



Town of Erwin  
**Zoning Application & Permit**  
Planning & Inspections Department

|          |
|----------|
| Permit # |
| 25-0120  |

Rev Sep2014

Each application should be submitted with an attached plot/site plan with the proposed use/structure showing lot shape, existing and proposed buildings, parking and loading areas, access drives and front, rear, and side yard dimensions.

|                   |                                  |                  |                       |
|-------------------|----------------------------------|------------------|-----------------------|
| Name of Applicant | Michael Horan                    | Property Owner   | Ian Wisdom            |
| Home Address      | 910 S 2nd St                     | Home Address     | 115 Mary Robertson St |
| City, State, Zip  | Wilmington, NC 28401             | City, State, Zip | Dunn, NC 28334        |
| Telephone         | 910-547-6922                     | Telephone        | (810) 278-7883        |
| Email             | michael@capefearsolarsystems.com | Email            | ianmwisdom@gmail.com  |

|                                                                                                            |                                                                    |                                                                                  |                      |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------|
| Address of Proposed Property                                                                               |                                                                    | 115 Mary Robertson St Dunn, NC 28334                                             |                      |
| Parcel Identification Number(s) (PIN)                                                                      | 0596-94-8255.000                                                   | Estimated Project Cost                                                           | \$41,873             |
| What is the applicant requesting to build / what is the proposed use of the subject property? Be specific. |                                                                    | Installation of 23-panel, 8.027 kW rooftop solar PV system with one battery.     |                      |
| Description of any proposed improvements to the building or property                                       |                                                                    | Rooftop Solar with Battery for SFR                                               |                      |
| What was the Previous Use of the subject property?                                                         |                                                                    | SFR                                                                              |                      |
| Does the Property Access DOT road?                                                                         |                                                                    | Yes                                                                              |                      |
| Number of dwelling/structures on the property already                                                      |                                                                    | 1                                                                                | Property/Parcel size |
| Floodplain SFHA <u>Yes</u> <input checked="" type="checkbox"/> <u>No</u>                                   | Watershed <u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> | Wetlands <u>Yes</u> <input checked="" type="checkbox"/> <u>No</u>                |                      |
| <u>MUST</u> circle one that applies to property                                                            |                                                                    | Existing/Proposed Septic System <u>Or</u><br>Existing/Proposed County/City Sewer |                      |

**Owner/Applicant Must Read and Sign**

The undersigned property owner, or duly authorized agent/representative thereof certifies that this application and the forgoing answers, statements, and other information herewith submitted are in all respects true and correct to the best of their knowledge and belief. The undersigning party understands that any incorrect information submitted may result in the revocation of this application. Upon issuance of this permit, the undersigning party agrees to conform to all applicable town ordinances, zoning regulations, and the laws of the State of North Carolina regulating such work and to the specifications of plans herein submitted. The undersigning party authorizes the Town of Erwin to review this request and conduct a site inspection to ensure compliance to this application as approved.

|               |                                      |         |
|---------------|--------------------------------------|---------|
| Michael Horan |                                      | 3/19/25 |
| Print Name    | Signature of Owner or Representative | Date    |

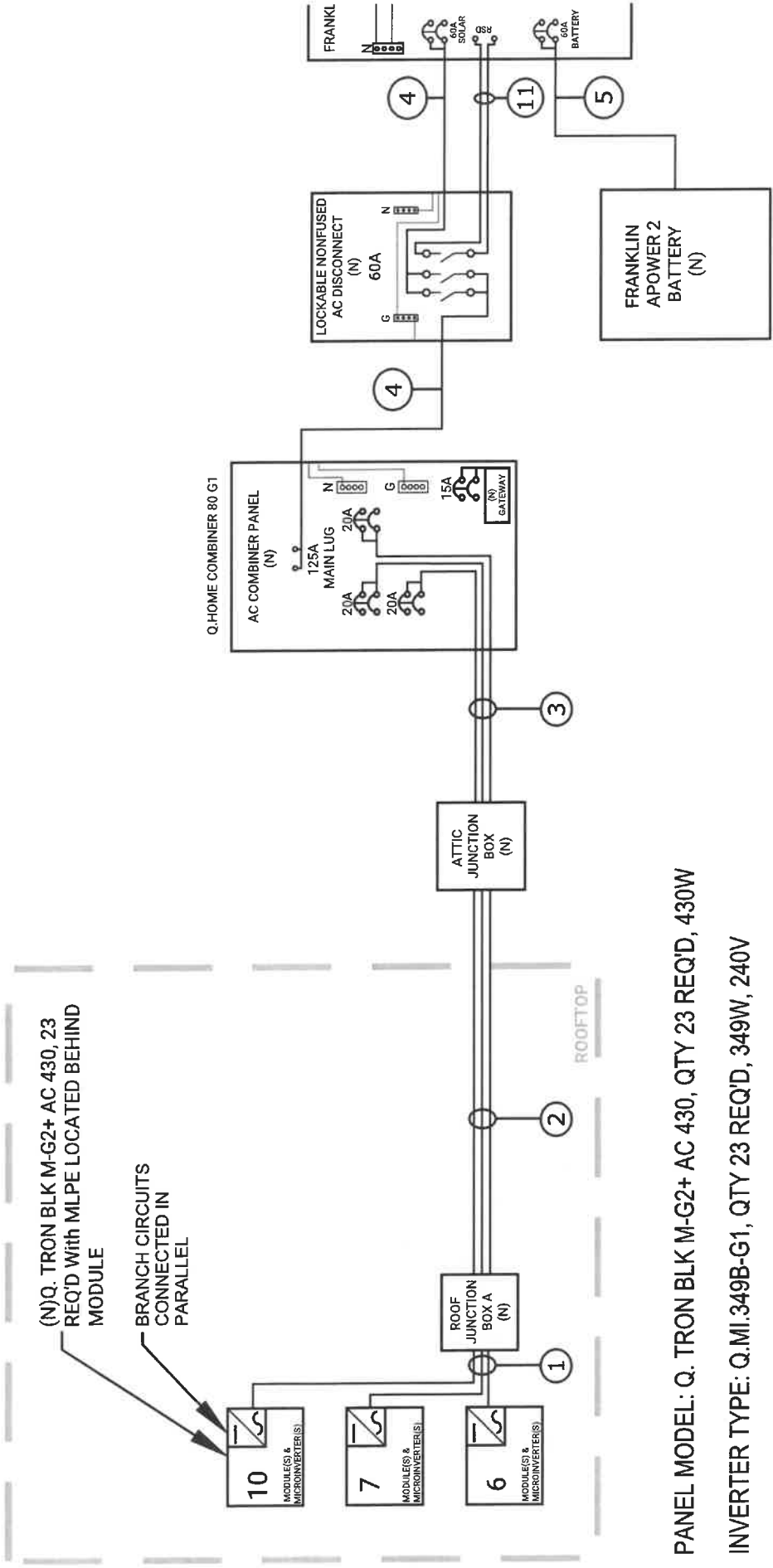
**For Office Use**

|                    |    |                                                                                                                   |                                                                                                                                                                       |
|--------------------|----|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zoning District    | RO | Existing Nonconforming Uses or Features                                                                           | NA                                                                                                                                                                    |
| Front Yard Setback |    | Other Permits Required                                                                                            | <input type="checkbox"/> Conditional Use <input checked="" type="checkbox"/> Building <input type="checkbox"/> Fire Marshal <input checked="" type="checkbox"/> Other |
| Side Yard Setback  | NA | Requires Town Zoning Inspection(s) <input type="checkbox"/> Foundation <input type="checkbox"/> Prior to C. of O. |                                                                                                                                                                       |
| Rear Yard Setback  | NA | Zoning Permit Status                                                                                              | <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied                                                                                          |
|                    |    | Fee Paid: \$25                                                                                                    | Date Paid: Staff Initials:                                                                                                                                            |

|          |                                                |
|----------|------------------------------------------------|
| Comments | roof mounted solar. Electrical permits from HC |
|----------|------------------------------------------------|

|                                   |                               |
|-----------------------------------|-------------------------------|
| Signature of Town Representative: | Date Approved/Denied: 3/19/25 |
|-----------------------------------|-------------------------------|





PANEL MODEL: Q. TRON BLK M-G2+ AC 430, QTY 23 REQ'D, 430W

INVERTER TYPE: Q.MI.349B-G1, QTY 23 REQ'D, 349W, 240V

8.027 kW-AC/ 9.890 kW-DC

| WIRING SCHEDULE |                 |                  |                  |                  |
|-----------------|-----------------|------------------|------------------|------------------|
| TAG             | CONDUIT SIZE    | CABLE TYPE       | CONDUCTOR        | GROUND           |
| 1               | NONE            | 12/2 Trunk Cable | 12 AWG CU        | 6 AWG Bare CU    |
| 2               | NONE            | 12/2 NM-B        | 12 AWG CU        | 12 AWG           |
| 3               | 1" PVC or EQUIV | N/A              | 10 AWG CU THWN-2 | 10 AWG CU THWN-2 |
| 4               | 1" PVC or EQUIV | N/A              | 6 AWG CU THWN-2  | 10 AWG CU THWN-2 |
| 5               | 1" PVC or EQUIV | N/A              | 6 AWG CU THWN-2  | 10 AWG CU THWN-2 |

GENERAL ELECTRICAL NOTES

- 1. Equipment shall be new unless otherwise noted.
- 2. Equipment shall be listed unless otherwise noted.
- 3. Equipment shall be installed providing adequate working space in compliance with NEC.
- 4. Copper conductors shall be used and shall have insulation rating 600v, 90°C unless otherwise noted.
- 5. Conductors shall be sized in accordance with the NEC and ampacity shall be derated for temperature increase, conduit fill & voltage drop.
- 6. All conductors shall be installed in approved conduits. Conduits shall be adequately supported in accordance with the NEC.
- 7. AC Disconnect is optional, however it may be required by the utility.
- 8. Exposed non-current carrying metal parts shall be grounded in accordance with the NEC.
- 9. All work shall comply with the NEC and all applicable local electrical code requirements.
- 10. Contractor will provide labeling in accordance with the NEC, Article 110, 225, 690, and 705.

PV SYSTEM DISCONNECT/ COMBINER BOX  
BREAKER PANELS

WARNING

TURN OFF PHOTOVOLTAIC  
AC DISCONNECT PRIOR TO  
WORKING INSIDE PANEL

PHOTOVOLTAIC SYSTEM  
AC DISCONNECT

OPERATING VOLTAGE

OPERATING CURRENT

VOLTS

AMPS

RAPID SHUTDOWN  
PV ARRAY

NEC 110.27(C) & OSHA 1910.145(f)(7)

SERVICE DISCONNECT

MAIN PHOTOVOLTAIC SYSTEM  
DISCONNECT

NEC 690.13(B)

SOLAR PV SYSTEM EQUIPPED  
WITH RAPID SHUTDOWN

CAUTION

POWER TO THIS BUILDING IS SUPPLIED BY  
SOURCES WITH DISCONNECT

SERVICE DISCONNECT  
(EXTERIOR)

PV SYSTEM DISCONNECT  
(EXTERIOR)

ESS DISCONNECT  
(EXTERIOR)

METER (EXTERIOR)

NET METER w/ BATTERY

WARNING

THREE POWER SOURCES

SOURCES: UTILITY GRID, BATTERY AND  
PV SOLAR ELECTRIC SYSTEM

NEC 705.30(C) and NEC 690.55

ENERGY STORAGE SYSTEMS

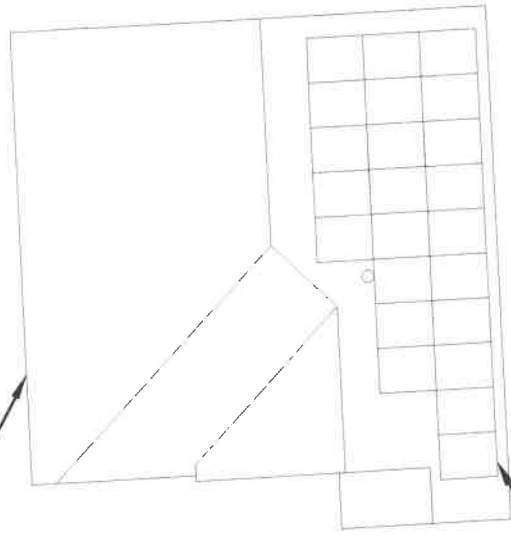
BATTERY  
DISCONNECT

NEC 706.7(E)(2)

**SHEET INDEX:**

| <u>SHEET NO.</u> | <u>SHEET TITLE</u> |
|------------------|--------------------|
| S-01             | ARRAY A LAYOUT     |
| S-02             | ASSEMBLY DETAILS   |
| R-01             | RESOURCES          |
| R-02             | RESOURCES          |

METER & ESS  
EQUIPMENT LOCATION



PHOTOVOLTAIC ARRAY A

**AUTHORITIES HAVING JURISDICTION:**

BUILDING: HARNETT COUNTY  
ZONING: HARNETT COUNTY  
ELECTRICAL: HARNETT COUNTY  
UTILITY: DEP

**REFERENCE CODES:**

ELECTRICAL CODE: 2017 NEC  
BUILDING CODE(S): 2018 IRC WITH NORTH CAROLINA AMENDMENTS  
FIRE CODE: 2018 IFC WITH NORTH CAROLINA AMENDMENTS  
ENGINEERING: ASCE 7-10

**DESIGN CRITERIA:**

GROUND SNOW LOAD: 10 PSF  
DESIGN WIND SPEED: 120 MPH  
DESIGN EXPOSURE CATEGORY: B  
DEAD LOAD: 2.41 PSF  
AVERAGE HIGH TEMPERATURE: 34°C  
ASHRAE LOW TEMPERATURE: -9°C

| SYSTEM ATTRIBUTES | QTY |
|-------------------|-----|
| Q Tron 430 ACPV   | 23  |
| Q Tron ACPV       | 23  |

01

G-01

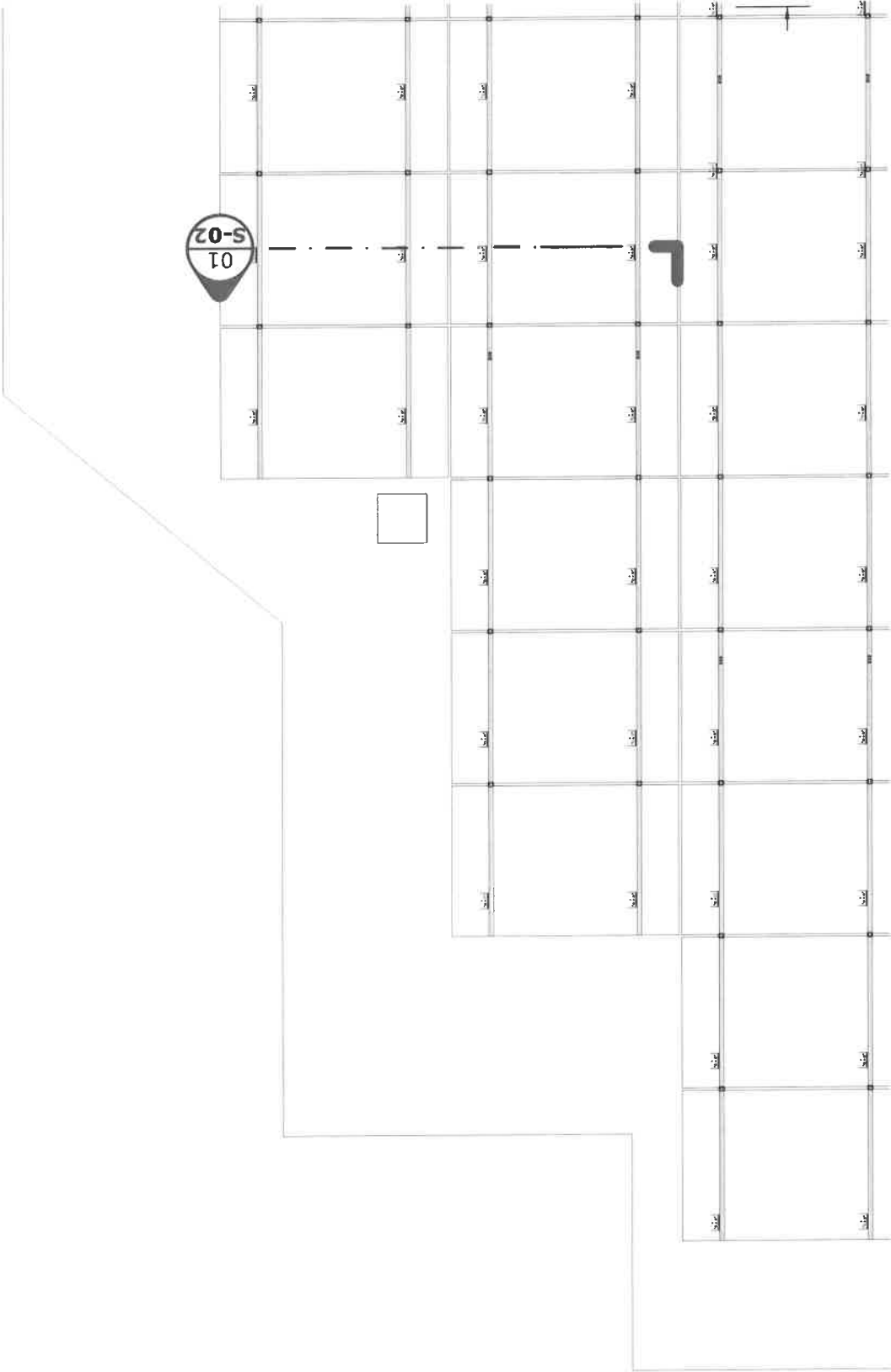
SITE SKETCH

SCALE: 1:240



**STRUCTURAL NOTES**

- 1. ROOF MOUNT RACKING SYSTEM & PV ARRAY TO BE INSTALLED IN STRICT ACCORDANCE WITH THESE DRAWINGS & MFG'S RECOMMENDATIONS. MINOR SPACING MODIFICATIONS ARE ACCEPTABLE TO ACCOMMODATE EXISTING ROOF STRUCTURE MEMBERS
- 2. EXISTING ROOF STRUCTURE HAS BEEN INCLUDED IN THE STRUCTURAL EVALUATION AND FOUND SUITABLE FOR THIS INSTALLATION
- 3. ALL ATTACHMENT BOLTS SHALL BE INSTALLED IN THE MIDDLE THIRD OF THE RAFTER (OR TRUSS) THICKNESS



(N)Q. TRON BLK M-G2+ AC 430, 23 REQ'D

2x6" Trusses @ 24" O.C

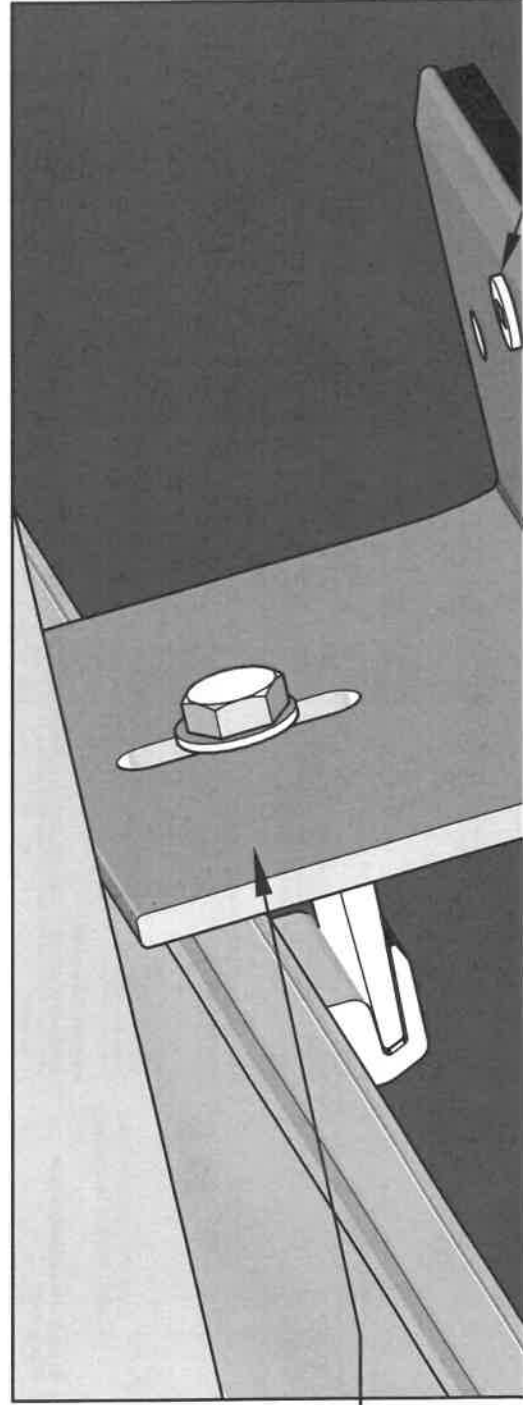
01  
S-02

SECTION - RAIL  
SCALE: 3/4" = 1'

02  
S-02

ASPHALT SHINGLE  
7/16" ROOF SHEATHING

SNAPRACK  
ANCHORFOOT





## Ultra Rail

UR-40  
UR-60



### The Ultimate Value in Rooftop Solar

Industry leading Wire Management Solutions

Single Tool Installation

Mounts available for all roof types

All SnapNrack Module Clamps & Accessories are compatible with both rail profiles

#### Start Installing Ultra Rail Today

RESOURCES [snapnrack.com/resources](http://snapnrack.com/resources)  
DESIGN [snapnrack.com/configurator](http://snapnrack.com/configurator)  
WHERE TO BUY [snapnrack.com/where-to-buy](http://snapnrack.com/where-to-buy)

### SnapNrack Ultra Rail System

A sleek, straightforward rail solution for mounting solar modules on all roof types, Ultra Rail features two rail profiles; UR-40 is a lightweight rail profile that is suitable for most geographic regions and maintains all the great features of SnapNrack rail, while UR-60 is a heavier duty rail profile that provides a larger rail channel and increased span capabilities. Both are compatible with all existing mounts, module clamps, and accessories for ease of install.

#### The Entire System is a Snap to Install

- New Ultra Rail Mounts include snap-in brackets for attaching rail
- Compatible with all the SnapNrack Mid Clamps and End Clamps customers love
- Universal End Clamps and snap-in End Caps provide a clean look to the array edge



#### Unparalleled Wire Management

- Open rail channel provides room for running wires resulting in a long-lasting quality install
- Industry best wire management offering includes Junction Boxes, Universal Wire Clamps, MLPE Attachment Kits, and Conduit Clamps
- System is fully bonded and listed to UL 2703 Standard

#### Heavy Duty UR-60 Rail

- UR-60 rail profile provides increased span capabilities for high wind speeds and snow loads
- Taller, stronger rail profile includes profile-specific rail splice and end cap
- All existing mounts, module clamps, and accessories are retained for the same great install experience

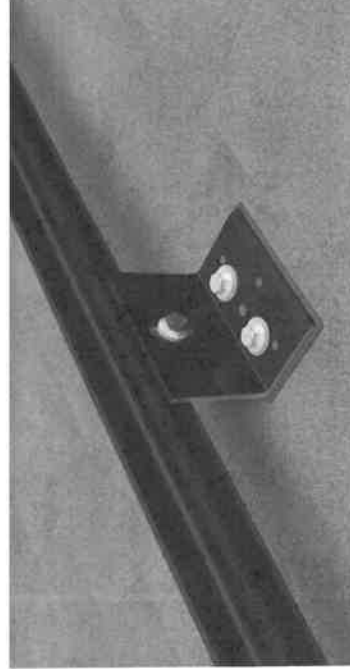
## Quality. Innovative. Superior.

SnapNrack Solar Mounting Solutions are engineered to optimize material use and labor resources and improve overall installation quality and safety.

877-732-2860 [www.snapnrack.com](http://www.snapnrack.com) contact@snapnrack.com

### Ultra Rail

## AnchorFoot™



### SnapNrack AnchorFoot™ & DeckAnchor™

are the latest innovation designed to reduce the number of roof fasteners when mounting direct to deck and provide maximum flexibility to mount anywhere on the roof. Engineered with butyl, now installers do not have to add sealant to the bottom of the mount, simplifying the installation process and further protecting the roof.

#### AnchorFoot™

- Pre-installed butyl for easy peel & stick installation allows for no disruption to composition shingles
- Industry-leading .200" thick butyl allows installation over shingles without cutting places
- Flexible direct to deck mounting options with (2) DeckAnchors or (4) #14 wood screws
- Flexible rafter mounting options with (1) 5/16" lag or (2) #14 wood screws
- Ships pre-assembled with Ultra Rail Mounting Clamp for easy rail attachment
- Rated for UL2703 Bonding & Grounding with TAS 100A Wind Driven Rain Testing for waterproof certification

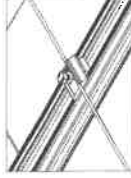


## Grounding Specifications

### INSTALLATION INSTRUCTIONS - SNAPNRAK GROUND LUG



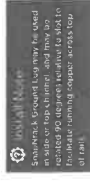
1) Snap the SnapNrack Ground Lug into the rail channel on one rail per module row.



2) Place grounding conductor into slot underneath split ring washer.



3) Tighten hardware



SnapNrack Ground Lug may be used for grounding conductors in accordance with IEEE 685, IEEE 688, IEEE 691, IEEE 692, IEEE 693, IEEE 694, IEEE 695, IEEE 696, IEEE 697, IEEE 698, IEEE 699, IEEE 700, IEEE 701, IEEE 702, IEEE 703, IEEE 704, IEEE 705, IEEE 706, IEEE 707, IEEE 708, IEEE 709, IEEE 710, IEEE 711, IEEE 712, IEEE 713, IEEE 714, IEEE 715, IEEE 716, IEEE 717, IEEE 718, IEEE 719, IEEE 720, IEEE 721, IEEE 722, IEEE 723, IEEE 724, IEEE 725, IEEE 726, IEEE 727, IEEE 728, IEEE 729, IEEE 730, IEEE 731, IEEE 732, IEEE 733, IEEE 734, IEEE 735, IEEE 736, IEEE 737, IEEE 738, IEEE 739, IEEE 740, IEEE 741, IEEE 742, IEEE 743, IEEE 744, IEEE 745, IEEE 746, IEEE 747, IEEE 748, IEEE 749, IEEE 750, IEEE 751, IEEE 752, IEEE 753, IEEE 754, IEEE 755, IEEE 756, IEEE 757, IEEE 758, IEEE 759, IEEE 760, IEEE 761, IEEE 762, IEEE 763, IEEE 764, IEEE 765, IEEE 766, IEEE 767, IEEE 768, IEEE 769, IEEE 770, IEEE 771, IEEE 772, IEEE 773, IEEE 774, IEEE 775, IEEE 776, IEEE 777, IEEE 778, IEEE 779, IEEE 780, 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