Evaluation Report

Evolution® - Overly Metal Roof System

Manufacturer:

East Coast Metal Systems.

625 Distribution Road

Triadelphia,WV 26059

for

Florida Product Approval

FL 48288.1

Florida Building Code 8th Edition (2023), HVHZ Code Section

Method: **2 - B**

Category: **Roofing**

Sub - Category: **Metal Roofing**

Product:	Evolution® -Overly Metal Roof Systeml
Material:	Aluminum
Panel Thickness:	0.050”
Panel Width:	30” max.
Panel Seam:	Concealed Compression Clip
Support:	Wood Deck

This item has been digitally signed and sealed by James L. Buckner, P.E., on this date below. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

Prepared by:
James L. Buckner, P.E., SECB
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Sr. Project Manager: Diana Galloway
Report No. 01_26-834.1.3-Evolu-HZ-ER
Date: 6/27/2026

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JAMES L. BUCKNER LICENSE No 31242 STATE OF FLORIDA PROFESSIONAL ENGINEER

James L. Buckner, P.E.
FL31242

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Manufacturer: **East Coast Metal Systems.**
625 Distribution Road
Triadelphia, WV 26059
(800)345-6755)

Product Name: **"Evolution® - Overly Roof System"**

Product Category: Roofing

Product Sub-Category Metal Roofing

Compliance Method: State Product Approval Rule 61G20-3.005 (2) (B)

Product/System Description: Evolution® - Overly Roof System
0.050" Aluminum roof panel, concealed mechanically attached to Wood Deck with fixed compression cap-clip & screws. A batten type Cover Cap is installled over the panel vertical legs seam and is attached with adheasive and mechanical crimps.

Product Assembly as Evaluated: Refer to Components/Materials page of this report for product assembly components/materials & standards:

1. Roof Panel & Drain Channel
2. Panel compression Clip & Cover Cap
3. Fasteners
4. Underlayment
5. Insulation (Optional)

Support: **Type:** Wood Deck

- Design of support system is outside the scope of this report. Support shall be designed by others and shall comply with Chapter 16 for structural loading.

Description: Deck = 2 Layers of APA Plywood

- 15/32" or greater plywood over 23/32 " or greater plywood
- or Wood plank (min. specific gravity of 0.42) of equal Thickness

Slope: Minimum slope tested and evaluated for:
1/4 : 12 (HVHZ) **Low Slope Roof** based on passing
Static Water Head Test ASTM E2140-01

2 : 12 & Steeper (HVHZ) **Pitched Roo**f Slope based on passing TAS 100-23
Wind & Wind Driven Rain Resistance Test

In compliance with FBC Chapter 15 based on the applicable code sections and in accordance with manufacturer's recommendations.

Performance:

Wind Uplift Resistance:

- * Design Uplift Pressure: **- 131 PSF**

  * Allowable design pressure for Allowable Stress Design (ASD) with a Margin of Safety of 2 : 1

Performance Standards:

The following test protocols were performed to demonstrate compliance with the intent of the code.

- TAS 125-03 – *Standard Requirements for Metal Roofing Systems*
- Modified TAS 111(B) Edge Metal Pull Off Test
- TAS100-23 – *Wind Driven Rain Test*
- *ASTM E2140-01 Standard Test Method for Penetration of Metal Roof Systems by Static Water head*

Code Compliance:

The product described herein has demonstrated compliance with the intent of the Florida Building Code 8th Edition (2023), High Velocity Hurricane Zone (HVHZ) per FBC 8th section 1708.2 and Method 2-B per Rule 61G20-3.005 (2) (B)

Evaluation Report Scope:

This product evaluation is limited to compliance with the structural and deck slope requirements of the Florida Building Code, HVHZ, as related to the scope section to Florida Product Approval Rule 61G20-3.001. and FBC HVHZ code section.

Limitations and Conditions of Use:

- Labeling: All roofing panels shall be permanantly labeled with the manufacture's name or Logo. All clips or packaging shall be labeled with the manufacture's name or Logo per FBC 8th, HVHZ, section 1517.4.

- All metal components and fasteners shall be corrosion resistant in accordance with applicable sections of FBC, including but not limited to HVHZ code sections, areas, all roofing accessories shall comply with FBC Sections 1517.5 and 1517.6.
- The design pressures listed herein are applicable to all roof pressure zones. Rrational analysis or extrapolation of this report to enhance resistance pressure is not permitted in enhanced design uplift zones per HVHZ TAS 125, 7.6.3
- Maximum panel lengths, valleys & panel accessories shall comply with Roofing Application Standard RAS 133 as applicable in HVHZ areas.
- HVHZ requirements include Perimeter attachments per HVHZ RAS 111
- Fire Classification is outside the scope of Rule 61G20-3 and is therefore not included in this evaluation.
- Deck shall be in compliance with applicable HVHZ building code.

- <u>Scope of "Limitations and Conditions of Use" for this evaluation:</u>
  This evaluation report for "Optional Statewide Approval" contains technical documentation, specifications and installation method(s) which include "Limitations and Conditions of Use" throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under "Optional Statewide Approval".

- Option for application outside "Limitations and Conditions of Use"
  Rule 61G20-3.005(1)(e) allows engineering analysis for "project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code". Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others.

Quality Assurance:

The manufacturer has demonstrated compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.0005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through **Farabough Engineering and Testing**.
(FBC Organization ID# QUA 7733).

Components/Materials (by Manufacturer):

Roof Panel:	**Evolution® Roof Panels**
Material:	Aluminum
Thickness:	0.050" (min.)
Panel Widths:	30" (max.) Coverage
Alloy Type:	3105 H14
Corrosion Resistance:	Per FBC Section 1507.4.3

Evolution® Extrusions
Drain Chanel
Compression Cap
Cover Cap

Material:	Aluminum
Thickness:	Extruded
Alloy Type	6063-T5
Corrosion Resistance:	Per FBC Section 1506.7

Evolution Extruded Gaskets

Material:	EDPM

Evolution® Infil Boards

Material	High-Density Polyisocyanurate
Density	90 PSF minimum
Thickness	1/2 inch

Components& Materials: (by Others)

Fasteners:

Type:	Hex Head & Flat head Wood Screw
Material	Stainless Steel
Size :	# 12 x 2" minimum
Corrosion Resistance:	Per FBC Section 1506.6 and 1507.4.4
Standard:	Per ANSI/ASME B18.6.1

Bostic 915 Sealant & Adhesive : Miami-Dade NOA No 25-0125.04
Material: Polyurethane

Underlayment:
One of the following per FBC 8th Edition (2023), Section 1518.2.
ASTM D226, D1970, D4869, D6757, D8257
Installation shall comply with FBC including Sections 1518.2, 1518.2.1, Table, 1518.2.1, 1518.2.2, 1518.2.3, 1518.2.4 where applicable and in accordance with roof manufacturer's recommendations.

Barrier Fire or Thermal Board*:*
Any approved barrier with current approval.
Used as non load chain structural component in roof assembly or under roof panels.
Maximum combined thickness = 2 inches.
(Fire classification is outside the scope of this evaluation. Refer to current fire listings for installation of fire barrier & fire rating of this system.)

Installation:

Installation Method:
The metal panels are laid over the infill board. Each side of the panel sits on top of a continuous Evolution® Drain Channel. The panel is secured down to the Drain Channel using a top Evolution® Ccompression Cap, with EDPM gaskets. The Compression Cap Is attached into both layers of wood deck substrate using #12 – 14 X 2 inch minimum hex head, wood screws located 12 inches on center. Refer to the insulation pages in this report and refer to the manufacturer's instructions that complement this evaluation.
Prior to installing the Cover Cap a bead of Bostic 915 Polyurethane Sealant & Aadhesive is applied to the top of each side of the Compression Cap.
The Cover Cap is snapped over the Compression Cap. Then on each vertical leg of the Cover Cap, a 1/4 inch crimp is made, located 12 inches on center.

Commentary

This evaluation report is based on the enhanced requirements of the Florida Building Code section, named the High Velocity Hurricane Zone. This HVHZ code section applies to Dade and Broward counties, per definition in chapter 2 of the Florida Building Code 8th edition 2023.

This report may be used for projects in the other 65 counties, outside the HVHZ zone. The user should be aware that if this report is used as the envelope product approval for a project outside the HVHZ zone, all of the enhanced requirements of the HVHZ code zone will apply to the project, even though it is not in Dade or Broward County.

As a further informational note, almost all buildings located in Florida are classified, for design, to be in the "Hurricane Prone Region"
per FBC 8th Standard, ASCE/SEI 7 – 22 Minimum Design Loads and Associated Criteria for Buildings and Other Structures.

Referenced Data:

TAS 125 Uplift Test Standard for Metal Roofing Systems
By Farabaugh Engineering and Testing Inc (FBC Organization ID# TST 1654)
Report No.T276-25, Date: 7/30/25

Modified TAS 111 (B) Metal Pull Uplift Test
By Farabaugh Engineering and Testing Inc (FBC Organization ID# TST 1654)
Report No. T295-25, Date: 9/29/25

TAS 100-95 Wind Driven Rain Test
By Farabaugh Engineering and Testing IncF (FBC Organization ID# TST 1654)
Report No.T282-25, Report Date: 8/14/25

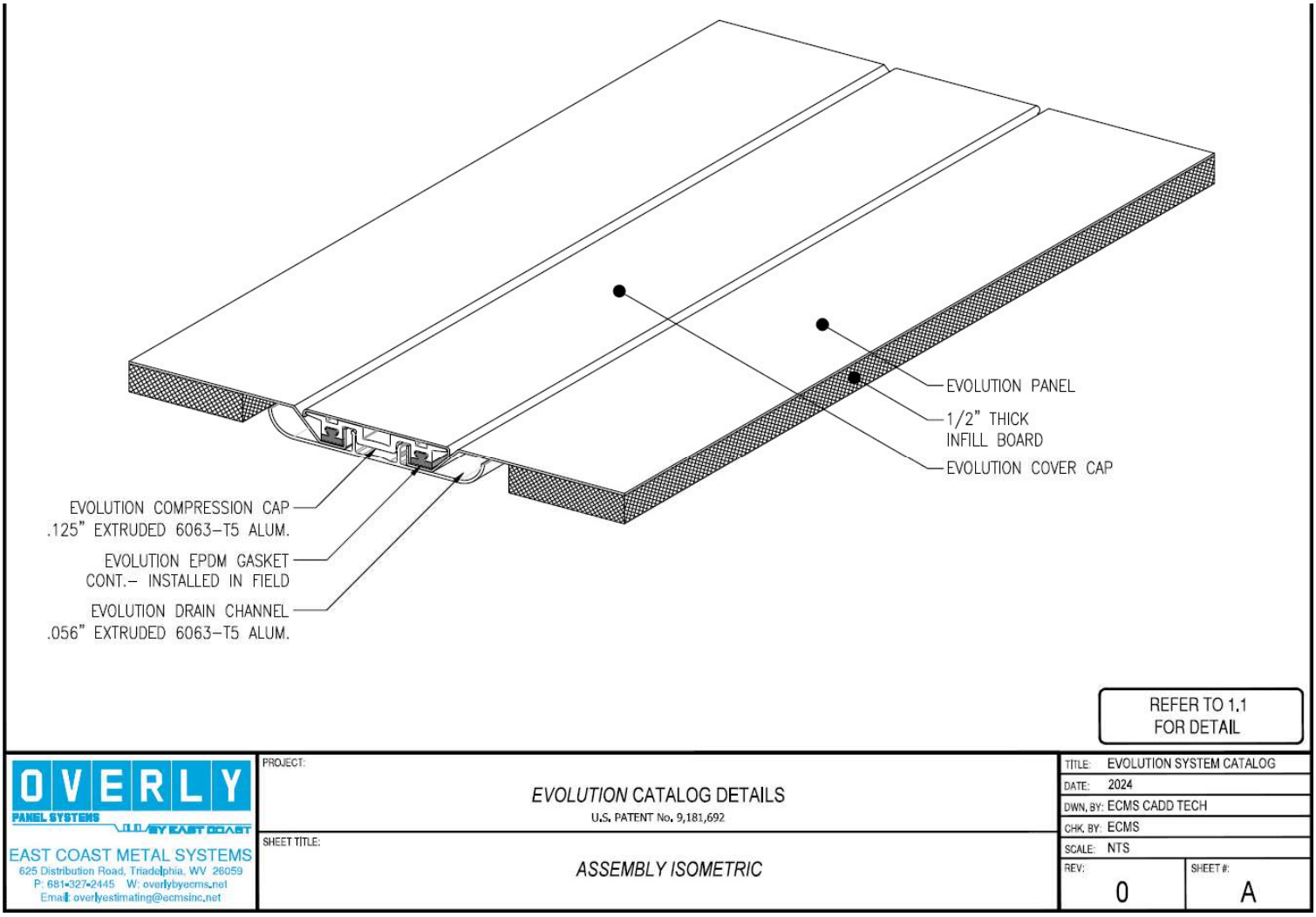
ASTM E2140 Static Water Head Test of Metal Roofs
By Farabaugh Engineering and Testing Inc (FBC Organization ID# TST 1654)
Report No.T294-25, Report Date: 8/29/25

Product Quality Assurance Entity
Farabaugh Engineering and Testing Inc (FBC Organization ID# QUA7733

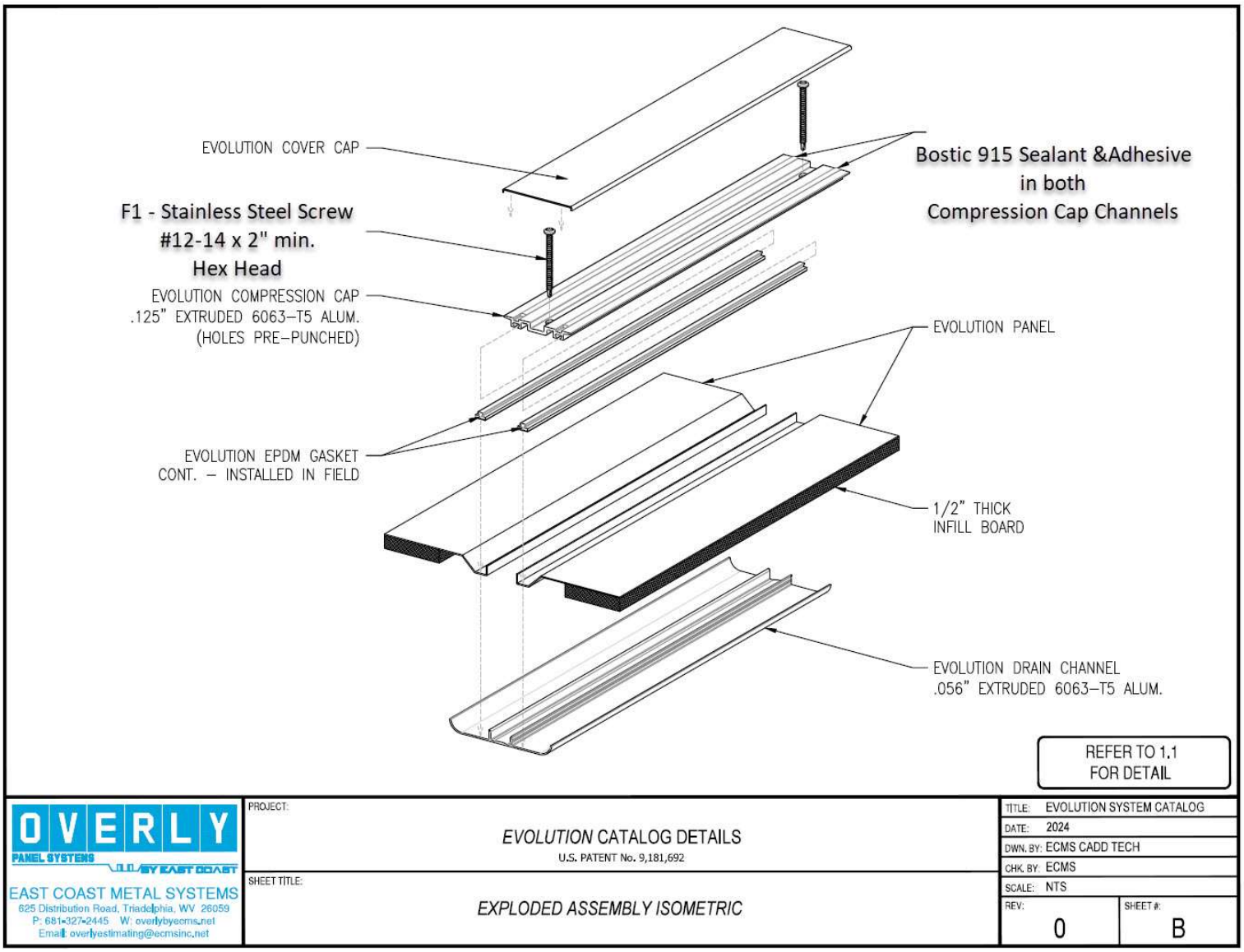
Engineering Analysis
By CBUCK Engineering

Certification of Independence
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)

Installation Method
EVOLUTION® Overly Metal Roof System



EVOLUTION® Overly Metal Roof System



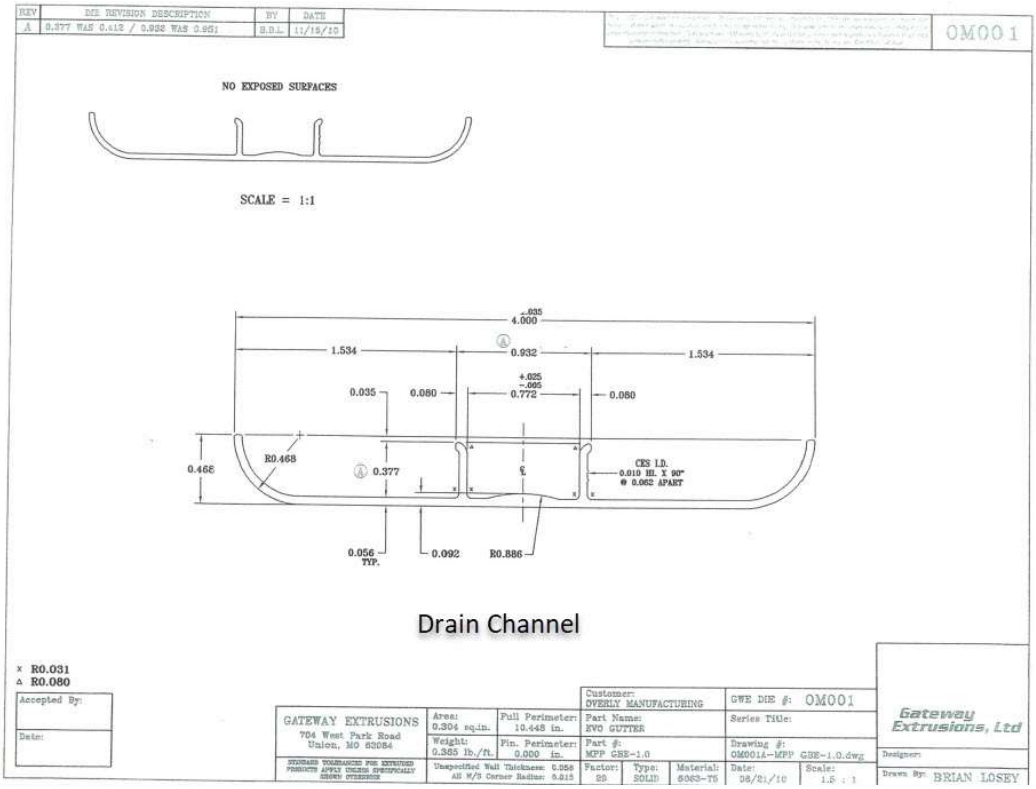
OVERLY PANEL SYSTEMS
EAST COAST METAL SYSTEMS
625 Distribution Road, Triadelphia, WV 26059
P: 681-327-2445 W: overlybyecms.net
Email: overlyestimating@ecmsinc.net

PROJECT:
EVOLUTION CATALOG DETAILS
U.S. PATENT No. 9,181,692

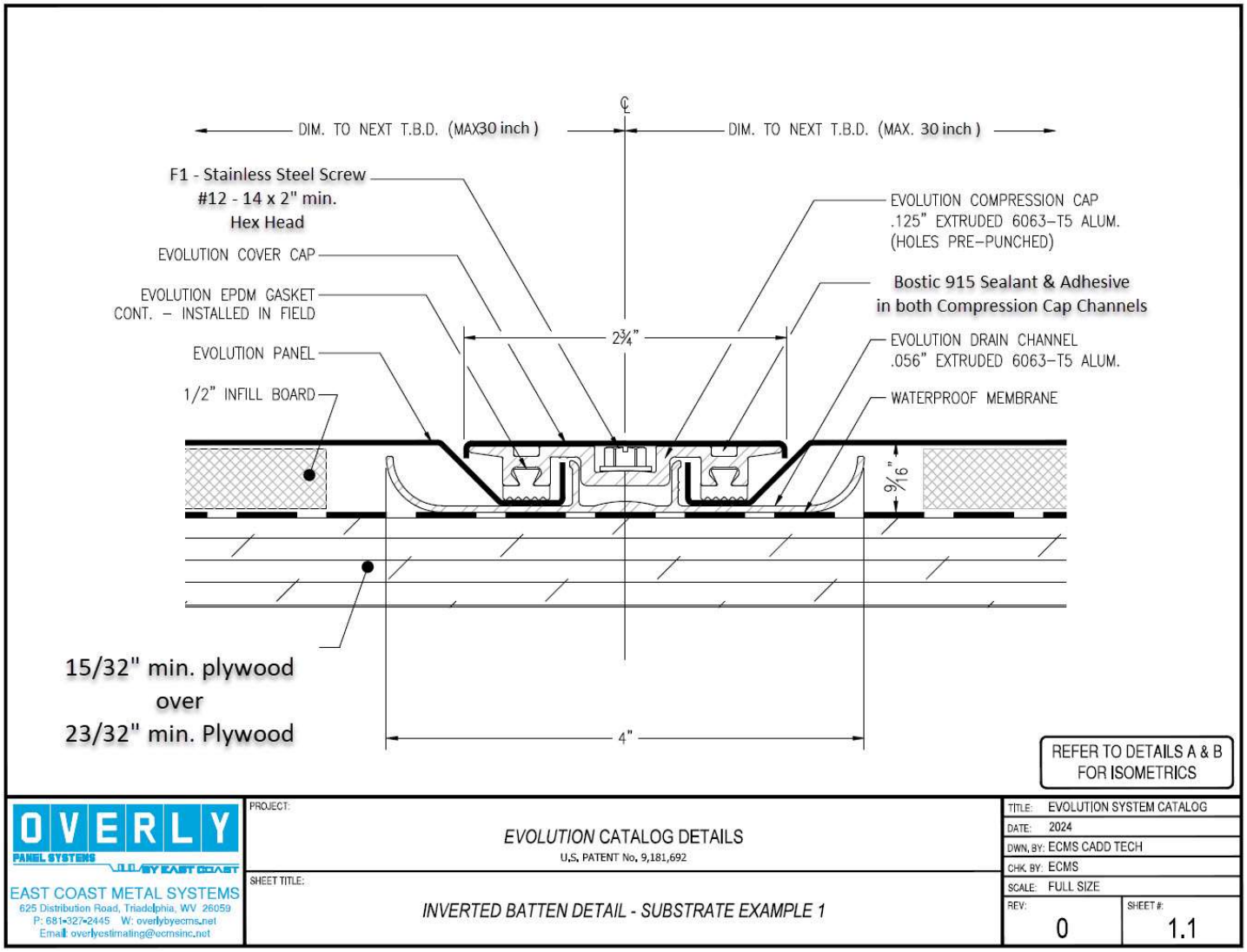
SHEET TITLE:
EXPLODED ASSEMBLY ISOMETRIC

TITLE:	EVOLUTION SYSTEM CATALOG
DATE:	2024
DWN. BY:	ECMS CADD TECH
CHK. BY:	ECMS
SCALE:	NTS
REV:	0
SHEET #:	B

Installation Method
EVOLUTION® Overly Metal Roof System



Installation Method
EVOLUTION® Overly Metal Roof System



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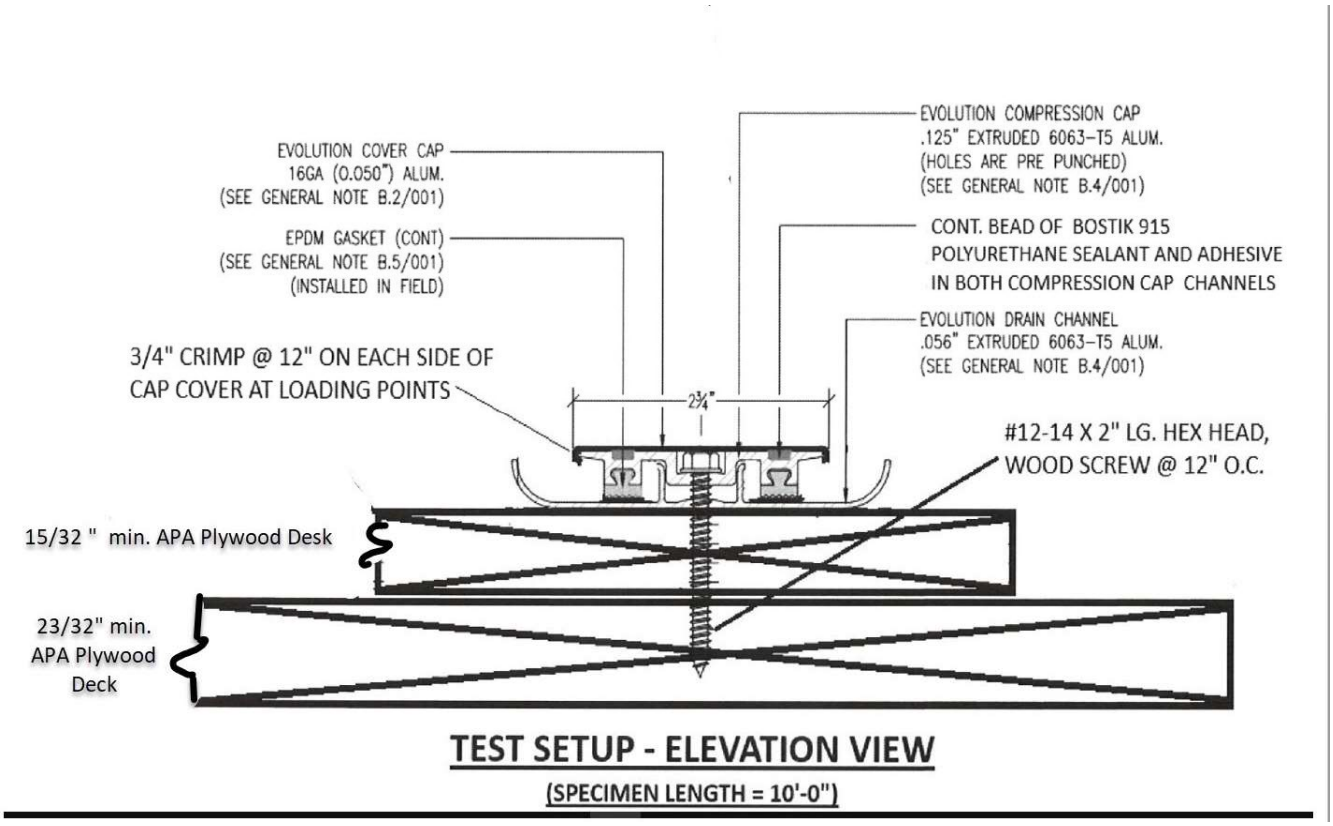
EVOLUTION® Overly Metal Roof System



TEST SETUP - ELEVATION VIEW

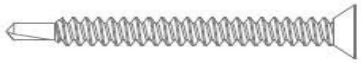
(SPECIMEN LENGTH = 10'-0")

Installation Method
EVOLUTION® Overly Metal Roof System

FASTENER TYPES

F1 PRESSURE CAP/DRAIN CHANNEL FASTENER (INTO WOOD)

- #12–14 X 2"
- STN. STL.
- HWH
- 'A' POINT



F2 ROOF PANEL & CLEAT FASTENER (INTO WOOD)

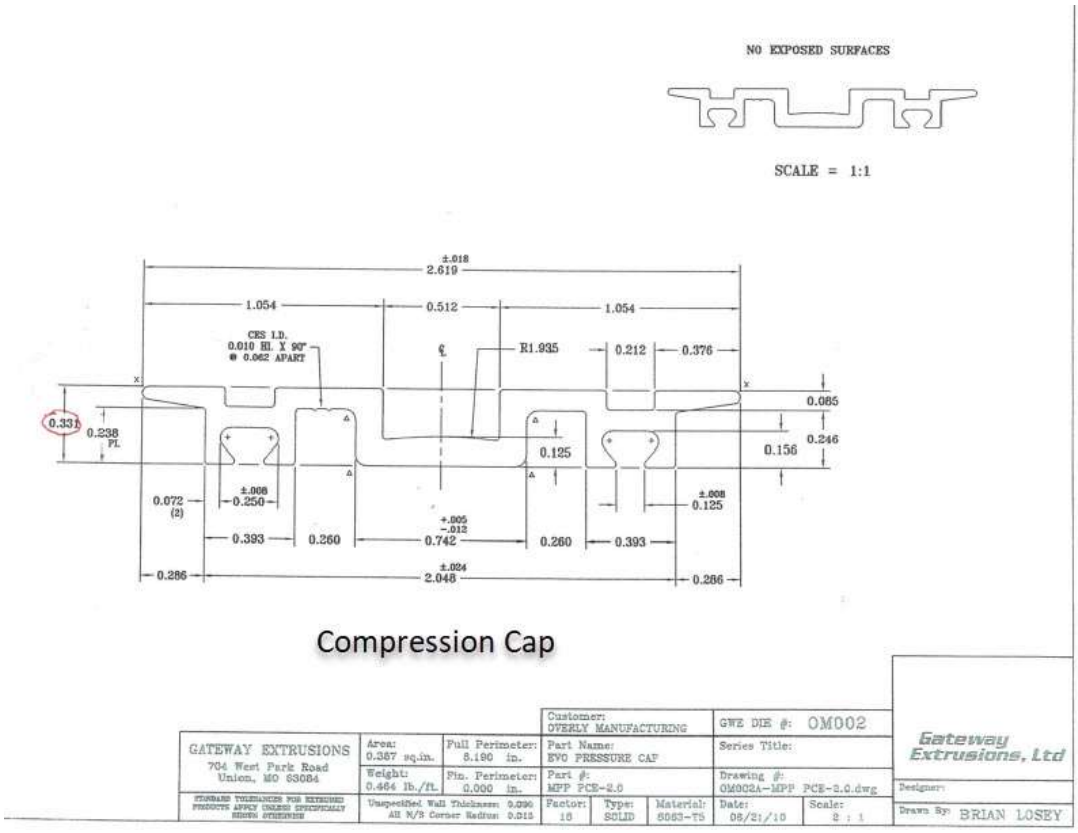
- #12–14 X 2"
- STN. STL.
- FLAT HD.
- DRILL POINT

F3 STARTER FLASHING, CLEAT, CLIP FASTENER (INTO WOOD)

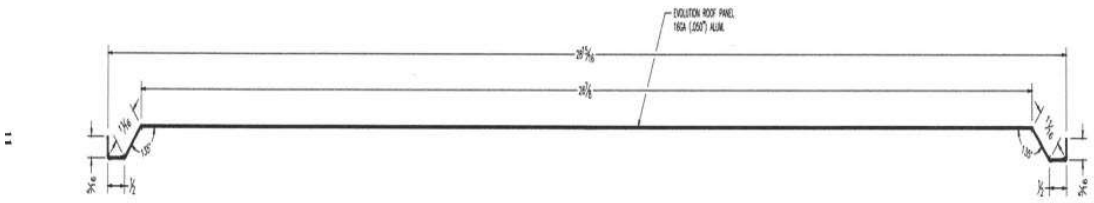
- #10–9 X 1"
- STN. STL.
- ULTRA LOW HD.
- GIMLET POINT

NOTES:

Installation Method
EVOLUTION® Overly Metal Roof System



Compression Cap



Cover Cap