



# FIRST

## UNITED METHODIST CHURCH

101 E. Jefferson St., Charlottesville, VA 22902

office@cvillefirstumc.org

January 30, 2023

Kyna Thomas  
Chief of Staff/Clerk of Council  
City of Charlottesville  
City Hall | P.O. Box 911  
Charlottesville, VA 22902

RE: Certificate of Appropriateness BAR # 22-10-02

Dear Ms. Thomas:

With this letter, the leadership and congregation of First United Methodist Church (FUMC) ask for an appeal of the Board of Architectural Review's denial of a Certificate of Appropriateness to install rooftop solar panels (BAR # 22-10-02). We feel the BAR's vote was based on out-of-date Architectural Design Control Districts Guidelines that are now in conflict and incongruous with the current vision and goals of the City of Charlottesville to promote the use of sustainable energy.

The ADC District Guidelines were last revised in September 17, 2012 and, as admitted by the BAR during our meeting on January 18, 2023, are in need of updating, particularly in regard to renewable energy and specifically solar panels. Since the guidelines' last revision, the City has approved numerous statements, standards, plans, amendments and initiatives to not only support and encourage sustainable energy, but also to make it a matter of governing policy. Below we note a partial list of some of those documents with key supporting passages:

- City Council Vision Statement 2025 which describes the vision for Charlottesville to be A Green City – “Charlottesville citizens live in a community with a vibrant urban forest, tree-lined streets, and lush green neighborhoods. We have an extensive natural trail system, along with healthy rivers and streams. We have clean air and water, we emphasize recycling and reuse, and we minimize stormwater runoff. *Our homes and buildings are sustainably designed and energy efficient.*”
- Solarize Charlottesville campaign, 2014-present, managed by LEAP and supported by the City in partnership with the City's Climate Protection Program, “a community-based outreach initiative that *reduces the cost and complexity of going solar* by providing a one-stop shop for education and installation.”

- Charlottesville Standards & Design Manual revised in 2019 to include Chapter 7 Environmental Sustainability. Section 7.2 makes multiple references to the inclusion of solar power including:
  - 7.2.2 Energy Optimization – “...the following comprehensive, integrated approach should be applied during a building's design and development as well as during the *reuse, renovation, or repair of existing buildings*: Employ renewable energy sources such as solar heating for hot water, *photovoltaics*, geothermal space heating, and groundwater cooling, sized for the reduced building loads.”
  - 7.2.3 Clean Energy, Renewable Energy – “There is great potential for *solar power generation* in Charlottesville.”
- City of Charlottesville Strategic Plan, adopted in 2017 and extended through 2021, includes as Goal 3: A Beautiful and Sustainable Natural and Built Environment. Objective 3.4: Be Responsible Stewards of Natural Resources includes under the Measure: Solar Energy Installation Capacity - “The City of Charlottesville supports increases in renewable sources for energy generation. *Solar energy is one technology particularly suitable to Charlottesville.*”
- Comprehensive Plan, adopted by City Council on November 15, 2021, has as Chapter 7 Environment, Climate and Food Equity a Community Vision Statement that includes “The City, *with the cooperation with the Charlottesville community*, will both mitigate and prepare for the potential impacts of climate change *by increasing reliable access to and use of clean energy sources*, improving building energy performance, pursuing resilience and adaptation strategies, promoting sustainable waste management, and utilizing food & climate equity approaches.” Goals and Strategies of Goal 1: Climate Change, Mitigation, Emissions and Energy include:
  - Strategy 1.1, Sub-strategies:
    - “The City government should lead by example on implementing emissions reduction strategies.”
    - “Support action within key community sectors (residential, commercial, and transportation) through policy, education, and program strategies.”
  - Strategy 1.3 – “Improve energy performance of *existing* and new *buildings community-wide through City policy standards* and leveraging local partner resources.”
  - Strategy 1.5 – “Pursue use of cleaner sources of energy (e.g., renewable energy strategies) community-wide.”
- Most importantly, the Charlottesville Climate Action Plan, completed in November 2022 and just formally adopted as an amendment to the City’s Comprehensive Plan on January 17, 2023. While the 98-page document is completely dedicated to “... specific strategies and key actions for Charlottesville to reduce its greenhouse gas emissions in alignment with its reduction goals,” just a few of its germane passages are:
  - Chapter 3 – Charlottesville GHG Emissions and Targets, Example Reduction Scenarios: “In considering emissions reductions in our buildings, these scenarios considered improving the energy efficiency of existing buildings, *adding onsite rooftop solar energy systems*, and the expected emissions reduction from electricity supplied by Dominion Power.”
  - Chapter 4 – Guides for Action, Climate Action Fact Sheets: Fact Sheet 4 – Onsite Renewables, *Solar*.

- Chapter 5 – Strategies and Actions: Community:
  - Building and Energy, Electricity: “Charlottesville can further its transition to carbon-free electricity and more greatly frontload its reductions by installing renewable energy systems onsite. *Solar energy systems have been increasing in number through programs such as Solarize Charlottesville and with support by Charlottesville’s Clean Energy Loan Fund for commercial and non-profit organizations.*”
  - Equity Considerations, Sub-Goals: “Renewable Energy: *Aim for 10% of Charlottesville’s rooftop solar potential to be installed by 2030.*”
  - Strategies and Key Actions: “Strategy: *Increase energy efficiency and onsite renewable energy use in existing buildings.*”


Additional examples and references to the City’s website could be included, but it seems clear that in the ten years since the ADC District Guidelines were last updated the City has dramatically increased its support of sustainable energy. The City’s website Renewable Energy: Solar page even highlights FUMC on its Charlottesville Solar: Rooftop Potential map. And while the ADC District Guidelines state that “Sustainability and preservation are complementary concepts, and both goals should be pursued. Nothing in these guidelines should be construed to discourage green building or sustainable design,” that was not reflected in the denial of the CoA.

The solar panel project grows out of a desire by members of the FUMC congregation to live out a commitment to stewardship of the environment and the Charlottesville community through their support of sustainable energy. We believe the solar panels are an expression of our religious faith and sets an example of one congregation’s response in acknowledging their obligations to address the climate crisis.


We are a community of faith that has made a commitment to remain in a historic building in the downtown area during a period when other congregations have left the area. We are happy to be part of a city that has been a vocal leader in renewable energy. We hope our appeal will be helpful to the city in developing a progressive and updated approach to applications like ours so that organizations and businesses can incorporate more readily the city’s stated sustainability goals. To that end, we respectfully ask City Council to reverse the BAR’s decision.

Thank you for receiving our appeal and we look forward to presenting to City Council.


Sincerely,



Rev. Alex Joyner  
Pastor



Guy Moffat  
Trustee



William L. Owens, AIA  
Architect/Trustee

Enclosure: January 18, 2023 BAR presentation



## **FIRST UNITED METHODIST CHURCH Solar Panel Project**

December 27, 2022

### **Description of Proposed Work**

As part of green initiatives currently ongoing at the church, the congregation of First United Methodist Church (101 East Jefferson Street) wishes to consider adding solar panel arrays on several of the church building's roof surfaces. The church has received a promise of a large donation to seed the project and will fund the remaining cost through matching donations and the Federal tax credit now available to nonprofits as part of the Inflation Reduction Act of 2022.

The goal of the project is to reduce the church's demand for electrical service as much as possible through being supportive of renewable energy and demonstrating good stewardship of the environment. In order to accomplish this goal, the church wishes to maximizing the coverage of solar panels as much as practicable. As proposed, (see attached photo simulations) the church's electrical costs would be reduced by approximately 50% at a savings of about \$11,000 per year.

Following the presentation of the project concept to the BAR in October, the church met with its roofer and solar provider to reevaluate the project's approach, particularly to installation, since the mounting of the solar panels through the existing 100-year-old slate shingle roof was a major topic of concern at the meeting. The church now proposes to remove the slate shingles under the solar arrays and replace them with a waterproofing underlayment and dark colored asphalt shingles. This will allow for a more typical installation of the panels by the solar provider (see attached product information) and reduce the maintenance concerns for the church associated with a slate roof installation.

The existing slate tiles that are replaced for asphalt shingles will be salvaged and used to repair any damage to the exposed roof during installation or stored by the church for possible restoration if the solar panels are removed in the future. In addition, the roofer has found a source for new slate shingles that matches the original Buckingham Slate tiles, also for use in any required repair or future replacement.

Since the solar panels sit parallel to and only 6" above the roof surface, and project 12"-24" beyond the mounting rails, the asphalt shingles will not be visible, even when standing on the roof itself. The geometry of the arrays has been revised to a regular rectangular shape from the stepped geometry previously proposed to simplify the new roof installation and more easily disguise the asphalt shingles. All roof areas not covered by solar panels will remain visible as the existing slate shingles.

The solar panel arrays themselves will not be viewable on the church roofs from the surrounding block (see attached site photos) and only seen from the church parking lot and at a significant distance. Since the panels are mounted close to and matching the existing roof slopes, they should not be considered as changing the historic roofline or altering the character defining features of the church.

# First United Methodist Church

## Solar Panel Project

### Photo Simulation 1



# First United Methodist Church

## Solar Panel Project

### Photo Simulation 2



# First United Methodist Church

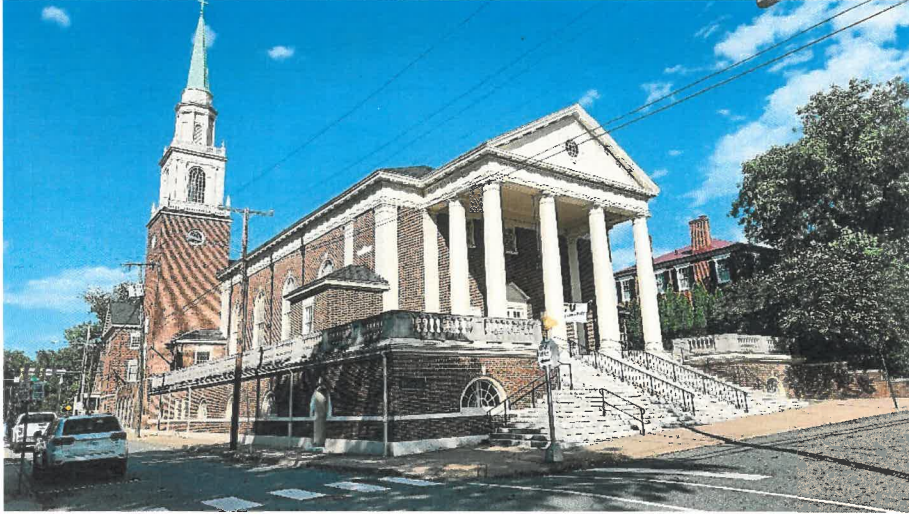
## Solar Panel Project

### Photo Simulation 3



# First United Methodist Church Solar Panel Project

## Site Photos – East Jefferson Street



Property from E. Jefferson St./1<sup>st</sup> St. N. Intersection



Property from E. Jefferson St./2<sup>nd</sup> St. N.E. Intersection



Facing Property from E. Jefferson St.



Facing Property from E. Jefferson St.



# First United Methodist Church Solar Panel Project

## Site Photos – 1<sup>st</sup> Street N.



Property from E. High St./1<sup>st</sup> St. N. Intersection



Property from E. Jefferson St./1<sup>st</sup> St. N. Intersection



Facing Properties from E. Jefferson St./1<sup>st</sup> St. N. Intersection



Facing Properties from E. High St./1<sup>st</sup> St. N. Intersection

# First United Methodist Church Solar Panel Project

## Site Photos – 2<sup>nd</sup> Street N.E.



**Neighboring Property from 2<sup>nd</sup> Street N.E.**



**Property from 2<sup>nd</sup> Street N.E.**



**Facing Property from E. High St./2<sup>nd</sup> St. N.E. Intersection**



**Facing Property from E. Jefferson St./2<sup>nd</sup> St. N.E. Intersection**

# First United Methodist Church Solar Panel Project

## Site Photos – E. High Street



Property from E. High St./2<sup>nd</sup> St. N.E. Intersection



Property from E. High St./1<sup>st</sup> St. N. Intersection



Facing Properties from E. High St./1<sup>st</sup> St. N. Intersection

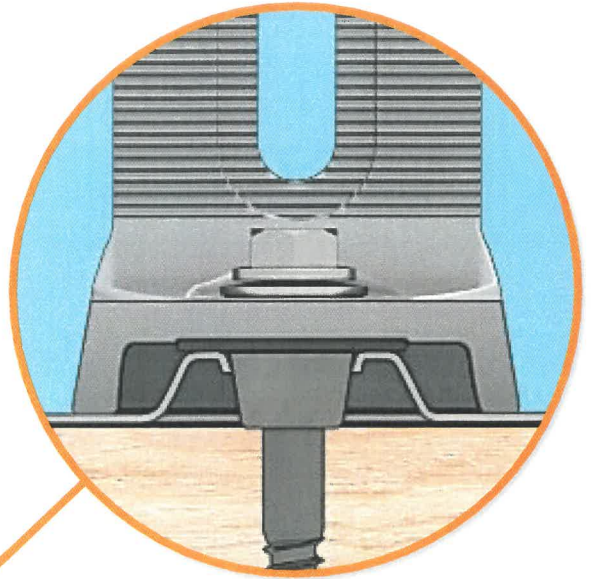


Facing Properties from E. High St./2<sup>nd</sup> St. N.E. Intersection

## Moving Flashing Forward

We set out to design a flashing that checked all the boxes: fully waterproof, fast and easy to install correctly, economical, and strong enough to handle every environmental condition. FlashVue® does it all.

The optimized flashing design features a large viewport, for easy alignment with the pilot hole. And the GripCap® and GripCap+® sit snugly in place, so the lag can be driven single-handedly.



### Three-Tier Water Seal, Reimagined

FlashVue®'s seal architecture utilizes three layers of protection. The viewport is elevated 0.30", and provides a "friction-fit" for the GripCap®. The GripCap® fully covers the viewport while a sealing washer adds another layer of protection. And an EPDM washer and lag bolt "seal the deal" in the



### GripCap® & GripCap+®

The 360° capable GripCap® (2.74" tall) and GripCap+® (3.74" tall) can be placed in any orientation, and provide a "friction-fit" for easy installs. Push snug into the viewport, without worrying it will roll away or rotate while driving the lag.



□ 0.75"

### Large Viewport in Flashing

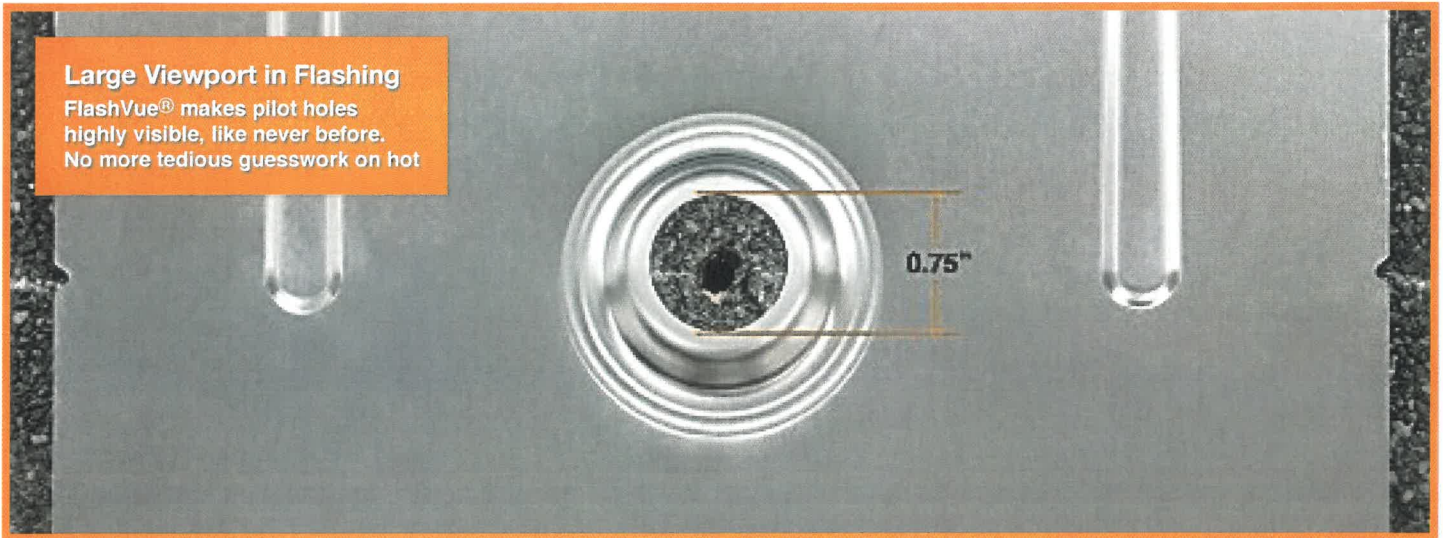
The large viewport makes it easy to align the flashing with the pilot hole, and drive the lag centered into the rafter. The elevated rim not only provides a sturdy dock for the GripCap® or GripCap+®, but increases water-shedding



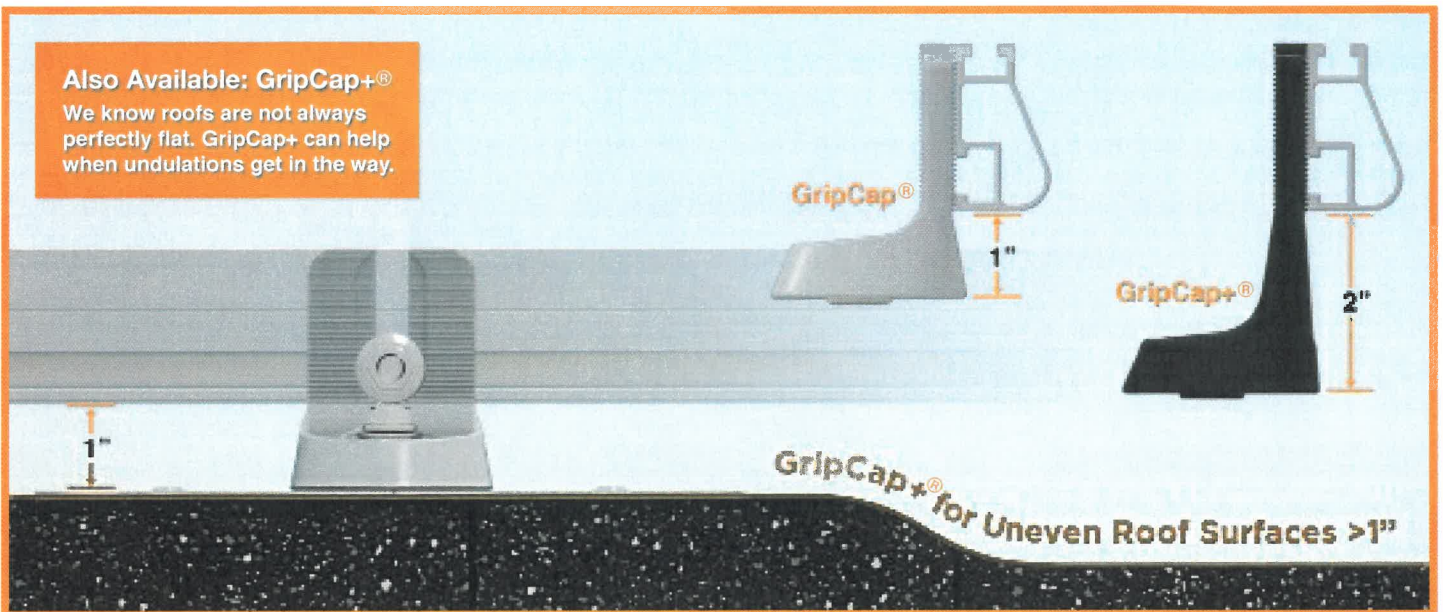
**Triple Certified to  
Protect the Roof™**

UL 2703, 441 (27)  
TAS 100(A)-95





## See Your Pilot Holes

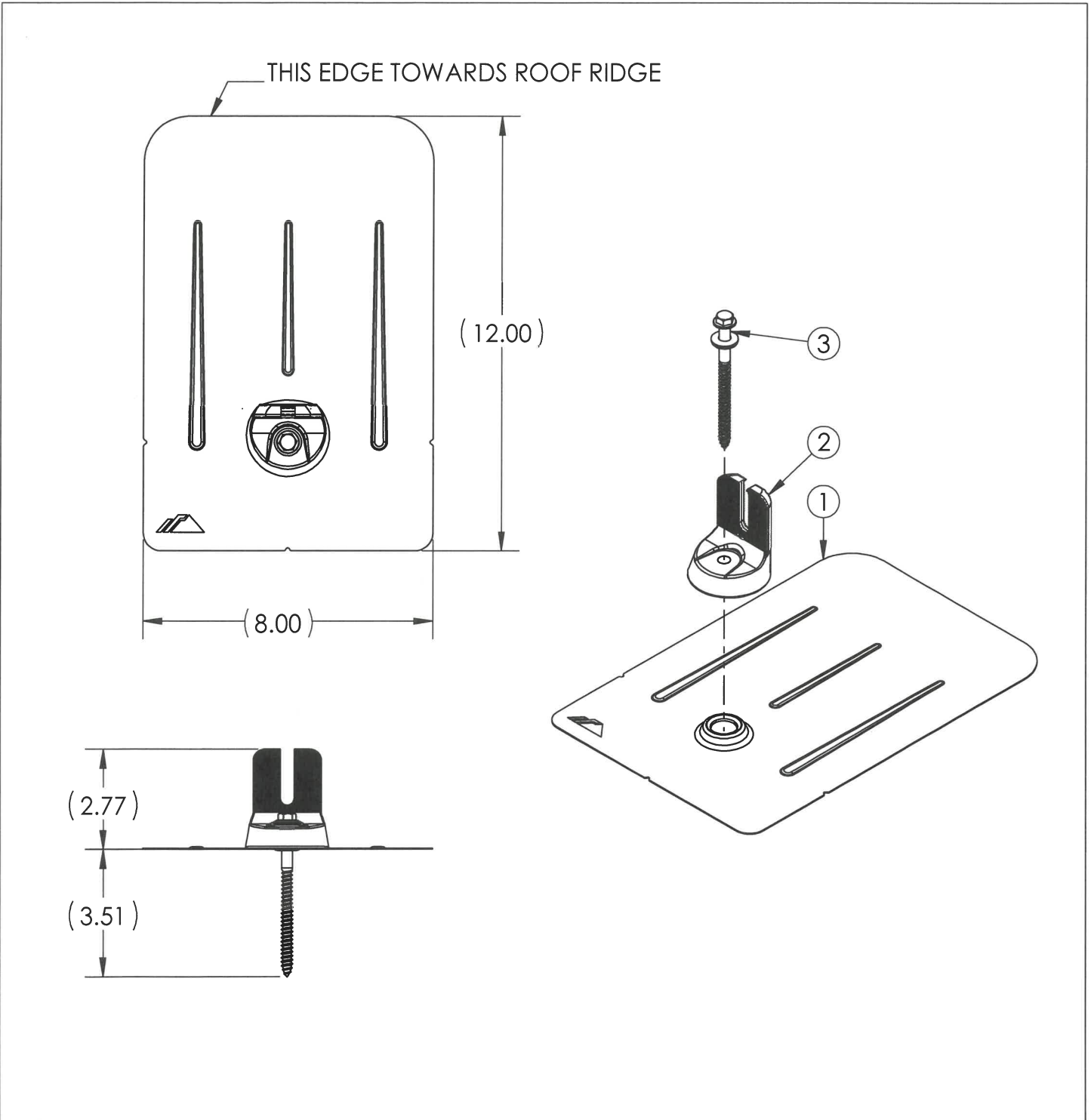


## Solve Roof Undulations



## Trusted Strength & Certification

-  **Attachment Loading**  
FlashVue® has been tested and rated to support 1161 (lbs) of uplift and 353 (lbs) of lateral load.
-  **Structural Certification**  
Designed and certified for compliance with the International Building Code & ASCE/SEI-7.
-  **Water Seal Ratings**  
Passed both the UL 441 Section 27 "Rain Test" and TAS 100-95 "Wind Driven Rain Test" by Intertek.
-  **UL 2703 Listed System**  
Conforms to UL 2703 mechanical and bonding requirements. See Flush Mount Manual for more info.

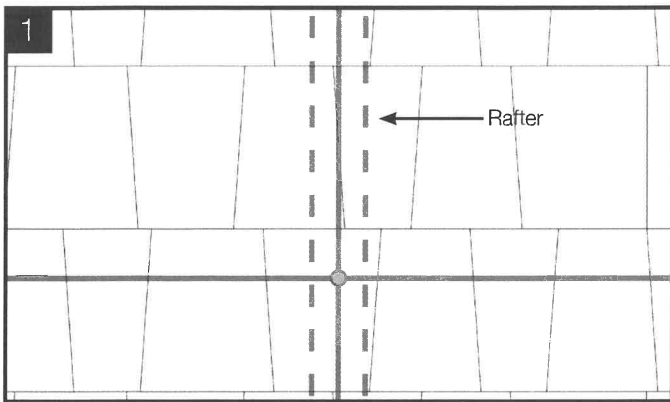


ITEM NO.	DESCRIPTION
1	FM FLASHING, MILL OR <b>BLACK</b>
2	GRIP CAP, MILL OR <b>BLACK</b>
3	LAG & BONDED WASHER, 5/16 X 4.25, 7/16 HEX HEAD

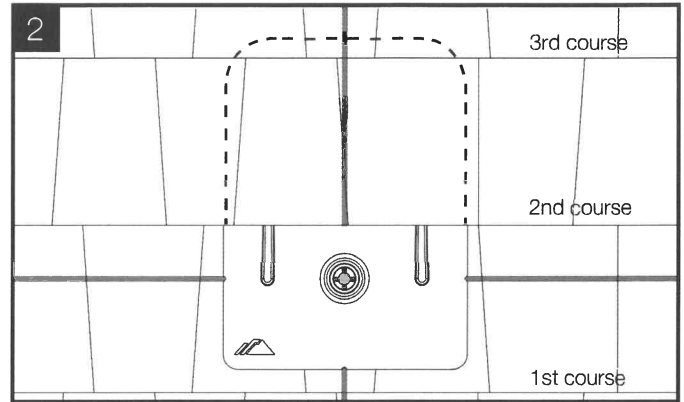
<b>FLASHVUE®</b>		
SIZE <b>A</b>	DO NOT SCALE DRAWING	
SCALE: 1:4	WEIGHT: 0.6 lbs	SHEET 1 OF 1

# Installation

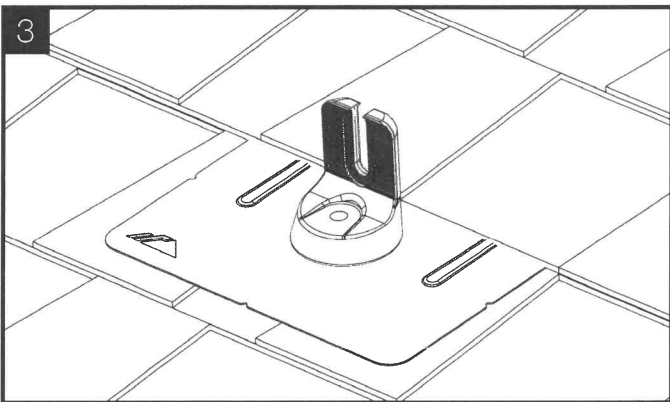
Tools Required: tape measure, chalk, approved sealing materials, driver with 1/4" bit and 7/16" hex socket



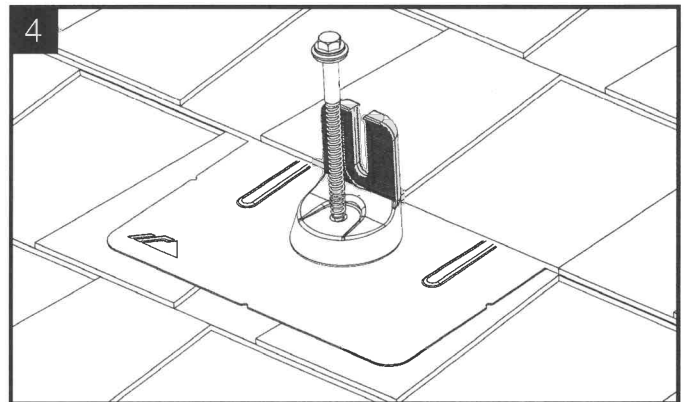
Locate rafters and snap vertical and horizontal lines to mark locations of flashings. Drill 1/4" pilot holes, then fill with roofing manufacturer's approved sealant.



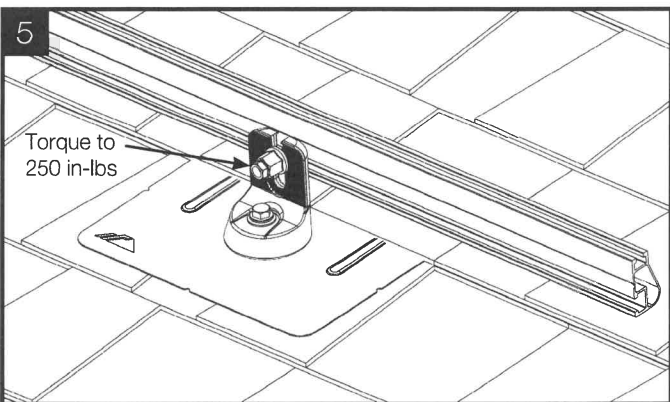
Slide flashing between 1st and 2nd course, so the top is at least 3/4" above the edge of the 3rd course and the bottom is above the edge of the 1st course. Line up pilot hole with view port.



Press Grip Cap onto flashing in desired orientation for E/W or N/S rails.



Insert lag bolt with EPDM backed washer through flashing. Tighten lag bolt until fully seated. FlashVue is now installed and ready for IronRidge XR Rails.



Attach rails to either side of the open slot using bonding hardware. Level rail at desired height, then torque to 250 in-lbs (21 ft-lbs).

## Structural Certification

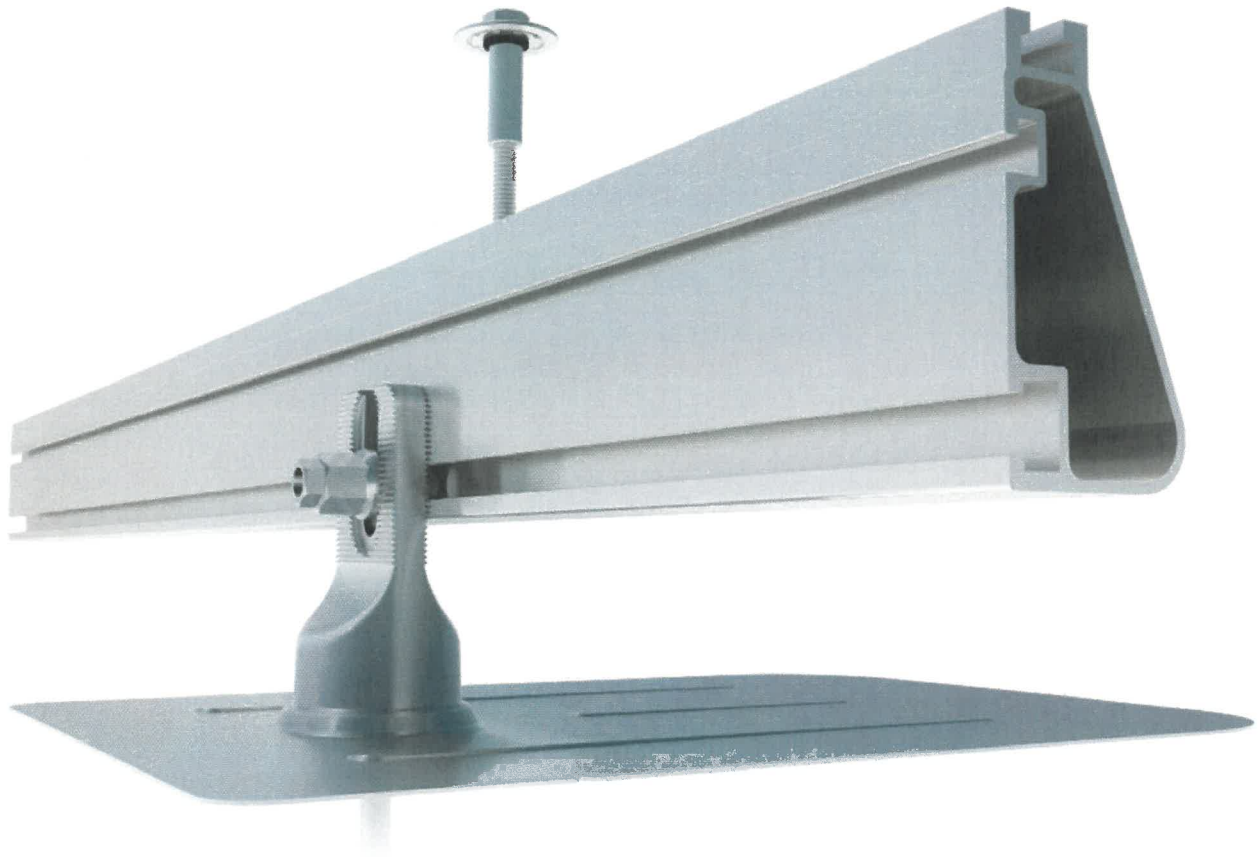
Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7.

## Water Seal Ratings

Water Sealing Tested to UL 441 Section 27 "Rain Test" and TAS 100(A)-95 "Wind Driven Rain Test" by Intertek. Tested and evaluated without sealant. Any roofing manufacturer approved sealant is allowed.

## UL 2703

Conforms to UL 2703 (2015) Mechanical and Bonding requirements. See Ironridge Flush Mount Installation Manual for full ratings.



### Built for solar's toughest roofs.

IronRidge builds the strongest mounting system for pitched roofs in solar. Our components have been tested to the limit and proven in extreme environments, including Florida's high-velocity hurricane zones.

Our rigorous approach has led to unique structural features, such as curved rails and reinforced flashings, and is also why our products are fully certified, code compliant and backed by a 25-year warranty.



#### **Strength Tested**

All components evaluated for superior structural performance.



#### **PE Certified**

Pre-stamped engineering letters available in most states.



#### **Class A Fire Rating**

Certified to maintain the fire resistance rating of the existing roof.



#### **Design Assistant**

Online software makes it simple to create, share, and price projects.



#### **UL 2703 Listed System**

Entire system and components meet newest effective UL 2703 standard.



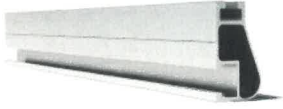
#### **25-Year Warranty**

Products guaranteed to be free of impairing defects.



## XR Rails ☺

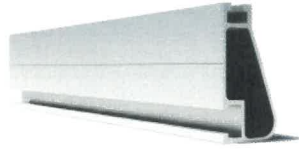
### XR10 Rail



A low-profile mounting rail for regions with light snow.

- 6' spanning capability
- Moderate load capability
- Clear and black finish

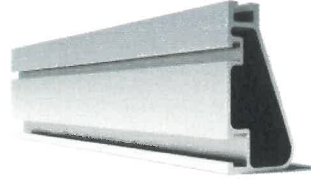
### XR100 Rail



The ultimate residential solar mounting rail.

- 8' spanning capability
- Heavy load capability
- Clear and black finish

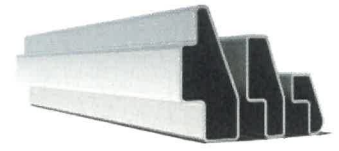
### XR1000 Rail



A heavyweight mounting rail for commercial projects.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish

### BOSS™ Bonded Splices



Bonded Structural Splices connect XR Rails together.

- Integrated bonding
- No tools or hardware
- Self-centering stop tab

## Clamps & Grounding ☺

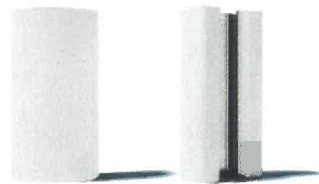
### UFO™



Universal Fastening Objects bond modules to rails.

- Fully assembled & lubed
- Single, universal size
- Clear and black finish

### Stopper Sleeves



Snap onto the UFO to turn into a bonded end clamp.

- Bonds modules to rails
- Sized to match modules
- Clear and black finish

### CAMO™



Bond modules to rails while staying completely hidden.

- Universal end-cam clamp
- Tool-less installation
- Fully assembled

### Bonding Hardware

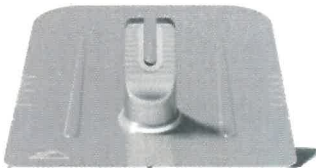


Bond and attach XR Rails to roof attachments.

- T & Square Bolt options
- Nut uses 7/16" socket
- Assembled and lubricated

## Attachments ☺

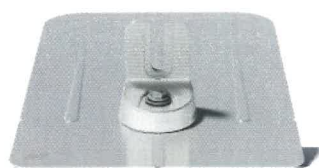
### FlashFoot2™



Flash and mount XR Rails with superior waterproofing.

- Twist-on Cap eases install
- Wind-driven rain tested
- Mill and black finish

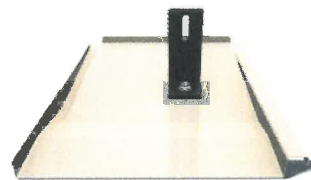
### FlashVue™



Flash and mount conduit, strut, or junction boxes.

- Twist-on Cap eases install
- Wind-driven rain tested
- Secures 3/4" or 1" conduit

### Knockout Tile



Replace tiles and ensure superior waterproofing.

- Flat, S, & W tile profiles
- Form-fit compression seal
- Single-lag universal base

### All Tile Hook



Mount on tile roofs with a simple, adjustable hook.

- Works on flat, S, & W tiles
- Single-socket installation
- Optional deck flashing

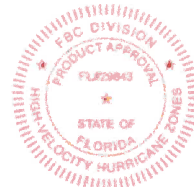
## Resources



### Design Assistant

Go from rough layout to fully engineered system. For free.

Go to [IronRidge.com/design](http://IronRidge.com/design)



### Endorsed by FL Building Commission

Flush Mount is the first mounting system to receive Florida Product approval for 2017 Florida Building Code compliance.

Learn More at [bit.ly/floridacert](http://bit.ly/floridacert)

