

Installing Fenestration in Exterior Insulated Walls

EL601A

6/21/2018

1 LU (HSW)

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LEARNING OBJECTIVES

- Identify the benefits of exterior insulation in modern wall assemblies.
- Explore variations in exterior insulated wall assemblies.
- Refresh your expertise on the requirements of all window installation systems.
- Discover and evaluate options for meeting the requirements for proper window installation in exterior insulated walls.

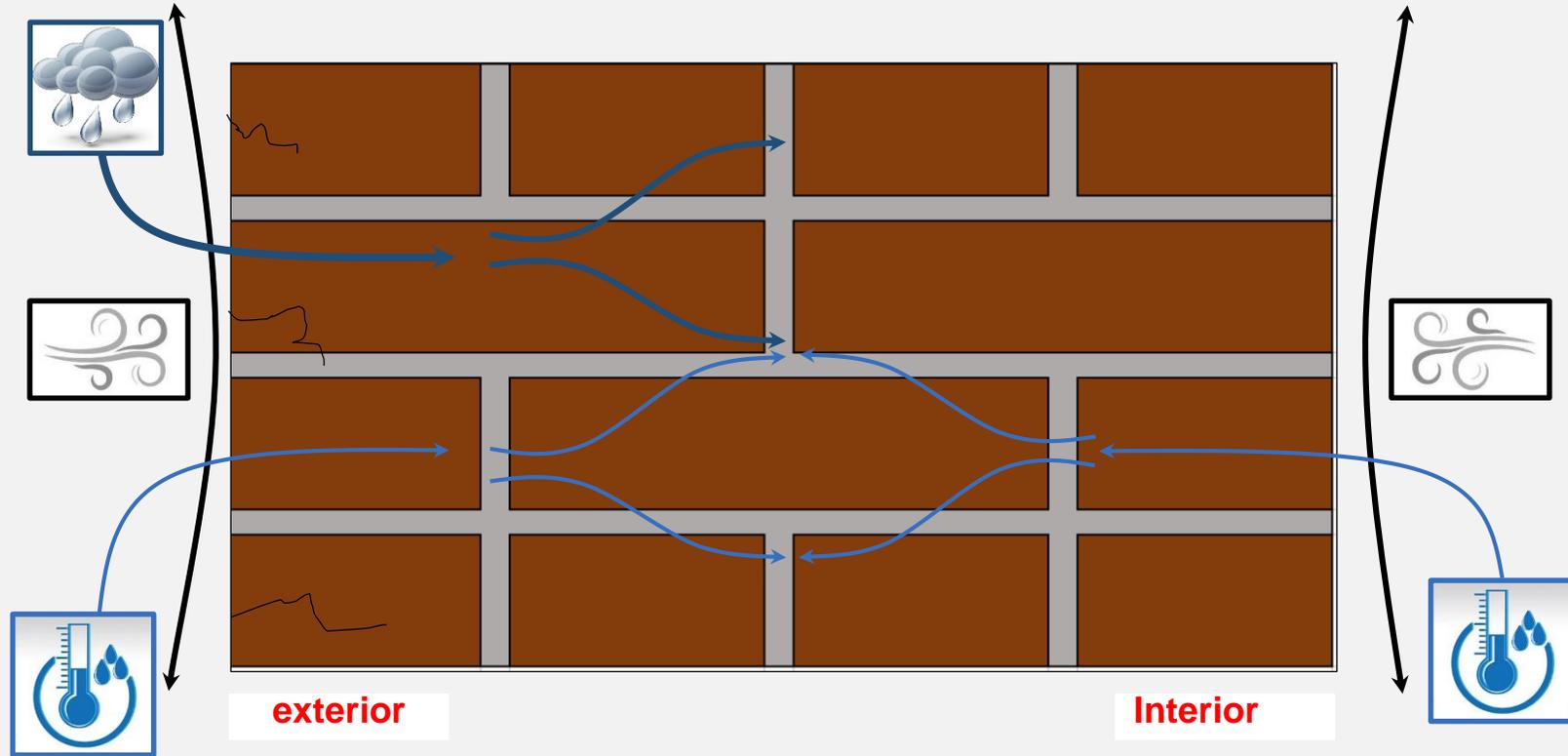
WHY EXTERIOR PLACEMENT?





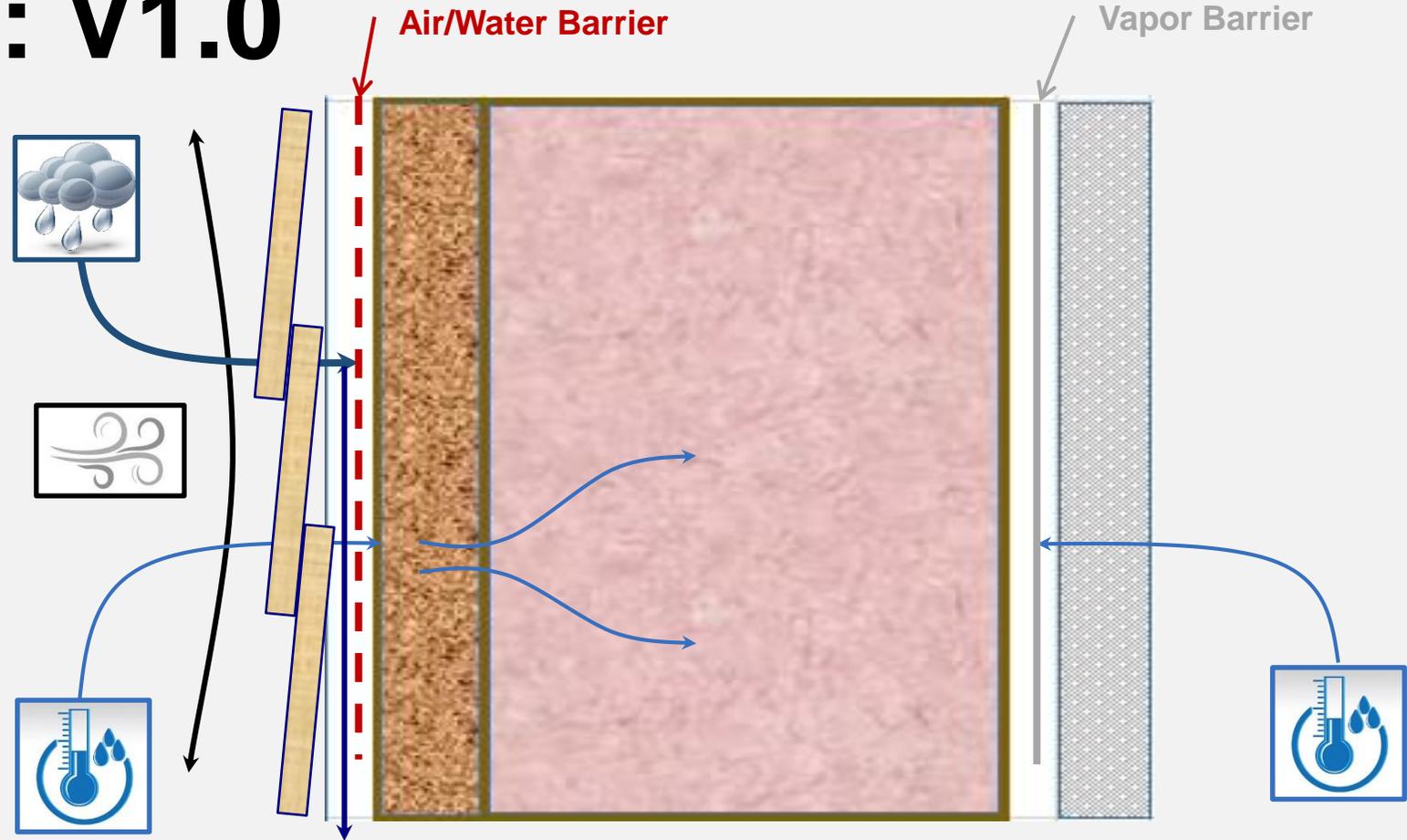
- AESTHETICS
- STRUCTURAL
- DURABILITY
- MANAGE WATER
- MANAGE WATER VAPOR
- CONTROL AIR
- CONTROL HEAT FLOW

THE OLD WAY: SIMPLE, BUT INEFFICIENT



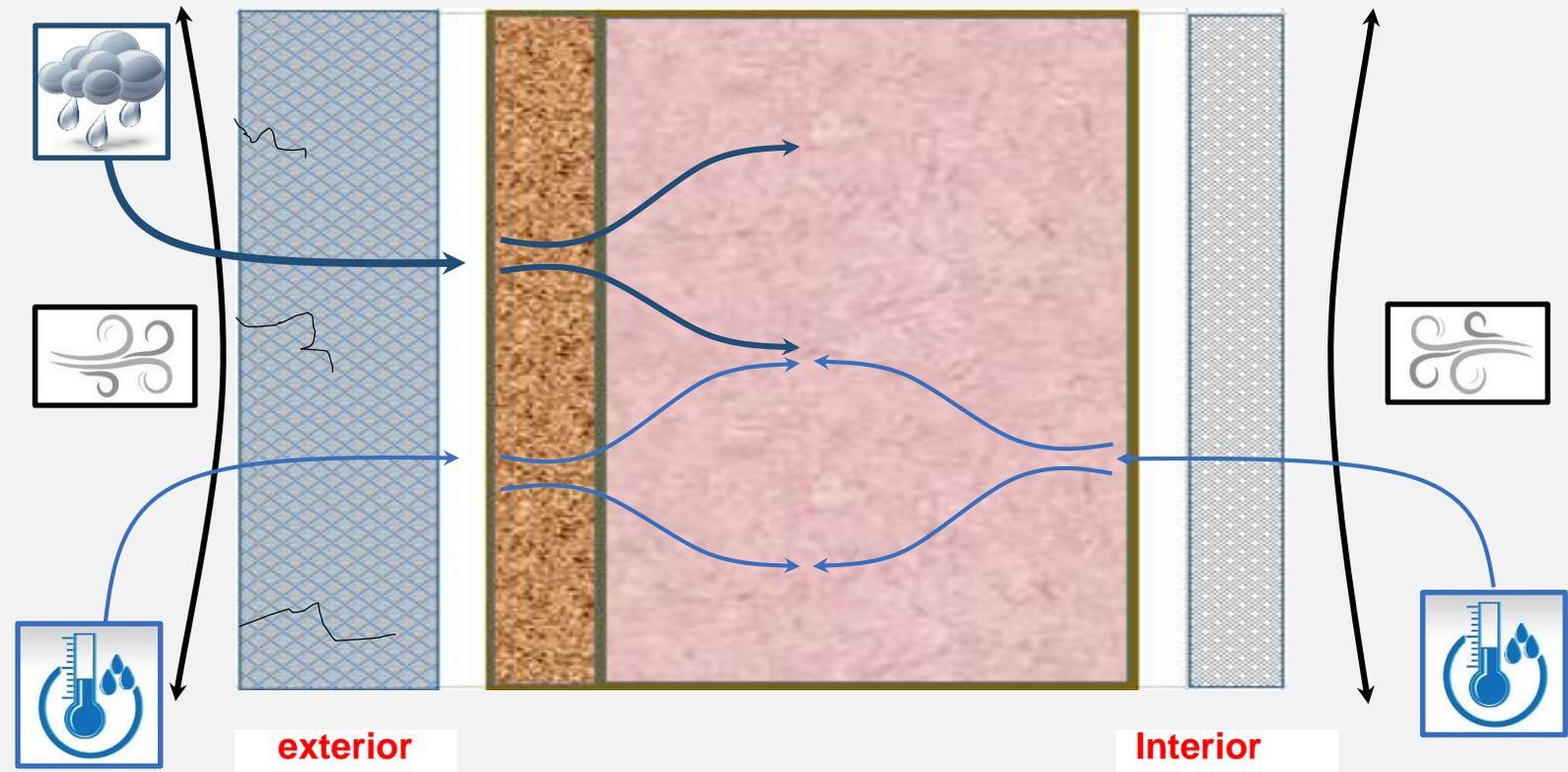
- STRUCTURAL, MOISTURE RESISTANT MATERIALS
- ACTS AS RESERVOIR UNTIL DRYING CONDITIONS EXIST
- THERMALLY INEFFICIENT, LABOR INTENSIVE

NEW METHODS: V1.0



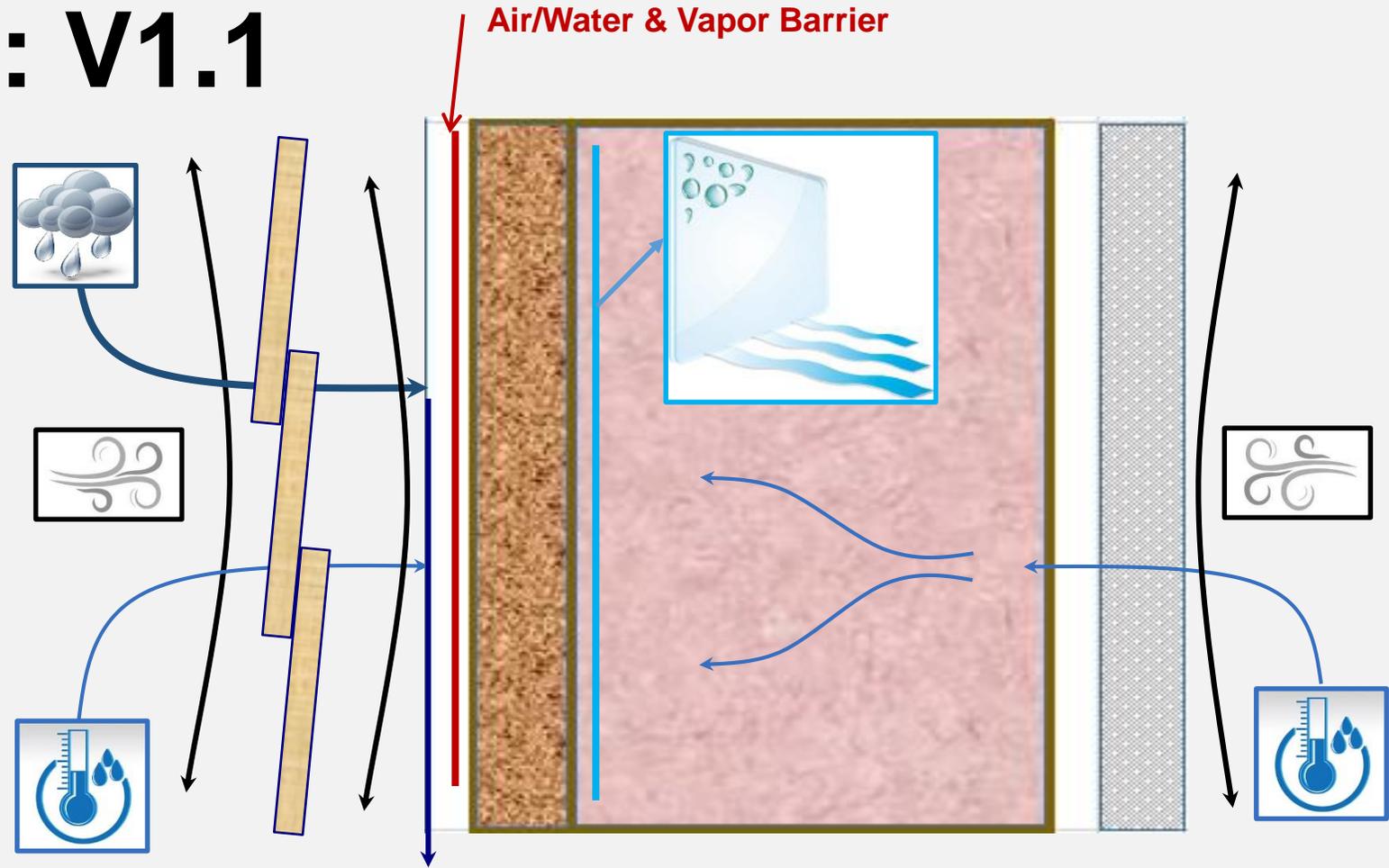
- WRB (BUILDING WRAP) AIMS TO CONTROL LIQUID WATER
- VAPOR BARRIER STOPS INTERIOR WATER VAPOR
- THERMALLY IMPROVED, BETTER AIR CONTROL

NEW MATERIALS: NEED NEW METHODS



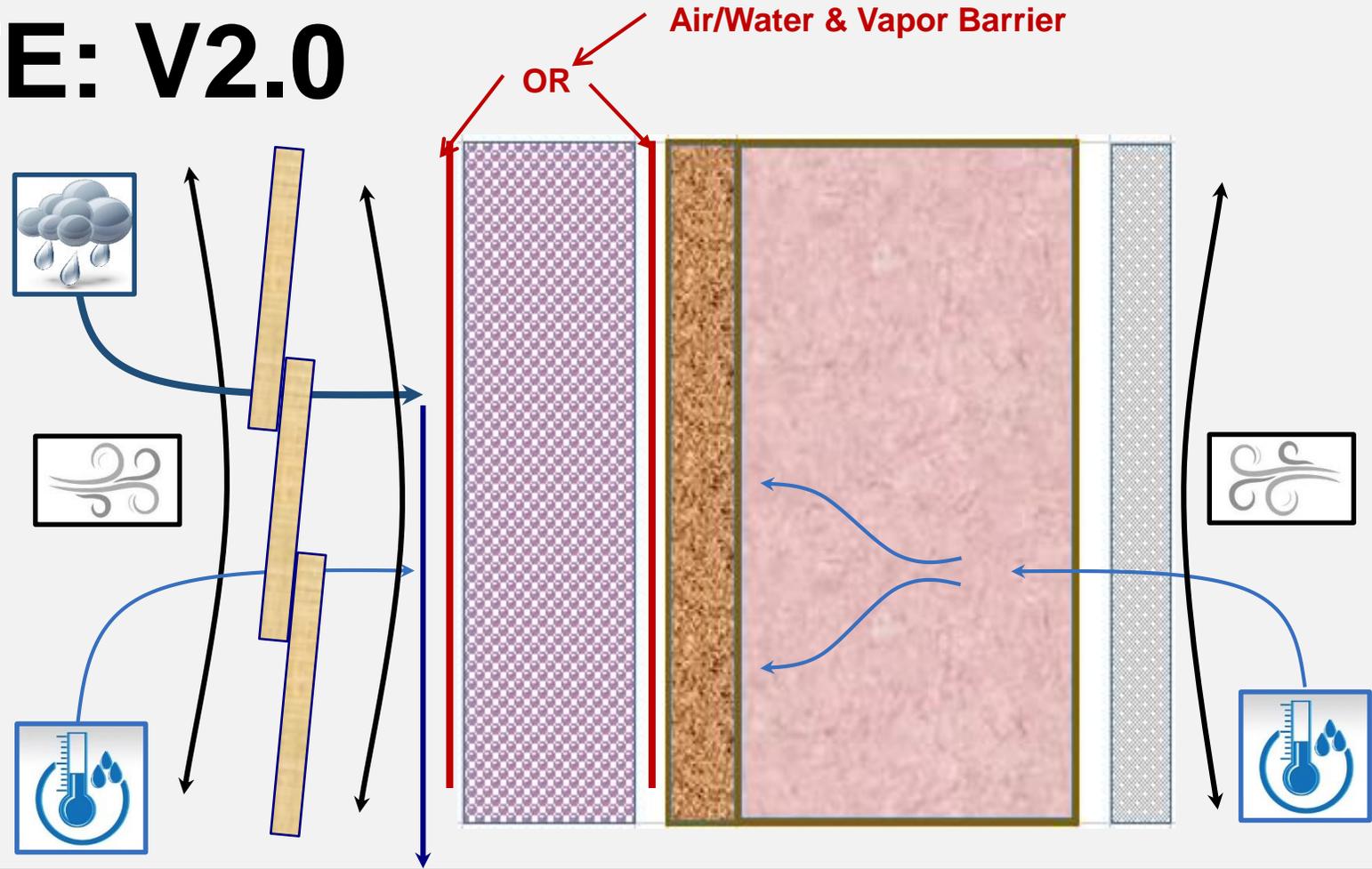
- STRUCTURAL, MOISTURE SENSITIVE MATERIALS
- NEEDS STRATEGIES TO MANAGE WATER
- THERMALLY IMPROVED, LESS LABOR

NEW METHODS: V1.1



- ADD AIR SPACE AND EXTERIOR VAPOR RETARDER
- MAKE IT DRY FASTER
- MORE FORGIVING, BUT MORE LABOR

CURRENT STATE: V2.0



- ADD EXTERIOR INSULATION TO MOVE DEW POINT EXTERIOR OF THE WRB
- IDEAL DESIGN FOR STUD WALLS
- MORE LABOR & DIFFICULT DETAILS

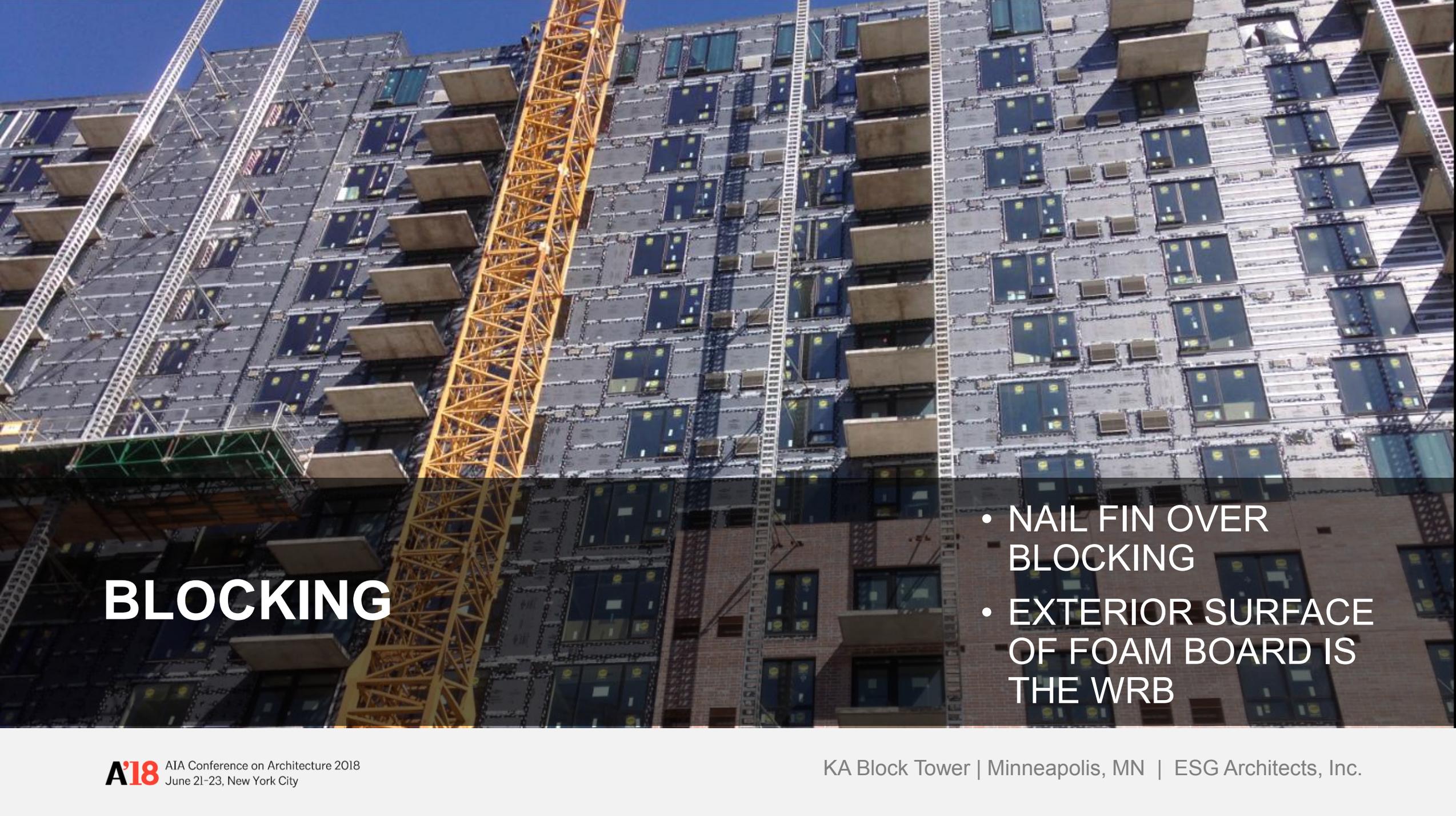
Placeholder – Where does the window go?
Describe / set up the problem with exterior
insulation vs. window installation

Placeholder – BASICS OF WINDOW INSTALLATION



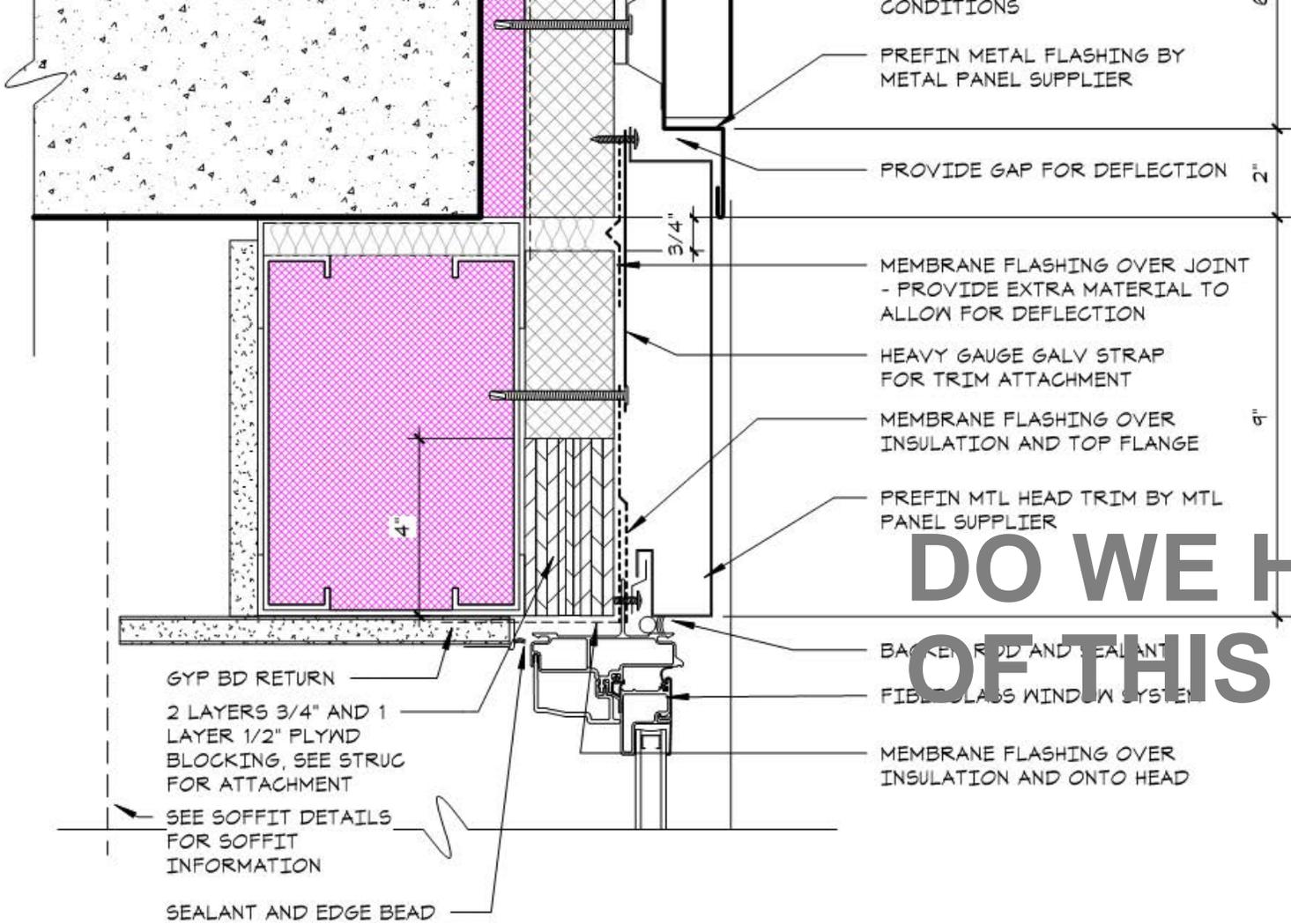
FACTORY & FIELD APPLIED SOLUTIONS:

- Blocking
- Exterior Extensions
- Extended Receptors
- Support Clips



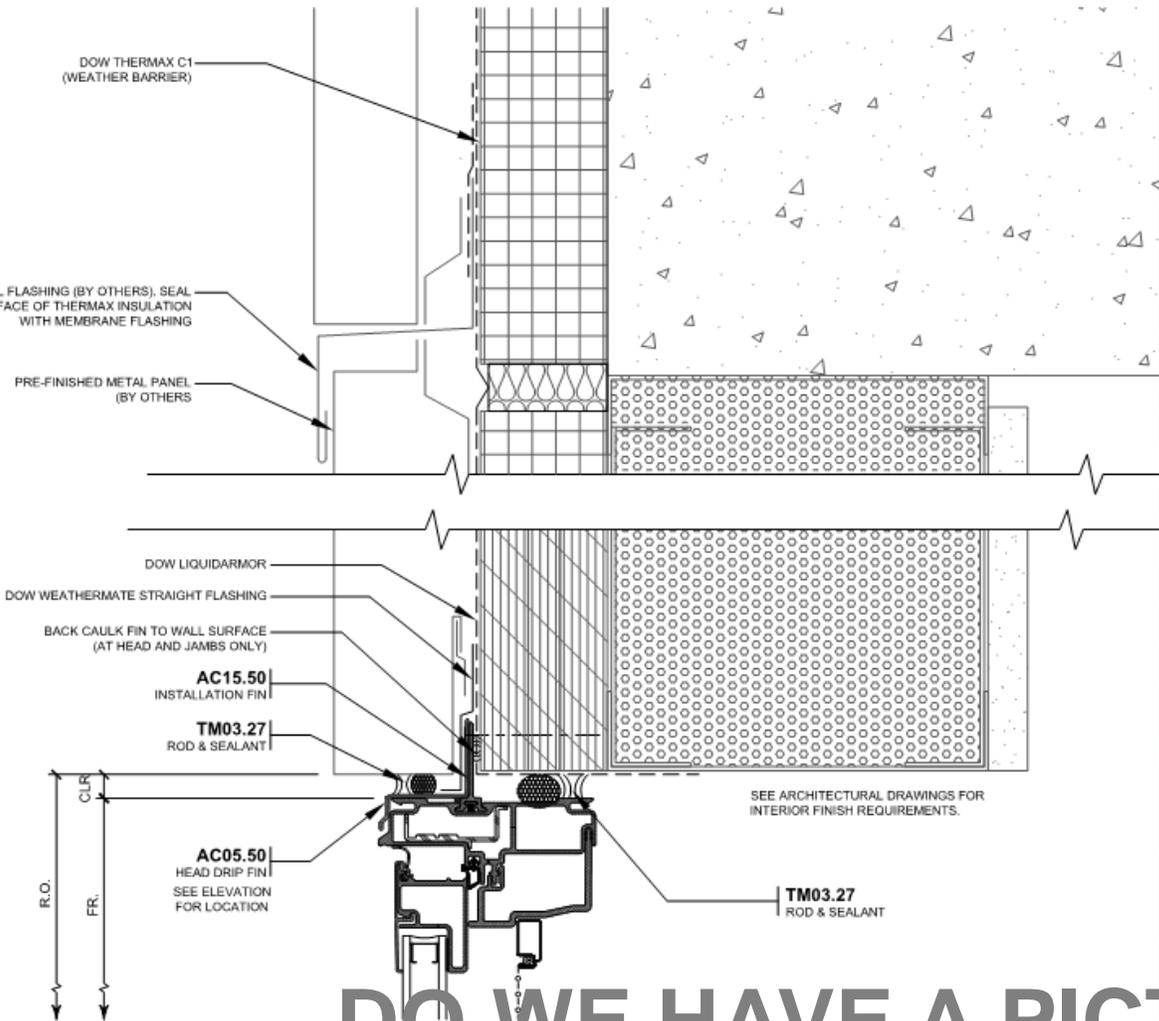
BLOCKING

- NAIL FIN OVER BLOCKING
- EXTERIOR SURFACE OF FOAM BOARD IS THE WRB



DO WE HAVE A PICTURE OF THIS CONDITION?

7 WINDOW HEAD/SILL DETAIL AT METAL PANEL - FIBERGLASS
 A11.4 3" = 1'-0"



DO WE HAVE A PICTURE OF THIS CONDITION?



1 HEAD
 REF. ARCH. DWG.: 7/A11.4, 5/A11.4 (SIM)

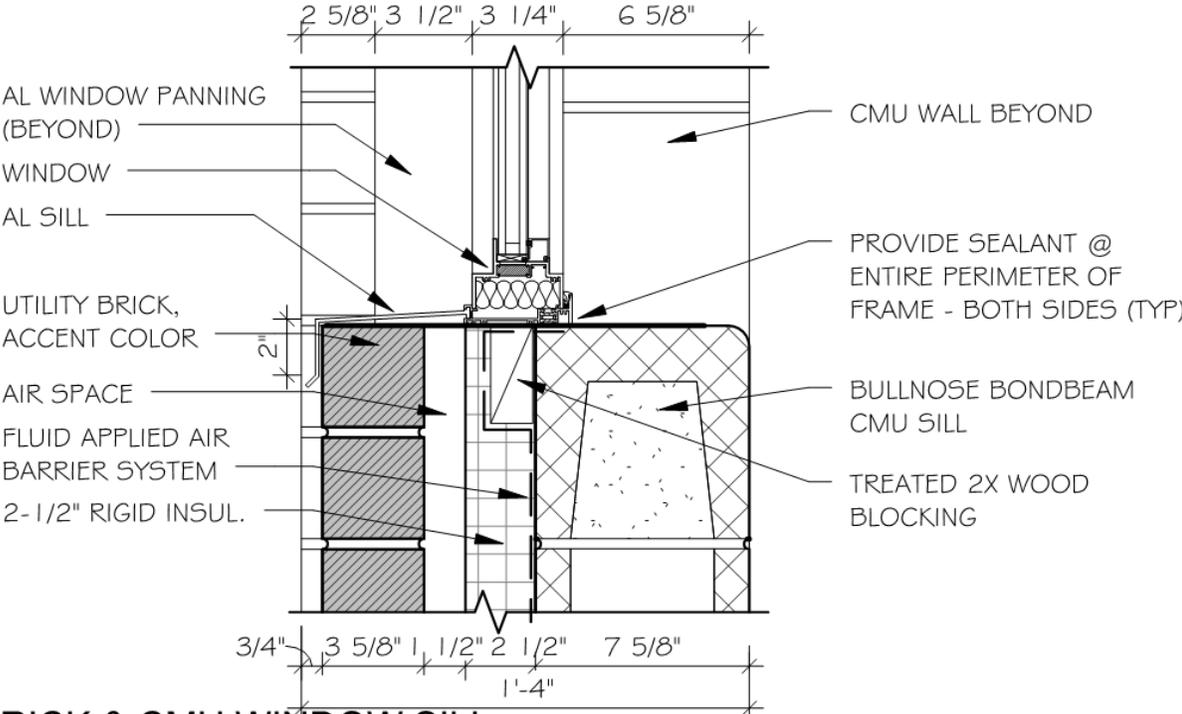


AMANDA TO REMOVE LOGOS 3D PRINTED VERSION PHOTO OF APPLICATION

FRAME EXTENSION: FACTORY APPLIED

- Factory applied
- 4.75" cavity
- Nail fin over blocking + extension
- WRB is behind foam, but transitioned onto blocking

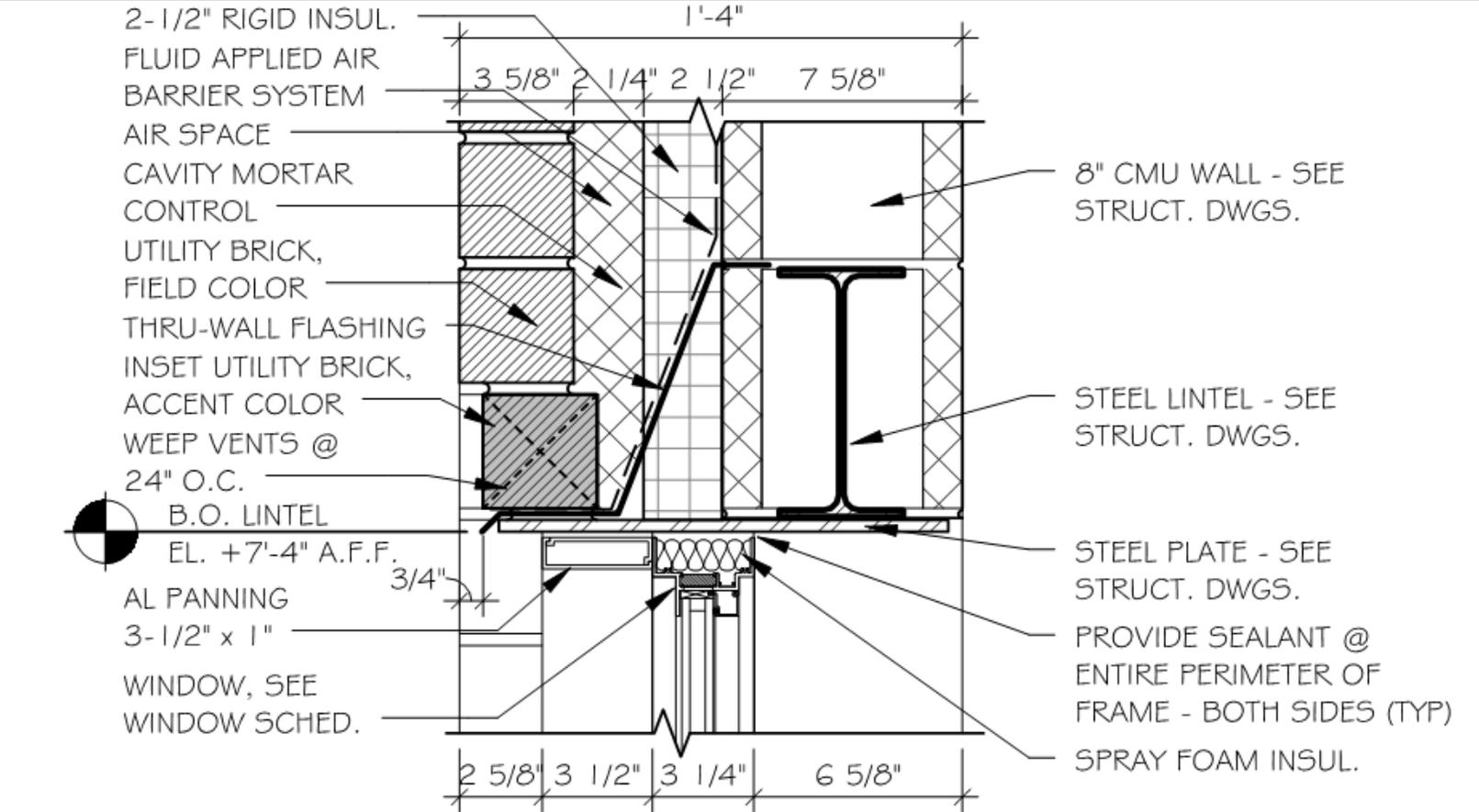
FRAME EXTENSION: FACTORY APPLIED



3 BRICK & CMU WINDOW SILL
1 1/2" = 1'-0"

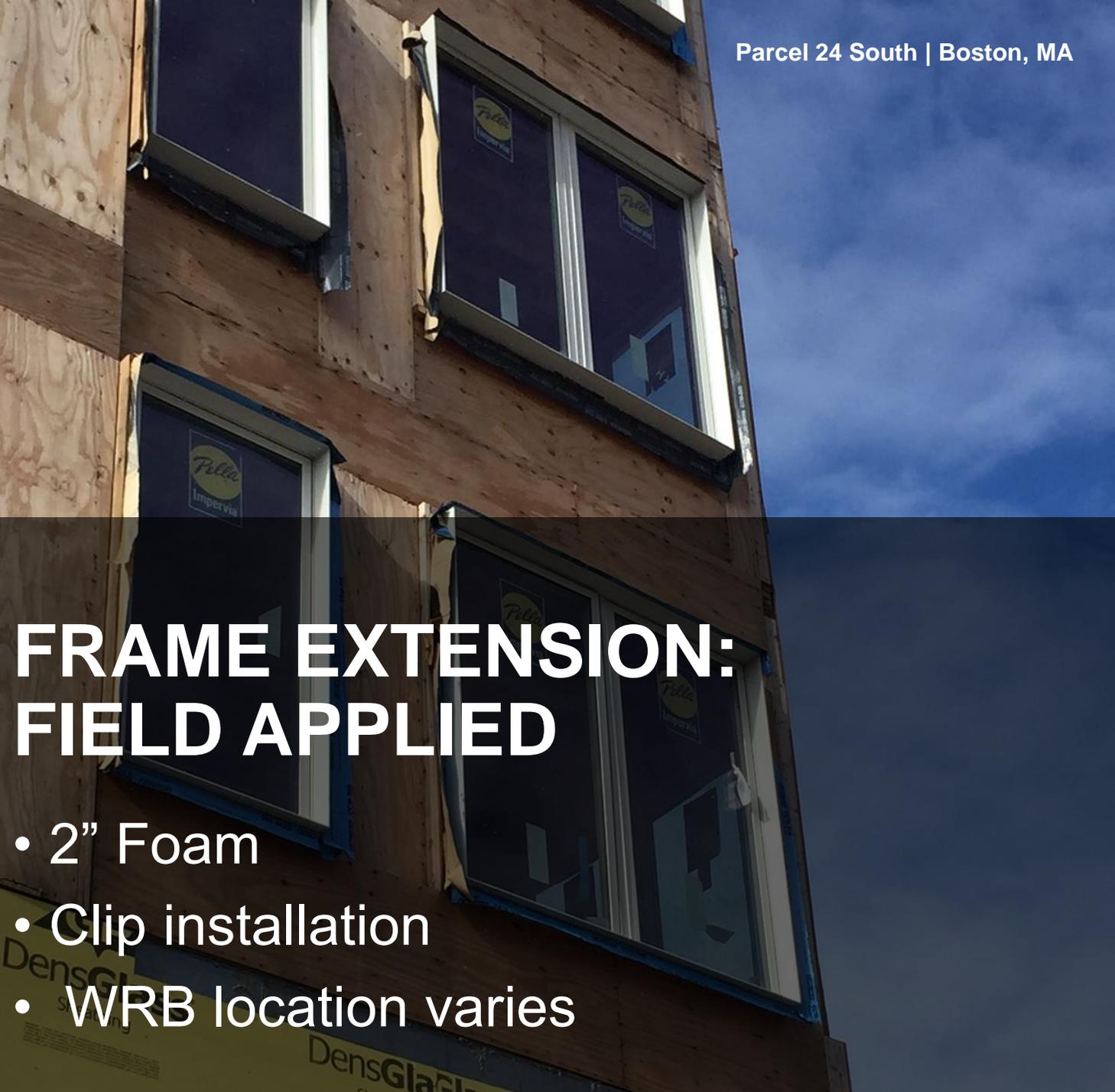


FRAME EXTENSION: FACTORY APPLIED



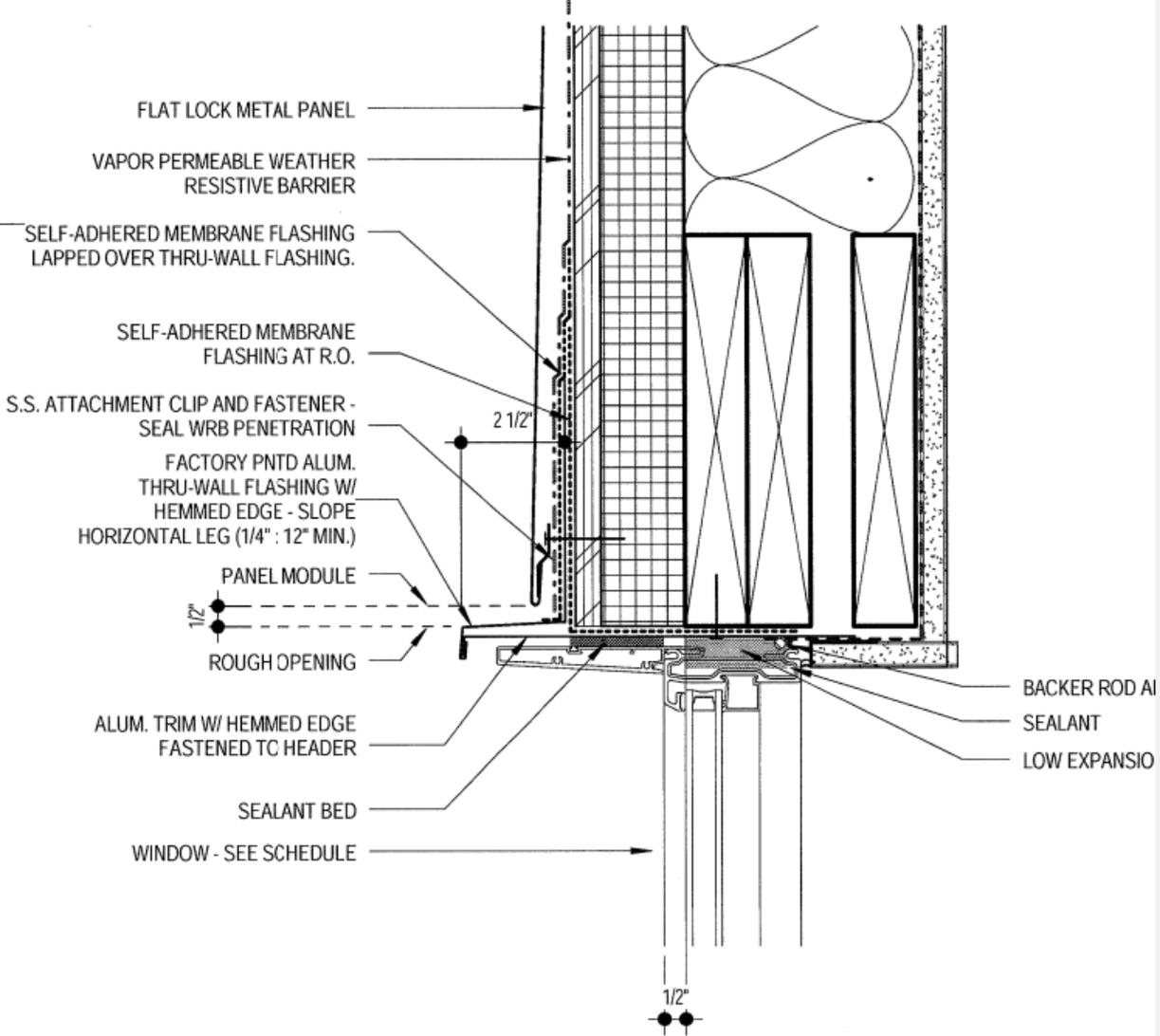
1 BRICK & CMU WINDOW HEAD
 1 1/2" = 1'-0"



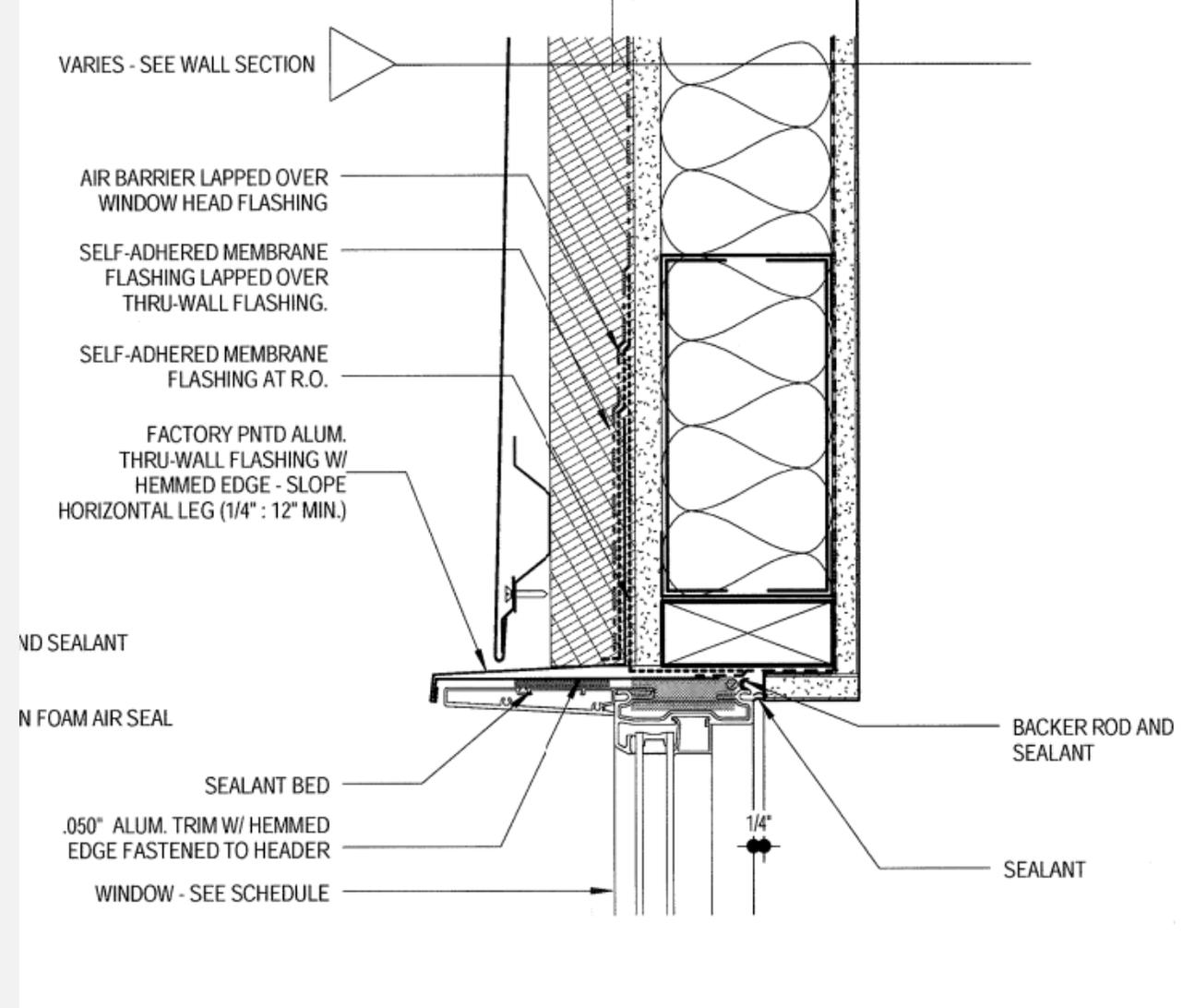


FRAME EXTENSION: FIELD APPLIED

- 2" Foam
- Clip installation
- WRB location varies

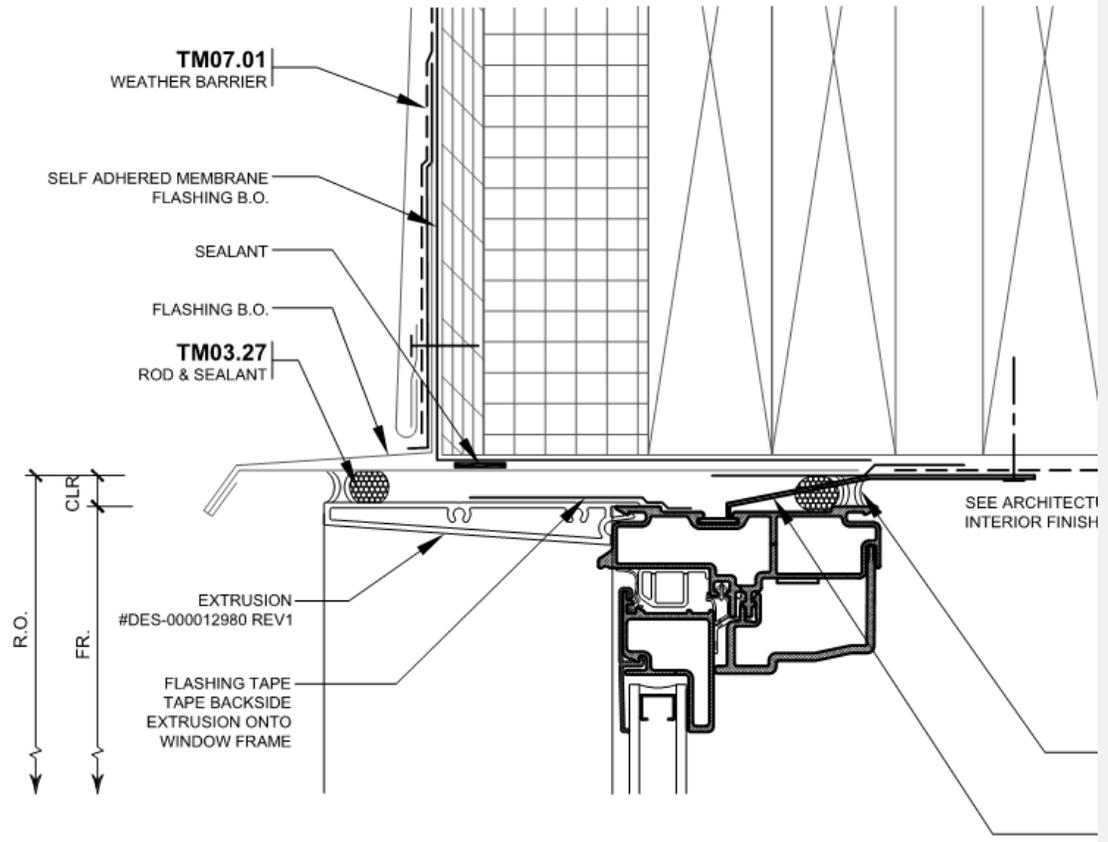


17 SECTION DETAIL - TYP. WINDOW HEAD AT METAL PANEL - MP-5A
3" = 1'-0"



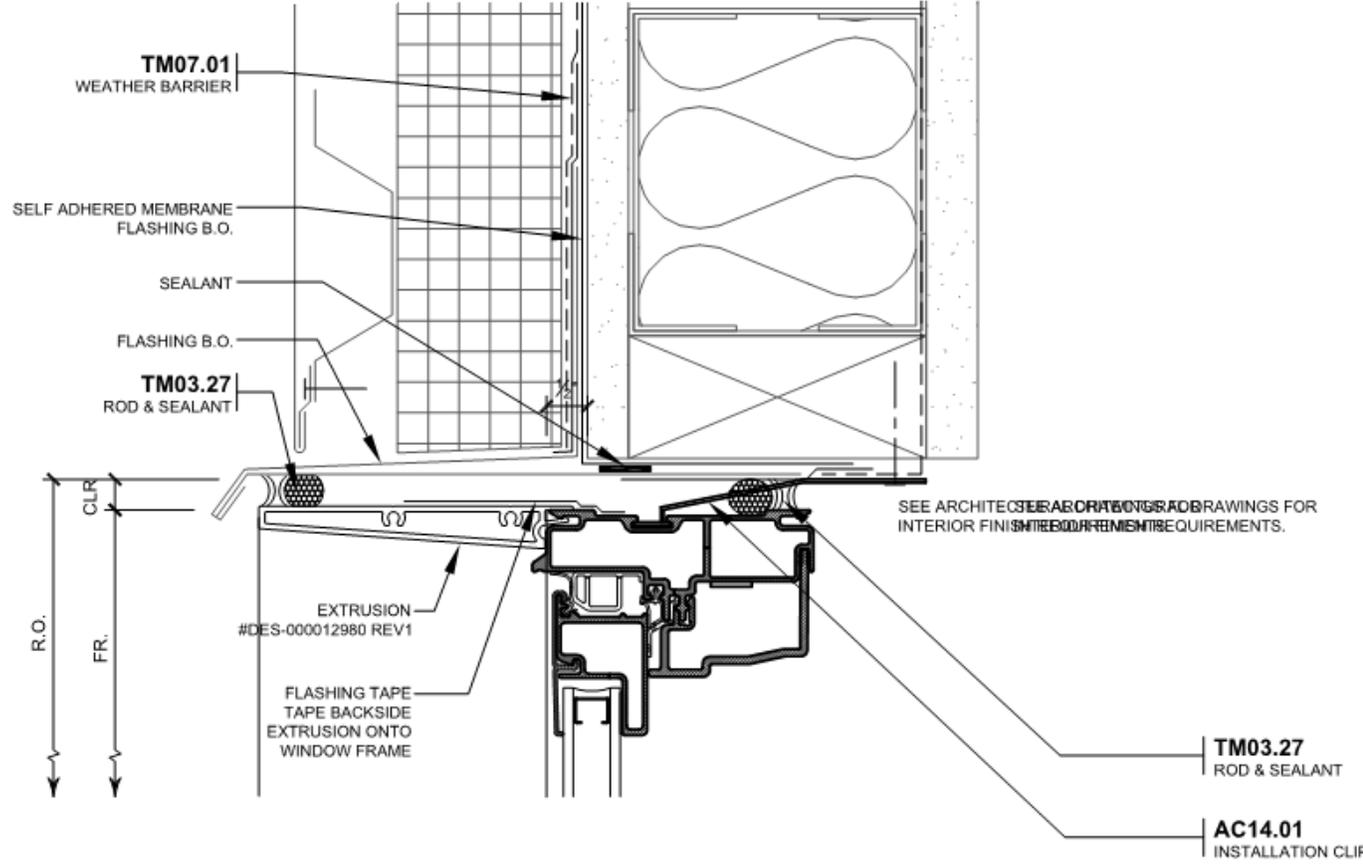
7 SECTION DETAIL - TYP. WINDOW HEAD AT METAL PANEL - MP-1A
3" = 1'-0"

FRAME EXTENSION: FIELD APPLIED



2 4

4 HEAD
REF. ARCH. DWG.: 17/A701



2 4

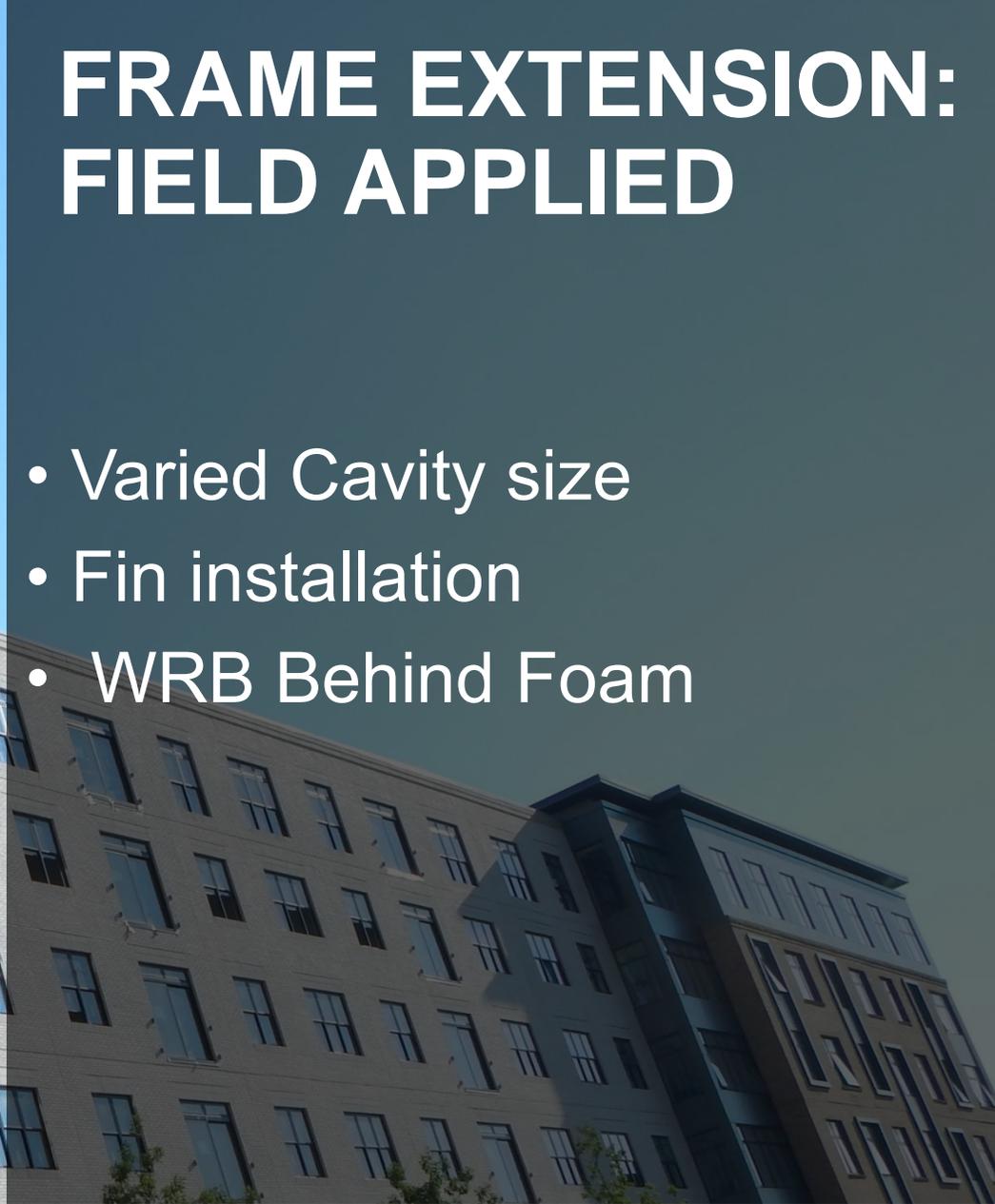
7 HEAD
REF. ARCH. DWG.: 7/A701

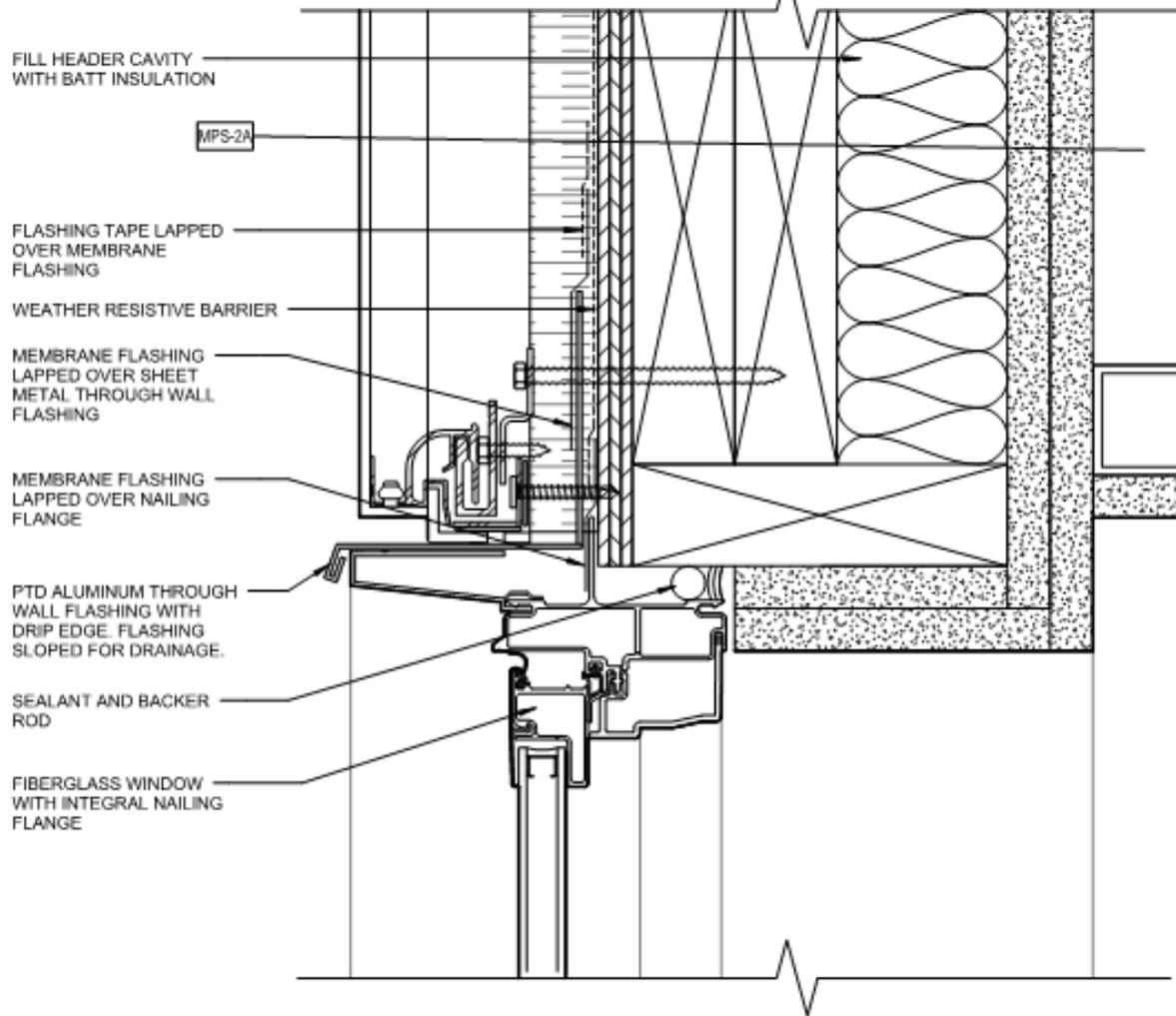
FRAME EXTENSION: FIELD APPLIED



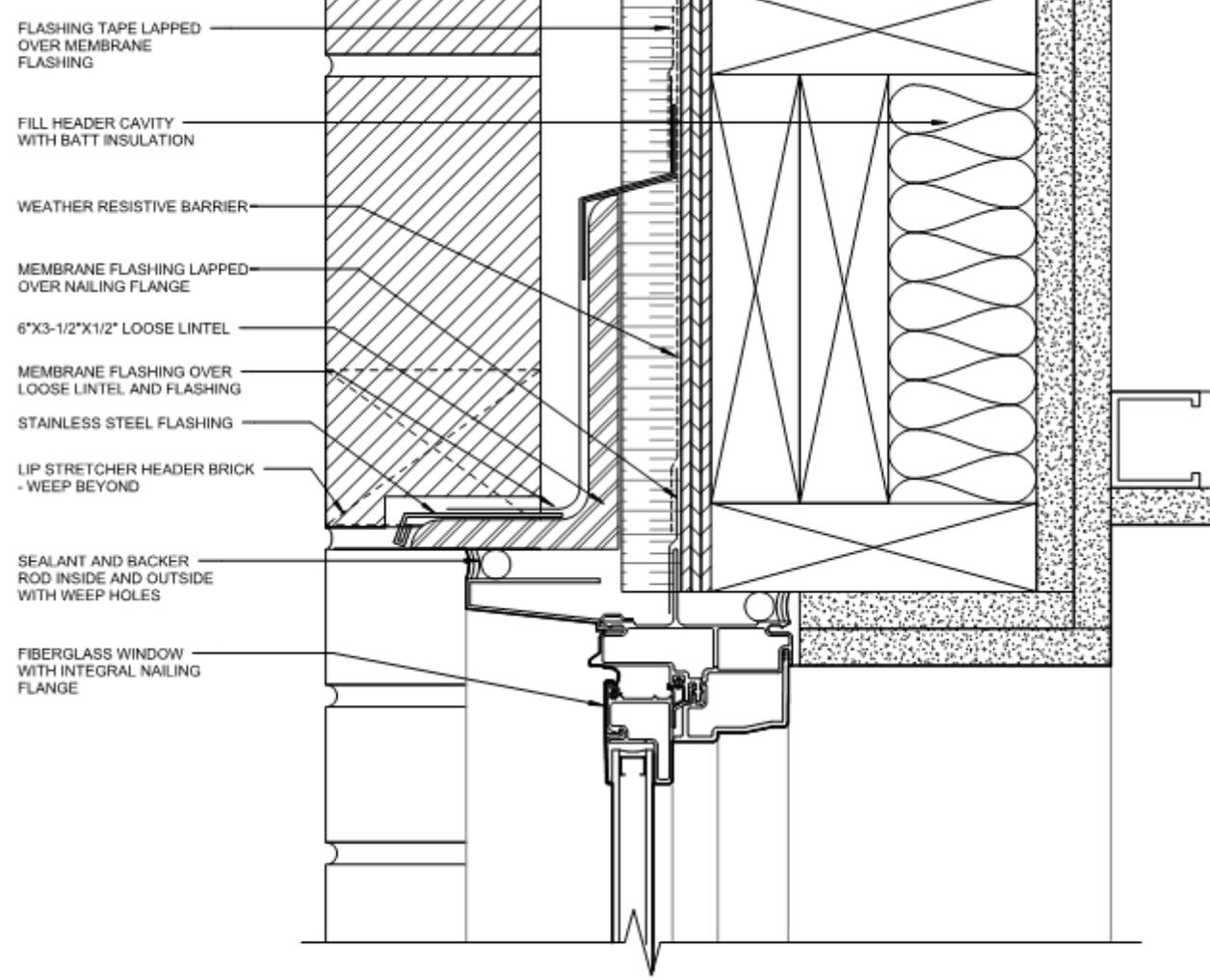
FRAME EXTENSION: FIELD APPLIED

- Varied Cavity size
- Fin installation
- WRB Behind Foam



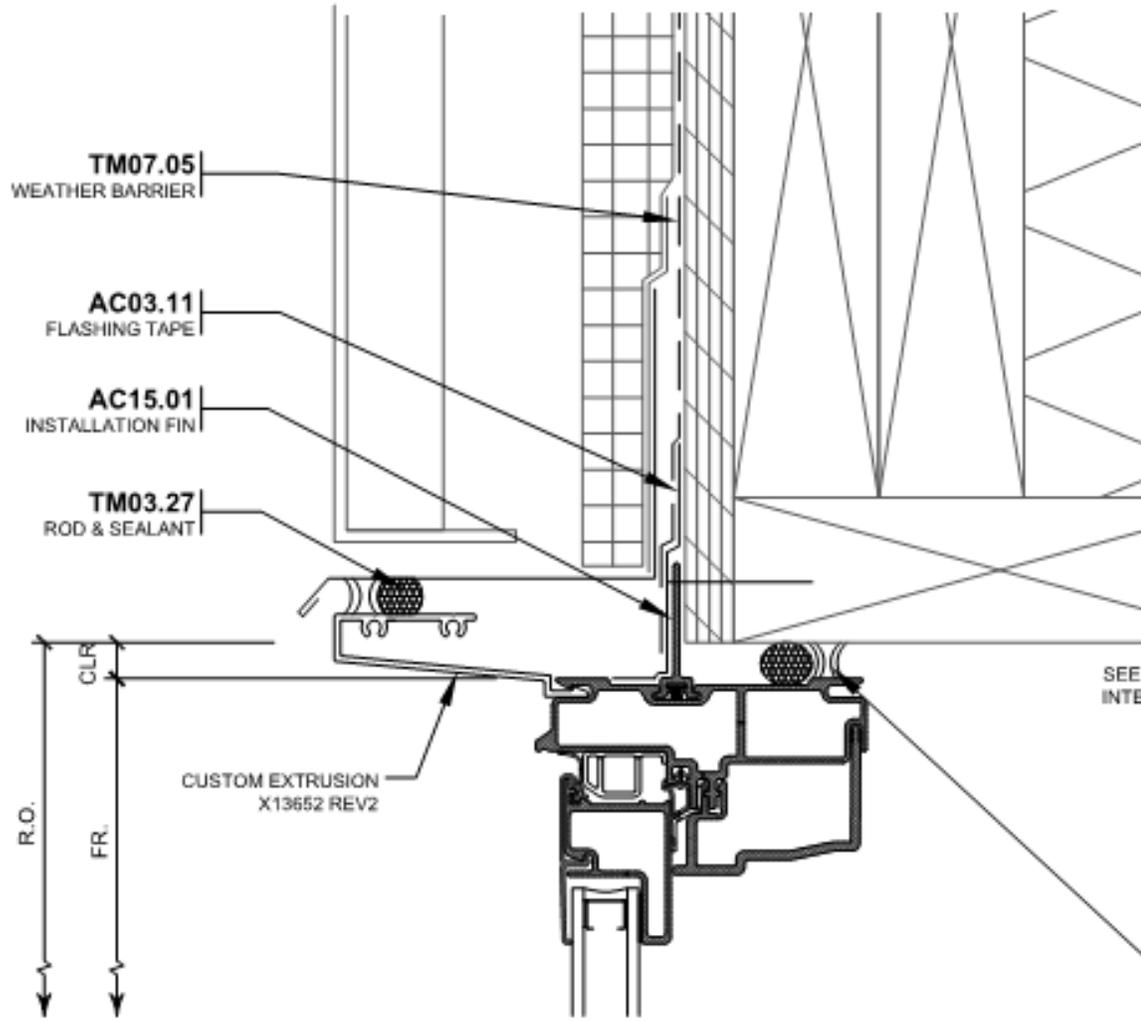


9 TYPICAL WINDOW HEAD DETAIL AT METAL PANEL
6" = 1'-0"



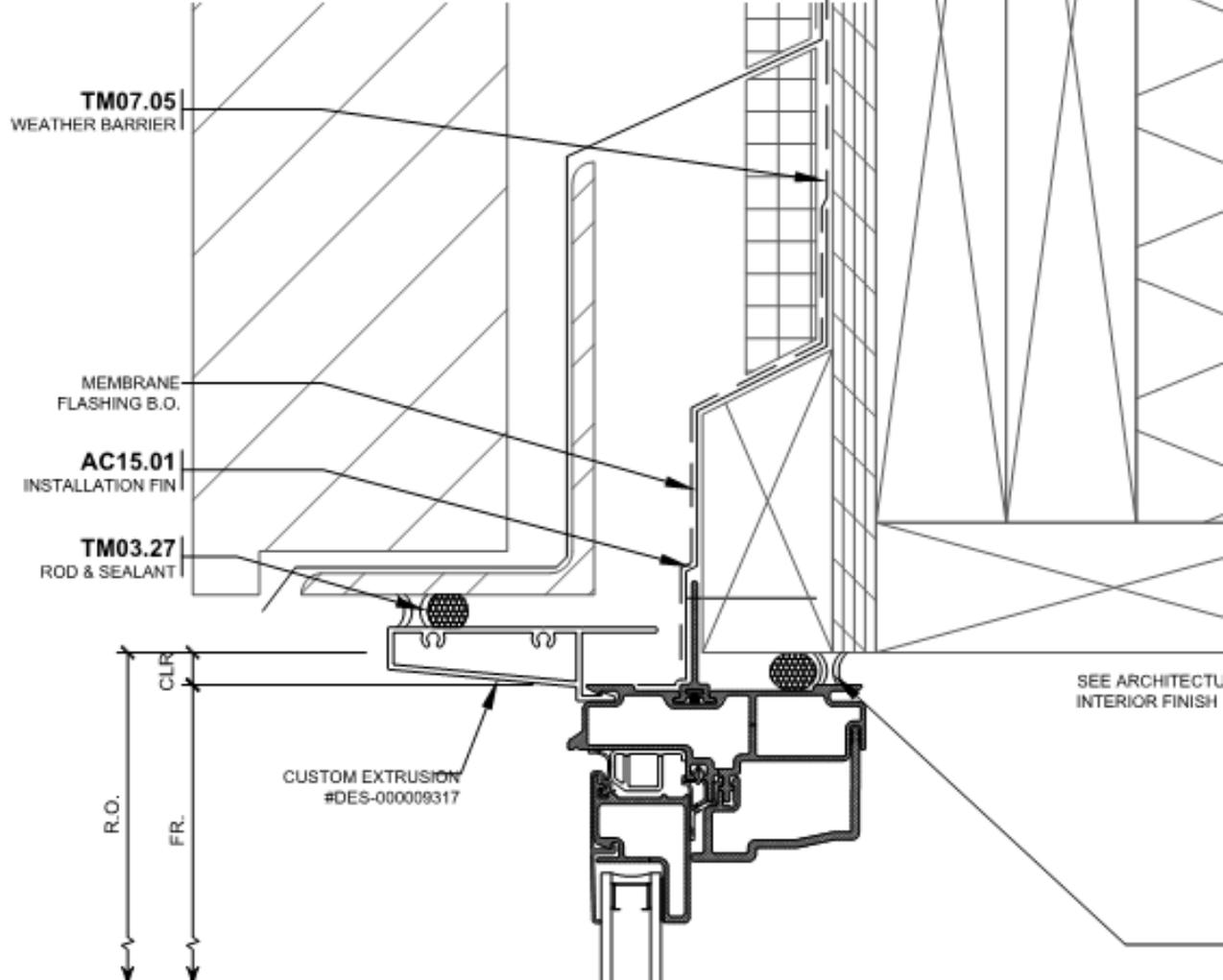
3 TYPICAL WINDOW HEAD DETAIL AT BRICK VENEER
6" = 1'-0"

FRAME EXTENSION: FIELD APPLIED



16 HEAD

REF. ARCH. DWG.: 9/A581



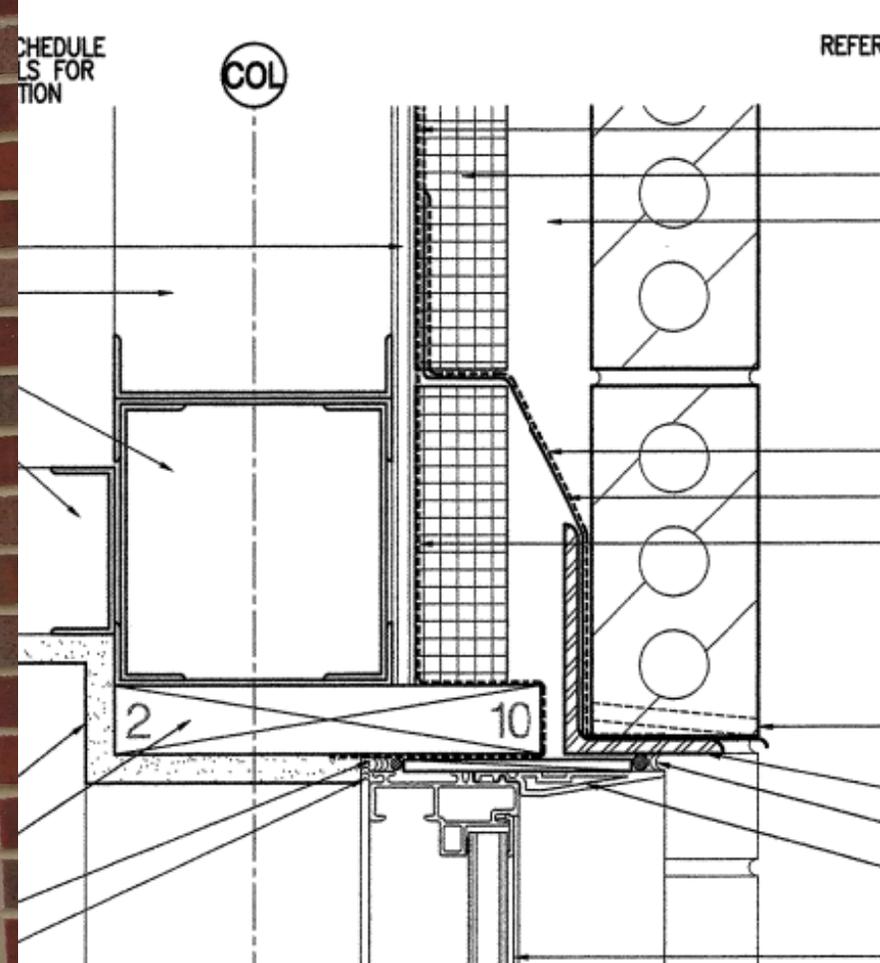
19 HEAD

REF. ARCH. DWG.: 7/A582



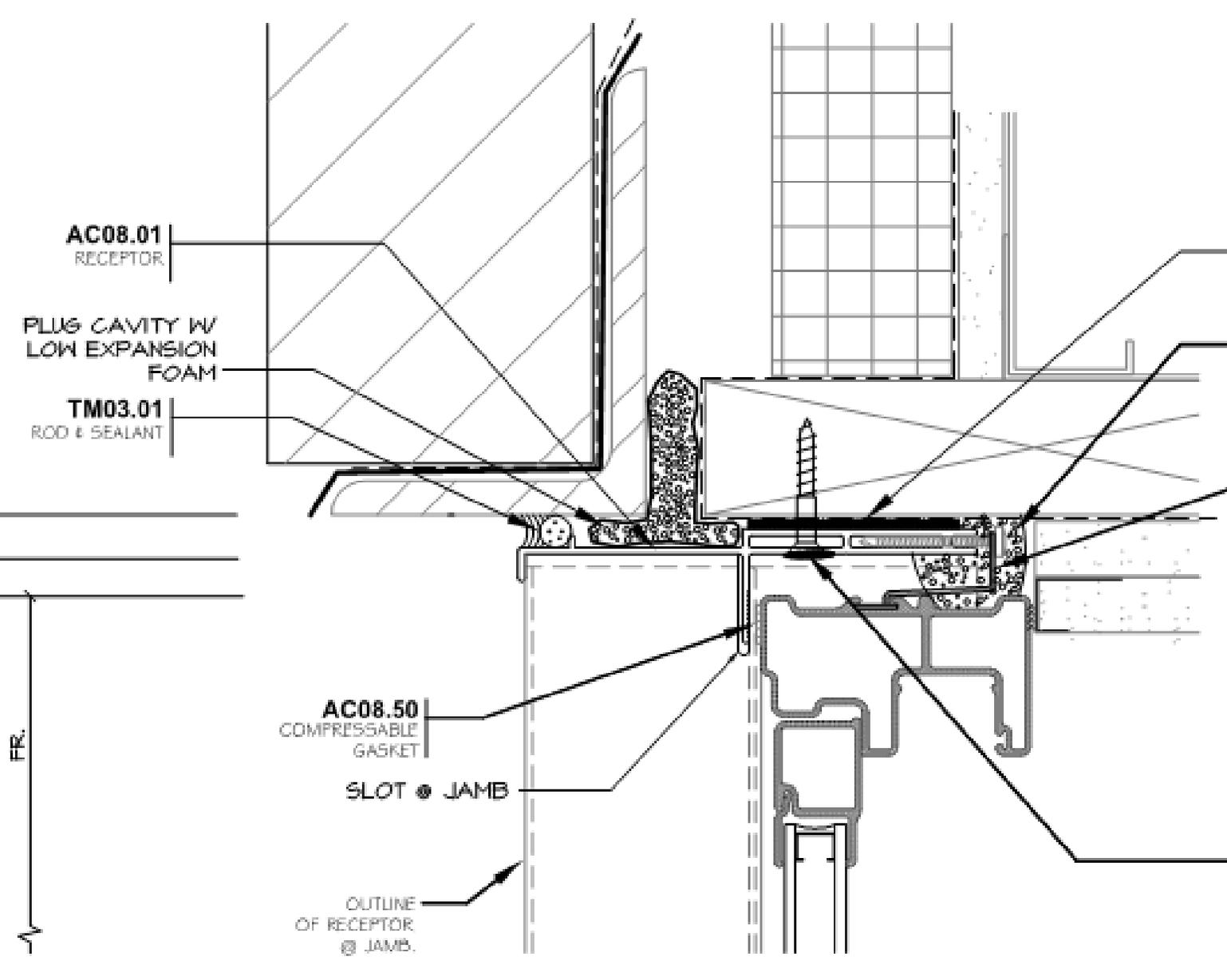


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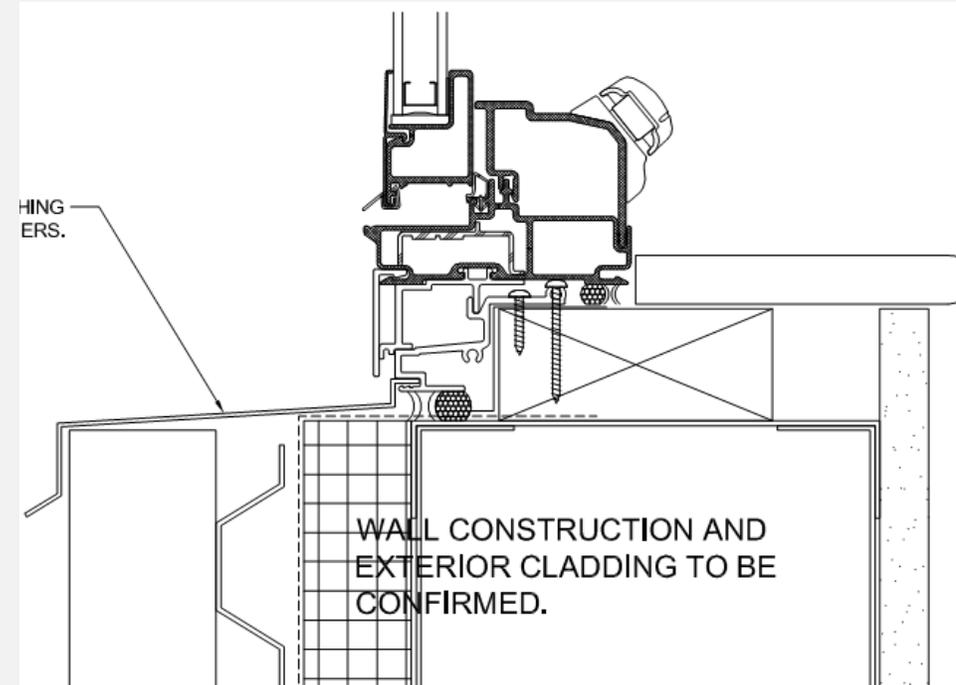
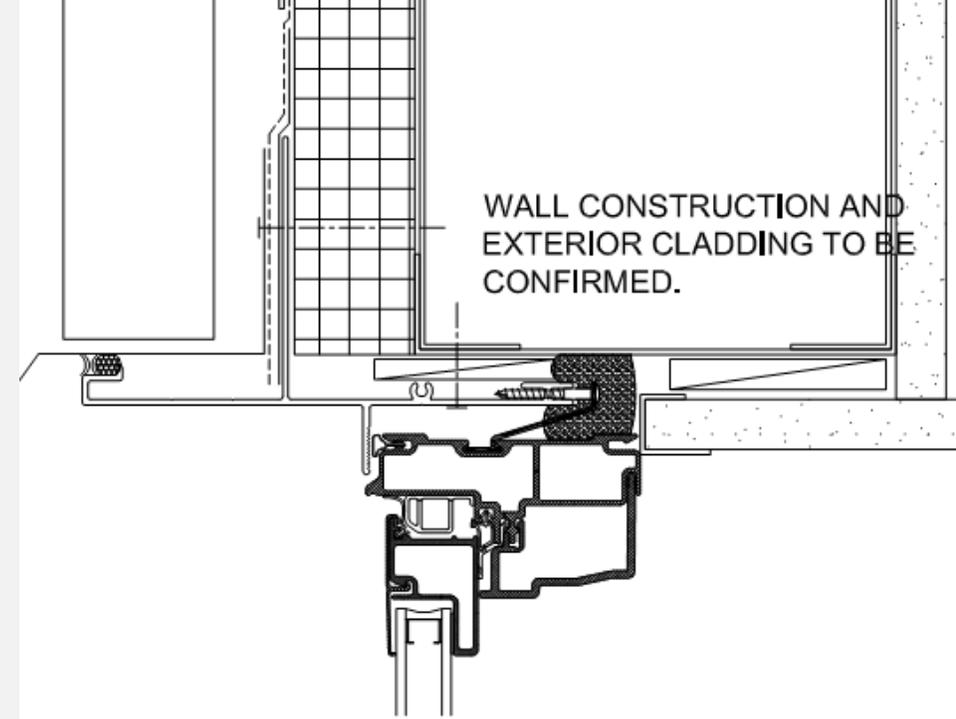
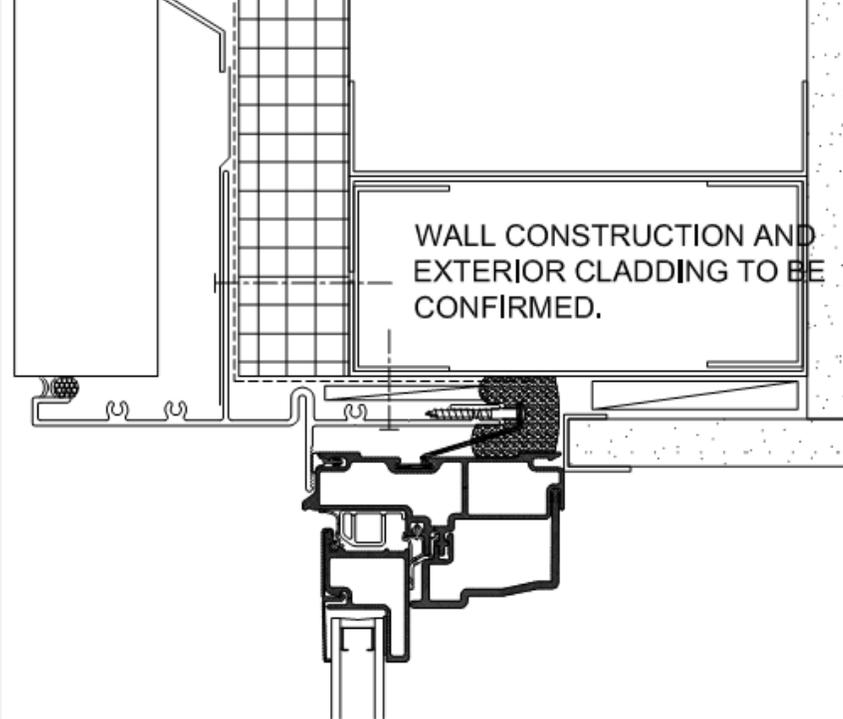
- 2" Foam + 2" Air Space
- WRB Behind Foam

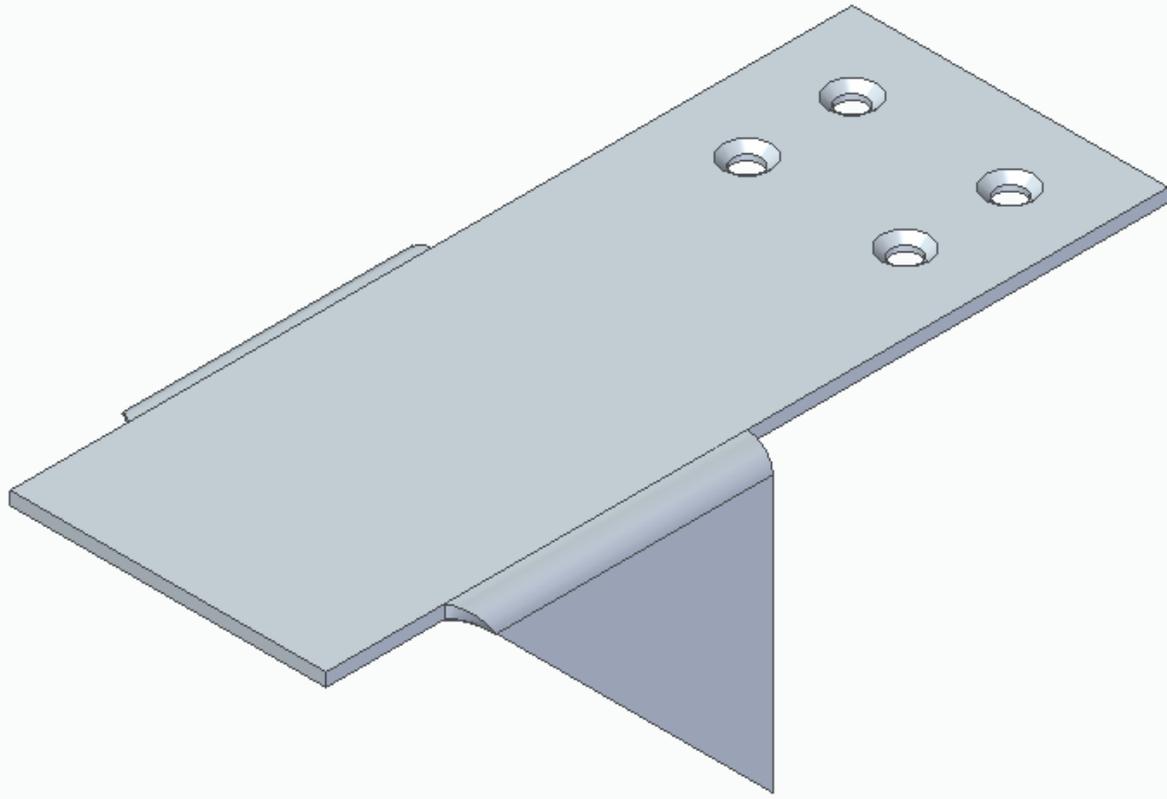
EXTENDED RECEPTOR



EXTENDED RECEPTOR

- INTEGRATES WITH WALL LIKE A NAIL FLANGE
- ACCOMMODATES DEEP WALL CAVITIES
- INSTALLATION FROM THE INTERIOR



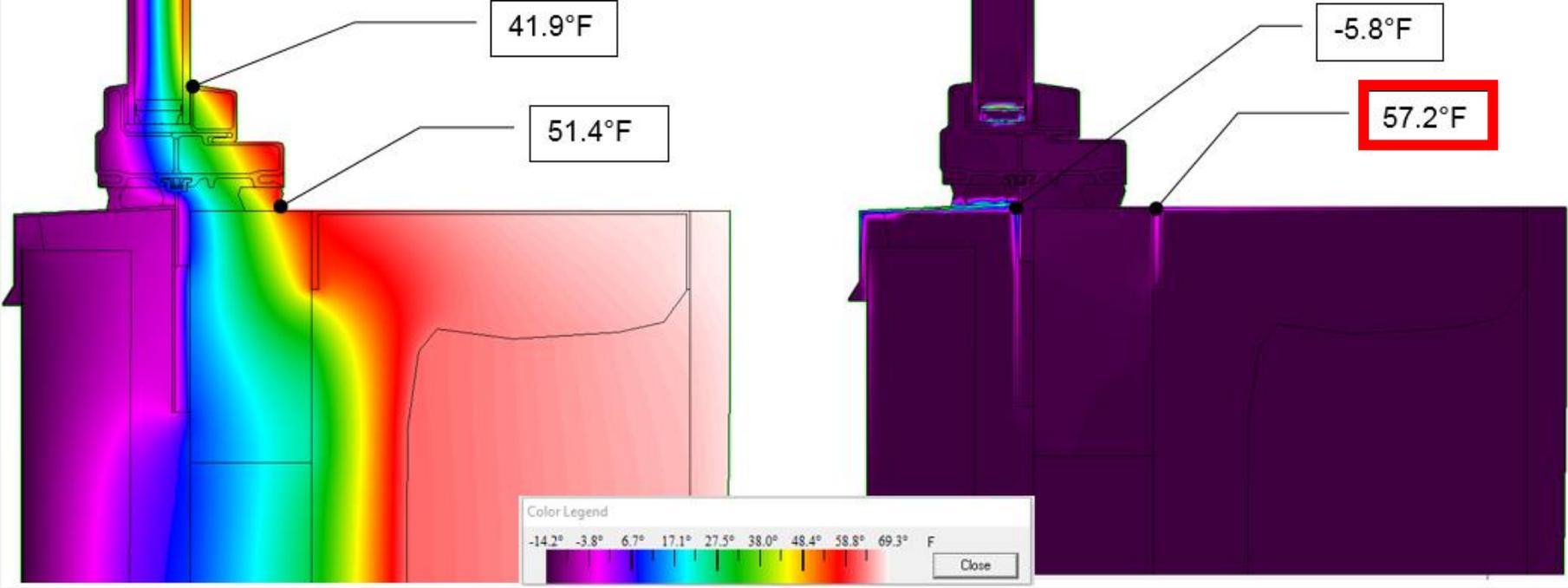


SUPPORT BRACKETS

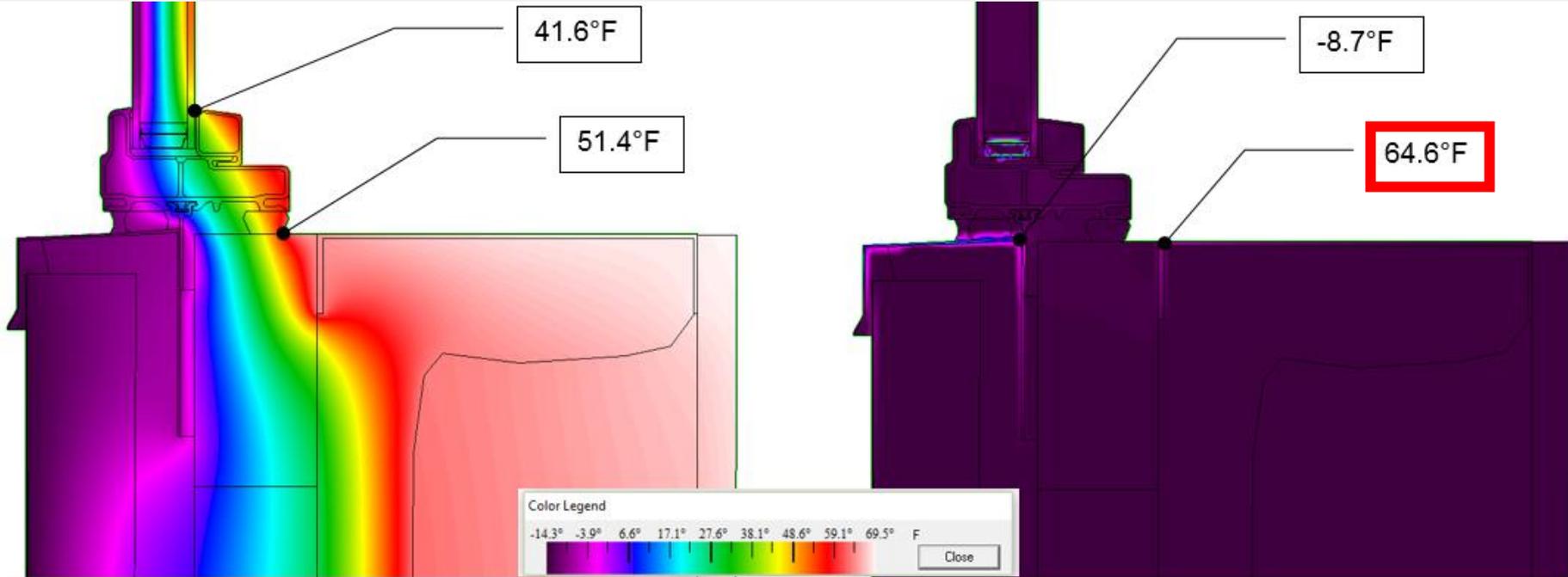
- Typically up to 2" exterior foam
- Assumes WRB on foam

Placeholder for Support Clip Detail

BLOCKING



SUPPORT BRACKET



Rule of thumb for attachment through insulation

SOLUTIONS SUMMARY

Expand this to include options just reviewed

	PRIMARY OPTION	REQUIRES...	SECONDARY OPTION	REQUIRES...
1" OR LESS FOAM	FIN OVER FOAM	LONGER FASTENERS & WRB OVER FOAM	FIN UNDER FOAM	WRB UNDER FOAM, EXTENSION OR RETURNS
WRB BEHIND FOAM	FIN UNDER FOAM	EXTERIOR EXTENSION OR RETURNED WALL CLADDING	FIN OVER BLOCKING	WRB TO BE TRANSITIONED ONTO BLOCKING
Up to 2" & WRB OVER FOAM	FIN OVER FOAM	SUPPORT CLIP*	FIN OVER BLOCKING	BLOCKING

* COMING SOON

EXTENDED L RECEPTOR?

ALWAYS AN OPTION

MULTI-STORY, FIELD MULLED COMBINATIONS

Course / Learning Objectives

- Identify the benefits of exterior insulation in modern wall assemblies.
- Explore the variations in exterior insulated wall assemblies.
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Thank you!

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