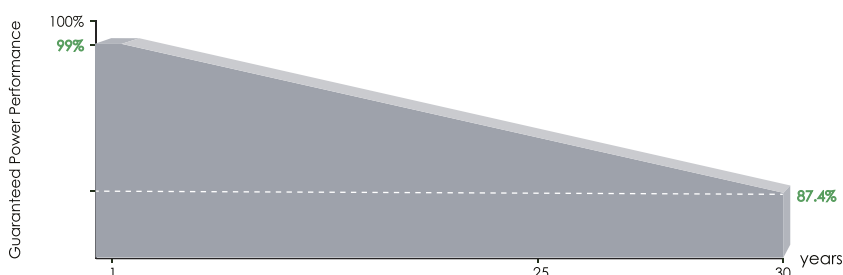
Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.



POSITIVE QUALITY™
Continuous Quality Assurance

LINEAR PERFORMANCE WARRANTY

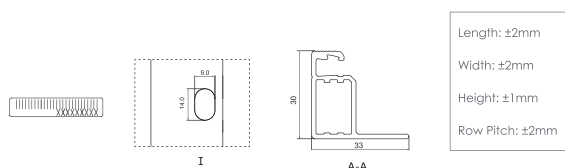
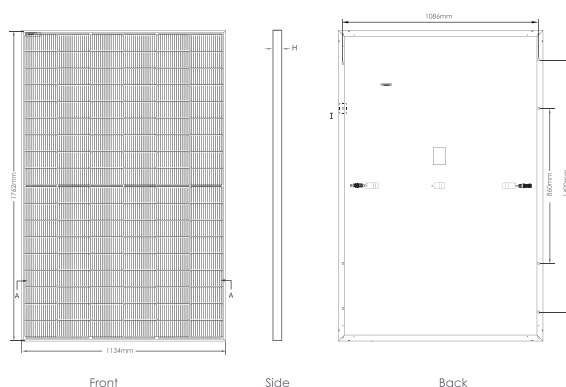


25 Year Product Warranty

30 Year Linear Power Warranty

0.40% Annual Degradation Over 30 years

Engineering Drawings

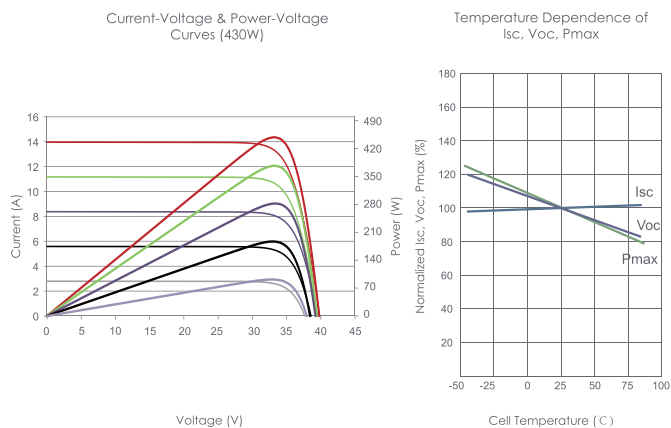


Packaging Configuration

(Two pallets = One stack)

36pcs/pallets, 72pcs/stack, 936pcs/ 40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type N type Mono-crystalline

No. of cells 108 (6×18)

Dimensions 1762×1134×30mm (69.36×44.65×1.18 inch)

Weight 22 kg (48.50 lbs)

Front Glass 3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass

Frame Anodized Aluminium Alloy

Junction Box IP68 Rated

Output Cables TUV 1×4.0mm²
 (+): 400mm, (-): 200mm or Customized Length

SPECIFICATIONS

Module Type	JKM425N-54HL4R-B		JKM430N-54HL4R-B		JKM435N-54HL4R-B		JKM440N-54HL4R-B		JKM445N-54HL4R-B	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	425Wp	320Wp	430Wp	323Wp	435Wp	327Wp	440Wp	331Wp	445Wp	335Wp
Maximum Power Voltage (Vmp)	32.37V	30.19V	32.58V	30.30V	32.78V	30.50V	32.99V	30.73V	33.19V	30.93V
Maximum Power Current (Imp)	13.13A	10.60A	13.20A	10.66A	13.27V	10.72A	13.34A	10.77A	13.41A	10.83A
Open-circuit Voltage (Voc)	38.95V	37.00V	39.16V	37.20V	39.36V	37.39V	39.57V	37.59V	39.77V	37.78V
Short-circuit Current (Isc)	13.58A	10.96A	13.65A	11.02A	13.72A	11.08A	13.80A	11.14A	13.87A	11.20A
Module Efficiency STC (%)	21.27%		21.52%		21.77%		22.02%		22.27%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1000VDC (IEC)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.29%/°C									
Temperature coefficients of Voc	-0.25%/°C									
Temperature coefficients of Isc	0.045%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									

*STC: Irradiance 1000W/m²

Cell Temperature 25°C

AM=1.5

NOCT: Irradiance 800W/m²

Ambient Temperature 20°C

AM=1.5

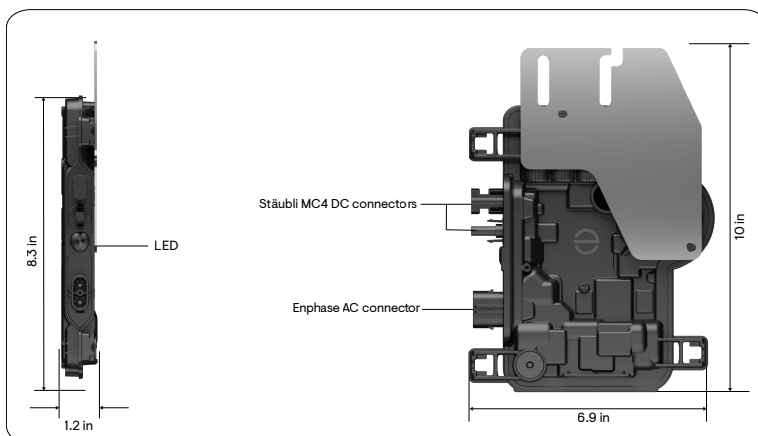
Wind Speed 1m/s

IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters^{1,2,3} are the industry's first microgrid-forming⁴, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently.



Key specifications	IQ8-60-M-US	IQ8PLUS-72-M-US
Peak output power	245 VA	300 VA
Nominal grid voltage (L-L)	240 V, split-phase (L-L), 180°	
Nominal frequency	60 Hz	60 Hz
CEC weighted efficiency	97%	97%
Maximum input DC voltage	50 V	60 V
MPPT voltage range	27–37 V	27–45 V
Maximum module I_{sc}	20 A	20 A
Ambient temperature range	–40°C to 60°C (–40°F to 140°F)	



Simple

- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

Reliable

- Produce power even when the grid is down
- More than one million cumulative hours of testing
- Industry-leading limited warranty of up to 25 years
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Compliant with the latest advanced grid support⁵
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)

¹ IQ8 Series Microinverters can be added to existing IQ7 systems on the same IQ Gateway only in the following grid-tied configurations: Solar Only or Solar + Battery (IQ Battery 3T/10T and IQ Battery 5P) without backup.

² IQ7 Series Microinverters cannot be added to a site with existing IQ8 Series Microinverters on the same gateway. Mixed system of IQ7 and IQ8 will not support IQ8-specific PCS features and grid-forming capabilities.

³ IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative, according to the IEEE 1547 interconnection standard. Use an IQ Gateway to make these changes during installation.

⁴ Meets UL 1741 only when installed with IQ System Controller 2 or 3.

⁵ IQ8 and IQ8+ support split-phase, 240 V installations only.

Input data (DC)	Units	IQ8-60-M-US	IQ8PLUS-72-M-US
Commonly used module pairings ⁶	W	235–350	235–440
Module compatibility	—	To meet compatibility, PV modules must be within maximum input DC voltage and maximum module I_{sc} . Module compatibility can be checked at https://enphase.com/installers/microinverters/calculator .	
MPPT voltage range	V	27–37	27–45
Operating range	V	16–48	16–58
Minimum/Maximum start voltage	V	22/48	22/58
Maximum input DC voltage	V	50	60
Maximum continuous input DC current	A	10	12
Maximum input DC short-circuit current	A	25	
Maximum module I_{sc}	A	20	
Overvoltage class DC port	—	II	
DC port backfeed current	mA	0	
PV array configuration	—	Ungrounded array; no additional DC side protection required; AC side protection requires maximum 20 A per branch circuit.	
Output data (AC)	Units	IQ8-60-M-US	IQ8PLUS-72-M-US
Peak output power	VA	245	300
Maximum continuous output power	VA	240	290
Nominal grid voltage (L-L)	V	240, split-phase (L-L), 180°	
Minimum and Maximum grid voltage ⁷	V	211–264	
Maximum continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	47–68	
AC short-circuit fault current over three cycles	Arms	2	
Maximum units per 20 A (L-L) branch circuit ⁸	—	16	13
Total harmonic distortion	%	<5	
Overvoltage class AC port	—	III	
AC port backfeed current	mA	30	
Power factor setting	—	1.0	
Grid-tied power factor (adjustable)	—	0.85 leading ... 0.85 lagging	
Peak efficiency	%	97.7	
CEC weighted efficiency	%	97	
Nighttime power consumption	mW	23	25
Mechanical data		IQ8-60-M-US	IQ8PLUS-72-M-US
Ambient temperature range		–40°C to 60°C (–40°F to 140°F)	

⁶ No enforced DC/AC ratio.

⁷ Nominal voltage range can be extended beyond nominal if required by the utility.

⁸ Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

Mechanical data	IQ8-60-M-US	IQ8PLUS-72-M-US
Relative humidity range	4% to 100% (condensing)	
DC connector type	Stäubli MC4	
Dimensions (H × W × D)	212 mm (8.3 in) × 175 mm (6.9 in) × 30.2 mm (1.2 in)	
Weight	1.1 kg (2.43 lb)	
Cooling	Natural convection—no fans	
Approved for wet locations	Yes	
Pollution degree	PD3	
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure	
Environmental category/UV exposure rating	NEMA Type 6/Outdoor	
Compliance	IQ8-60-M-US	IQ8PLUS-72-M-US
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3rd Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01. This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020, and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems, for AC and DC conductors, when installed according to the manufacturer's instructions.	

Components of the Enphase Energy System



IQ Battery

All-in-one AC-coupled storage solution that integrates seamlessly with your solar energy system, providing reliable backup power and intelligent energy management for maximum performance and energy savings.



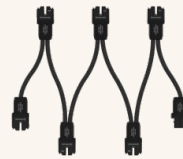
IQ System Controller

The IQ System Controller connects the home to the grid power, IQ Batteries, generator and solar PV with microinverters.



IQ Combiner/IQ Gateway

The IQ Combiner/IQ Gateway is a device that performs energy management, provides internet connectivity, and integrates with the IQ Series Microinverters to provide complete control and insights into the Enphase Energy System.



IQ Cable

The IQ Cable is a continuous-length 12-AWG cable with pre-installed connectors for IQ Microinverters that support faster, simpler, and more reliable installations. The cable is handled like standard outdoor-rated electrical wire, allowing it to be cut, spliced, and extended as needed.

Revision history

Revision	Date	Description
DSH-00206-4.0	December 2024	Updated information on backward compatibility with IQ7 Series Microinverters.
DSH-00206-3.0	February 2024	Updated the information about IEEE 1547 interconnection standard requirements.
DSH-00206-2.0	October 2023	Included NEC 2023 specification in the “Compliance” section.
DSH-00206-1.0	September 2023	Initial release.

ROOFMOUNT | RM10 EVO



THREE MAJOR COMPONENTS. ONE TOOL.

- Supports most framed PV modules (conventional, bi-facial, and large format) at a 10-degree tilt.
- Three SKUs: a fully assembled ballast bay, a tucked north row bay, and a redesigned universal module clamp.
- Improved 13" row spacing yields up to 20% more power density on the roof.
- Built on a decade long legacy, RM10 EVO retains the elements that made RM10 reliable, simple and robust.
- Designed to conveniently work with off the shelf wire management products.

AVAILABILITY

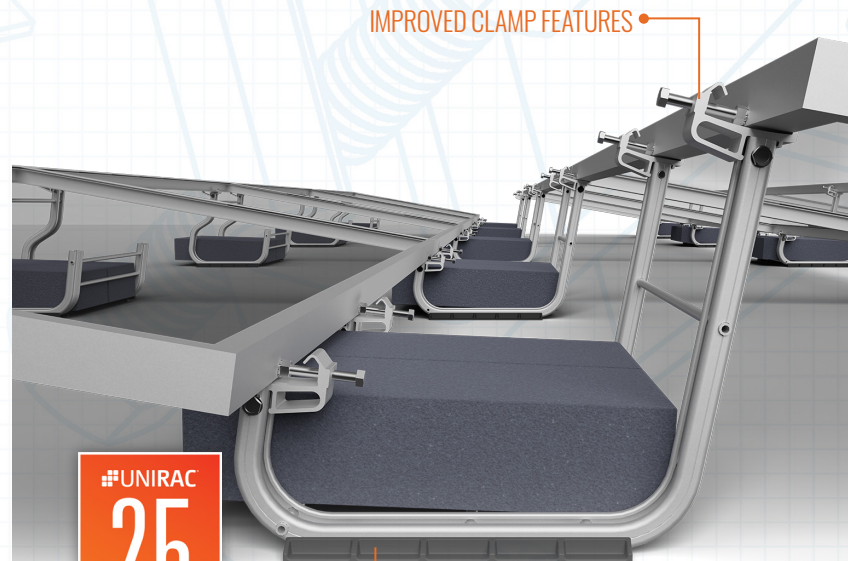
- UNIRAC maintains the largest network of stocking distributors for our racking solutions. Count on our partners for fast and accurate delivery to meet your project needs.

AUTOMATED DESIGN TOOL

- Creating a bill of materials is just a few clicks away with U-Builder, a powerful online tool that streamlines the process of designing a code compliant solar mounting system. There's no need to print results and send to a distributor, just click, and share.

WHY ROOFMOUNT RM10 EVO?

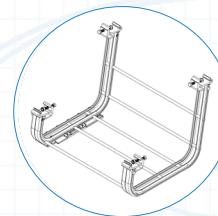
LAY IT DOWN AND POWER UP! Unirac has taken the tried-and-true form and functionality of RM10 and evolved it to maximize the potential of flat roof solar projects. We have paired simplicity with power by improving the function, strength and reliability of the module clamps and modified the shape of the north row bay to optimize space and increase module density. Optional roof attachments, roof pads, and MLPE mounts provide a complete solution. Unirac's unmatched commercial project support makes construction easy, from permitting through installation.



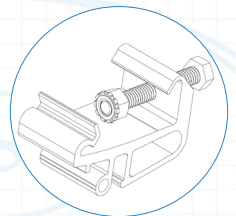
IMPROVED CLAMP FEATURES



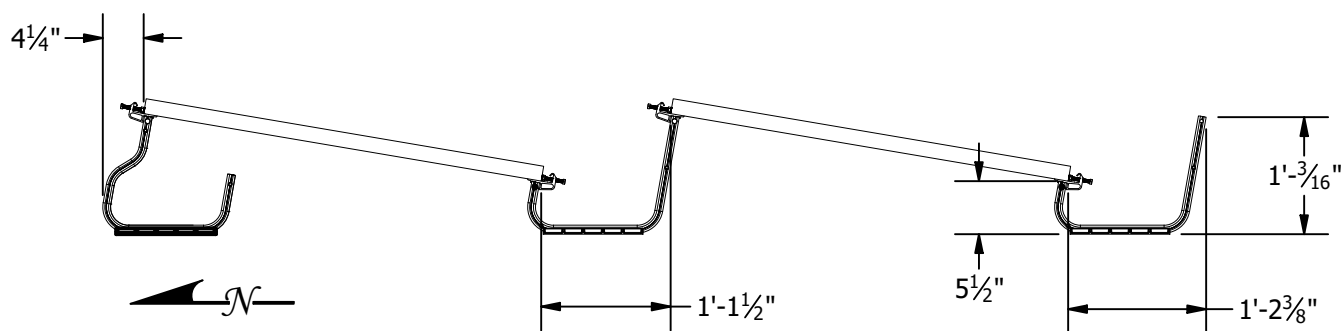
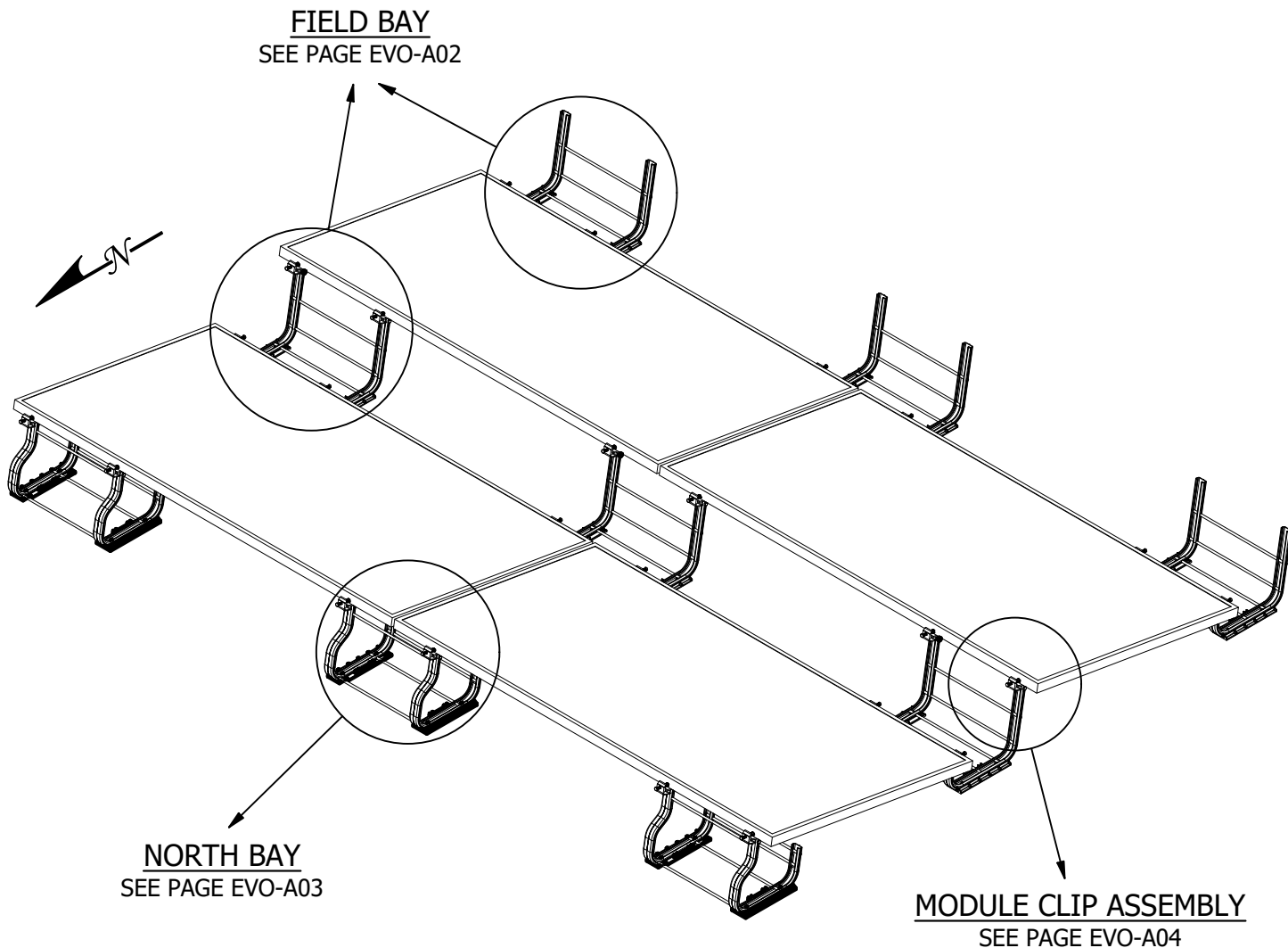
OPTIONAL UNIVERSAL ROOF PAD



RM10 FIELD BAY



EVO MODULE CLAMP



PROFILE VIEW

NOTES:

1. ARRAY DIMENSIONS WILL VARY BASED ON
MODULE WIDTH, LENGTH AND RETURN FLANGE.



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	SYSTEM ASSEMBLY
DESCRIPTION:	RM10 EVO
REVISION DATE:	12/10/2021

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

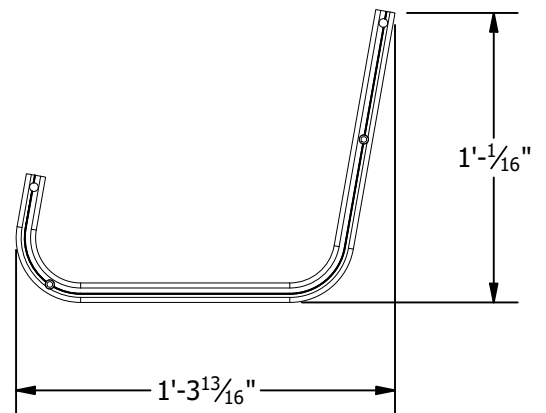
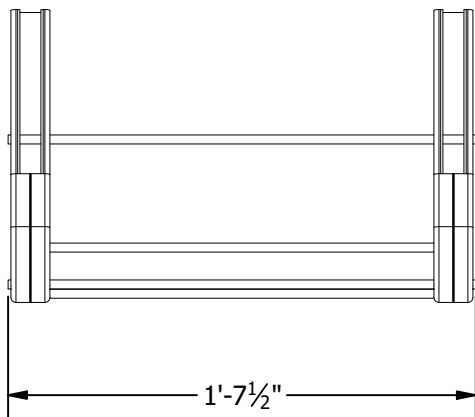
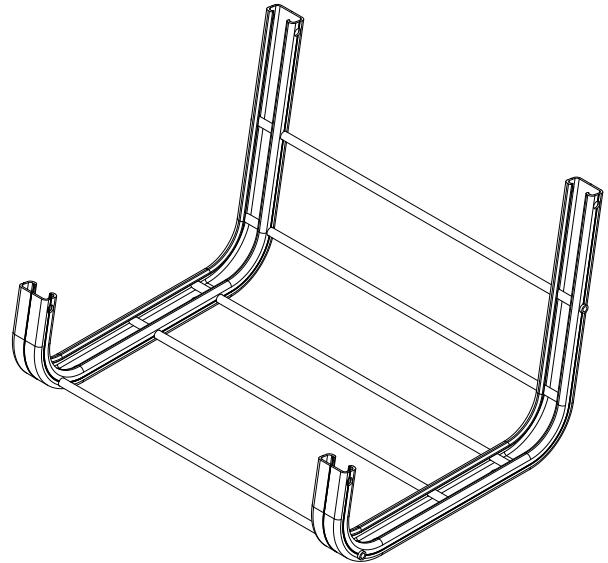
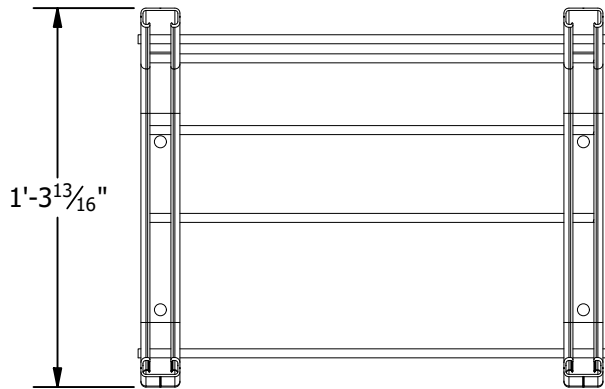
PRODUCT PROTECTED BY
ONE OR MORE US PATENTS
LEGAL NOTICE

EVO-A01

SHEET

ASSEMBLY # TABLE

P/N	DESCRIPTION
370010	RM10 EVO FIELD BAY



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	PARTS ASSEMBLY
DESCRIPTION:	FIELD BAY ASSEMBLY
REVISION DATE:	12/10/2021

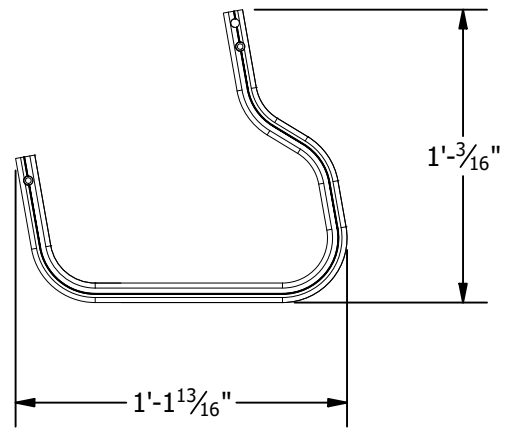
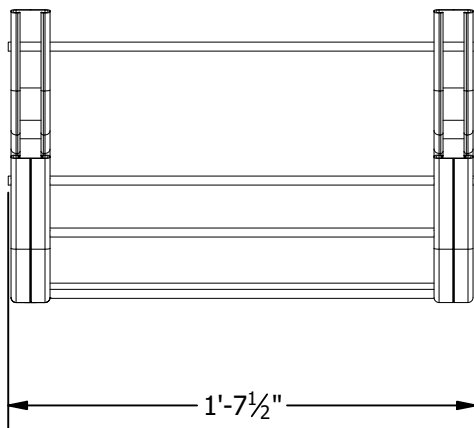
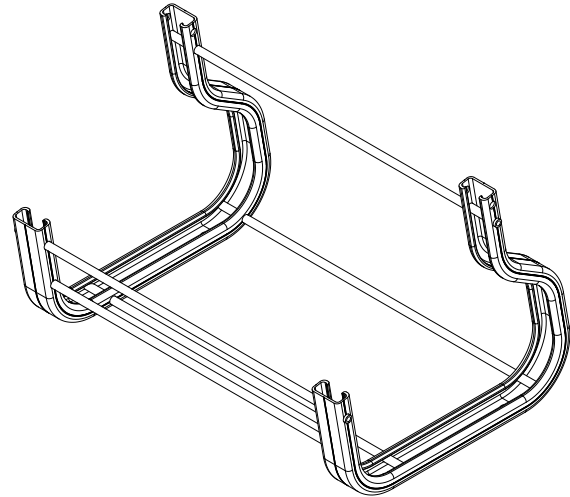
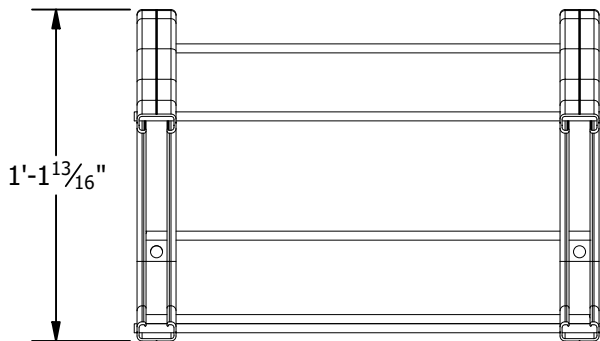
DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

PRODUCT PROTECTED BY
ONE OR MORE US PATENTS
LEGAL NOTICE

EVO-A02

SHEET

ASSEMBLY # TABLE	
P/N	DESCRIPTION
370011	RM10 EVO NORTH ROW BAY



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	PARTS ASSEMBLY
DESCRIPTION:	NORTH BAY ASSEMBLY
REVISION DATE:	12/10/2021

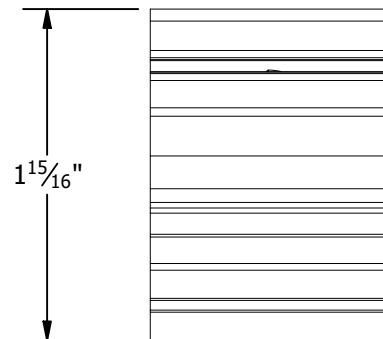
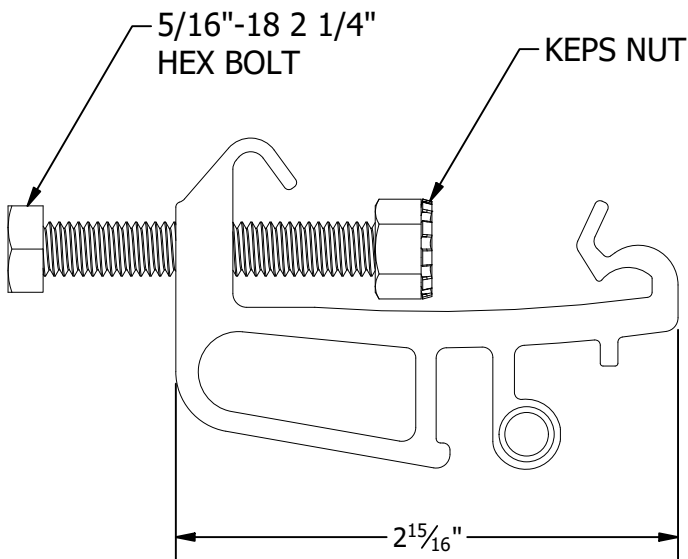
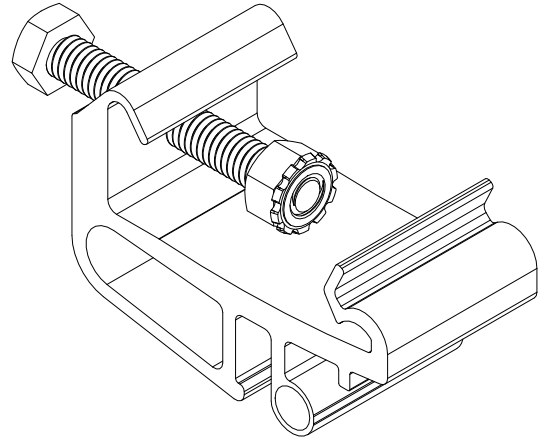
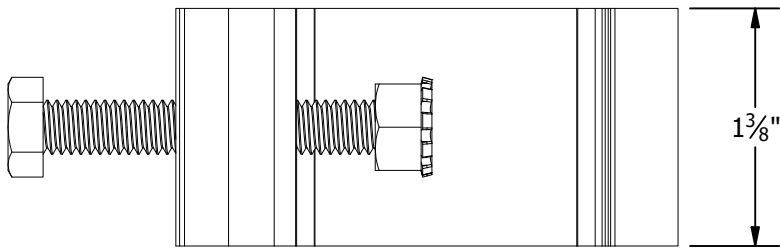
DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

PRODUCT PROTECTED BY
ONE OR MORE US PATENTS
LEGAL NOTICE

EVO-A03

SHEET

ASSEMBLY # TABLE	
P/N	DESCRIPTION
370023	RM10 EVO MODULE CLIP W/BOLT



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	PARTS ASSEMBLY
DESCRIPTION:	MODULE CLIP ASSEMBLY
REVISION DATE:	12/10/2021

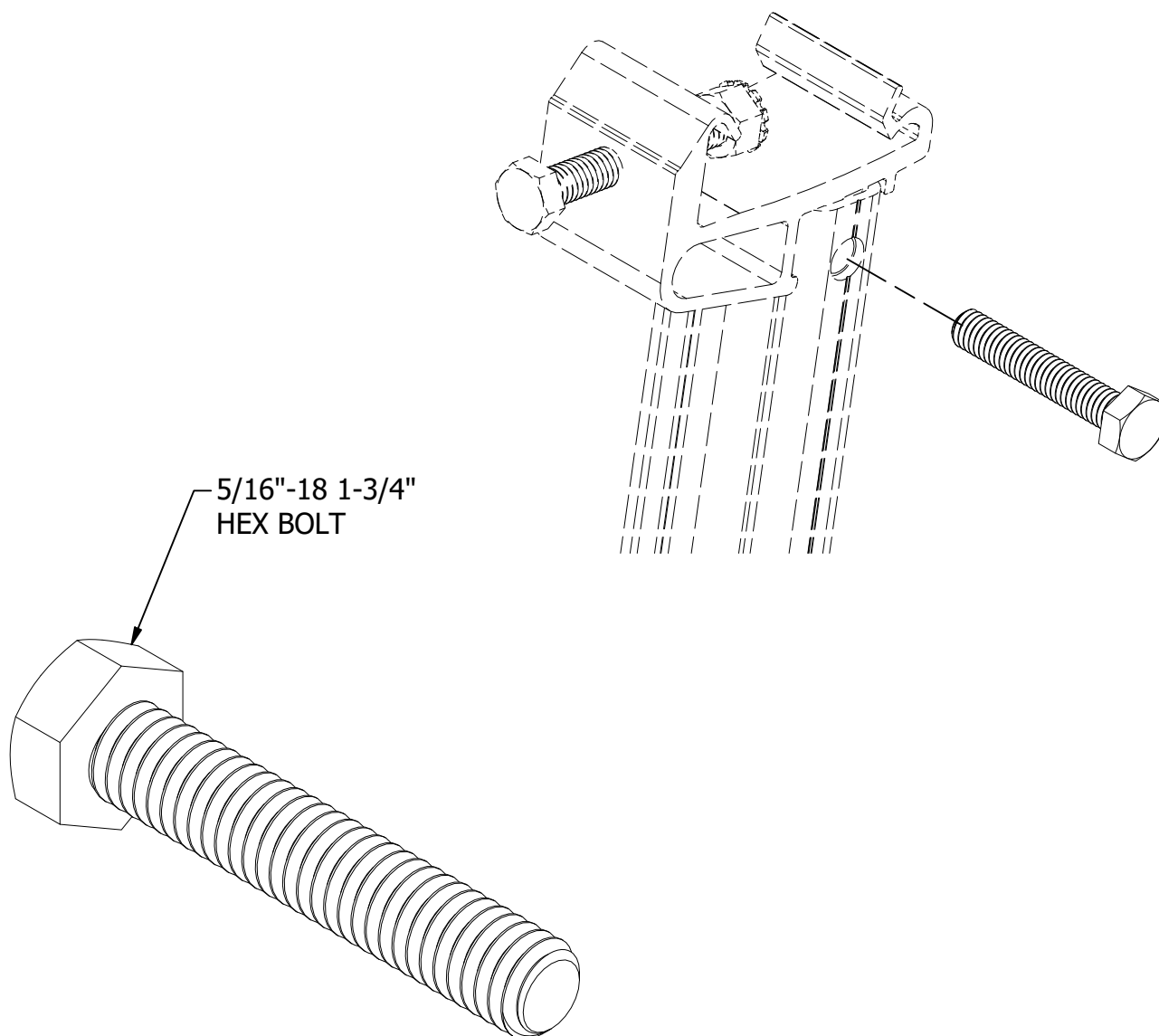
DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

PRODUCT PROTECTED BY
ONE OR MORE US PATENTS
LEGAL NOTICE

EVO-A04

SHEET

ASSEMBLY # TABLE	
P/N	DESCRIPTION
370022	RM10 EVO MODULE CLIP PIN BOLT



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE: RM10 EVO

DRAWING TYPE: PARTS

DESCRIPTION: MODULE CLIP PIN
BOLT

REVISION DATE: 12/10/2021

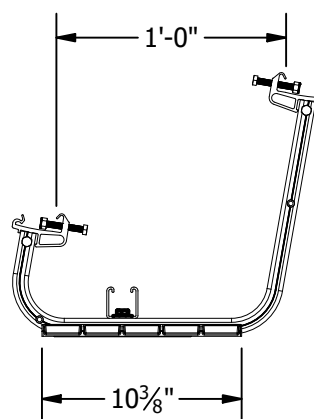
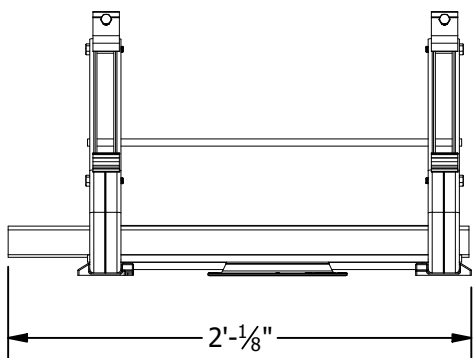
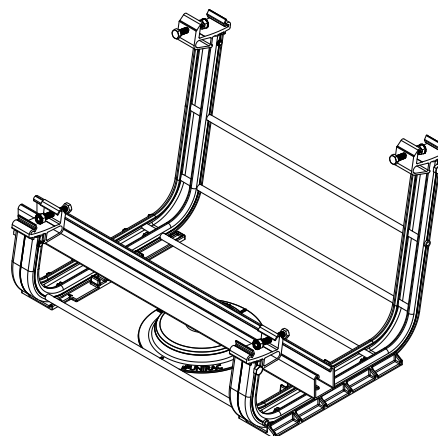
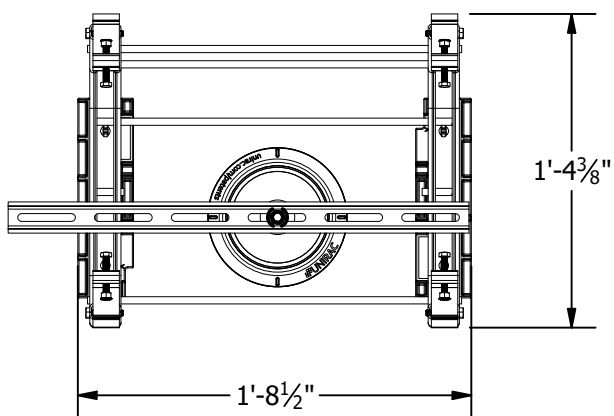
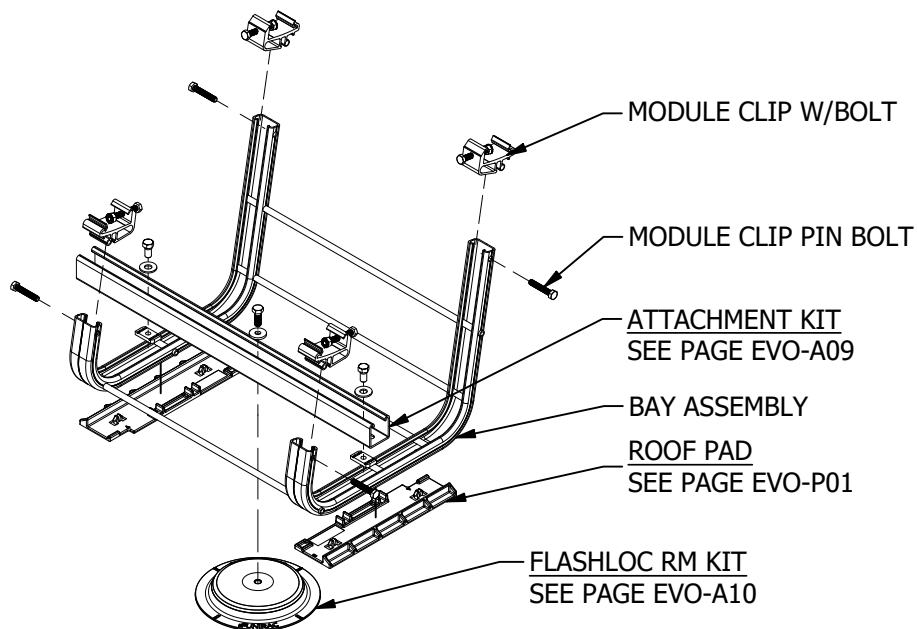
DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

PRODUCT PROTECTED BY
ONE OR MORE US PATENTS

LEGAL NOTICE

EVO-A05

SHEET



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

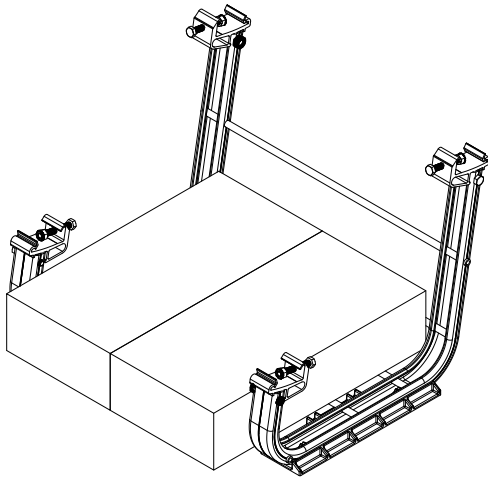
PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	PARTS ASSEMBLY
DESCRIPTION:	ROOF ATTACHMENT ASSEMBLY
REVISION DATE:	12/10/2021

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

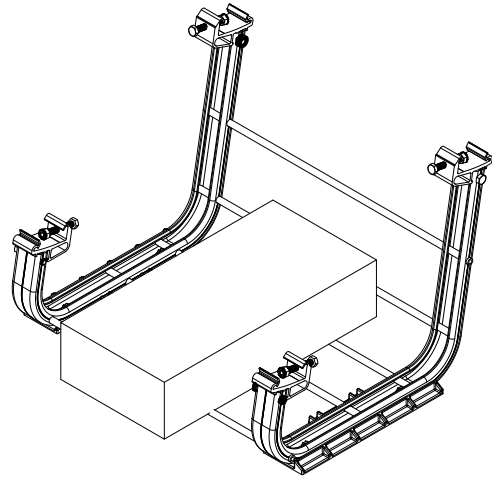
PRODUCT PROTECTED BY
ONE OR MORE US PATENTS
LEGAL NOTICE

EVO-A06

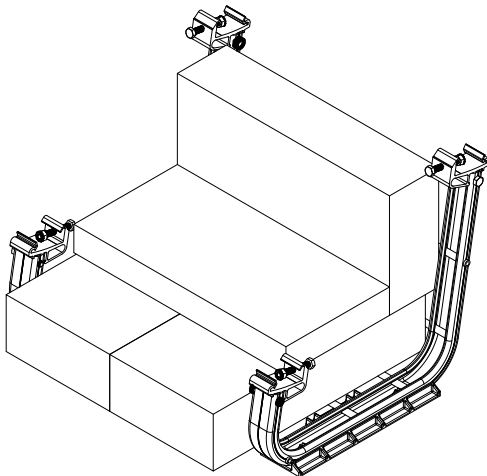
SHEET



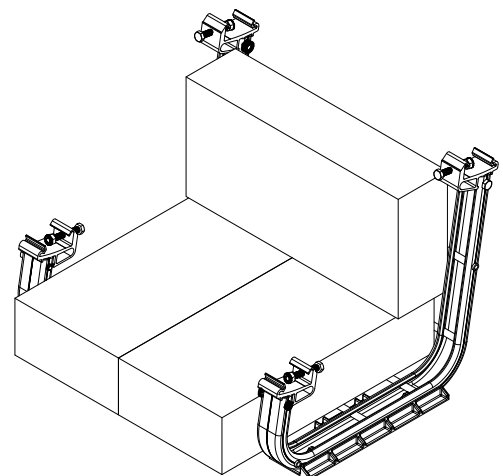
2 BLOCK BAY



1 BLOCK BAY



3-1/2 BLOCK BAY



3 BLOCK BAY



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

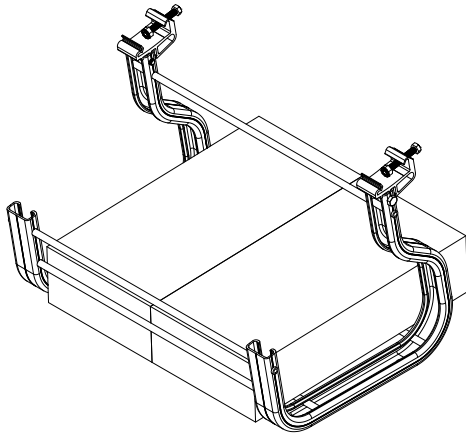
PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	PARTS ASSEMBLY
DESCRIPTION:	FIELD BAY BALLAST LAYOUT
REVISION DATE:	12/10/2021

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

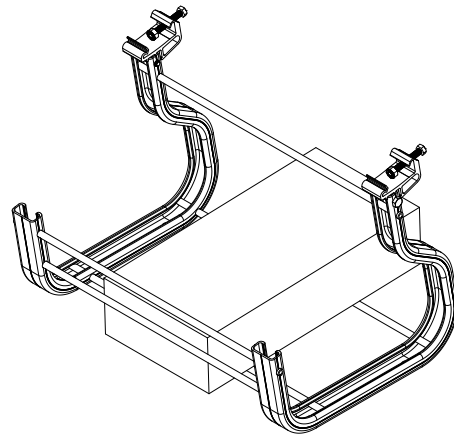
PRODUCT PROTECTED BY
ONE OR MORE US PATENTS
LEGAL NOTICE

EVO-A07

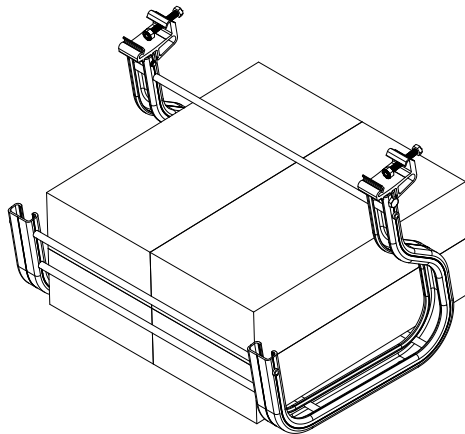
SHEET



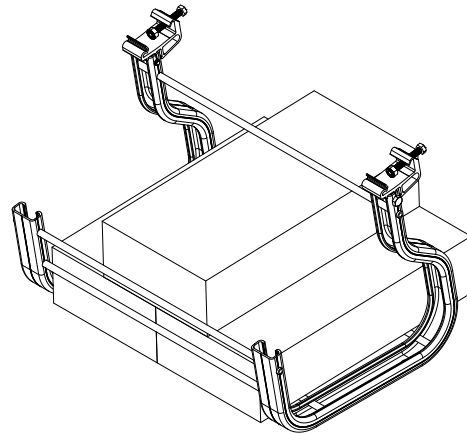
2 BLOCK BAY



1 BLOCK BAY



4 BLOCK BAY



3 BLOCK BAY



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	PARTS ASSEMBLY
DESCRIPTION:	NORTH BAY BALLAST LAYOUT
REVISION DATE:	12/10/2021

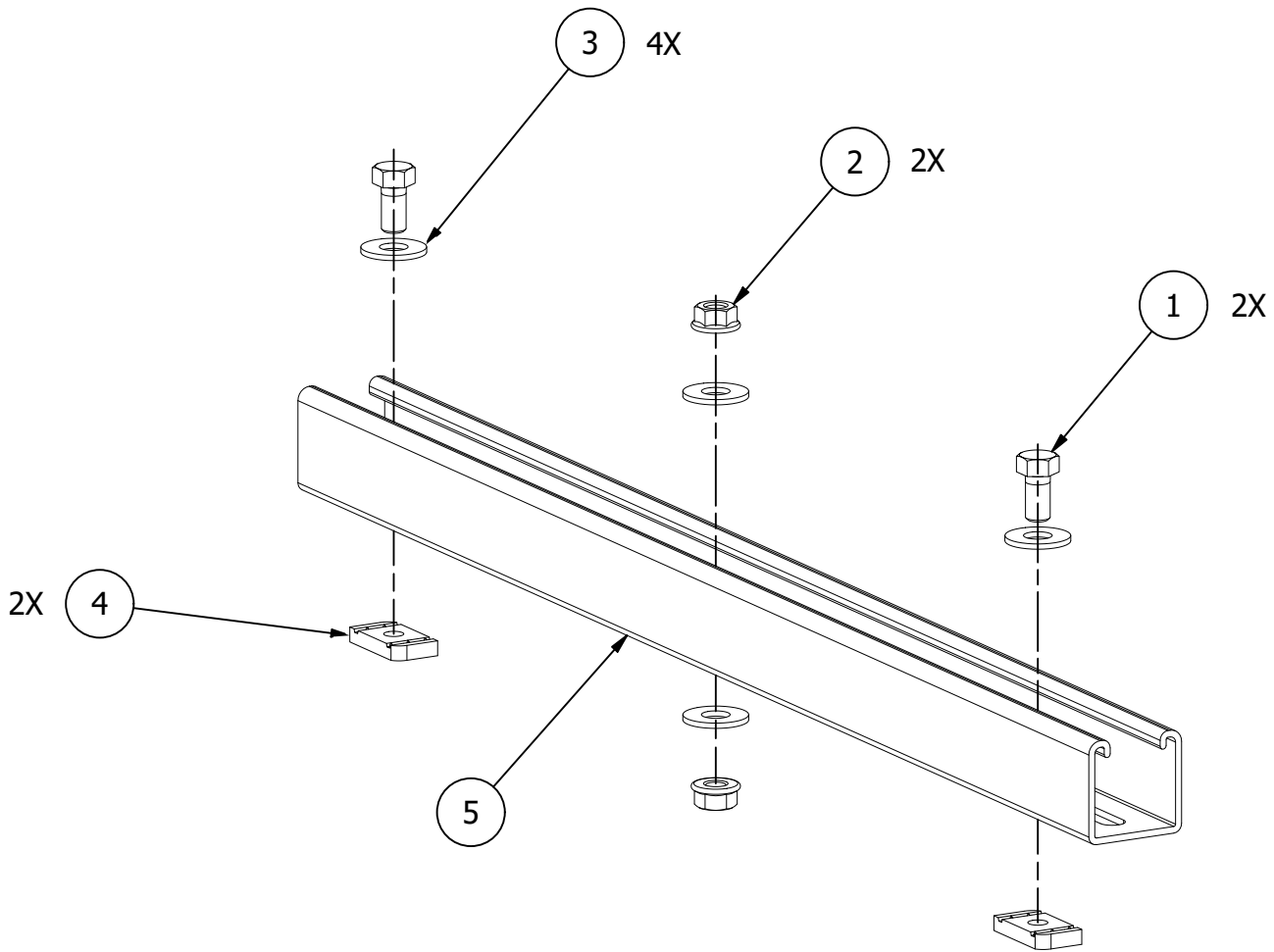
DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

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LEGAL NOTICE

EVO-A08

SHEET

ASSEMBLY # TABLE	
P/N	DESCRIPTION
310771	RM10 ATTACHMENT KIT



ATTACHMENT PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	M30304	3/8-16 X 3/4 HEX BOLT, SS
2	2	M31184	3/8-16 HEX FLANGE NUT, SS
3	4	M31130	3/8 WASHER, SS
4	2	M30383	3/8-16 STRUT NUT, ZN
5	1	M40600	1 5/8 X 1 5/8 X 24 IN STRUT, GALV



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	ASSEMBLY
DESCRIPTION:	RM10 ATTACHMENT KIT
REVISION DATE:	12/10/2021

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

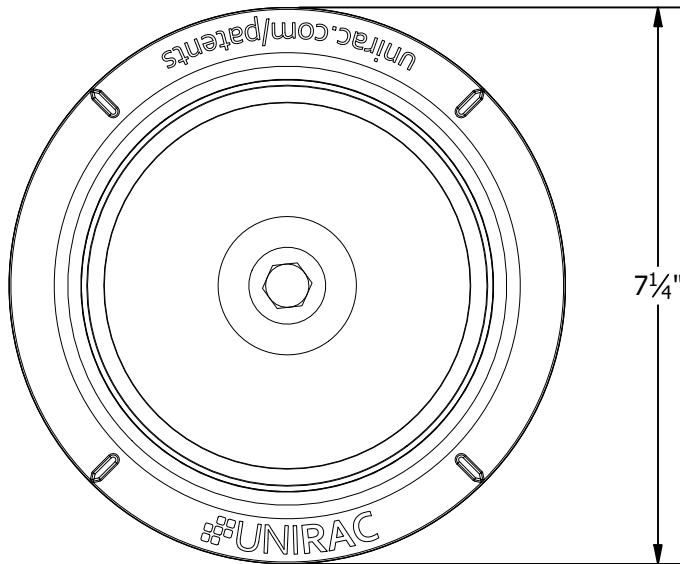
PRODUCT PROTECTED BY
ONE OR MORE US PATENTS
LEGAL NOTICE

EVO-A09

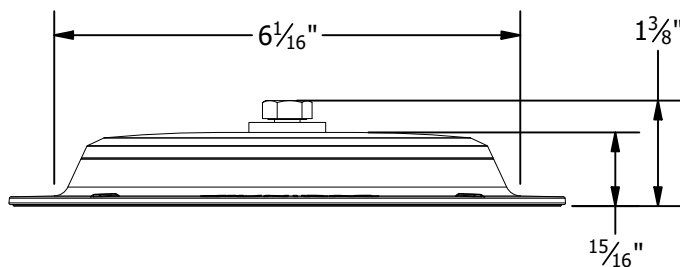
SHEET

NOTES:

1. ATTACHMENT CAN ACCOMMODATE ROOFING SCREW SIZES #12 - #15. FASTENER SIZE, LENGTH, AND QUANTITY TO BE SELECTED BY STRUCTURAL ENGINEER OF RECORD WHEN DESIGNING FOR THE SPECIFIC PROJECT CONSTRUCTION AND CAPACITY.
2. REFER TO THE UNIRAC INSTALLATION GUIDE FOR PROPER USE OF CHEM LINK M1 AND ONE-PART SEALANTS FOR WATER TIGHT INSTALLATION.

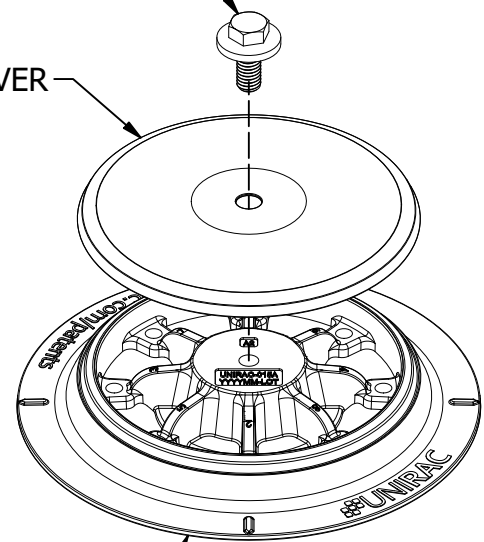


TOP VIEW



Ø 3/8" HARDWARE
(PRE-ASSEMBLED)

COVER



BASE

PART # TABLE	
P/N	DESCRIPTION
310999	FLASHLOC RM KIT

ULTIMATE TEST LOAD (WITH 8 ROOF FASTENERS)

UPLIFT ULTIMATE CAPACITY	6,670 lbs.
SHEAR ULTIMATE CAPACITY	5,760 lbs.



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE:	RM10 EVO
DRAWING TYPE:	ASSEMBLY DETAIL
DESCRIPTION:	FLASHLOC RM KIT
REVISION DATE:	12/10/2021

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
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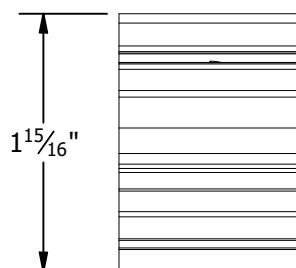
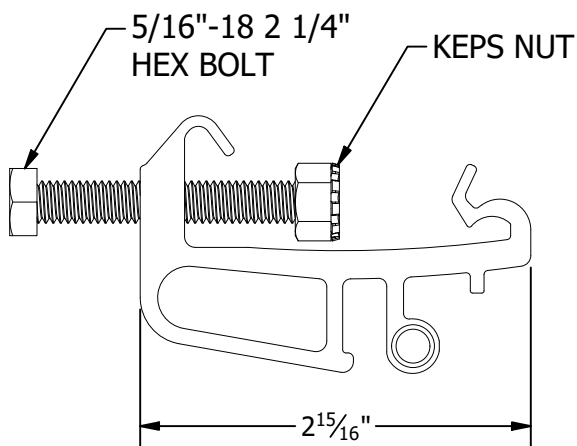
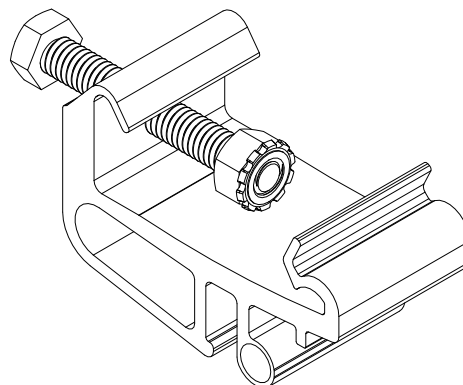
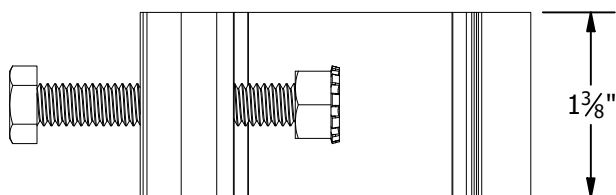
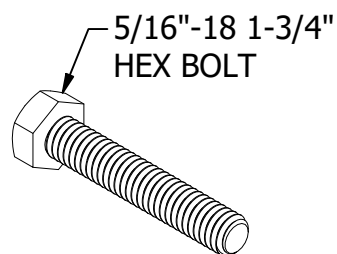
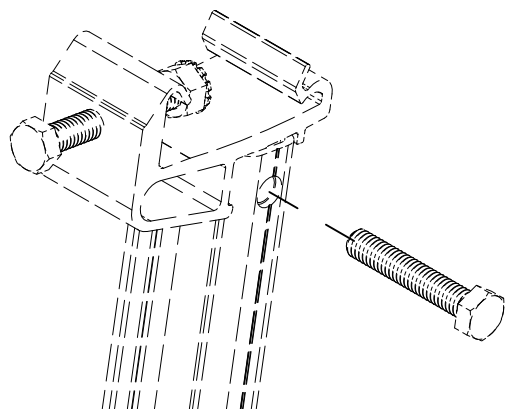
PRODUCT PROTECTED BY
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LEGAL NOTICE

EVO-A10

SHEET

ASSEMBLY # TABLE	
P/N	DESCRIPTION
370020	RM10 EVO MODULE CLAMP KIT



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE: RM10 EVO

DRAWING TYPE: PARTS

DESCRIPTION: MODULE CLIP PIN
BOLT

REVISION DATE: 12/10/2021

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

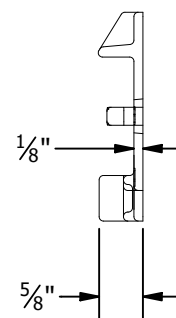
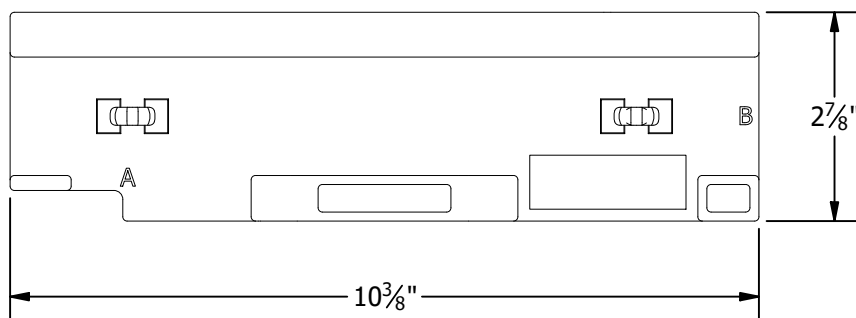
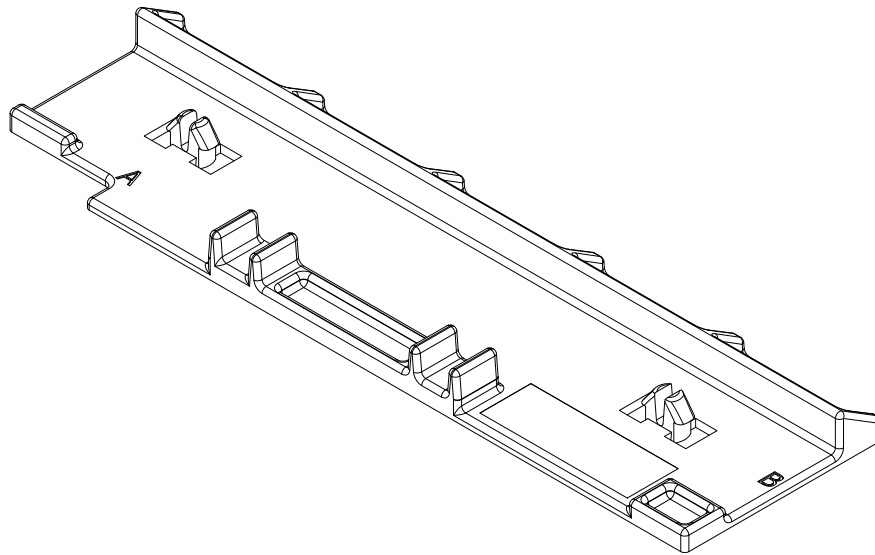
PRODUCT PROTECTED BY
ONE OR MORE US PATENTS

LEGAL NOTICE

EVO-A11

SHEET

PART # TABLE	
P/N	DESCRIPTION
310760	RM10 ROOF PAD



NOTES:

1. MATERIAL: TPE 70 SHORE A: SANTOPRENE 201-73,
ELASTOCON 2870 OR UNISOFT TPE ST-70A BK-2-01.
2. FINISH: BLACK



1411 BROADWAY BLVD. NE
ALBUQUERQUE, NM 87102 USA
PHONE: 505.242.6411
WWW.UNIRAC.COM

PRODUCT LINE: RM10 EVO

DRAWING TYPE: PART

DESCRIPTION: RM10 ROOF PAD

REVISION DATE: 12/10/2021

DRAWING NOT TO SCALE
ALL DIMENSIONS ARE
NOMINAL

PRODUCT PROTECTED BY
ONE OR MORE US PATENTS
LEGAL NOTICE

EVO-P01

SHEET

5/15/2026

RE: Structural Certification for Solar Installation
SAM BRESLER:2079 DIVISION ST, EAST TROY, WI 53120

Attn: To Whom It May Concern

This Letter is for the existing roof framing which will support ballasted PV modules. From the site survey, the roof is made of Flat EPDM roofing over roof plywood supported by 2X12 Rafters at 16 inches on a relatively flat roof. The slope of the ballast tilt is approximated to be 10 degrees.

After review and based on our structural capacity calculations, the existing roof framing has been determined to be adequate to support an additional dead weight without structural upgrades Ballasts seismic and uplift resistance as well as layout are derived and covered by The Ballast report.Capacity calculations were done in accordance with applicable building codes.

Design Criteria

<u>Code</u>	2021 International Building Code (ASCE 7-16)				
<u>Risk category</u>		II	<u>Wind Load</u>	(component and Cladding)	
<u>Roof Dead Load</u>	Dr	15 psf		V	115 mph
<u>PV Dead Load</u>	DPV	7.15 psf	(with Ballast)	Exposure	C
<u>Roof Live Load</u>	Lr	20 psf			
<u>Ground Snow</u>	S	30 psf			

If you have any questions on the above, please do not hesitate to call.

Sincerely,

EV Engineering, LLC
projects@evengineersnet.com
<http://www.evengineersnet.com>



Eugene
Munya
nziza

Digitally signed
by Eugene
Munyanziza
Date: 2026.05.15
14:24:08 +02'00'

Signed: 5/15/2026

Structural Letter for PV Installation

Date: 5/15/2026
Job Address: 2079 DIVISION ST
EAST TROY, WI 53120
Job Name: SAM BRESLER
Job Number: 051226SB

Scope of Work

This Letter is for the existing roof framing which supports the new PV modules as well as the attachment of the PV system to existing roof framing. All PV mounting equipment shall be designed and installed per manufacturer's approved installation specifications.

Table of Content

Sheet	
2	Cover
3	Roof Framing Check
4	Seismic Check and Scope of work
	Ballast Report

Engineering Calculations Summary

<u>Code</u>	2021 International Building Code (ASCE 7-16)		
<u>Risk category</u>	II		
<u>Roof Dead Load</u>	Dr	15 psf	
<u>PV Dead Load</u>	DPV	7.15 psf	(with Ballast)
<u>Roof Live Load</u>	Lr	20 psf	
<u>Ground Snow</u>	S	30 psf	
<u>Wind Load</u>	(component and Cladding)		
	V	115 mph	
	Exposure	C	

References

NDS for Wood Construction

Sincerely,



EV Engineering, LLC
projects@evengineersnet.com
<http://www.evengineersnet.com>

Signed: 5/15/2026

projects@evengineersnet.com
<http://www.evengineersnet.com>

Vertical Load Resisting System Design

Roof Framing	Rafters
Snow Load	Fully Exposed
$p_g = 30$ psf	$C_t = 1.1$
$C_e = 0.9$	$I_s = 1.0$
$p_f = 21$ psf	$p_s = 21$ psf
	$p_{fmin.} = 20.8$ psf
	27.72 plf
Max Length, L =	20.0 ft
Tributary Width, W_T =	16 in
RLL =	20 psf
Dr =	15 psf
PvDL with Ballast =	7.15 psf
	9.533 plf
Load Case: DL	$w = 30$ plf
	$M = 1313$ lb-ft
	Mallowable = $S_x \times F_b' = 2729$ lb-ft
	> 1313 lb-ft OK
Load Case: DL+RLL	$DL+L_r = 26$ plf
	$M_{down} = 1167$ lb-ft
	Mallowable = $S_x \times F_b' = 3790$ lb-ft
	> 1167 lb-ft OK
Load Case: DL+S	$DL+S = 57$ plf
	$M_{down} = 2545$ lb-ft
	Mallowable = $S_x \times F_b' = 3487$ lb-ft
	> 2545 lb-ft OK
Load Case: DL+0.6W	$w = 32.5$ plf
	$M_u = 1445$ lb-ft
	Mallowable = $S_x \times F_b'$ (wind) = 4852 lb-ft
	> 1445 lb-ft OK
Load Case: 0.6DL+0.6W	$w = 11.9$ plf
	$M_u = 527$ lb-ft
	Mallowable = $S_x \times F_b'$ (wind) = 4852 lb-ft
	> 527 lb-ft OK
DL+0.45W+0.75(RLL or S)	54 plf
	$M_{down} = 2385$ lb-ft
	Mallowable = $S_x \times F_b' = 4852$ lb-ft
	> 2385 lb-ft OK

Member Capacity

DF-L No.1	Design Value	C_L	C_F	C_i	C_r	K_F	ϕ	λ	Adjusted Value
$F_b =$	1000 psi	1.0	1.0	1.0	1.15	2.54	0.85	0.8	1150 psi
$F_v =$	180 psi	N/A	N/A	1.0	N/A	2.88	0.75	0.8	180 psi
$E =$	1700000 psi	N/A	N/A	1.0	N/A	N/A	N/A	N/A	1700000 psi
$E_{min} =$	620000 psi	N/A	N/A	1.0	N/A	1.76	0.85	N/A	620000 psi

Depth, $d = 11.25$ in

Width, $b = 1.5$ in

Cross-Sectional Area, $A = 16.875$ in²

Moment of Inertia, $I_{xx} = 177.979$ in⁴

Section Modulus, $S_{xx} = 31.6406$ in³

Allowable Moment, $M_{all} = F_b' S_{xx} = 3032.2$ lb-ft

Allowable Shear, $V_{all} = 2/3 F_v' A = 2025.0$ lb

$DCR = M_u / M_{all} = 0.73 < 1$

$DCR = V_u / V_{all} = 0.06 < 1$

Satisfactory

Satisfactory

Seismic Loads Check

Roof DL 10 psf
Ext. Wall DL 18 psf

	Areas (s	Seismic Weight
Story 2 Roof	1945	31.1 kips
1/2 Story 2 Ext. Walls	1764	31.8 kips
Total Seismic Weight		62.9 kips

Max additional Weight= 10%	6.29 kips	
Approximate Solar Footprint=	778 qft	
Distributed max allowable Solar=	8.08 psf	Governs
Solar Weight to use=	7 psf	OK

The increase in global seismic Dead weight as a result of the solar system will be less than 10% of the existing structure and therefore no further seismic analysis is required.

Limits of Scope of Work and Liability

We have based our structural capacity determination on information in pictures and a drawing set titled PV plans -SAM BRESLER. The analysis was according to applicable building codes, professional engineering and design experience, opinions and judgments. The calculations produced for this structure's assessment are only for the proposed solar panel installation referenced in the stamped plan set and were made according to generally recognized structural analysis standards and procedures.

PROJECT TITLE

ROOFMOUNT RM10 EVO

PROJECT ID

D45AA798

LAST UPDATED

May. 13, 2026

ORIGINALLY CREATED

May. 12, 2026

NAME

Sam Bresler

Designed by happii423@gmail.com

ADDRESS

2079 Division St, East Troy, WI 53120, USA

RM10 EVO

CITY, STATE

East Troy, WI

Jinko Solar

MODULE

Jinko Solar JKM430N-54HL4R-B

26 - JKM430N-54HL4R-B

778 ft²

11.18 KW

NOTE: Installation of the project is intended to happen within the year of project designed in U-Builder®. If it's past one year please rerun the design or contact Unirac Engineering Services.

ENGINEERING INPUTS

Plan Review

AVERAGE PSF	7.15 psf
TOTAL NUMBER OF MODULES	26
TOTAL KW	11.18 KW
TOTAL STRUCTURE AREA	~778 ft ²
TOTAL WEIGHT ON ROOF	5563 lbs
RACKING WEIGHT	145 lbs
MODULE WEIGHT	1261 lbs
BALLAST WEIGHT	4128 lbs
MAX BAY LOAD (DEAD)	179 lbs
TOTAL ATTACHMENT COUNT	9
ATTACHMENT KIT WEIGHT	29.25 lbs
TOTAL BALLAST BLOCK COUNT	129

Loads Used for Design

BUILDING CODE	ASCE 7-16
WIND SPEED	115.00 mph
GROUND SNOW LOAD	30.00 psf
SEISMIC, S _s	0.103
ELEVATION	856 ft
WIND EXPOSURE	C
RISK CATEGORY	III
VELOCITY PRESSURE, Q _z	26.37 psf

Inspection

PRODUCT	RM10 EVO
MODULE MANUFACTURER	Jinko Solar
MODEL	JKM430N-54HL4R-B
MODULE WATTS	430 watts
MODULE LENGTH	69.4"
MODULE WIDTH	44.7"
MODULE THICKNESS	1.2"
MODULE WEIGHT	48.5 lbs
ADD CENTRAL SUPPORT	No
SETBACK DISTANCE	1.0 ft
HALF BLOCK ALLOWED	No
BALLAST BLOCK (CMU) WEIGHT	32.0 lbs
MAX BLOCKS PER NORTH BAY	4
MAX BLOCKS PER NON NORTH BAY	3
BUILDING HEIGHT	25.0 ft
ROOF TYPE	EPDM
LONGEST BUILDING LENGTH	67.0 ft
SHORTEST BUILDING LENGTH	20.0 ft
PARAPET HEIGHT	18.0"
ATTACHMENTS OPTIMIZATION CRITERIA	Psf Limit
ROOF PSF LIMIT	8.00 psf
ATTACHMENT TYPE	U-ANCHOR
UANCHOR MANUFACTURER	GENERIC/NON-BRAND SPECIFIC
UANCHOR COLOR	BLACK
UANCHOR FASTNER TYPE	FASTENER
ATTACHMENT CAPACITY UPLIFT	497.1 lbs
ATTACHMENT CAPACITY SHEAR	401.6 lbs
CONTROLLING COMPONENT UPLIFT CAPACITY	RACKING/STRUT
CONTROLLING COMPONENT SHEAR CAPACITY	RACKING/STRUT

ENGINEERING OUTPUTS

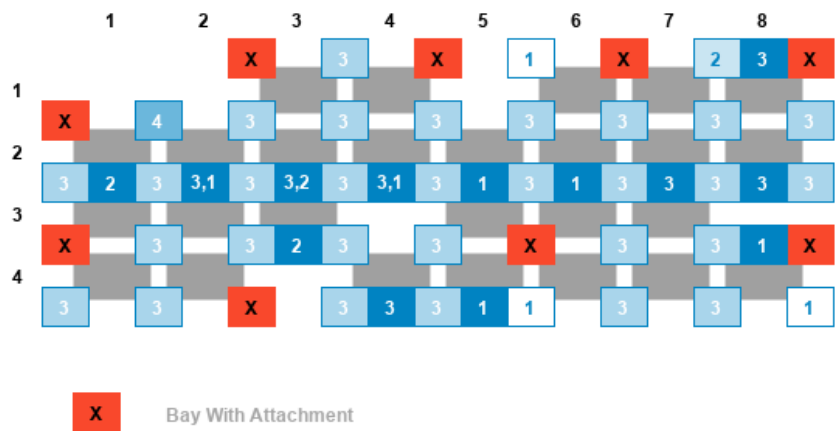
Roof Area 1 - Array 1

AVERAGE PSF	7.15 psf
TOTAL NUMBER OF MODULES	26
ROOF SLOPE	1 degrees
ROW SPACING	13.5"
TOTAL KW	11.18 KW
TOTAL AREA	778 ft ²
TOTAL WEIGHT ON ROOF	5563 lbs
RACKING WEIGHT	145 lbs
MODULE WEIGHT	1261 lbs
BALLAST WEIGHT	4128 lbs
MID SUPPORT KIT WEIGHT	0 lbs
TOTAL ATTACHMENT COUNT	9
ATTACHMENT KIT WEIGHT	29.25 lbs
CONTROLLING COMPONENT UPLIFT CAPACITY	RACKING/STRUT
CONTROLLING COMPONENT SHEAR CAPACITY	RACKING/STRUT
ATTACHMENT CAPACITY UPLIFT	497.1 lbs
ATTACHMENT CAPACITY SHEAR	401.6 lbs

BOM

PART	QTY
RM10 EVO FIELD BAY	47
RM10 EVO NORTH ROW BAY	12
RM ROOF PAD	68
EVO MOD CLAMP SIDE BOLT BULK	169
EVO MOD CLAMP BULK	169
RM10 ATTACHMENT KIT	9
U-ANC 2000 WHITE TPO	9
BALLAST BLOCK	129

Roof Area 1 - Array 1



LEGEND

- Module
- 1 Standard corner bay with CMU block count
- 4 Supplemental bay with CMU block count

Install 2 roof pads to every primary bay.

ROOF PAD DETAILS

Minimum ratios by main roof types for application where friction coefficients must be met:

EPDM	1:1	Pads on each primary bay
TPO	1:4	Pads on 1 of every 4 primray bays
PVC	1:4	Pads on 1 of every 4 primary bays
Mineral cap	N/A	No pads required

NOTE

1. It is always an option to apply roof pads to all bays in an array even when not required
2. Roof pads are always applied 2 per bay (one on each ski to avoid unbalancing chasis).
3. When installing minimum roof pads for friction (at 1:4 ratio), apply 2 roof pads to every 4th primray bay staggering the offset between the rows:
 1. Alternativey, install 2 roof pads to every other bay in a row of bays, then skip a row, and do it again
 2. Skip any bays that have mechanical roof attachments(i.e.,Anchor products, FlashLoc RM or OMG attachments).

WIND DESIGN DETAIL

Terrain Category	C	Section 26.7 (ASCE 7-16)
Basic Wind Speed	115.00 mph	
Elevation	856.00 ft	
Risk Category	III	Table 1.5-1 (ASCE 7-16)
Mean Roof Height	25.0 ft	
Numerical Coefficient	0.002560	Section C26.10.2 (ASCE 7-16)
Topographic Factor, K_{zt}	1.00	Section 26.8.2 (ASCE 7-16)
Wind Directionality Factor, K_d	0.85	Table 26.6-1 (ASCE 7-16)
Ground Elevation Factor, K_e	0.969	Table 26.9-1 (ASCE 7-16)
Velocity Pressure Exposure Coefficient, K_z	0.95	Table 26.10-1 (ASCE 7-16)
Velocity Pressure at Height, Q_z	26.37 psf	Equation 26.10.1 (ASCE 7-16)

SEISMIC DESIGN PER ASCE 7-16 : UNATTACHED SYSTEM

Site Classification	D_DEFAULT	Section 11.4.3 (ASCE 7-16)
S_s	0.103 g	Section 11.4.2 (ASCE 7-16)
S_1	0.000 g	Section 11.4.2 (ASCE 7-16)
Risk Category	III	
Coefficient of Friction, μ_0	0.4	UTR 229
Site Coefficient, F_a (Minimum 1.2)	1.600	Table 11.4-1 (ASCE 7-16)
Site Coefficient, F_v	2.400	Table 11.4-2 (ASCE 7-16)
S_{MS}	0.165 g	Section 11.4.4 (ASCE 7-16)
S_{DS}	0.110 g	Section 11.4.5 (ASCE 7-16)
Module Weight	48.50 lbs	
Racking and Ballast Weight to One Module	100.76 lbs	
Capacity of Connections to One Module (N/S)	227.00 lbs	UTR 332
Capacity of Connections to One Module (E/W)	377.00 lbs	UTR 332
W1 (Module, Racking, and Ballast Weight to One Module)	149.26 lbs	
0.2 S_{DS} W1	3.28 lbs	Section 13.6.12 (ASCE 7-16)
Maximum Number of Modules per Row (N-S)	69	
Maximum Number of Modules per Column (E-W)	114	
Building Importance Factor, I_e	1.25	Table 1.5-2 (ASCE 7-16)
Importance Factor of Array, I_p	1.00	Section 13.1.3 (ASCE 7-16)
Seismic Design Category	A	Section 11.6 (ASCE 7-16)
Seismic Design Displacement	12.00"	

NOTE

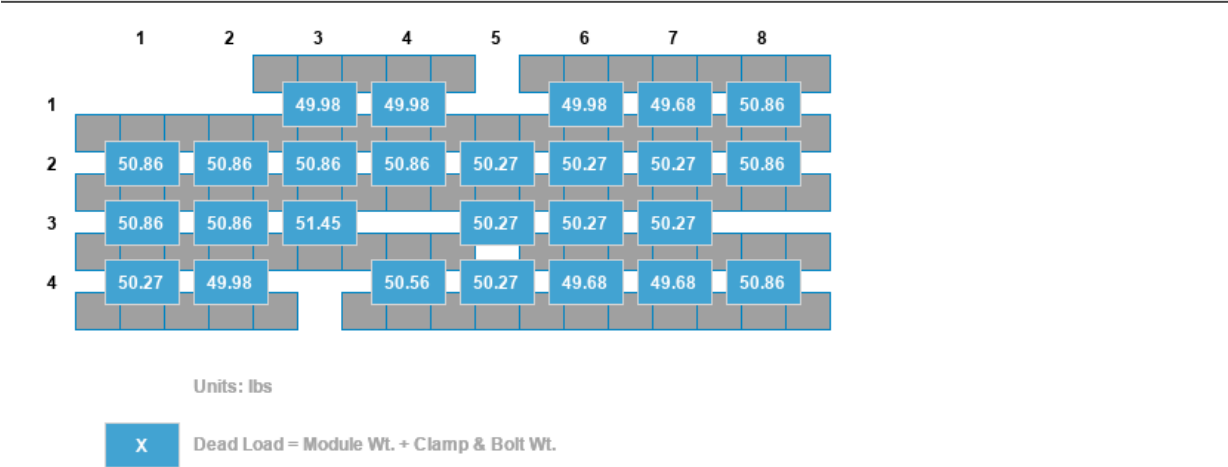
SDCA and B designs are exempt from the ASCE 7-16 seismic requirements under the section 13.1.4: Exemptions - Point 4: Mechanical and electrical components in Seismic Design Category A and B

SNOW DESIGN

Risk Category	III	Table 1.5-1 (ASCE 7-16)
Importance Factor, I_s	1.10	Table 1.5-2 (ASCE 7-16)
Exposure Category	C	Section 26.7 (ASCE 7-16)
Exposure Factor, C_e	1.00	Table 7.3-1 (ASCE 7-16)
Thermal Factor, C_t	1.00	Table 7.3-2 (ASCE 7-16)
Ground Snow, p_g	30.00 psf	
Tilt Angle	10°	
Minimum Snow Load, p_m		
$p_m = I_s p_g$, For $p_g \leq 20$ psf	33.00 psf	Section 7.3.4 (ASCE 7-16)
$p_m = 20 I_s$, For $p_g > 20$ psf	22.00 psf	Section 7.3.4 (ASCE 7-16)
Flat Roof Snow Load, $p_f = \text{Max}(0.7 C_e C_t I_s p_g, p_m)$	23.10 psf	Equation 7.3-1 (ASCE 7-16)
Slope Factor, C_s	1.0	Figure 7-2a (ASCE 7-16)*
Sloped Roof Snow Load, $p_s = C_s p_f$	23.10 psf	Equation 7.4-1 (ASCE 7-16)*

*Section C7.8 states "collectors should be designed to sustain a load calculated by using the "unobstructed slippery surfaces" curve in Figure 7.4-1." This indicates that $C_t \leq 1.0$. Per Figure 7-2a for a roof slope of 10° with the unobstructed slippery surfaces graph, $C_s = 1.0$.

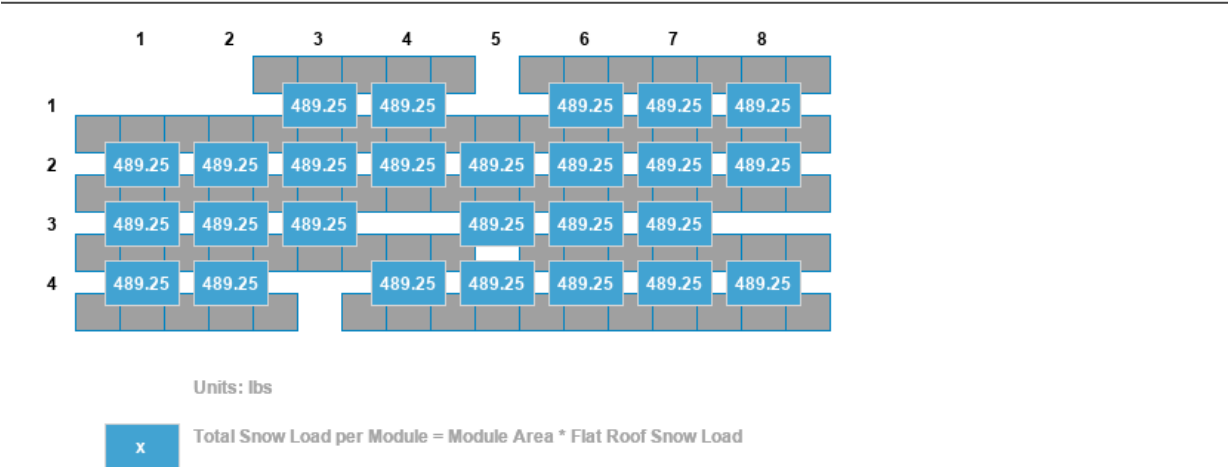
DEAD LOAD PER MODULE(D) - Roof Area 1 - Array 1



LEGEND

Module

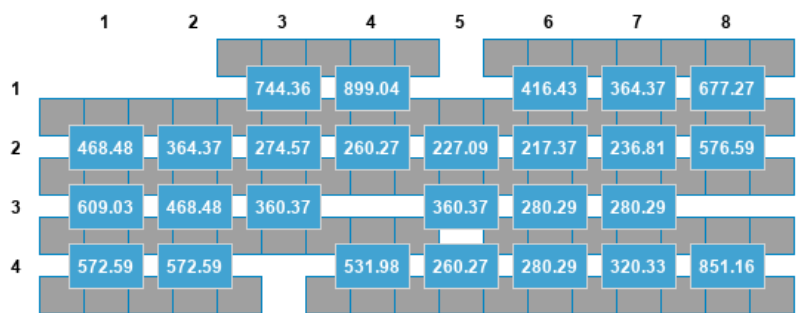
SNOW LOAD PER MODULE(S) - Roof Area 1 - Array 1



LEGEND

Module

WIND LOAD (UPWARD) PER MODULE - Roof Area 1 - Array 1



Units: lbs

X

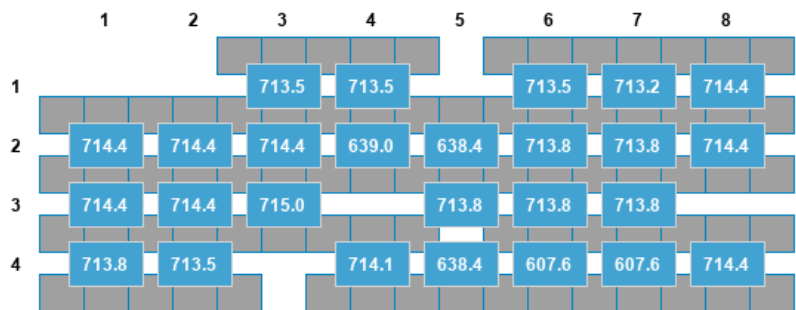
Total uplift = $Q_z \times g_{cp} \times \text{uplift area}$

LEGEND



Module

FINAL DOWNLOAD PER MODULE MAP ($\max(D + 0.75(0.6W) + 0.75S, D + 0.6W, D + S)$) - Roof Area 1 - Array 1



Units: lbs

Downward Force = $\max(DL + SL, DL + 0.6WL, DL + 0.45WL + 0.75SL)$

X

Where:

DL = Dead Load

SL = Snow Load

WL = Wind Load(Downward)

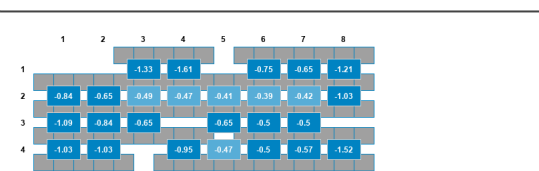
LEGEND



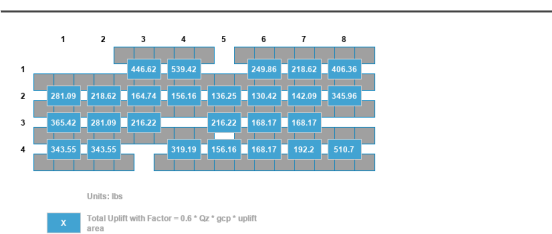
Module

UPLIFT CALCULATIONS

Modified Gcp factor per module (uplift) map
- Roof Area 1 - Array 1



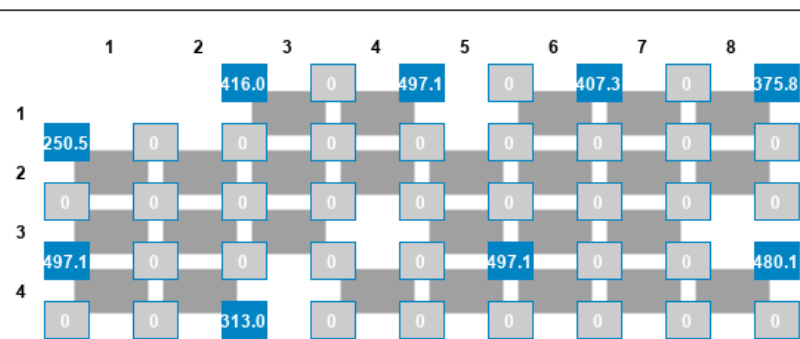
Factored total wind uplift map - Roof Area 1 - Array 1



LEGEND

Module

Uplift load on attachments - Roof Area 1 - Array 1



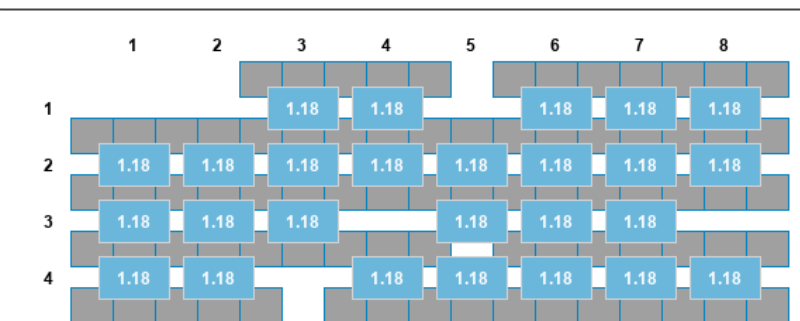
LEGEND

Module

X Utilised attachment capacity on uplift

DRAG CALCULATIONS

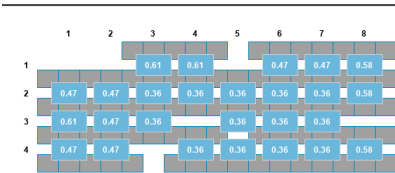
Drag Gcp factor per module - Roof Area 1 - Array 1



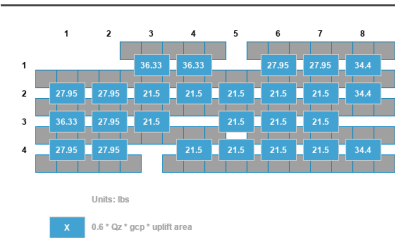
LEGEND

Module

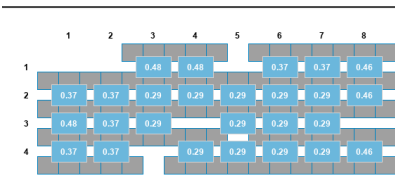
Modified Gcp factor per module (drag effect) - Roof Area 1 - Array 1



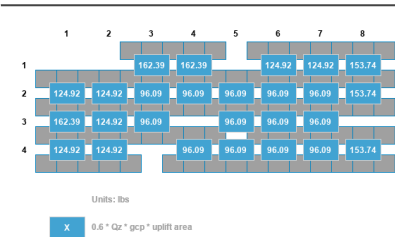
Drag load- Roof Area 1 - Array 1



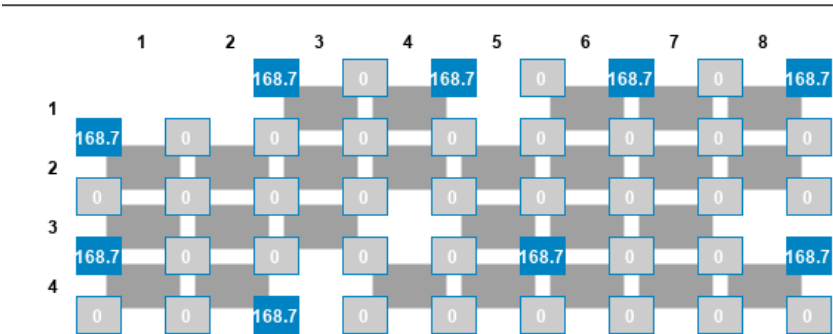
Modified Gcp factor per module (uplift effect) - Roof Area 1 - Array 1



Uplift for drag load- Roof Area 1 - Array 1



Shear load on attachments (Sliding) - Roof Area 1 - Array 1



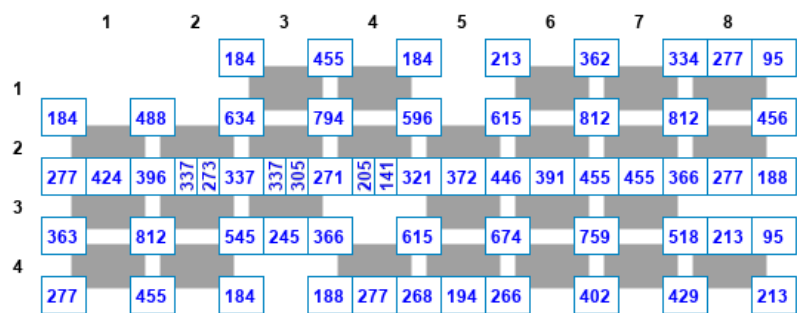
LEGEND

Module

X Utilised attachment capacity on shear

TOTAL DOWNLOAD CALCULATIONS

Total downpoint load per bay - Roof Area 1 - Array 1



Units: lbs

x Down Point Load = Down point load on module contribution+ bay weight with ballast

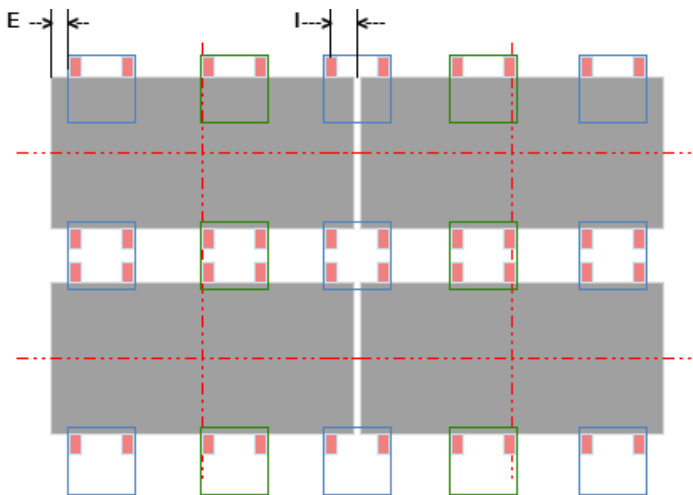
LEGEND

- Module
- Bay - Downpoint load

NOTE

For exact values please check DXF file.

CLAMPS LOCATIONS AND MAX MODULE PRESSURES



NOTE :

1. Supplemental bays are placed symmetric to the module.
2. Edge cantilever distance to clamp(E) = **1.60"** approx.
3. Edge of module to clamp center(I): **8.69"**.
4. supplemental bay add four clamps per module.
5. mid support will add two clamps per module for down force only.

LEGEND

Module



Primary bay



Supplemental bay



Clamp

FACTORED MAX UPWARD PRESSURE ON MODULE :	25.47 psf
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FACTORED MAX DOWNWARD PRESSURE ON MODULE :	33.76 psf
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NOTE

1. Terrapin testing report roof mount ballast support coefficient of friction testing RM 2.0 family (July 13, 2016) (Static,Kinetic,Wet and Dry testing performed)

RM10 EVO U-BUILDER® PRODUCT ASSUMPTIONS**RM10 EVO– Ballasted Flat Roof Systems**

Limitations of Responsibility: It is the user's responsibility to ensure that inputs are correct for your specific project.

Unirac is not the solar, electrical, or building engineer of record and is not responsible for the solar, electrical, or building design for this project.

Building Assumptions

1. Minimum allowed setback distance is 1.00 ft
2. Building Height ≤ 150.00 ft
3. Building Height > 50.00 ft: only where $(\text{longest length of building} \times \text{building height})^{0.5} \leq 100.00$ ft
4. Roof Slope $\geq 0^\circ$ (0:12) and $\leq 3^\circ$ (5/8:12) for Seismic Design Category C, D, E and F. For low seismic regions Seismic Design Category A and B (provided Array Importance factor = 1.0), Roof Slope $\geq 0^\circ$ (0:12) and $\leq 7^\circ$ (1 1/2:12).
5. Roofing Material Types: EDPM, PVC, TPO, or Mineral Cap
6. Surrounding Building Grade: Level

Ballast Blocks

The installer is responsible for procuring the ballast blocks (Concrete Masonry Units – CMU) and verifying the required minimum weight needed for this design. CMU should comply with ASM standard specification for concrete roof pavers designation (C1491 or C90 with an integral water repellent suitable for the climate it is placed. It is recommended that the blocks are inspected periodically for any signs of degradation. If degradation of the block is observed, the block should immediately be replaced.

The CMU ballast block should have nominal dimensions of 4.00" x 8.00" x 16.00". The actual block dimensions are 0.37" less than the nominal dimensions. Ballast blocks should have a weight as specified for the project in the "Inspection" section of this report.

Design Parameters

1. Risk Category I to IV
2. Wind Design
 - a. Basic Wind Speed: 110.00 mph - 150.00 mph (ASCE 7-10)/90.00 mph - 180.00 mph (ASCE 7-16)
 - b. Exposure: B, C or D (ASCE 7-10/ASCE 7-16)
 - c. 25 year or 50 year Design Life for ASCE 7-10 /50 year Design Life for ASCE 7-16

- d. Elevation: Insertion of the project at - grade elevation can result in a reduction of wind pressure. If your project is in a special case study region or in an area where wind studies have been performed, please verify with your jurisdiction to ensure that elevation effects have not already been factored into the wind speed. If elevation effects have been included in your wind speed, please select 0.00 ft as the project site elevation.
 - e. Wind Tunnel Testing: Wind tunnel testing coefficients have been utilized for design of the system.
3. Snow Design
- a. Ground Snow Load: 0 - 100.00 psf (ASCE 7-10/ASCE 7-16)
 - b. Roof Snow Load: Calculation per Section 7.3 (ASCE 7-10/ASCE 7-16)
 - c. Unbalanced/Drifting/Sliding: Results are based on the uniform snow loading and do not consider unbalanced, drifting, and sliding conditions
4. Seismic Design
- a. Report *SEAO C PV1-2012/ASCE 7-16 SECTION 13.6.12 – Structural Seismic Requirements and Commentary for Rooftop Solar Photovoltaic Arrays*

Properties

- 1. Bay Weight: 2.45 lbs
- 2. Module Gaps (E/W) = 0.25"
- 3. Module Gaps (N/S) = 13.50"

Testing

1. Coefficient of Friction
2. Wind Tunnel
3. UL 2703
4. Component Testing (Bay and Clamp)

Setbacks

For the wind tunnel recommendations in U-BUILDER[®] to apply, the following setbacks should be observed/followed for U-BUILDER[®] wind design:

1. Modules should be placed a minimum of 3.00 ft from the edge of the building in any direction.
2. If the array is located near an obstruction that is 3.50 ft wide and 3.50 ft high or larger, the nearest module of the array must be located a distance from the obstruction that is greater than or equal to the height of the obstruction. Exception: When using ASCE 7-16 Building Code and using the obstruction feature in the module editor to accurately model the size and location of obstruction.
3. Installations within the setbacks listed above require site specific engineering.
4. The setbacks above are for wind and seismic. Fire access isles, mechanical equipment etc., may require larger setbacks than listed above.

Site Specific Engineering

Conditions listed below are beyond the current capabilities of U-BUILDER[®]. Site specific engineering is required.

1. Building assumptions and design parameters outside of U-BUILDER[®] assumptions
2. Wind tunnel testing reduction factors are not permitted by the Authority Having Jurisdiction (AHJ)
3. Seismic designs that fall outside SEAOC PV1-2012/ASCE 7-16 SECTION 13.6.12 recommendations (>3% roof slope, or AHJ's that require shake table testing or non-linear site-specific response history analysis)
4. Signed and sealed site-specific calculations, layouts, and drawings
5. Building that is not enclosed and categorized as open structures, carport or others

Notes:

- Please contact Engineering.Services@unirac.com for more information.