

National Institute of Building Sciences

Provider Number: G168

Considerations for Selecting a Glazed Wall System

Course Number --

Xiu T. Li, P.E. (CA)

Date 1/10/18

Credit(s) earned on completion of this course will be reported to **AIA CES** for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

This course is registered with **AIA CES** for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.



**BUILDING
INNOVATION 2018**

 National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Course Description

Most building have a variety of facade cladding systems. Selection of the glazed wall system should be performed in conjunction with the facade cladding system for a complete approach to the exterior skin. The speaker will review facade cladding and glazed system transition and integration from an air, water, vapor and thermal perspective. In this presentation, the speaker will give an overview of typical details for windows, storefronts, window wall and curtain wall assemblies; show representative transition details for each glazed system to various exterior facade systems to illustrate the potential challenges, advantages and disadvantages of each glazed wall system as it relates to these different details; and present case studies that follow the design details through shop drawings, mock-ups and construction.



Objective: Select the Glazing System



Source: <https://philly.curbed.com/2017/2/6/14520520/hamilton-tower-project-logan-square-groundbreaking>

Learning Objectives

At the end of the this course, participants will be able to:

1. Incorporate the structure in the glazing system selection.
2. Integrate the air, water, vapor and thermal barriers of glazing systems at the transition to facade cladding system.
3. Identify the advantages and disadvantages of different glazing systems based on transitions to adjacent facade cladding
4. Improve glazing system details based on lessons learned.

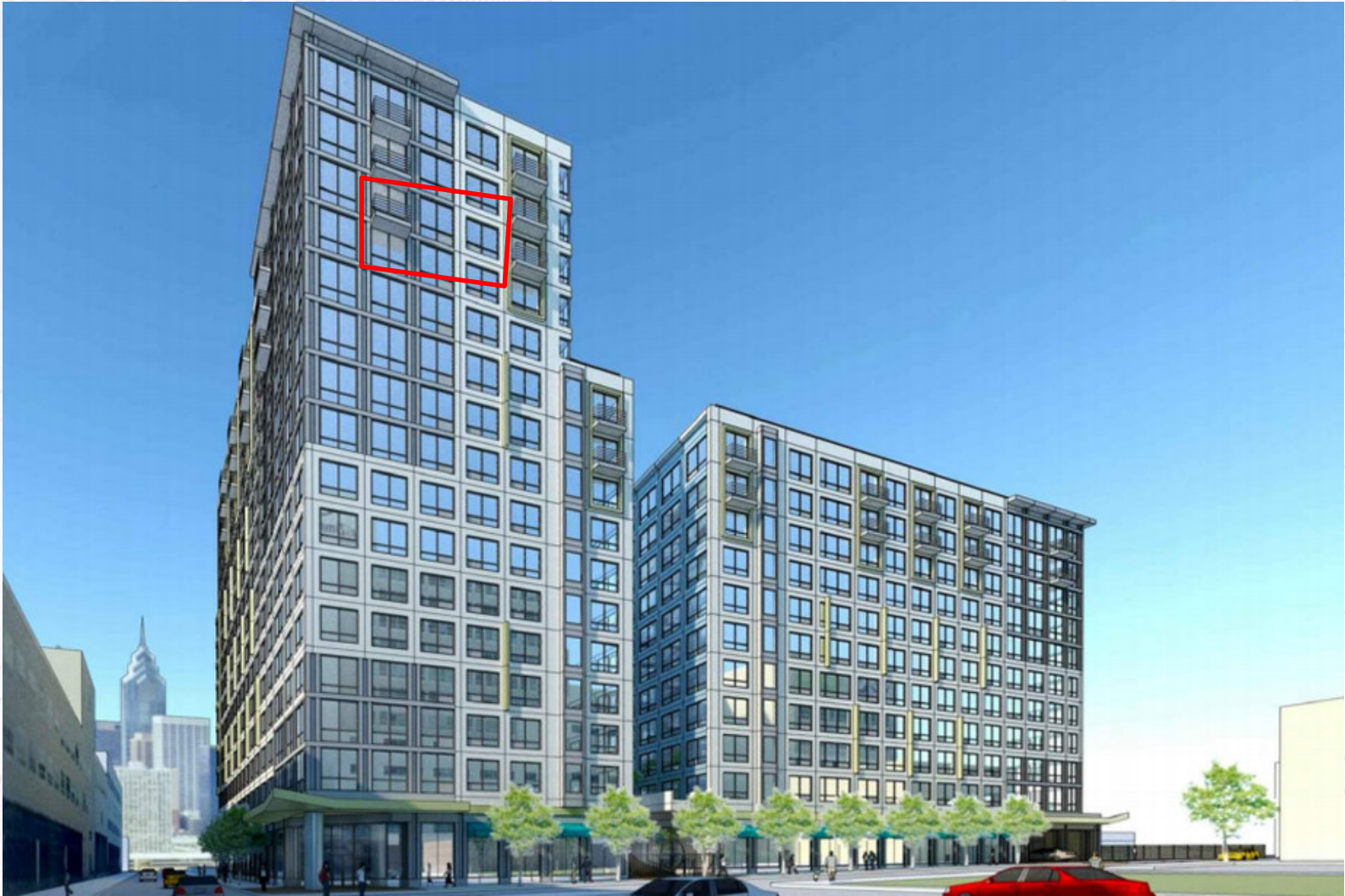


**BUILDING
INNOVATION 2018**

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Objective: Select the Glazing System



Source: <https://philly.curbed.com/2017/2/6/14520520/hamilton-tower-project-logan-square-groundbreaking>

Structural Considerations of Glazing System Selection

1. Movement joint is located at perimeter of the glazing system – (depends on exterior framing).
2. Position of glazing system relative to the structure.
3. Whether glazing system spans multiple floors.

Structural Consideration	Glazing System Type				
			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint				
	2. Glazing System Position Relative to Structure	Recessed			
		Flush			
		Projected			
3. Slab-to-Slab					

Exterior Cladding Design Requirements Based on Exterior Framing

- Shear wall
- Balloon framed
- Platform framed

Exterior Cladding Design Requirements Based on Exterior Framing

- Shear wall
 - No movement joint.
- Balloon framed
 - May need to design for deflection joints.
- Platform framed
 - Design for deflection joints.

Exterior Cladding Design Requirements Based on Exterior Framing

- Shear wall
 - No movement joint.
- Balloon framed
 - May need to design for deflection joints.
- Platform framed
 - Design for **deflection joints**.

Methods of Accommodating Deflection

- Option 1
 - “Large Joint”
 - Slip connection between glazing system and the framing.
- Option 2
 - Receptor System (storefront systems).



BUILDING 2018
INNOVATION

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Considerations of Glazing System Selection

1. Movement joint present at perimeter of the glazing system.

Structural Consideration	Glazing System Type				
			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited manufacturers	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed			
		Flush			
		Projected			
3. Slab-to-Slab					

2. Position of glazing system relative to the structure.
3. Exterior framing and slab construction.



BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

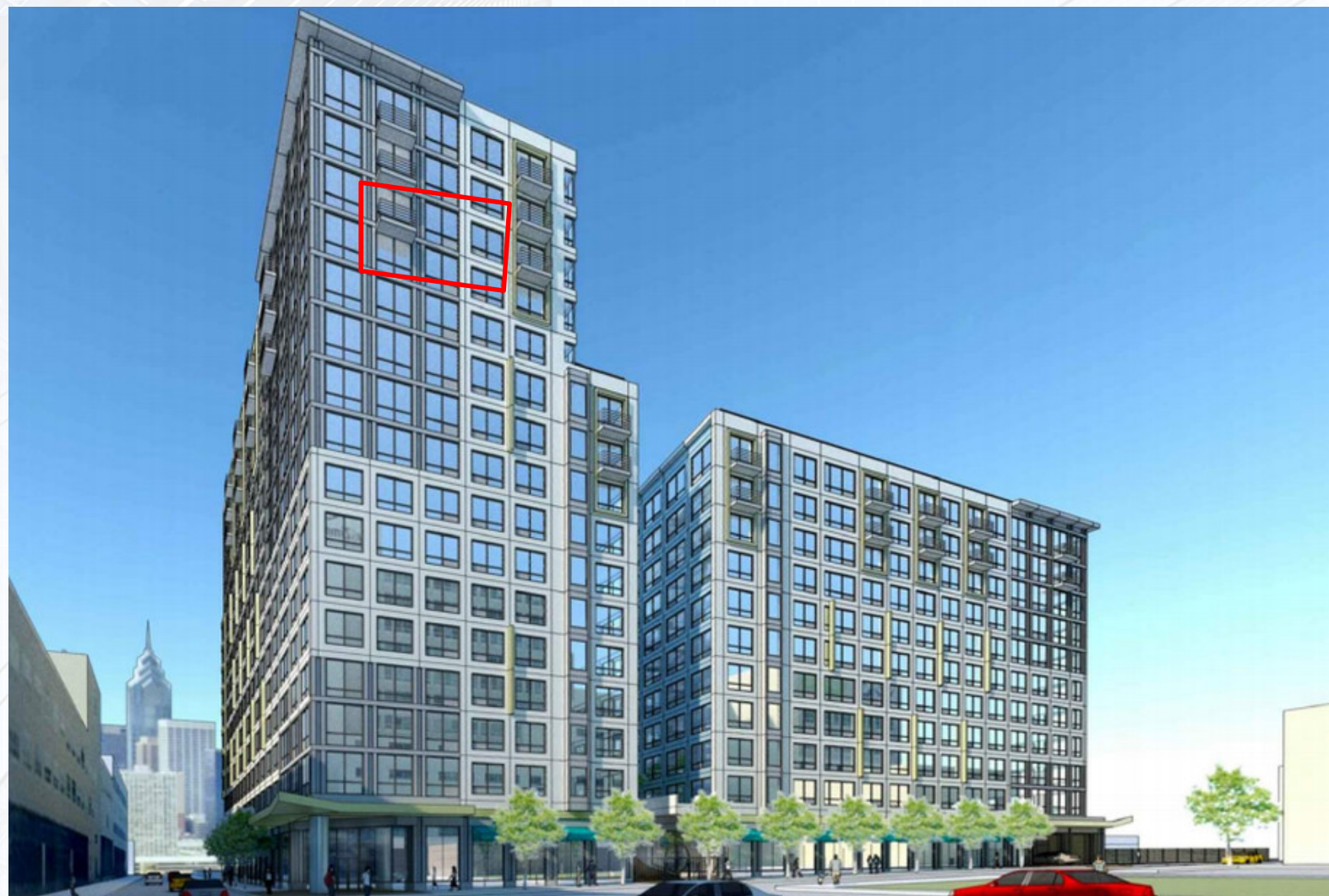
Considerations of Glazing System Selection

1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.

		Glazing System Type		
		<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
Structural Consideration	1. Deflection Joint	Limited Manufacture rs	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed		
		Flush		
		Projected		
	3. Slab-to-Slab			

3. Exterior framing and slab construction.

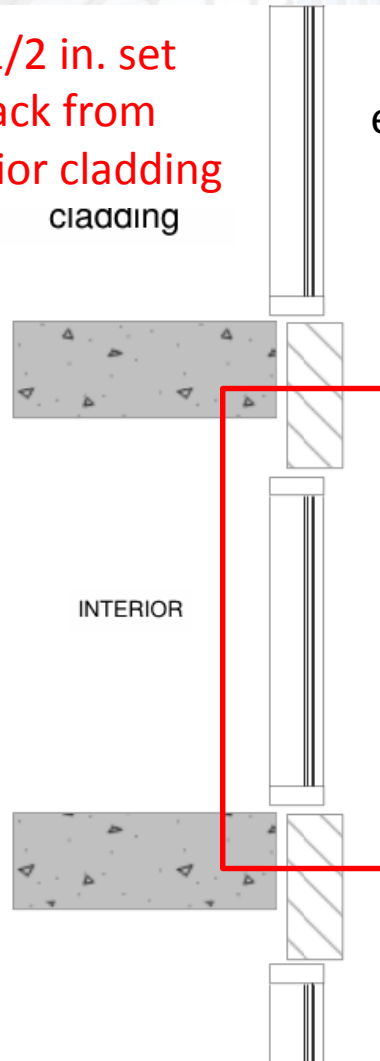
Objective: Select the Glazing System



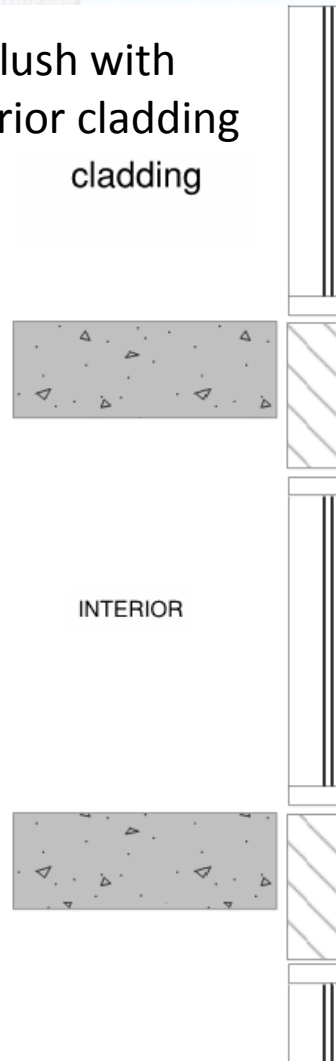
Source: <https://philly.curbed.com/2017/2/6/14520520/hamilton-tower-project-logan-square-groundbreaking>

Position of glazing system relative to the structure

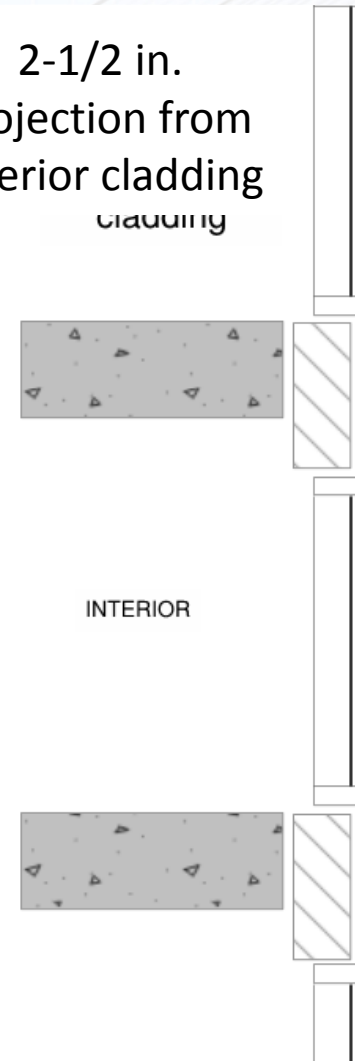
2-1/2 in. set
back from
exterior cladding
cladding



Flush with
exterior cladding
cladding

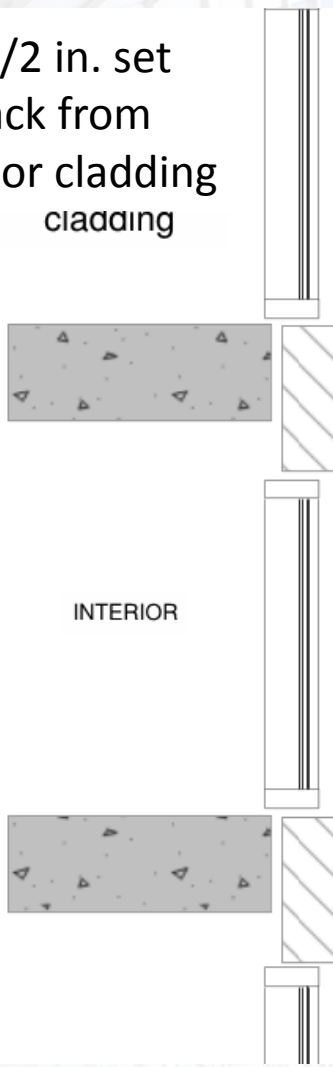


2-1/2 in.
projection from
exterior cladding
cladding

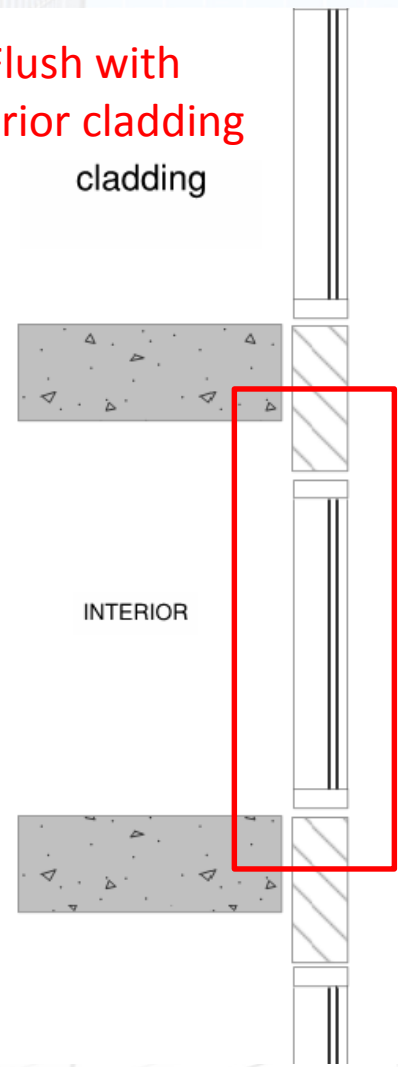


Position of glazing system relative to the structure

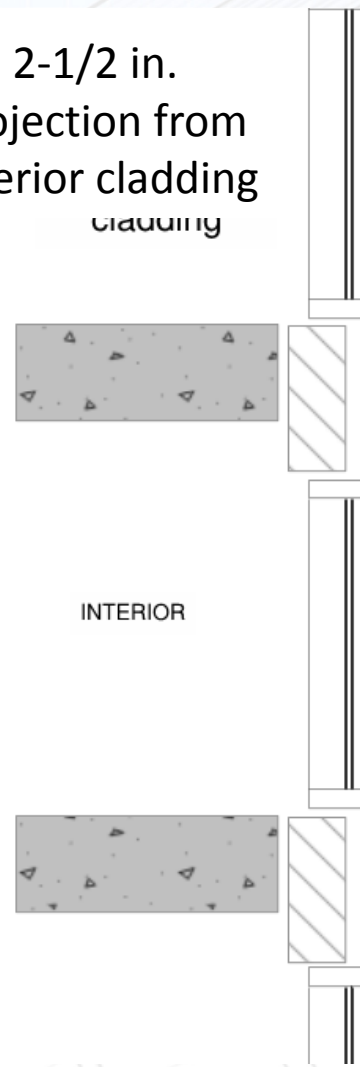
2-1/2 in. set
back from
exterior cladding
cladding



Flush with
exterior cladding
cladding

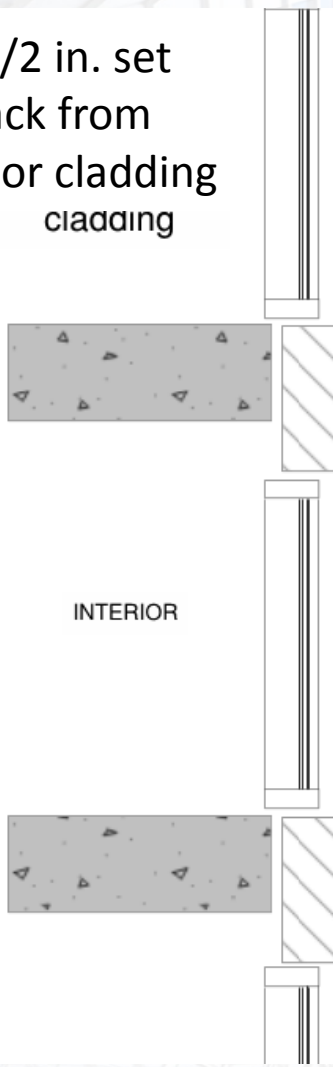


2-1/2 in.
projection from
exterior cladding
cladding

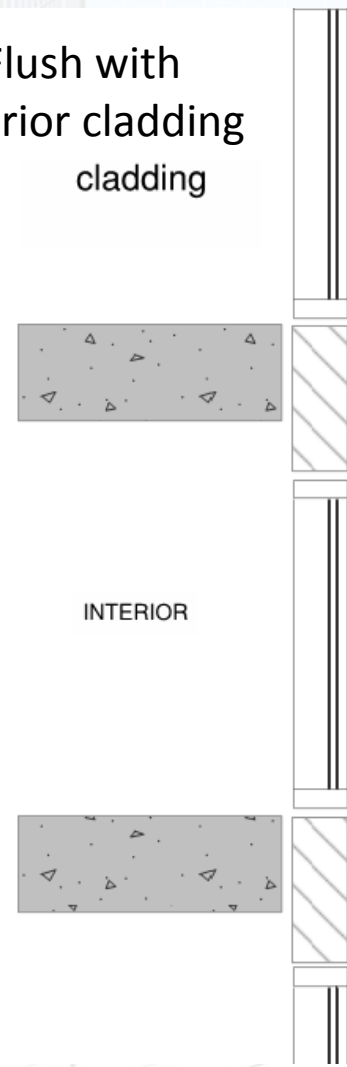


Position of glazing system relative to the structure

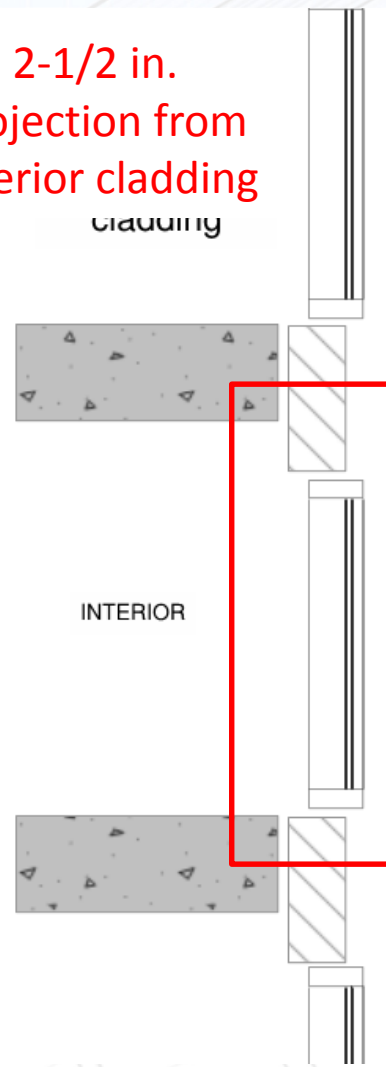
2-1/2 in. set
back from
exterior cladding
cladding



Flush with
exterior cladding
cladding



2-1/2 in.
projection from
exterior cladding
cladding



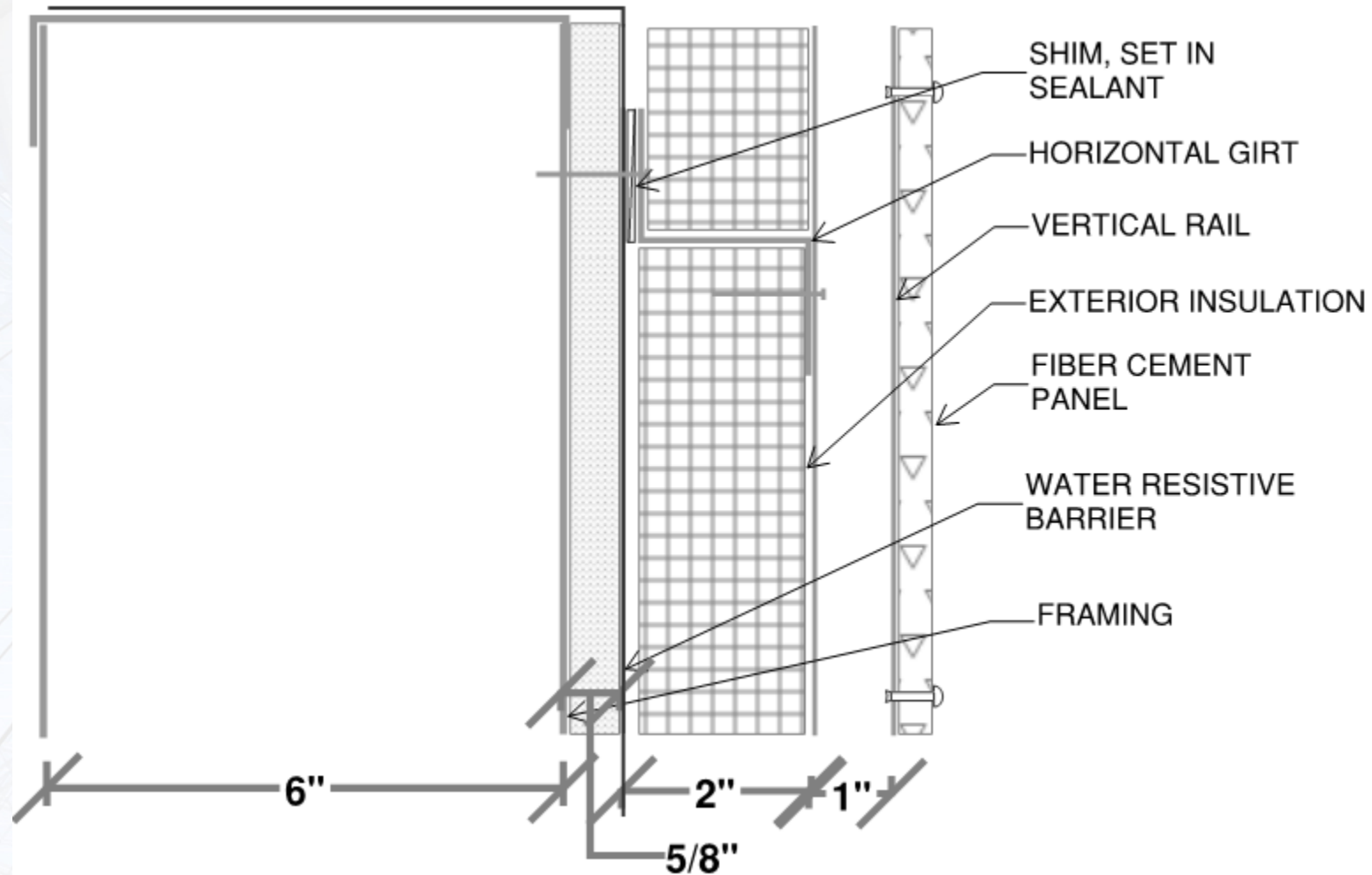


BUILDING 2018
INNOVATION

National Institute of
BUILDING SCIENCES

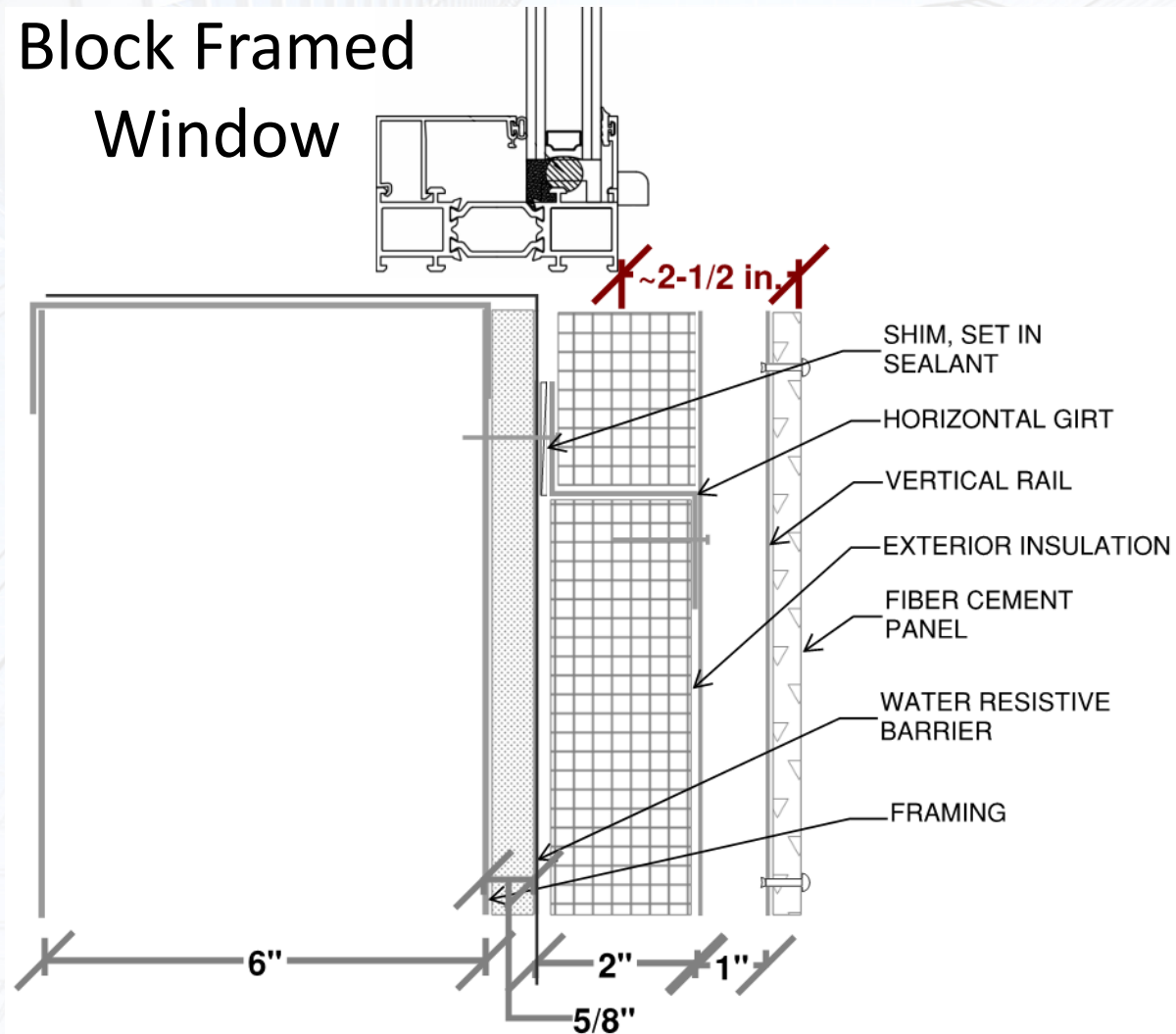
CONFERENCE & EXPO

Exterior Cladding = Fiber Cement Panels



~2-1/2 in. Setback from Exterior Cladding

Block Framed Window





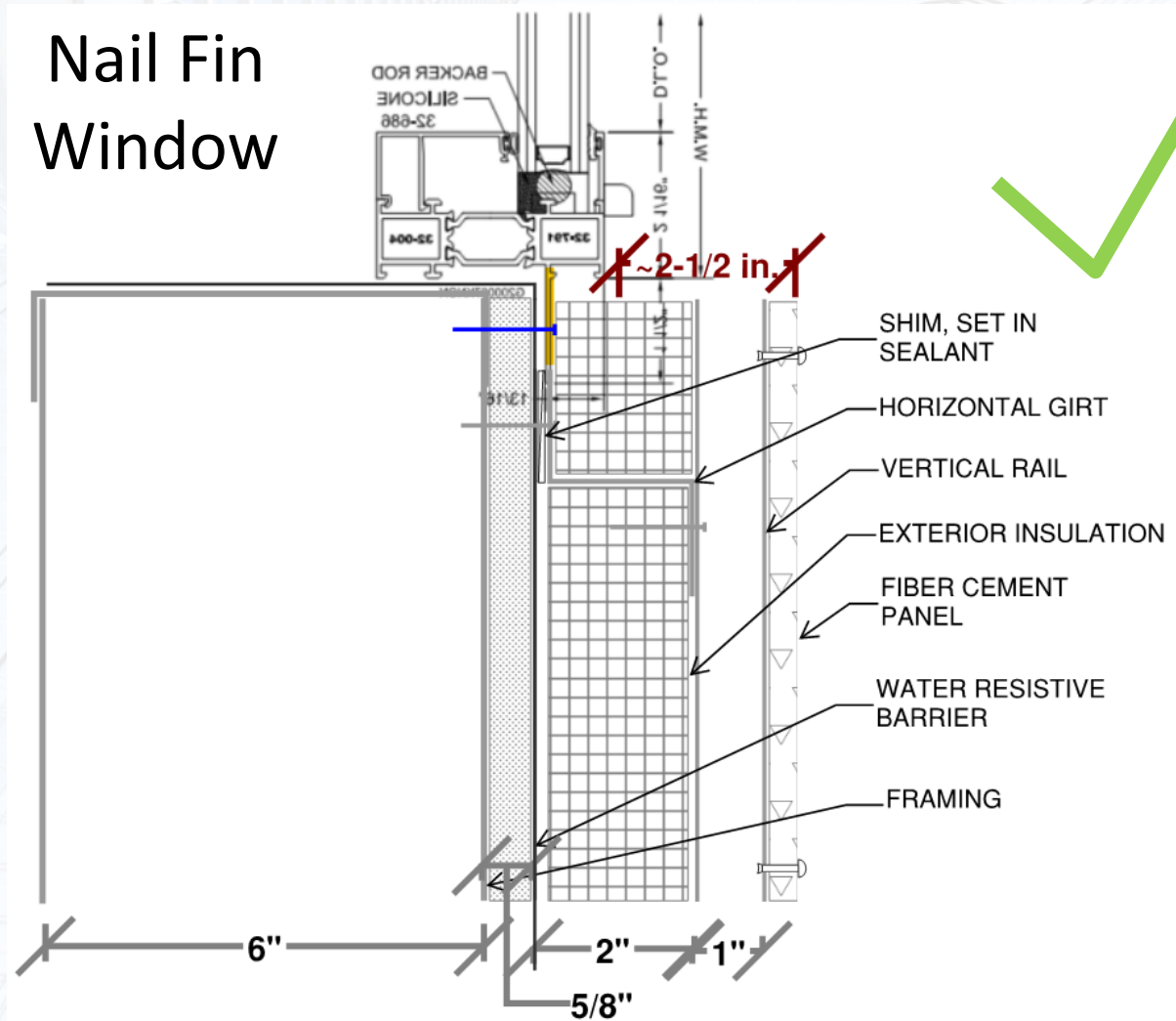
BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

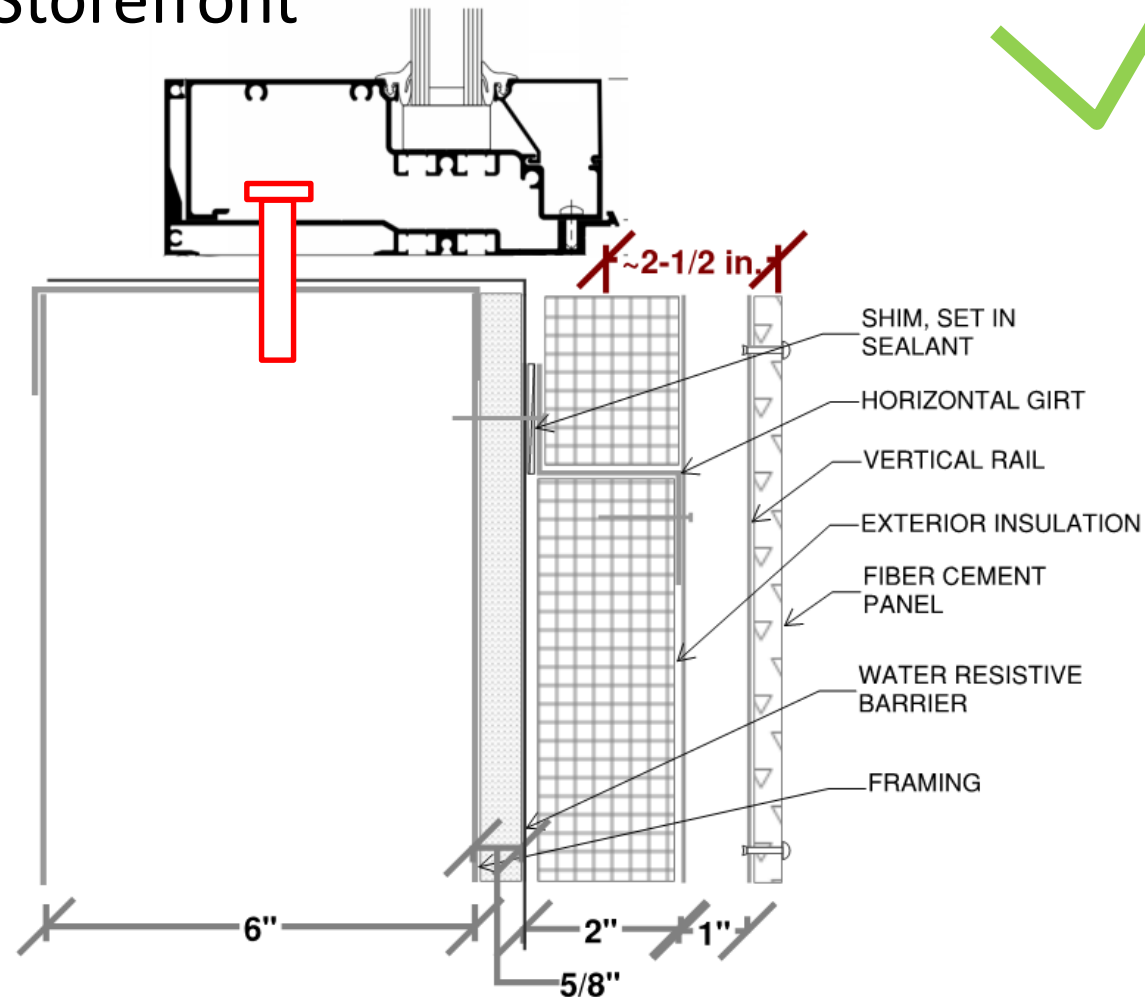
~2-1/2 in. Setback from Exterior Cladding

Nail Fin
Window



~2-1/2 in. Setback from Exterior Cladding

Storefront





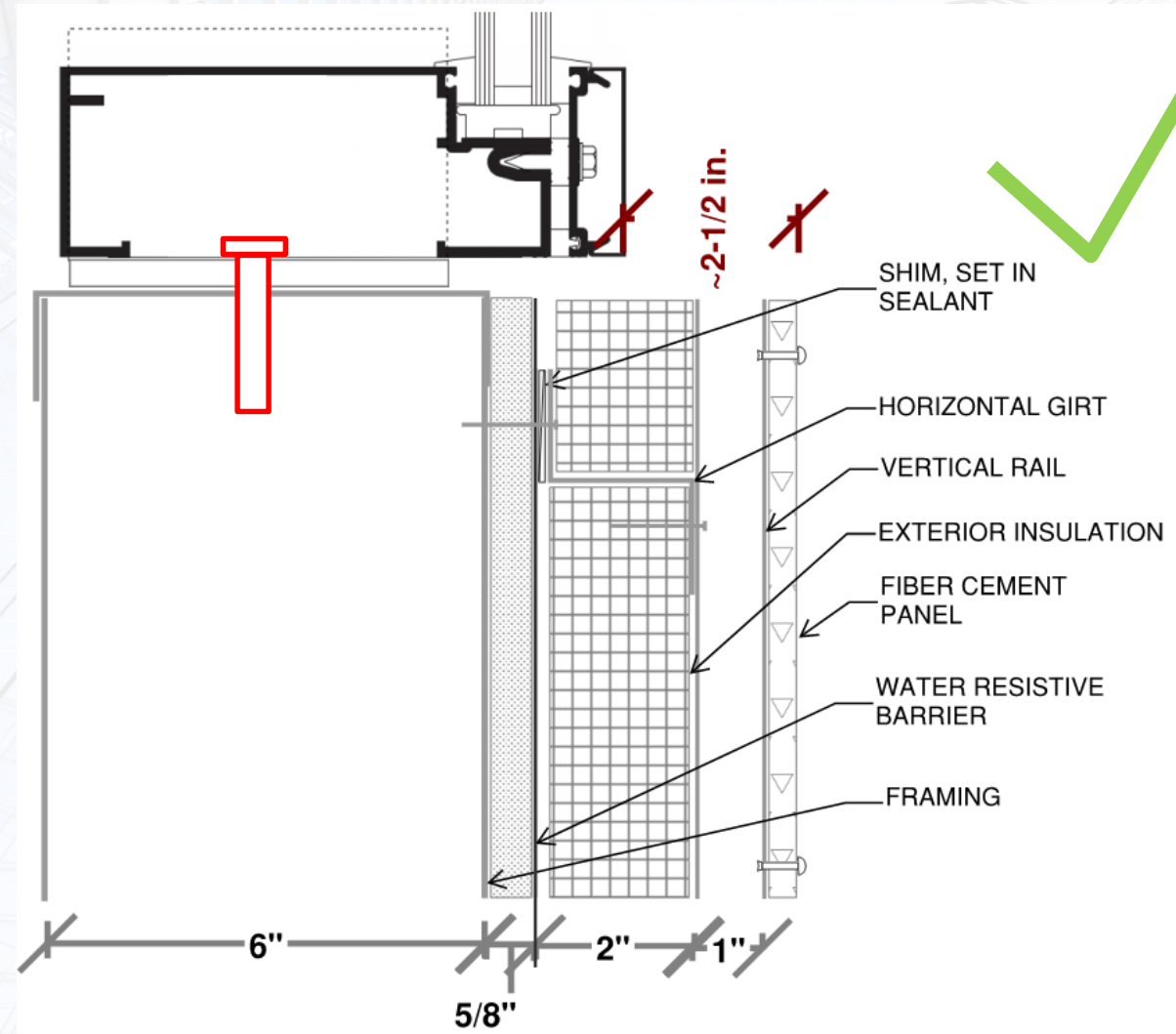
BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

~2-1/2 in. Setback from Exterior Cladding

Curtain Wall



Considerations of Glazing System Selection

1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.

Structural Consideration	Glazing System Type				
			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manufacturers	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush			
		Projected			
	3. Slab-to-Slab				

3. Exterior framing and slab construction.

Considerations of Glazing System Selection

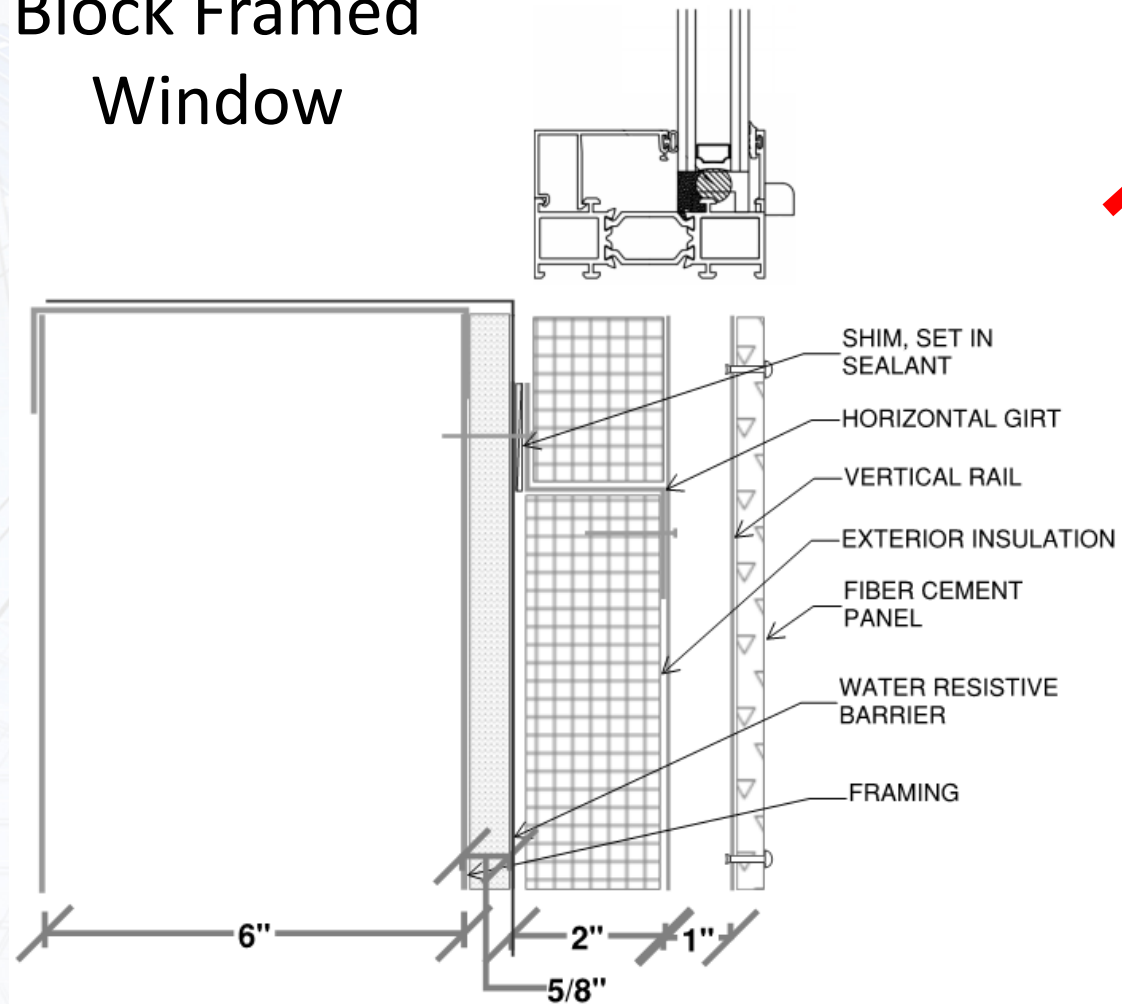
1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.

		Glazing System Type		
		<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
Structural Consideration	1. Deflection Joint	Limited Manufacturers	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.
		Flush		
		Projected		
	3. Slab-to-Slab			

3. Exterior framing and slab construction.

Flush with Exterior Cladding

Block Framed Window



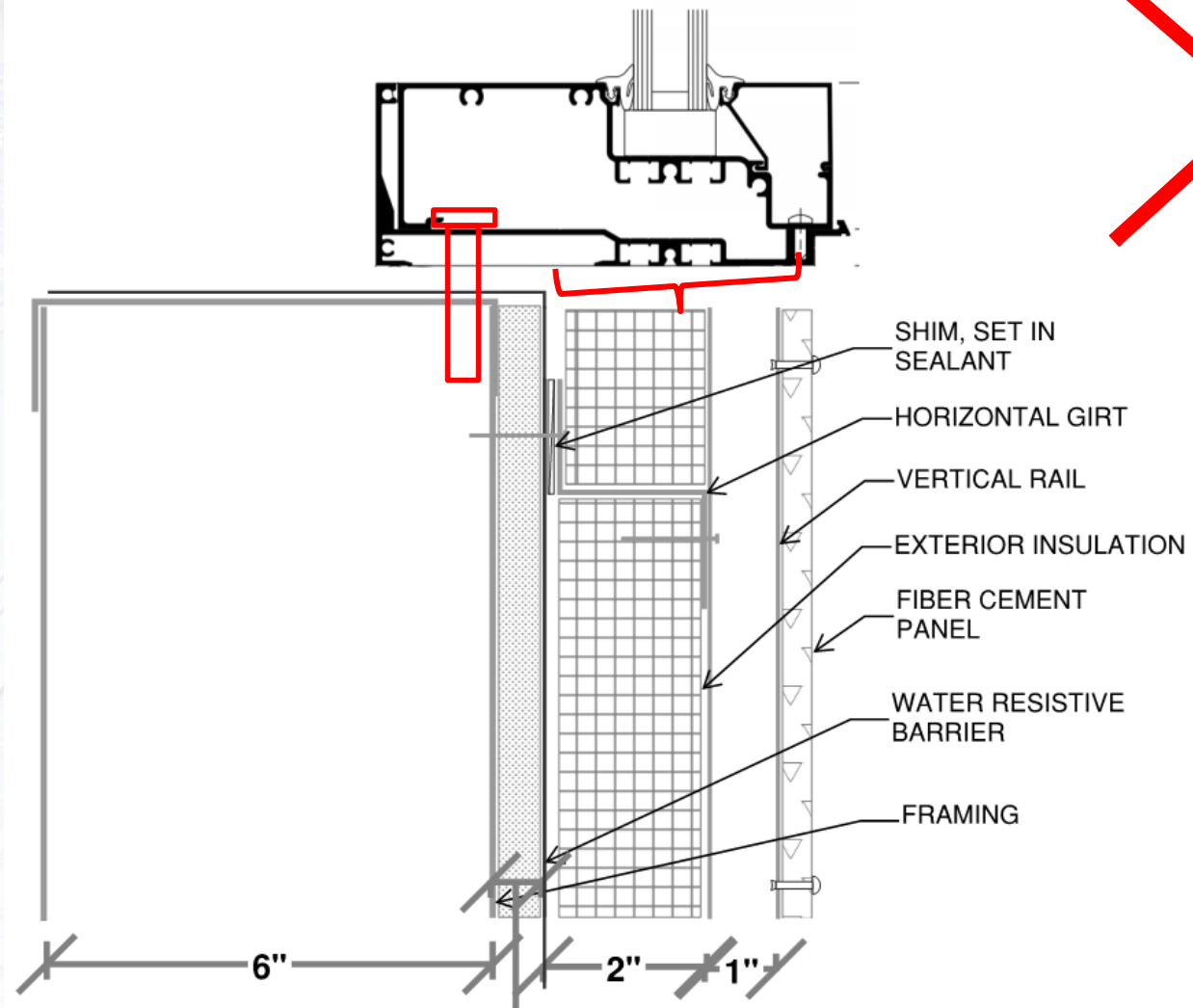


BUILDING INNOVATION 2018

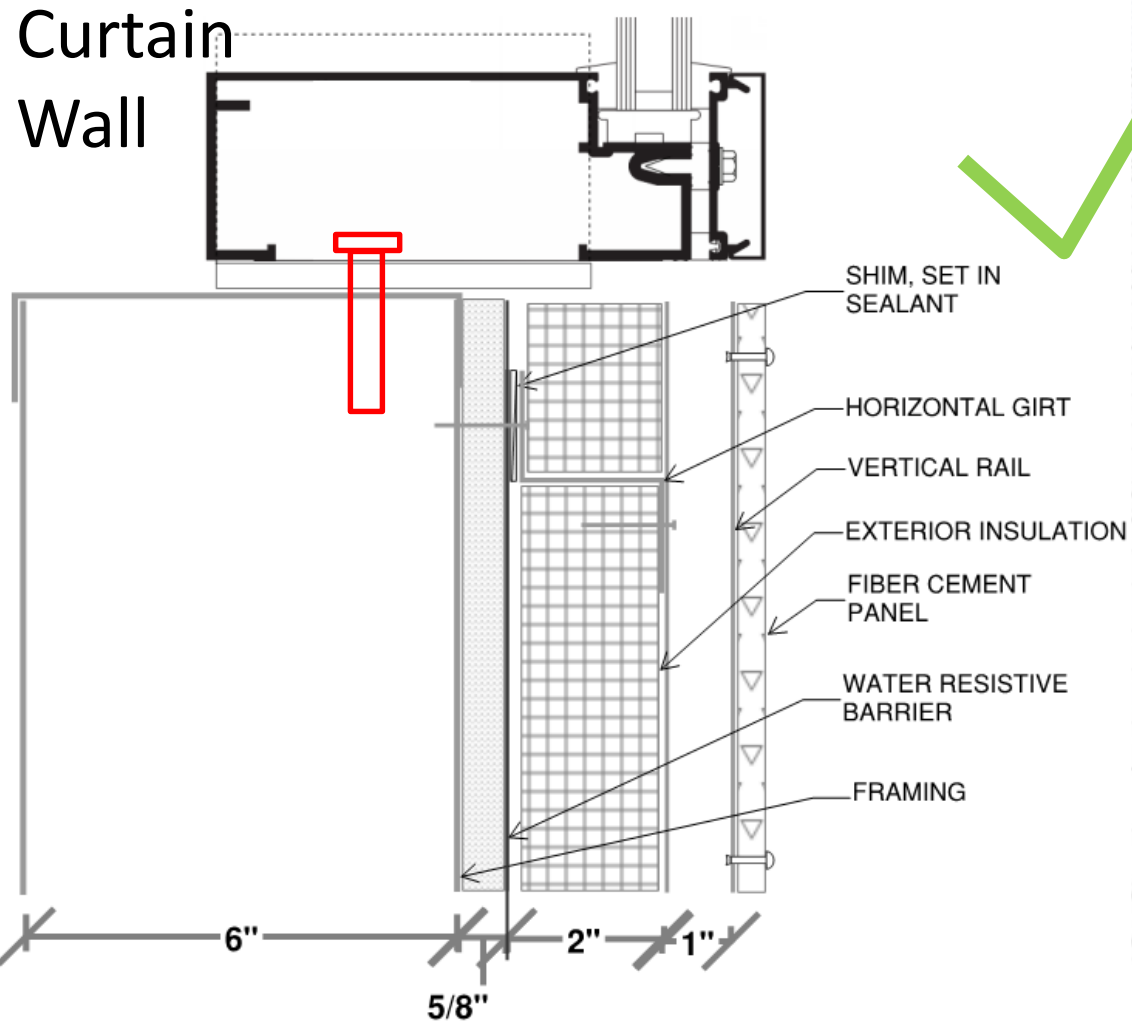
National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Flush with Exterior Cladding



Flush with Exterior Cladding



Considerations of Glazing System Selection

1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.

Structural Consideration	Glazing System Type				
			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manufacturers	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush	No.	No.	Yes.
		Projected			
	3. Slab-to-Slab				

3. Exterior framing and slab construction.

Considerations of Glazing System Selection

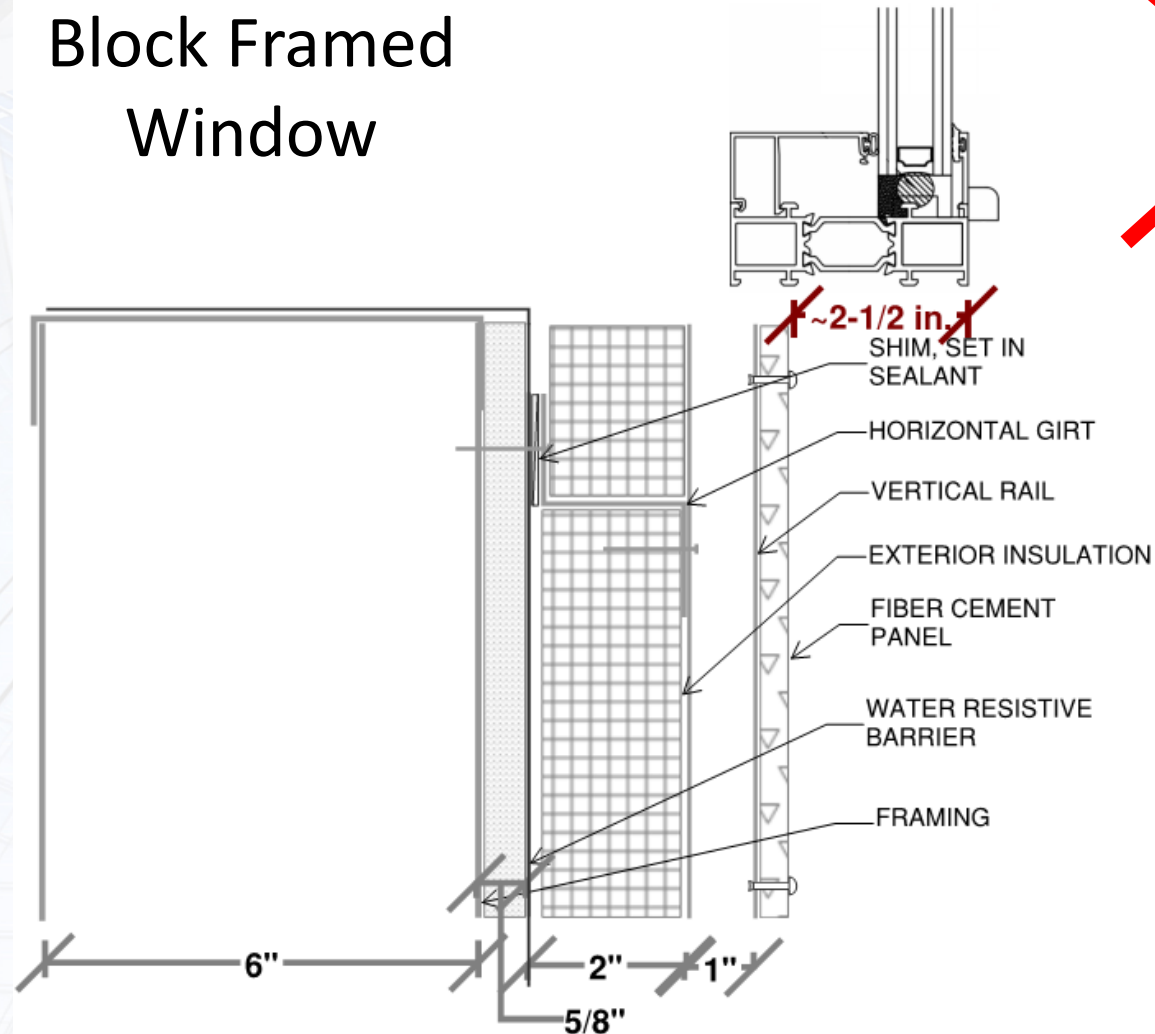
1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.

Structural Consideration	Glazing System Type				
			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manufacturers	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush	No.	No.	Yes.
		Projected			
	3. Slab-to-Slab				

3. Exterior framing and slab construction.

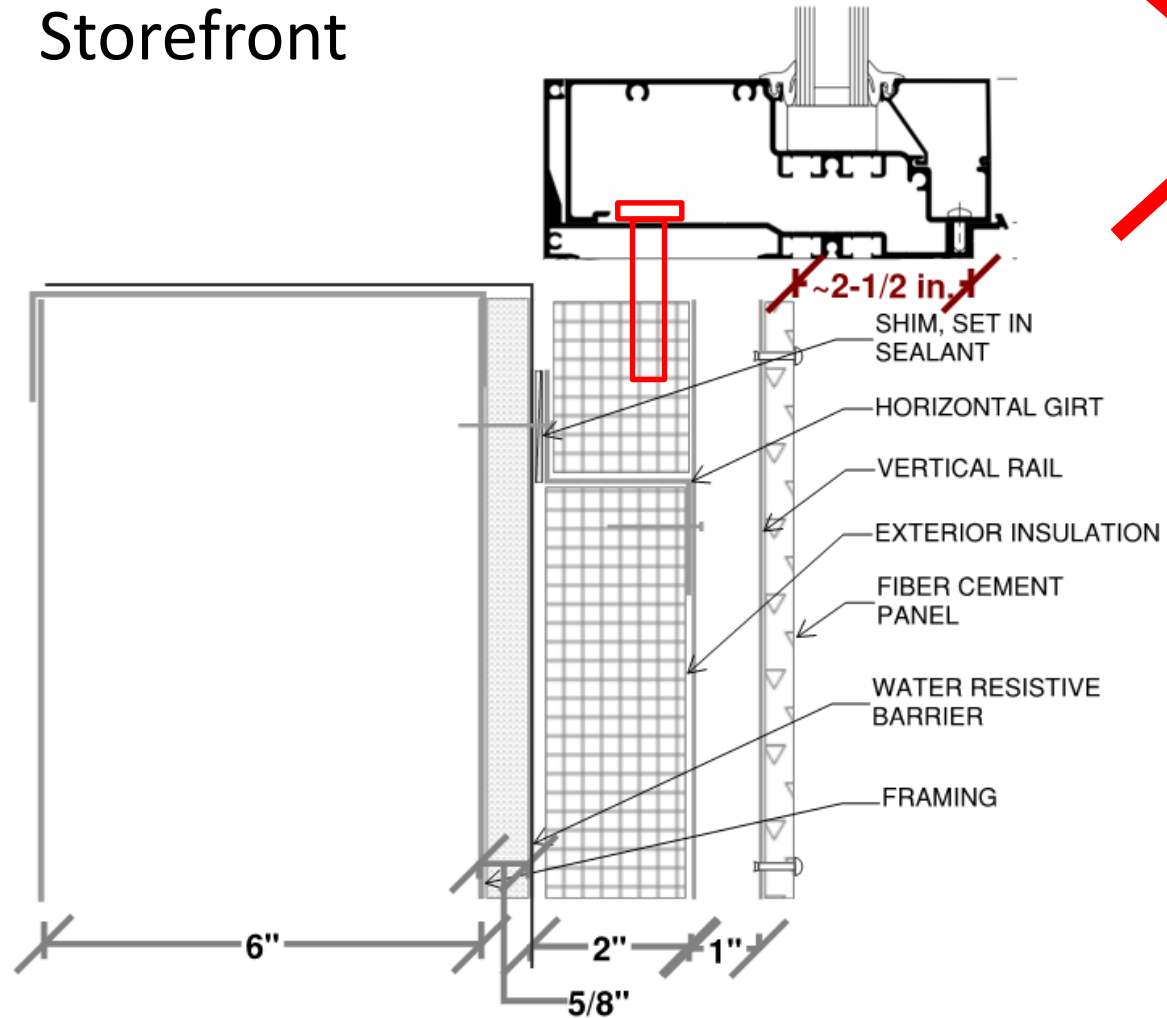
~2-1/2 in. Projection from Exterior Cladding

Block Framed Window



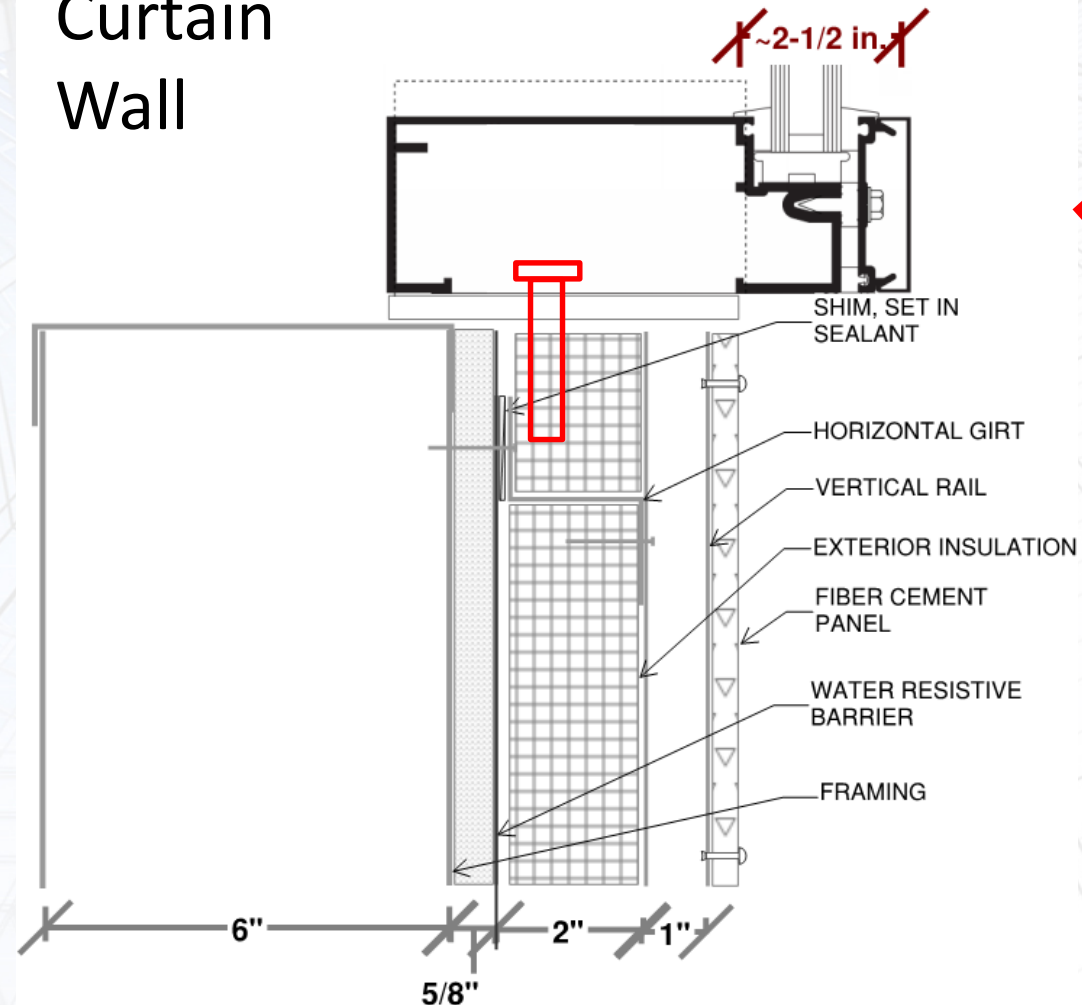
~2-1/2 in. Projection from Exterior Cladding

Storefront



~2-1/2 in. Projection from Exterior Cladding

Curtain
Wall



Considerations of Glazing System Selection

1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.

Structural Consideration	Glazing System Type				
			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manufacturers	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush	No.	Yes.	Yes.
		Projected	No.	No.	No.
	3. Slab-to-Slab				

3. Exterior framing and slab construction.

Considerations of Glazing System Selection

1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.
3. **Exterior framing and slab construction.**

			Glazing System Type		
Structural Consideration			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manufacturers	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush	No.	Yes.	Yes.
		Projected	No.	No.	No.
3. Slab-to-Slab					

Considerations of Glazing System Selection

1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.
3. **Exterior framing and slab construction.**

			Glazing System Type		
Structural Consideration			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manufacturers	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush	No.	Yes.	Yes.
		Projected	No.	No.	No.
3. Slab-to-Slab		No*.	Yes.	Yes.	

Glazing system span multiple floors – in 1 slide

Window Wall vs. Curtain Wall

Window Wall	Curtain Wall
Generally cheaper (as a glazing system compared to curtain wall).	Provides continuous 4 barriers (to be discussed later.)
Able to seal the system watertight at each floor.	Anchors generally are adjustable for construction tolerances.

Wood Construction

1. UL Listing at Slab Edge.
 - Is there anything for wood framing?
2. Embed plates to the wood structure.
 - Whose scope is this?
3. Wood shrinkage

Summary

- Incorporate the structure in the glazing system selection.

			Glazing System Type		
Structural Consideration			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manu.	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush	No.	No.	Yes.
		Projected	No.	No.	No.
3. Slab-to-Slab		No*.	Yes.	Yes.	

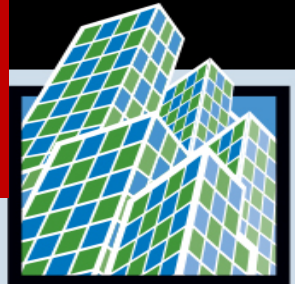
Summary

- Incorporate the structure in the glazing system selection.

			Glazing System Type		
Structural Consideration			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manu.	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush	No.	No.	Yes.
		Projected	No.	No.	No.
3. Slab-to-Slab		No*.	Yes.	Yes.	

Objective

- Incorporate the structure in the glazing system selection.
- Define the air, water, vapor and thermal barriers of glazing systems at the transition to facade cladding system.
- Identify the advantages and disadvantages of different glazing systems based on transitions to adjacent façade cladding assemblies.
- Lessons learned from case studies.



BUILDING 2018
INNOVATION

National Institute of
BUILDING SCIENCES

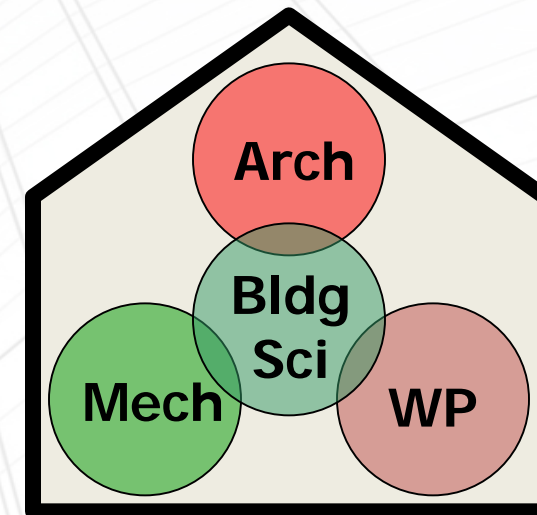
CONFERENCE & EXPO

Four Barriers

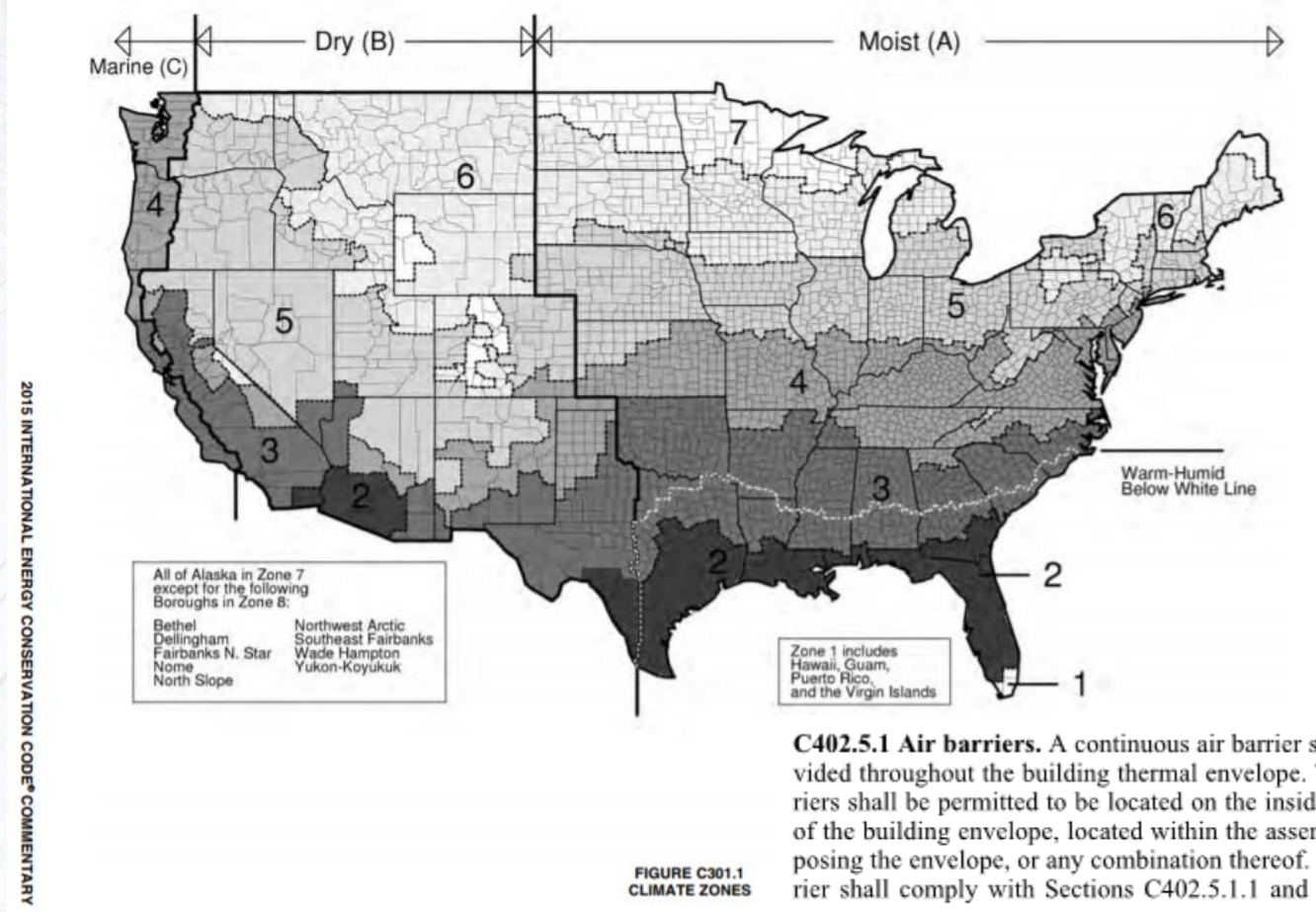
The Four Barriers

- Principles of Building Envelope Performance
- Rainwater Control [Waterproofing]
 - Barrier 1 = Cladding/Waterproofing
- Condensation Control [Building Science]
 - Barrier 2 = Thermal Barrier
 - Barrier 3 = Vapor Retarders
 - Barrier 4 = Air Barrier

Will not be discussed in this presentation.



Air Barrier Requirement



C402.5.1 Air barriers. A continuous air barrier shall be provided throughout the building thermal envelope. The air barriers shall be permitted to be located on the inside or outside of the building envelope, located within the assemblies composing the envelope, or any combination thereof. The air barrier shall comply with Sections C402.5.1.1 and C402.5.1.2.

Exception: Air barriers are not required in buildings located in *Climate Zone 2B*.

Air Barriers Required in CZ 10-16

Section 140.3



Glazing System Transition to Exterior Cladding

	Transition at Sill to Fiber Cement Panels	
	Window	Storefront
Water Barrier		
Air Barrier		
Thermal Barrier		
Vapor Barrier	Vapor retarder will not be considered in this presentation.	



BUILDING 2018
INNOVATION

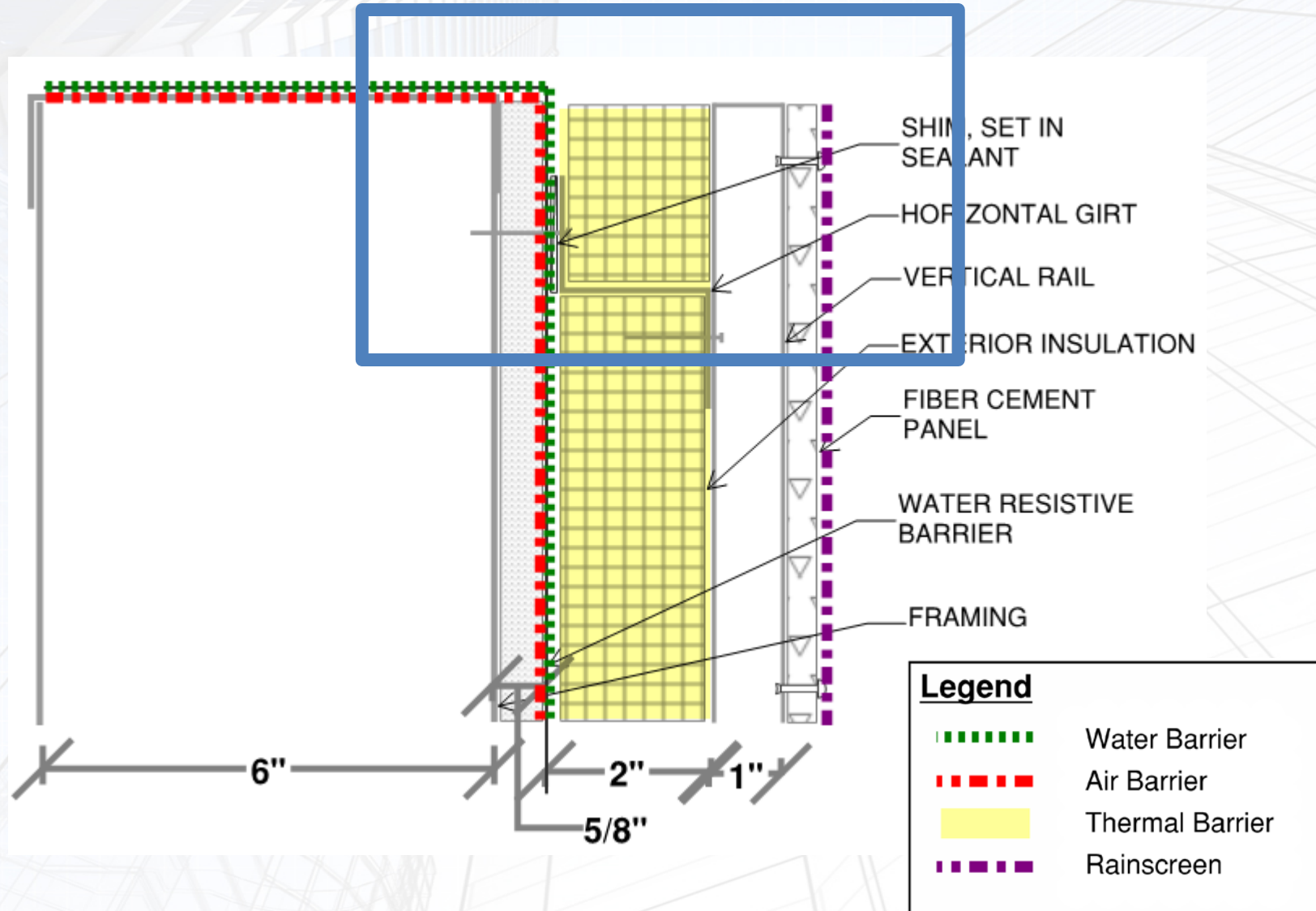
National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Glazing System Transition to Exterior Cladding

	Transition at Sill to Fiber Cement Panels	
	Window	Storefront
Water Barrier		
Air Barrier		
Thermal Barrier		
Rainscreen		

Fiber Cement Panels – In Section



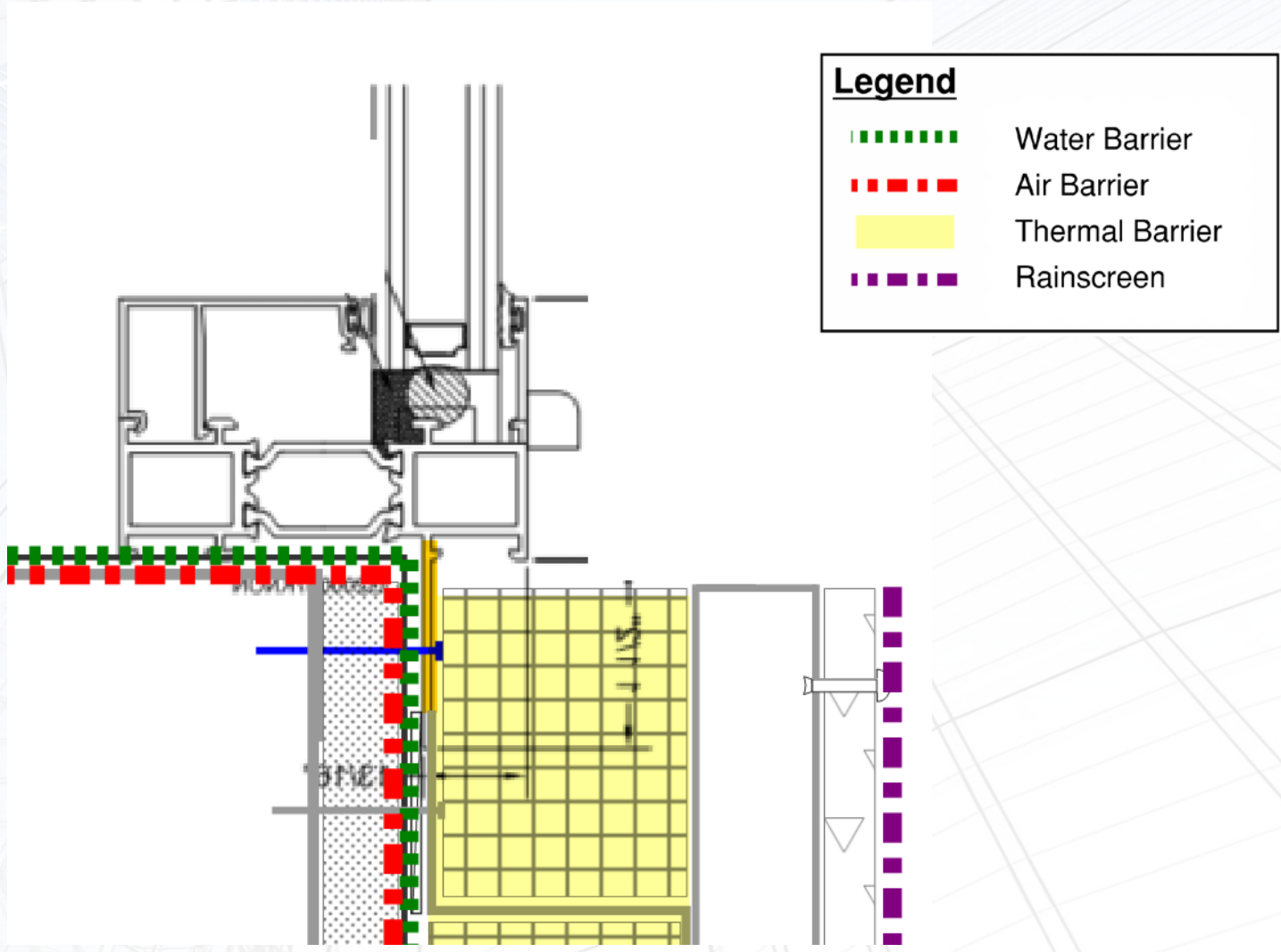


**BUILDING
INNOVATION 2018**

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Recessed Nail Fin Window in Fiber Cement Panels – In Section



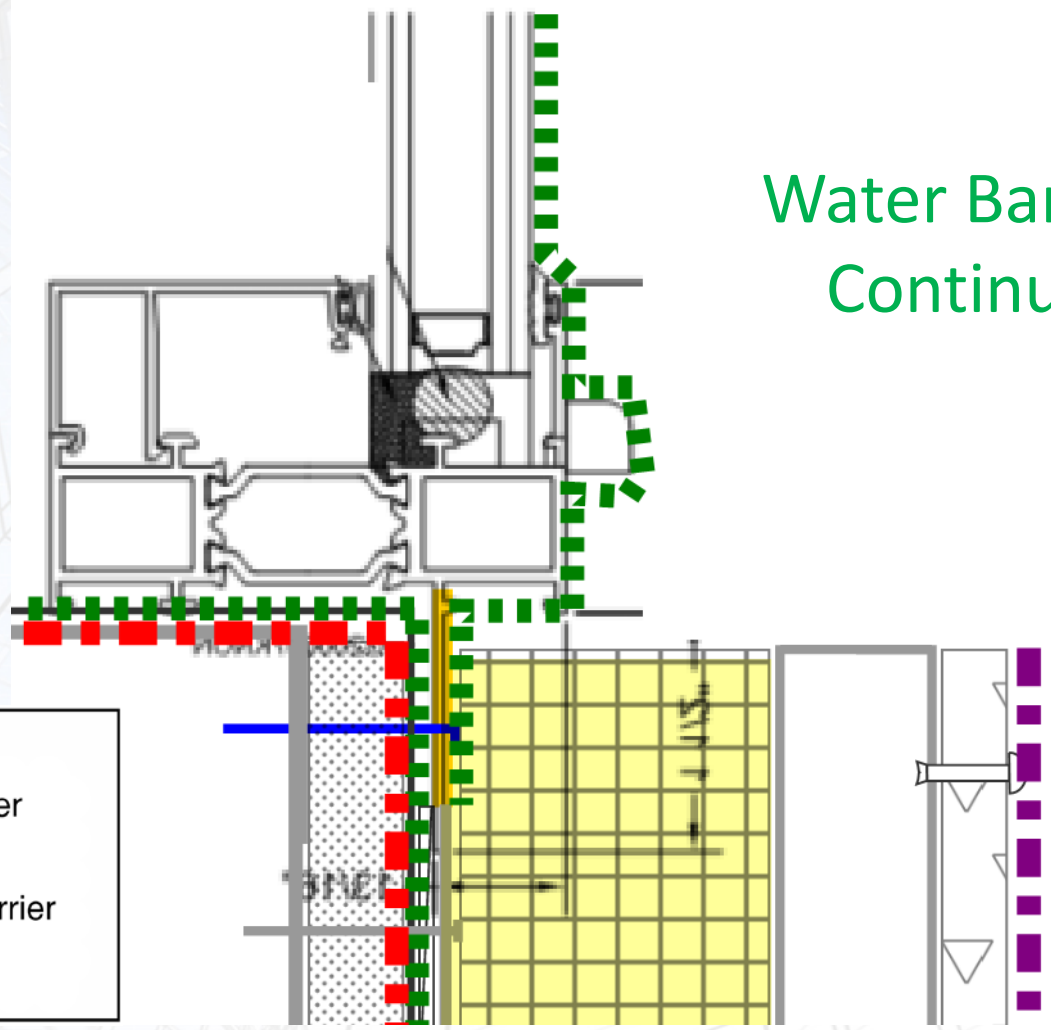


BUILDING INNOVATION 2018

National Institute of BUILDING SCIENCES

CONFERENCE & EXPO

Recessed Nail Fin Window in Fiber Cement Panels – In Section



Water Barrier is Continuous

Legend

	Water Barrier
	Air Barrier
	Thermal Barrier
	Rainscreen

Glazing System Transition to Exterior Cladding

	Transition at Sill to Fiber Cement Panels	
	Window	Storefront
Water Barrier	Continuous @ Nail Fin Window	
Air Barrier		
Thermal Barrier		
Rainscreen		



BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

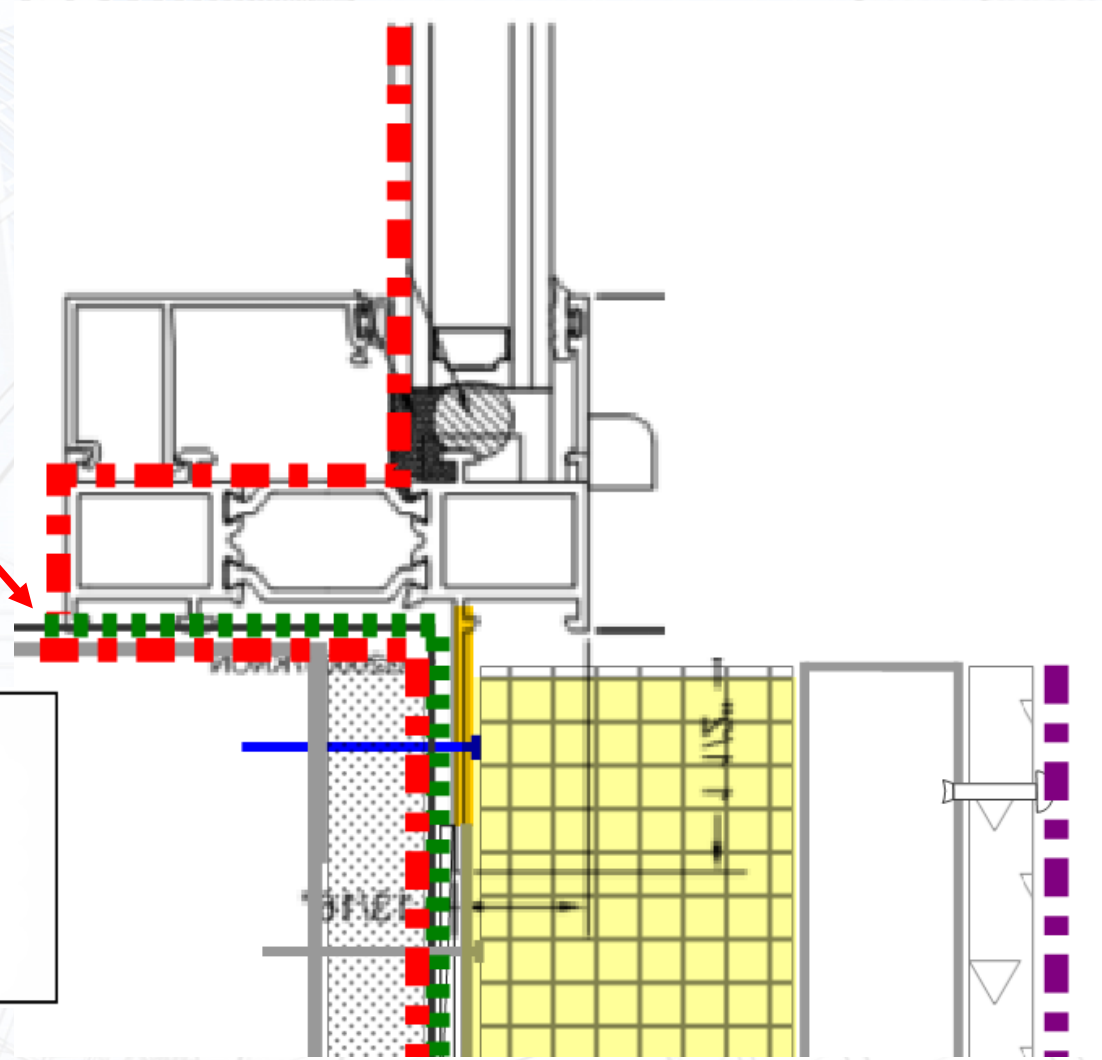
Recessed Nail Fin Window in Fiber Cement Panels – In Section

Need An
Air Seal

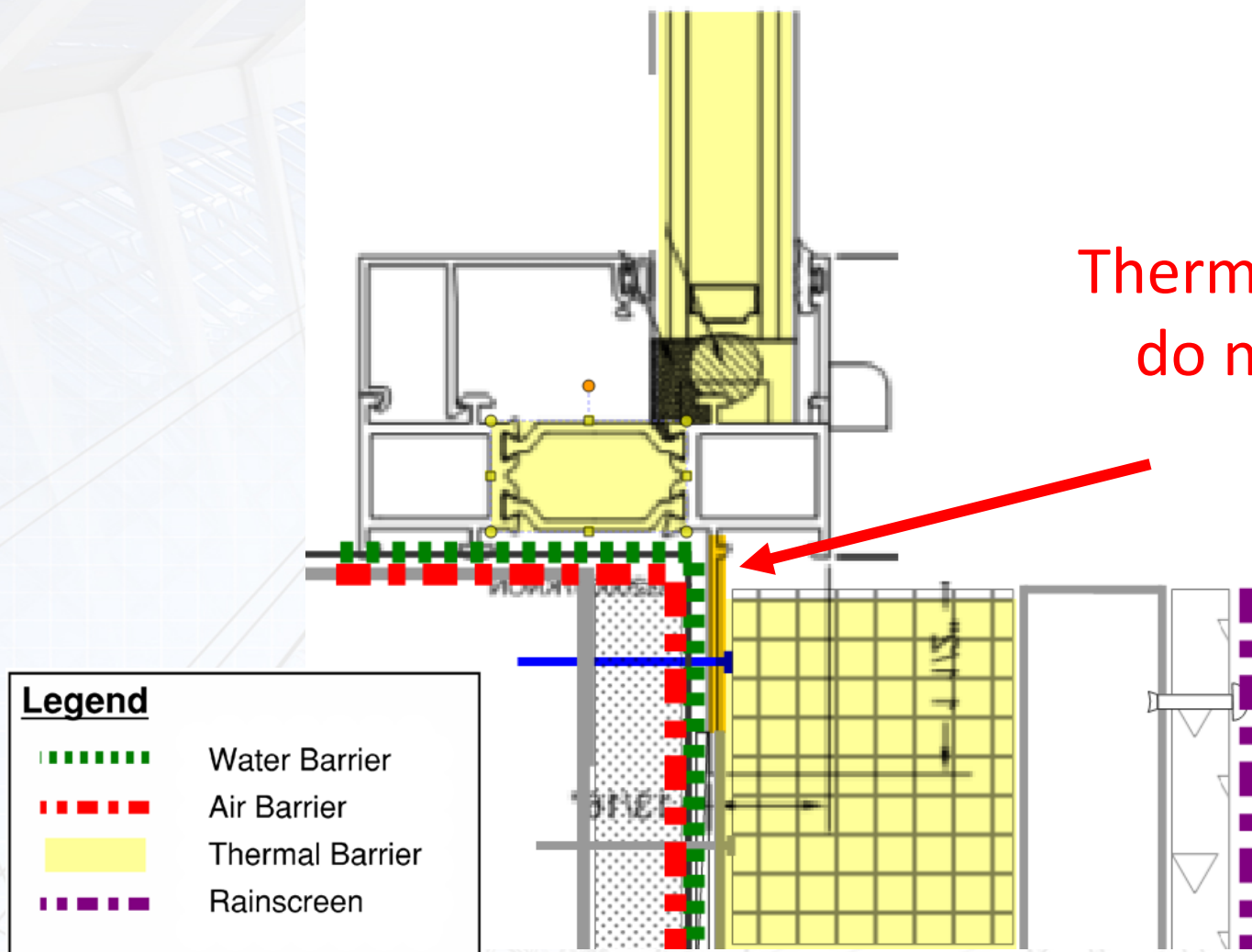


Legend

	Water Barrier
	Air Barrier
	Thermal Barrier
	Rainscreen



Recessed Nail Fin Window in Fiber Cement Panels – In Section



Thermal Barriers
do not align.

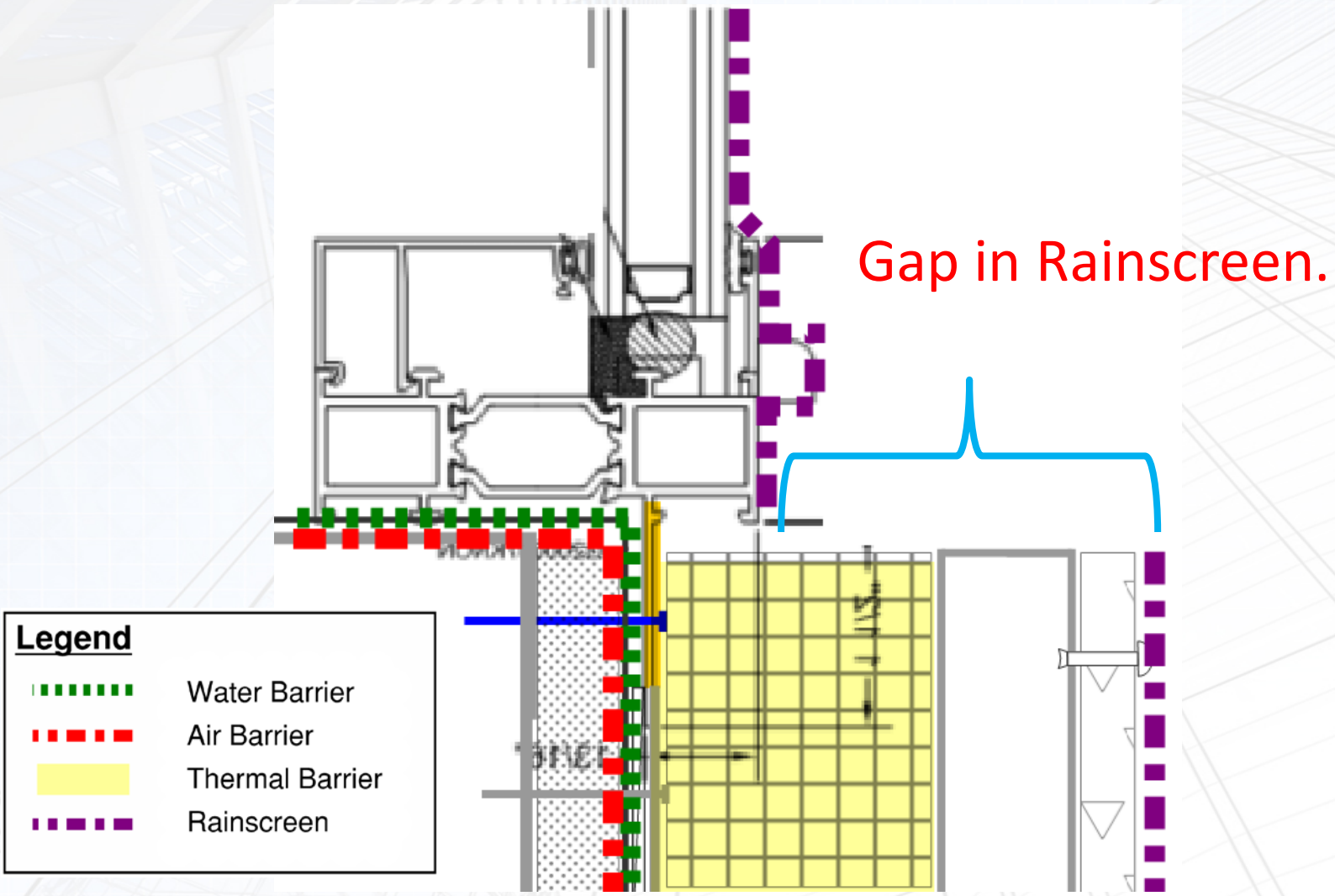


**BUILDING
INNOVATION** 2018

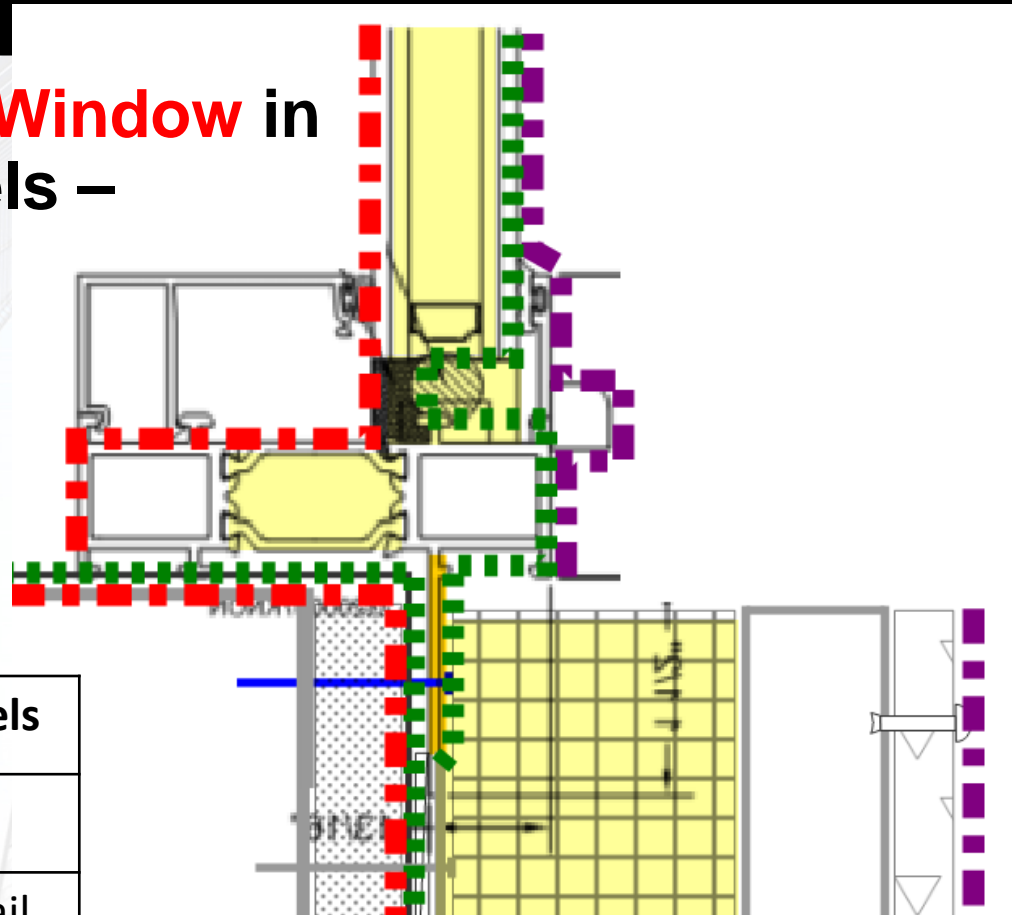
National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Recessed Nail Fin Window in Fiber Cement Panels – In Section



Recessed Nail Fin Window in Fiber Cement Panels – In Section



Transition at Sill to Fiber Cement Panels	
	Window
Water Barrier	Continuous @ Nail Fin Window
Air Barrier	Need an Air Seal
Thermal Barrier	Not Aligned
Rainscreen	Gap



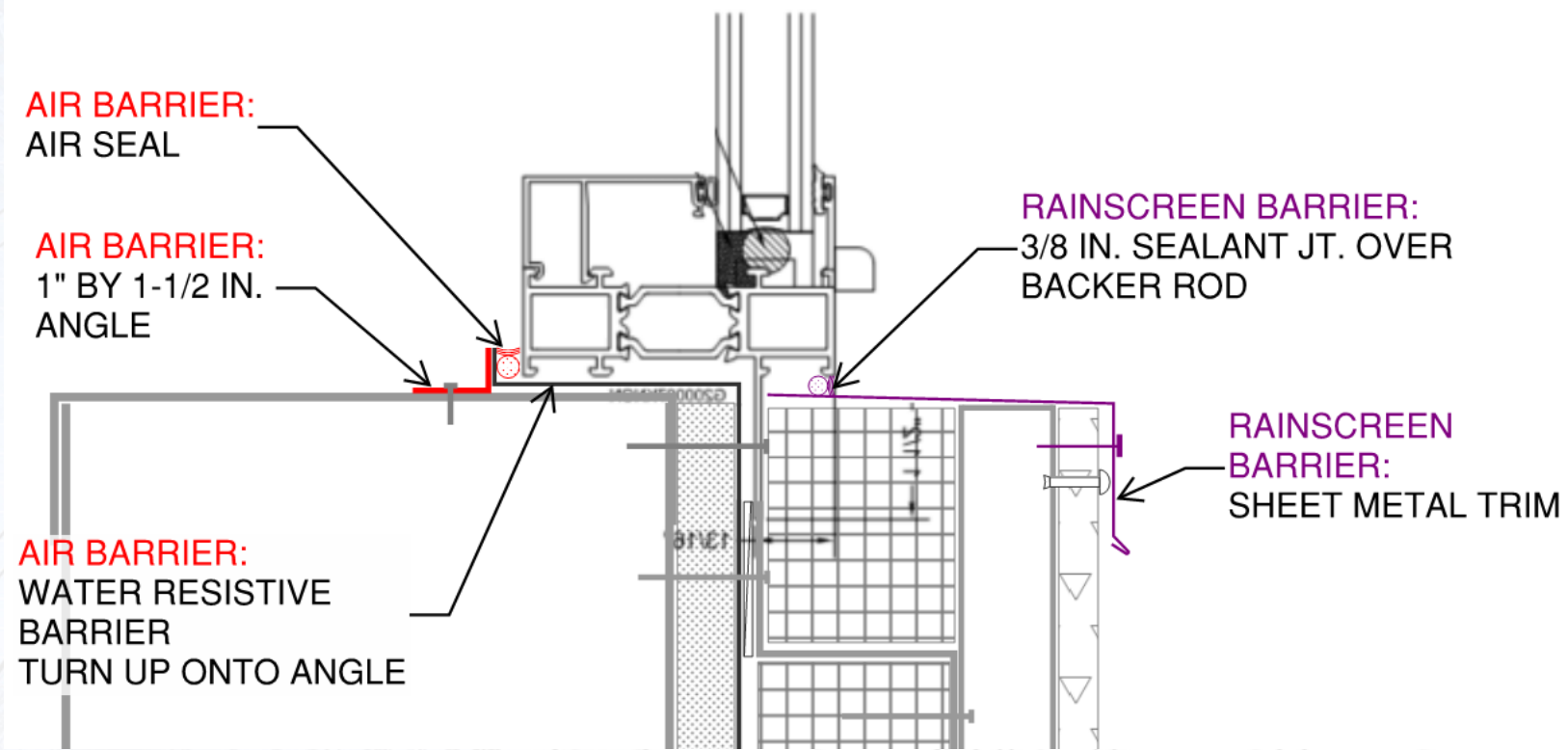


BUILDING INNOVATION 2018

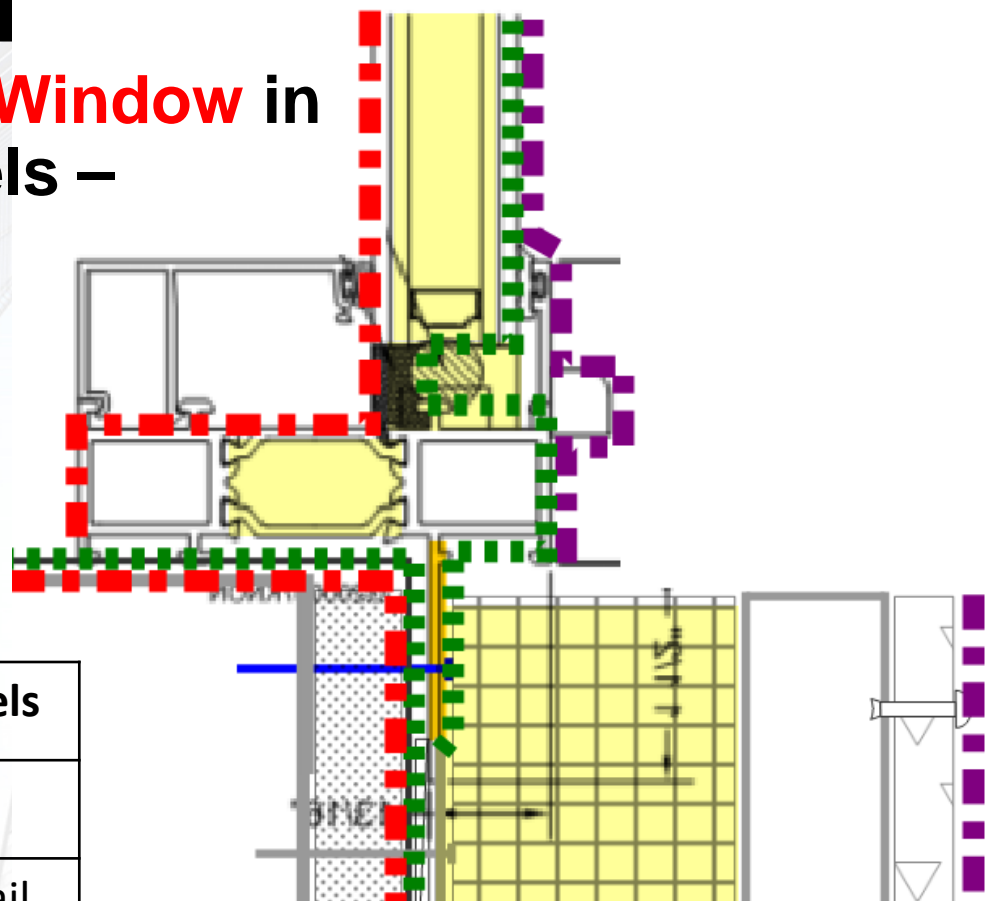
National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Recessed Nail Fin Window in Fiber Cement Panels – In Section



Recessed Nail Fin Window in Fiber Cement Panels – In Section



Transition at Sill to Fiber Cement Panels	
	Window
Water Barrier	Continuous @ Nail Fin Window
Air Barrier	Need an Air Seal
Thermal Barrier	Not Aligned
Rainscreen	Gap









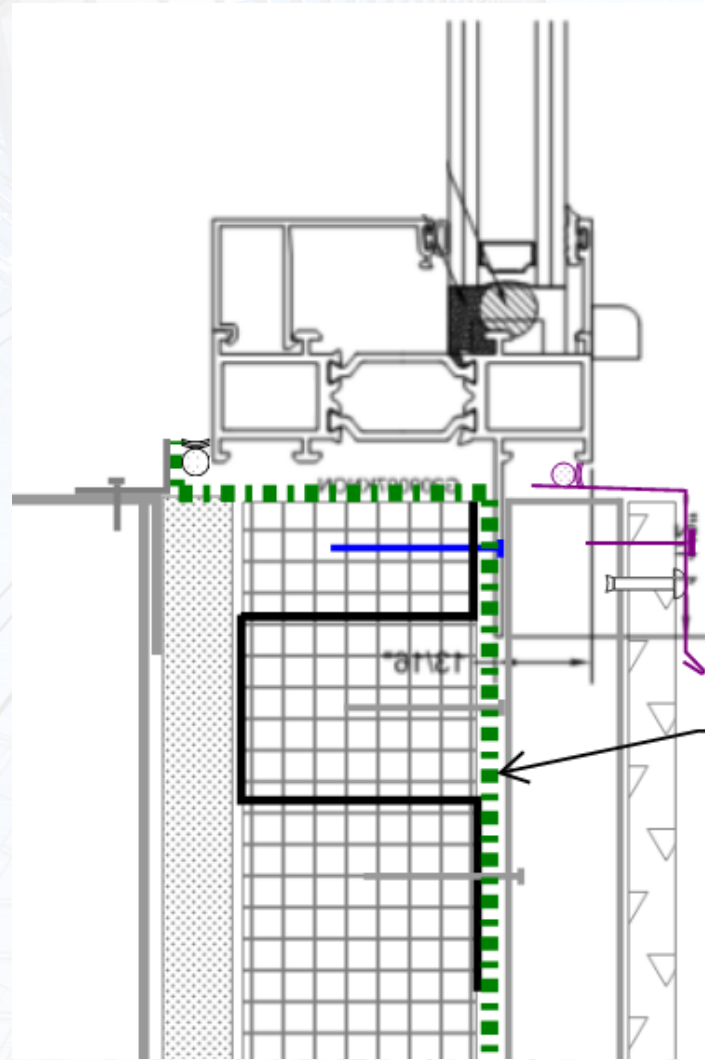
BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Nail Fin Window in Fiber Cement Panels – In Section

Legend	
	Water Barrier
	Air Barrier
	Thermal Barrier
	Rainscreen

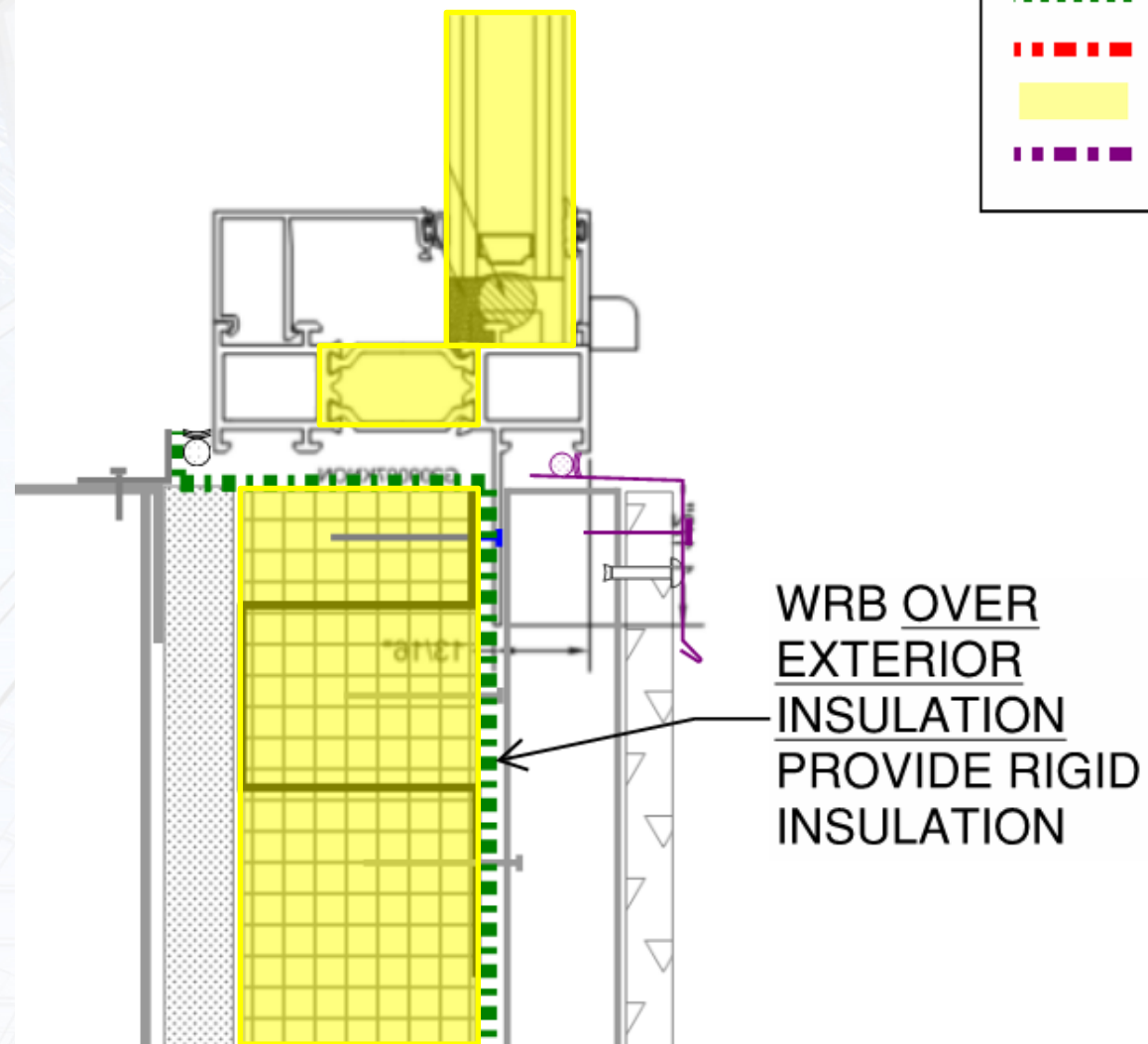


WRB OVER
EXTERIOR
INSULATION
PROVIDE RIGID
INSULATION

Nail Fin Window in Fiber Cement Panels – In Section

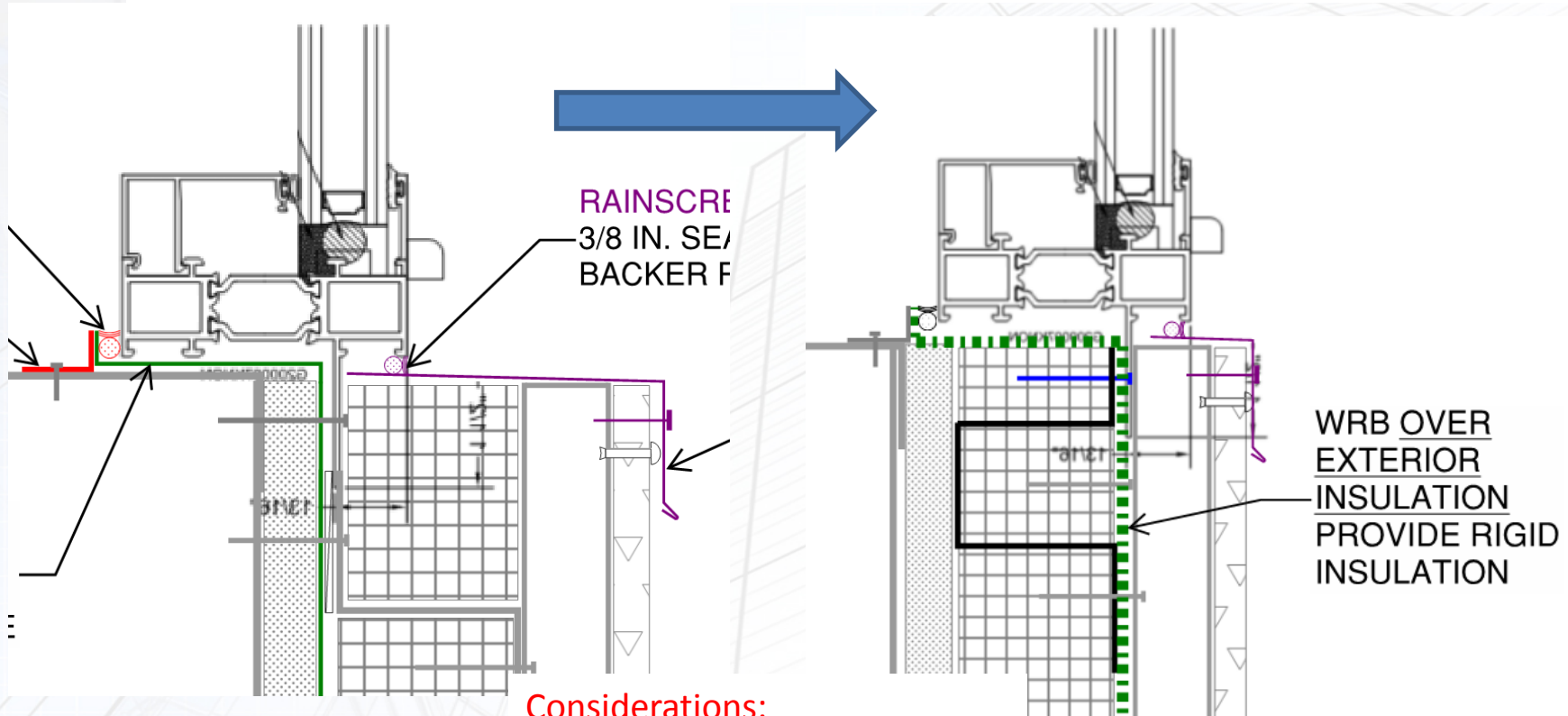
Legend

- Water Barrier
- Air Barrier
- Thermal Barrier
- Rainscreen



Nail Fin Window in Fiber Cement Panels – In Section

- Moved window so it is no longer 2-1/2 in. recessed (see extra framing).
- Apply WRB over Exterior Insulation instead of the Exterior Sheathing.



Considerations:

- Type of Insulation
- Type of Air Barrier
- Framing at rough openings
- Further modelling

Glazing system span multiple floors – in 1 slide

Window Wall vs. Curtain Wall

Window Wall	Curtain Wall
Generally cheaper (as a glazing system compared to curtain wall).	Provides continuous 4 barriers (to be discussed later.)
Able to seal the system watertight at each floor.	Anchors generally are adjustable for construction tolerances.

Wood Construction

1. UL Listing at Slab Edge.
 - Is there anything for wood framing?
2. Embed plates to the wood structure.
 - Whose scope is this?
3. Wood shrinkage

Glazing system span multiple floors – in 1 slide

Window Wall vs. Curtain Wall

Window Wall	Curtain Wall
Generally cheaper (as a glazing system compared to curtain wall).	Provides continuous 4 barriers (to be discussed later.)
Able to seal the system watertight at each floor.	Anchors generally are adjustable for construction tolerances.

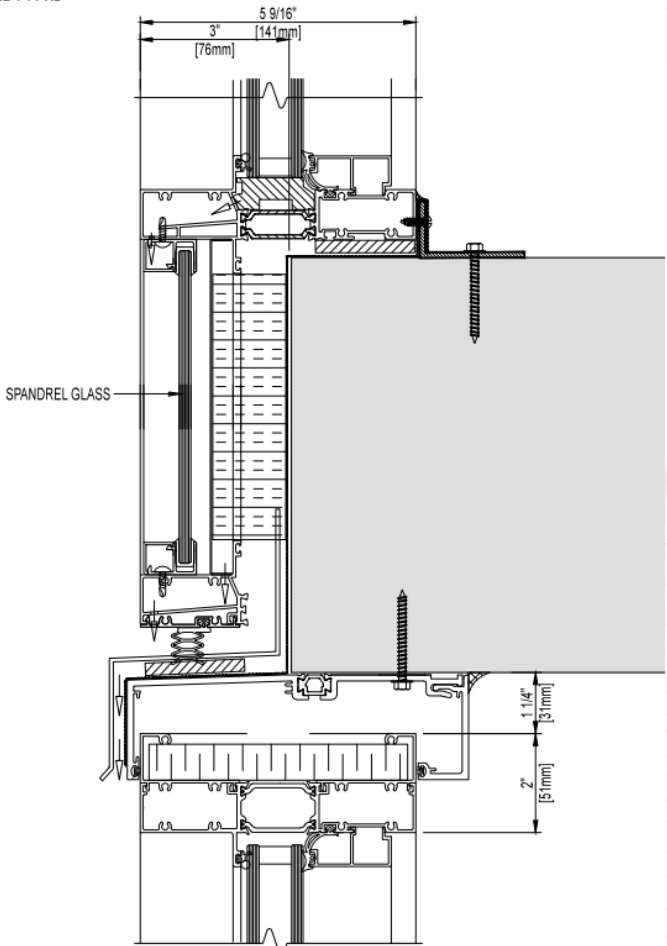
Wood Construction

1. UL Listing at Slab Edge.
 - Is there anything for wood framing?
2. Embed plates to the wood structure.
 - Whose scope is this?
3. Wood shrinkage

Window Wall

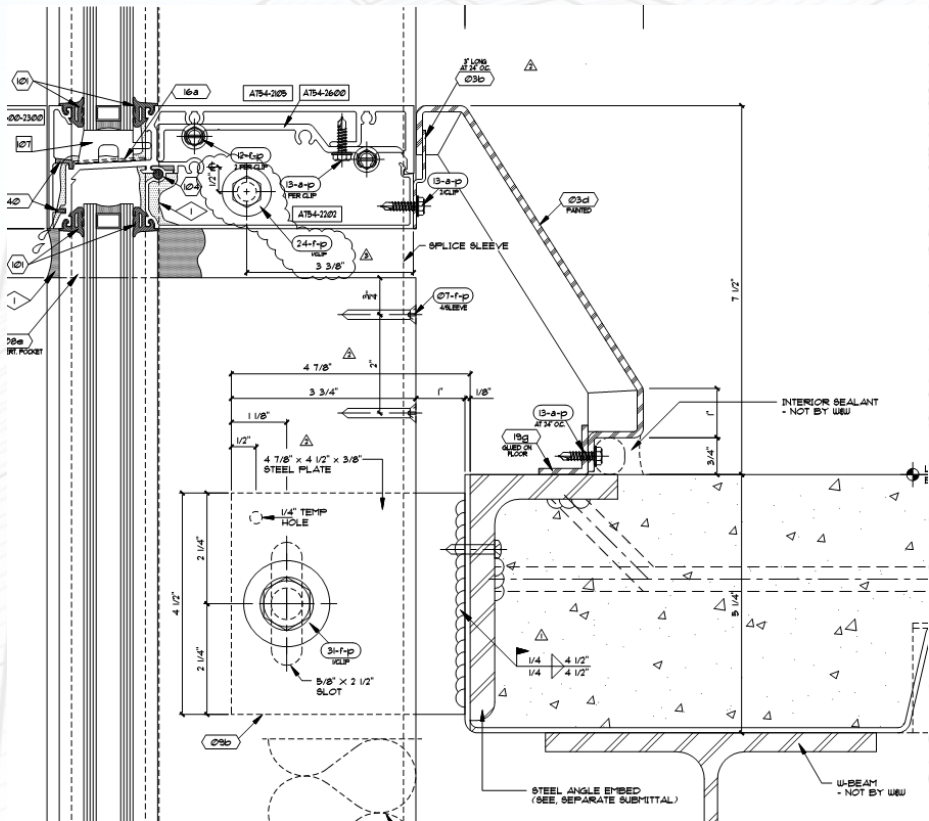
Typical Details

ECOWALL 141 RS

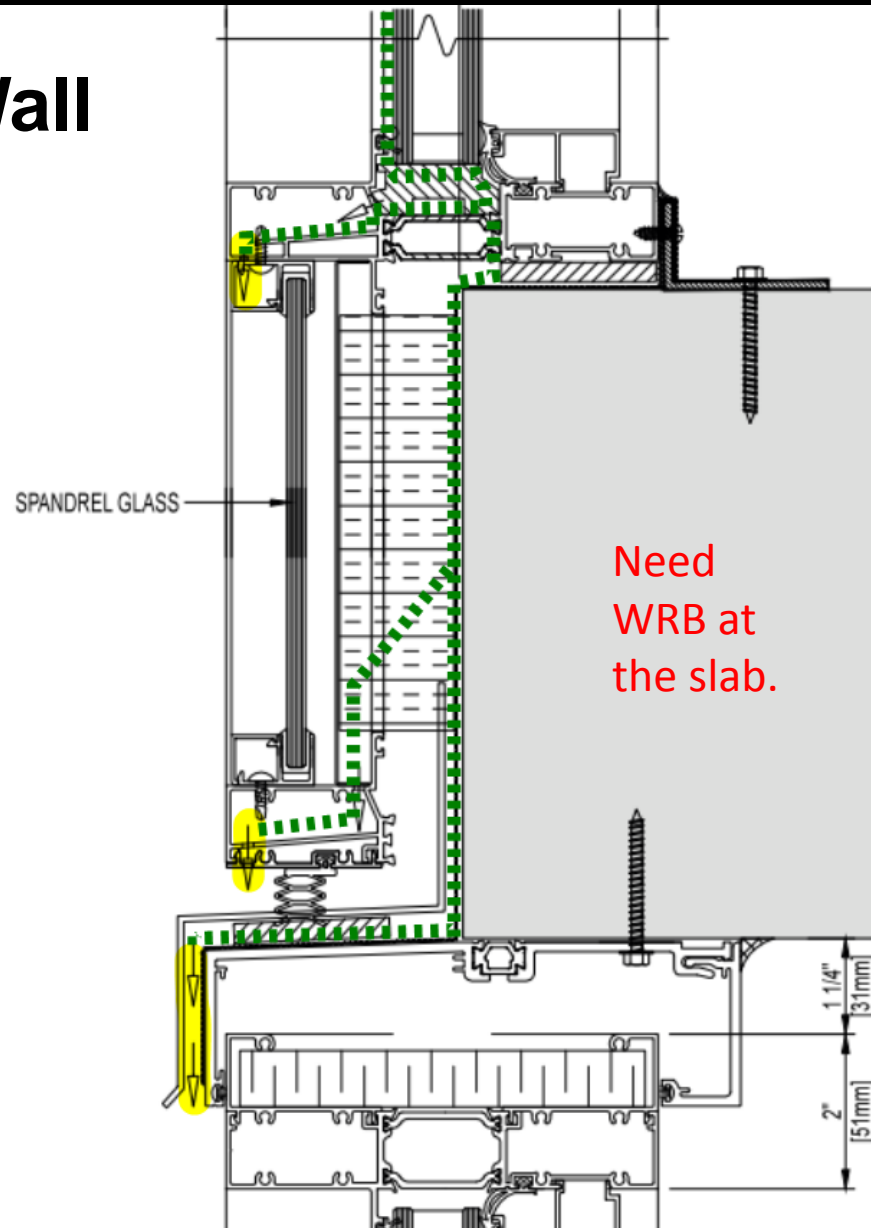


Spandrel Bypass Section at Slab Edge

Curtain Wall



Window Wall



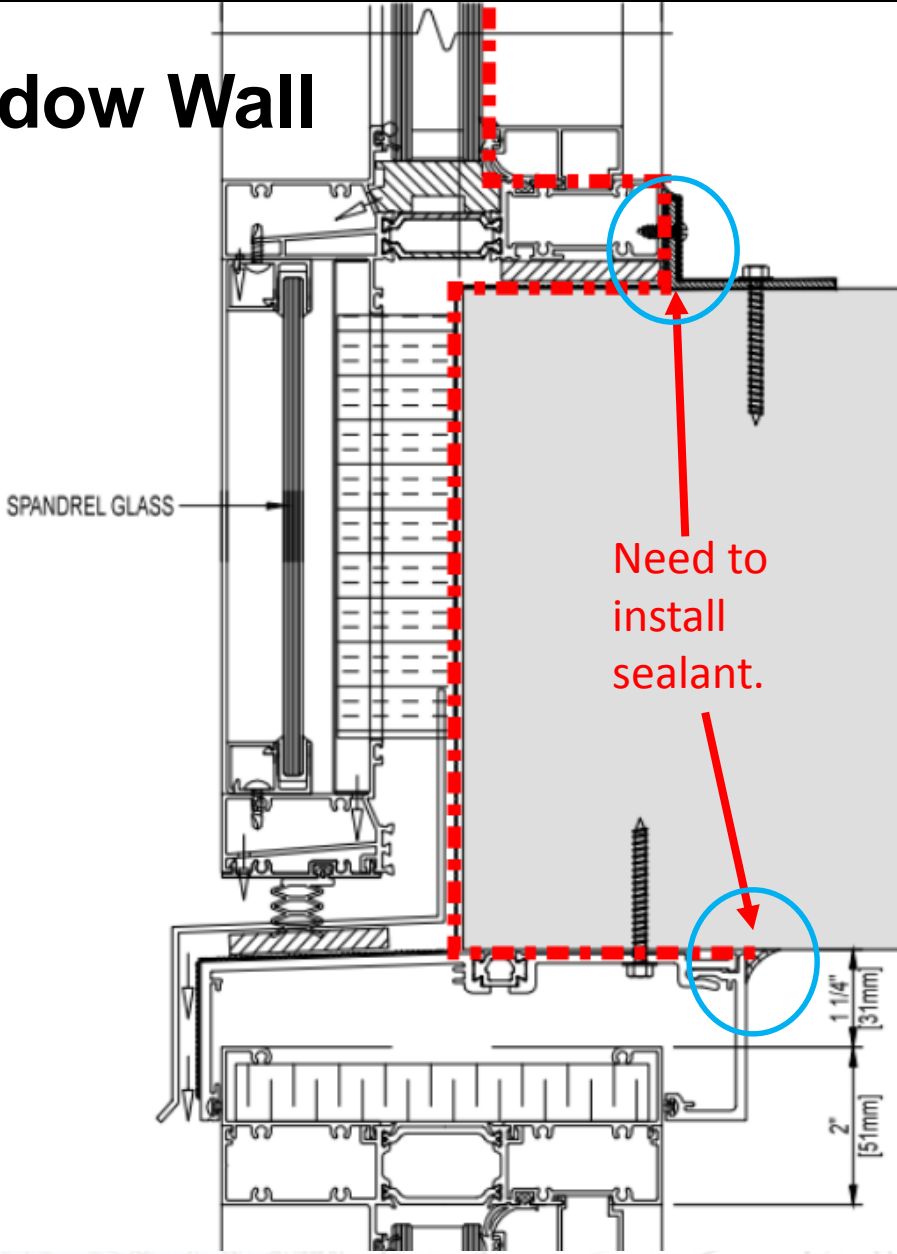
Legend

- Water Barrier
- Air Barrier
- Thermal Barrier
- Rainscreen

Numerous
Drainage Paths

Water Barrier is
Continuous

Window Wall

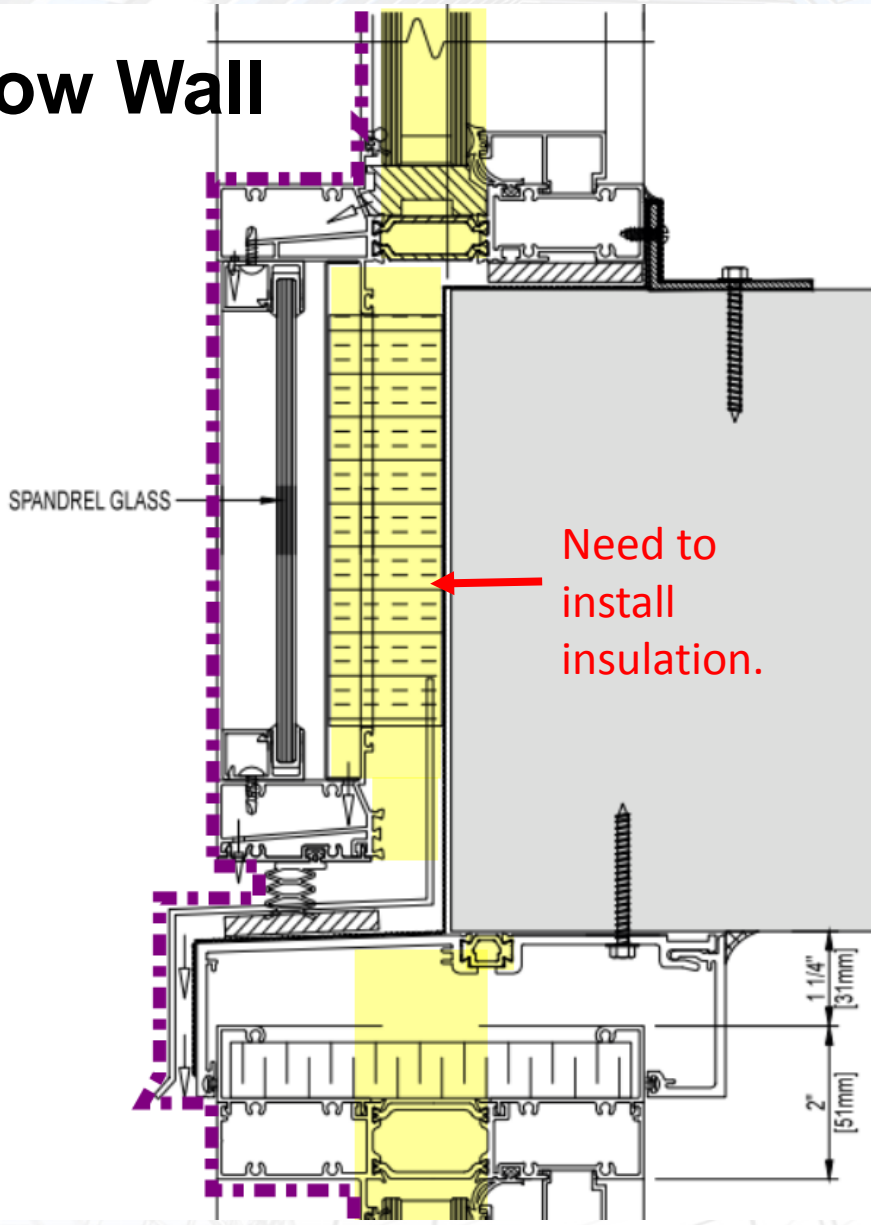


Legend

- Water Barrier
- Air Barrier
- Thermal Barrier
- Rainscreen

Air Barrier is Continuous

Window Wall



Legend

- Water Barrier
- Air Barrier
- Thermal Barrier
- Rainscreen

Thermal Barrier
Aligns
Continuous
Rainscreen
System

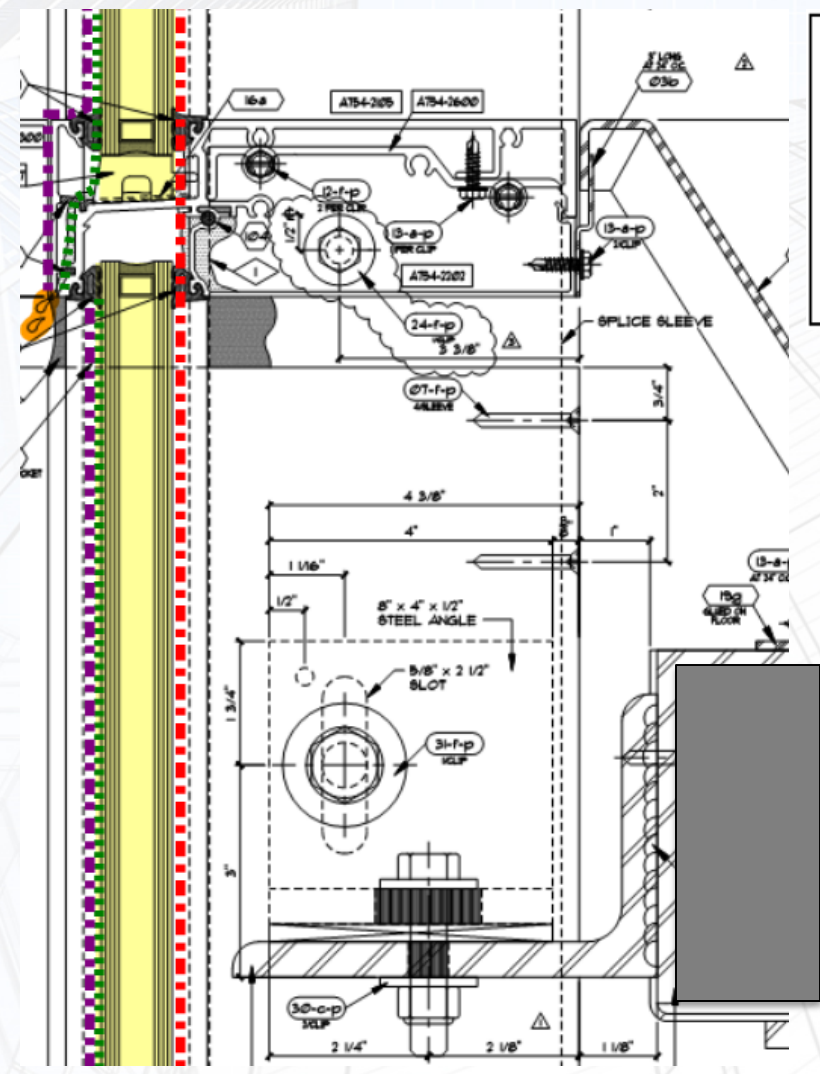


BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Curtain Wall – 4 Barriers



Legend

- Water Barrier
- Air Barrier
- Thermal Barrier
- Rainscreen

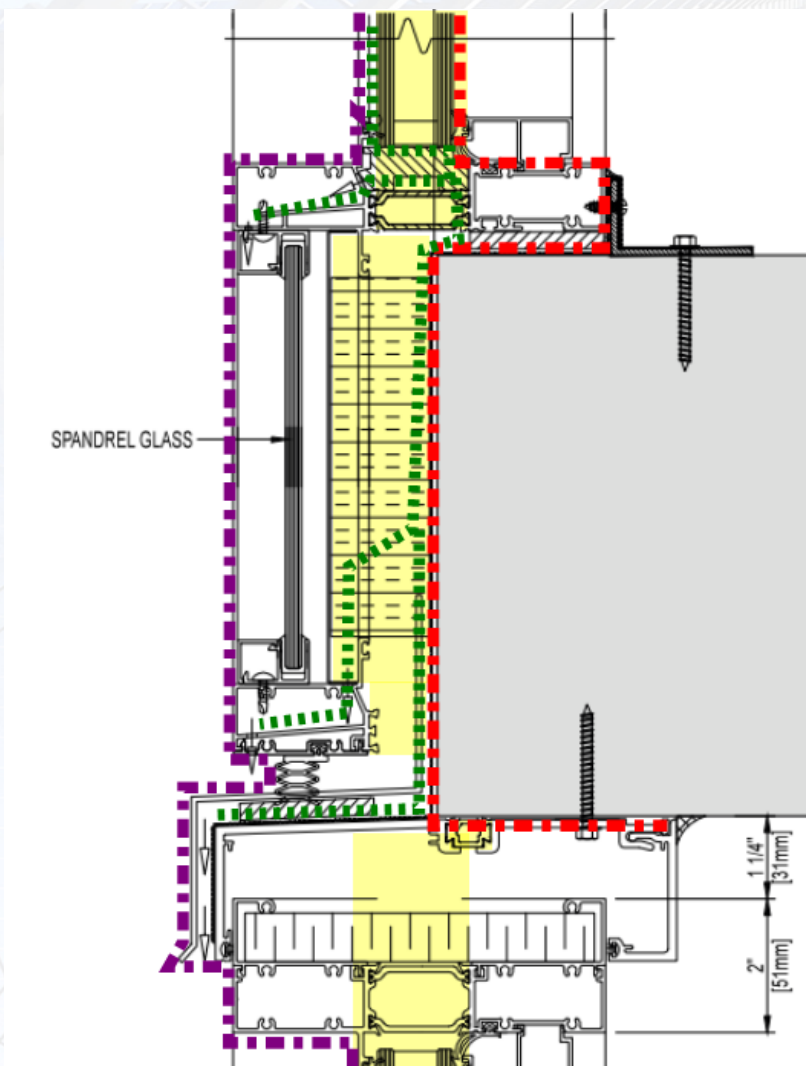


BUILDING INNOVATION 2018

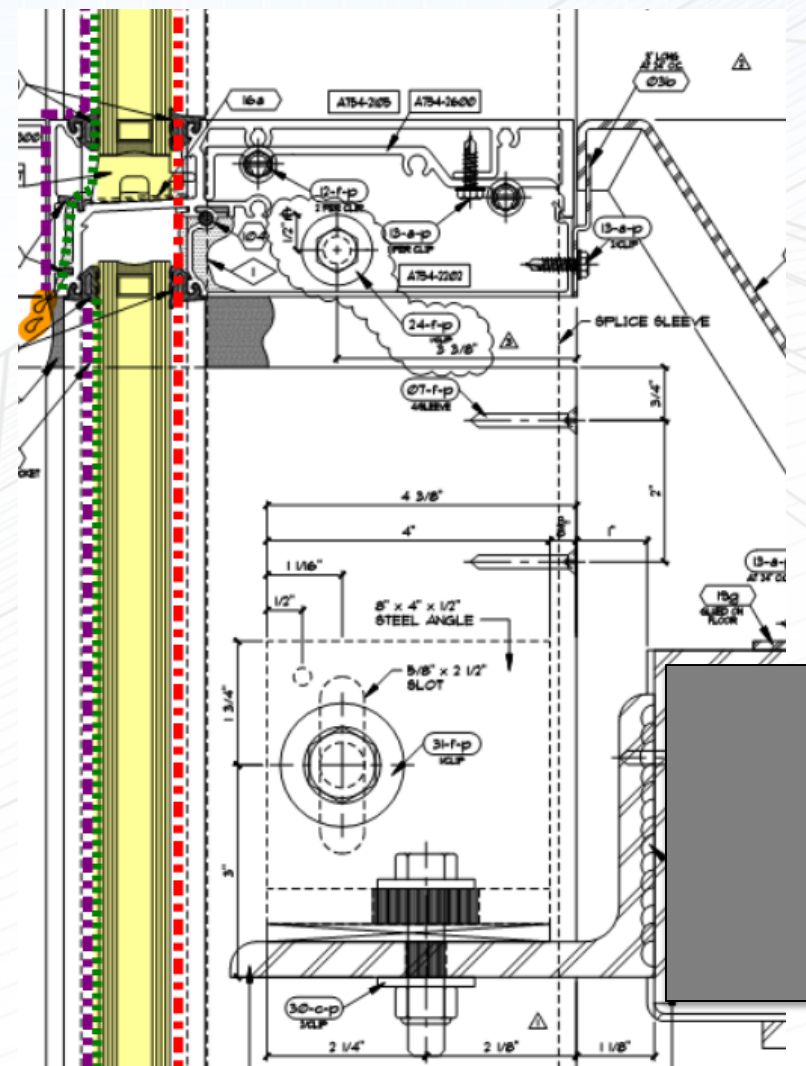
National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Window Wall



Curtain Wall

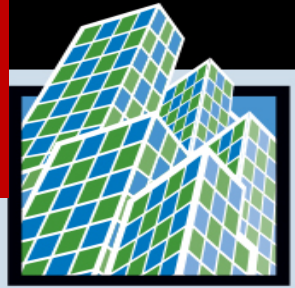


Barriers

	Detail at Slab	
	Window Wall	Curtain Wall
Water Barrier	Need to install WRB at the slab.	Part of CW system.
Air Barrier	Seals to slab.	Part of CW system.
Thermal Barrier	Need to install insulation at slab.	Part of CW system.
Rainscreen	Part of window wall system.	Part of CW system.

Learning Objective

- How to incorporate the structure in the glazing system selection.
- How to integrate the air, water, vapor and thermal barriers of glazing systems at the transition to facade cladding system.
- How to identify the advantages and disadvantages of different glazing systems based on transitions to adjacent facade cladding assemblies.
- How to continuously improve glazing system details based on lessons learned.



BUILDING 2018
INNOVATION

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Case Study #1

Glazing System Flush with Cladding

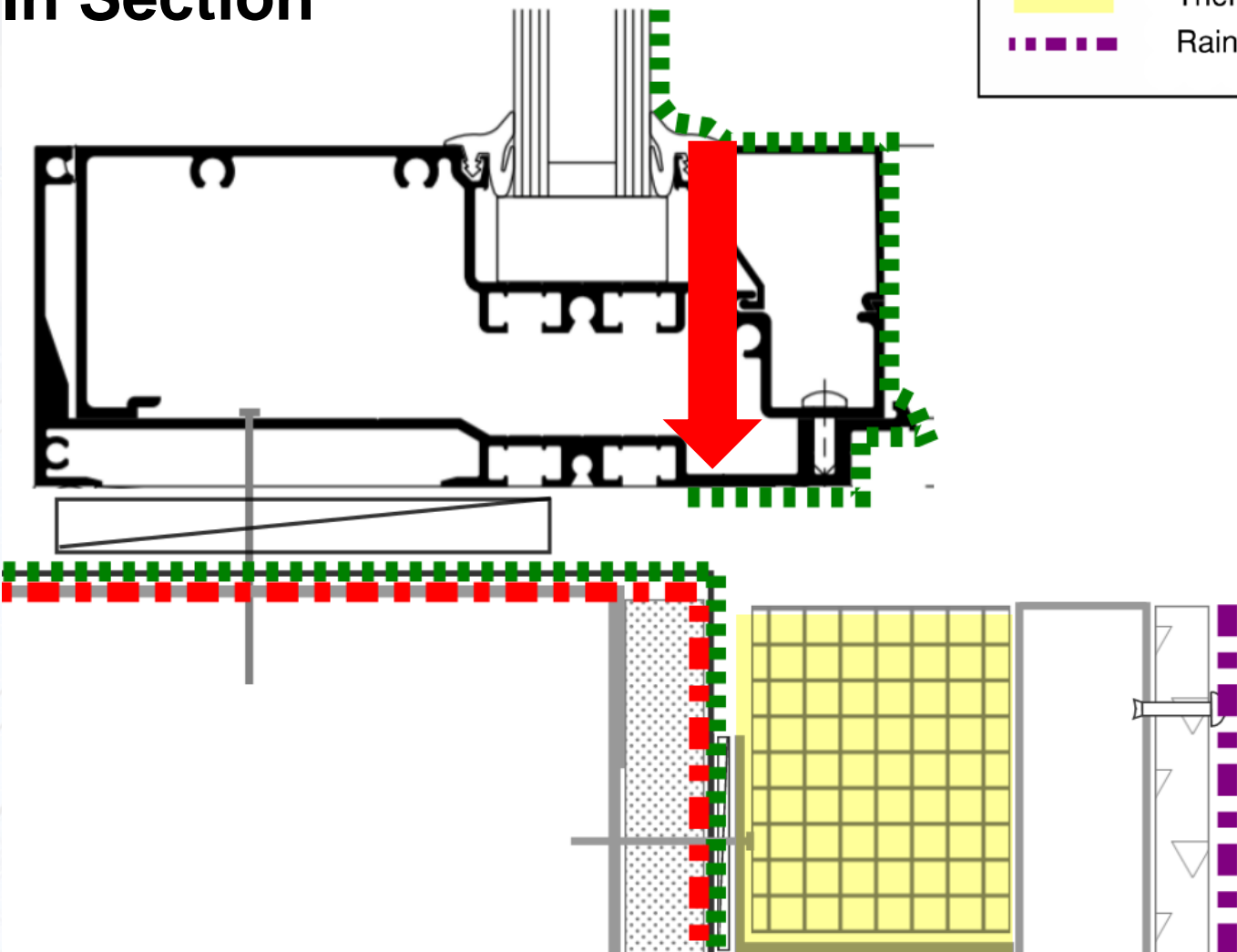


BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

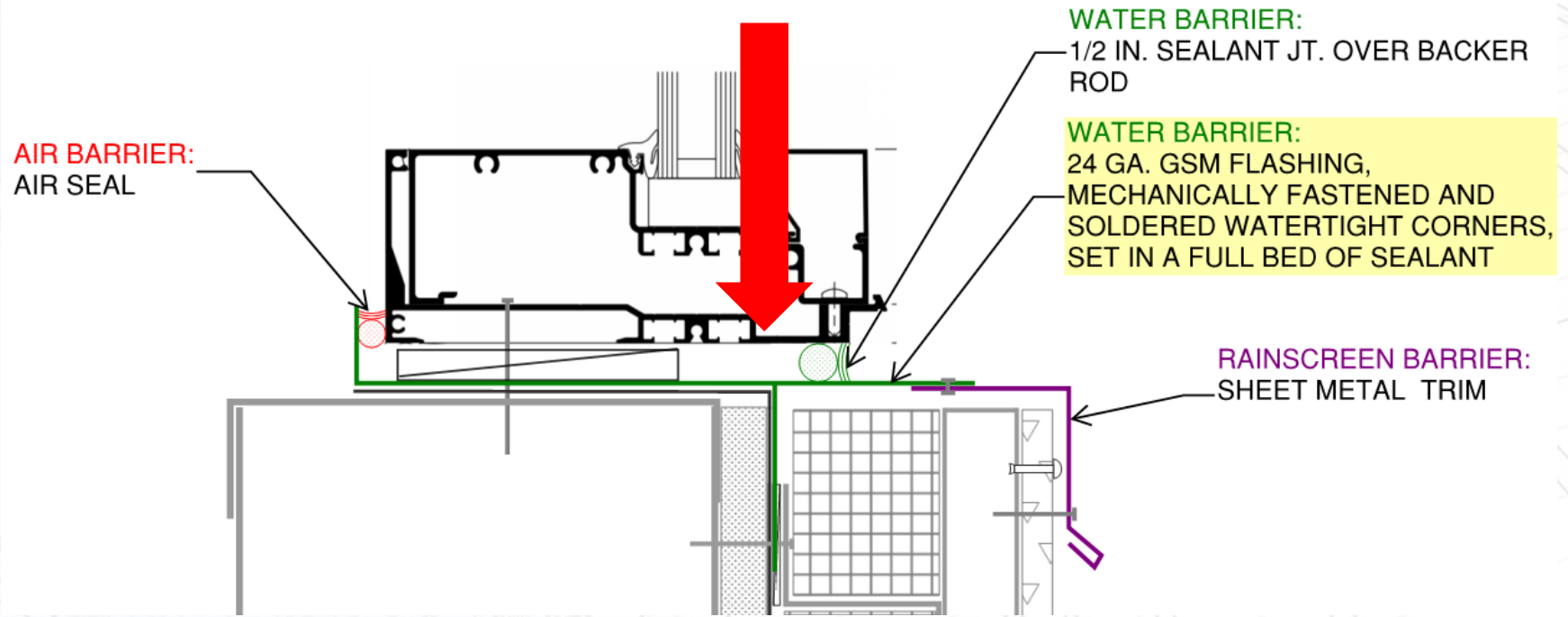
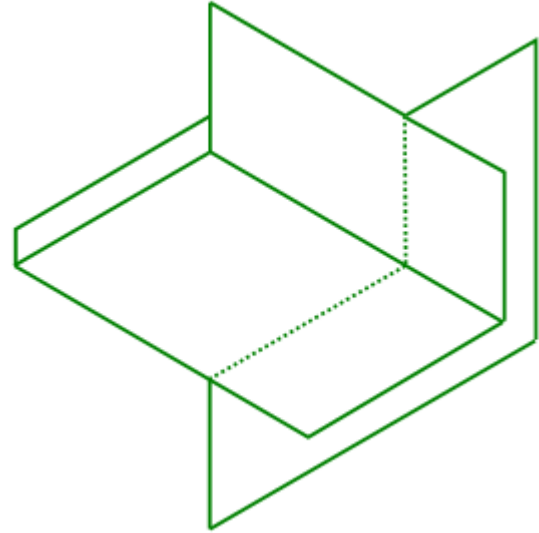
Fiber Cement Panels – In Section



Legend

- Water Barrier
- Air Barrier
- Thermal Barrier
- Rainscreen

Fiber Cement Panels



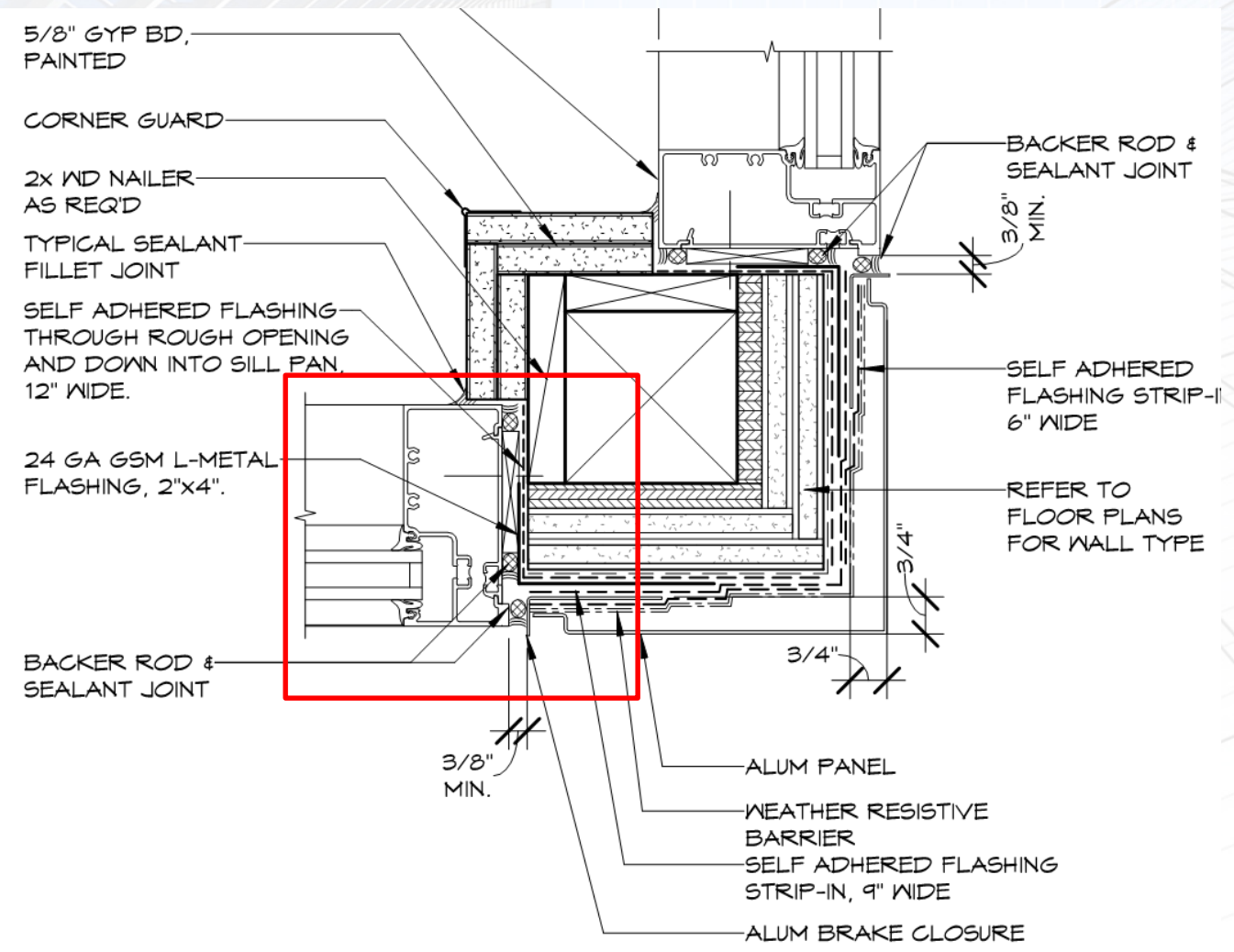


**BUILDING
INNOVATION 2018**

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Architectural Detail - Jamb






BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES


CONFERENCE & EXPO

Architectural Detail - Jamb


Legend




Water Barrier



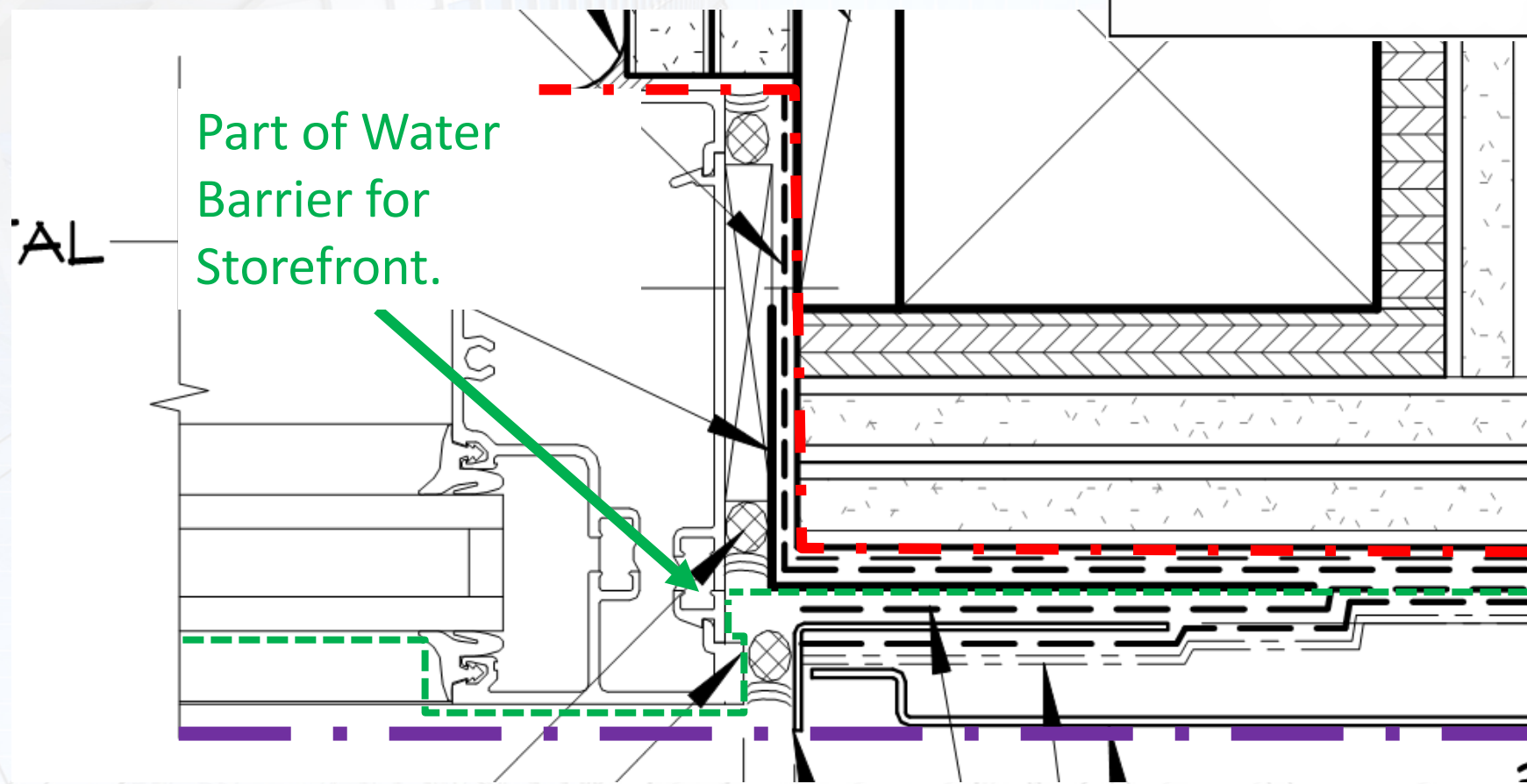
Air Barrier



Thermal Barrier



Rainscreen



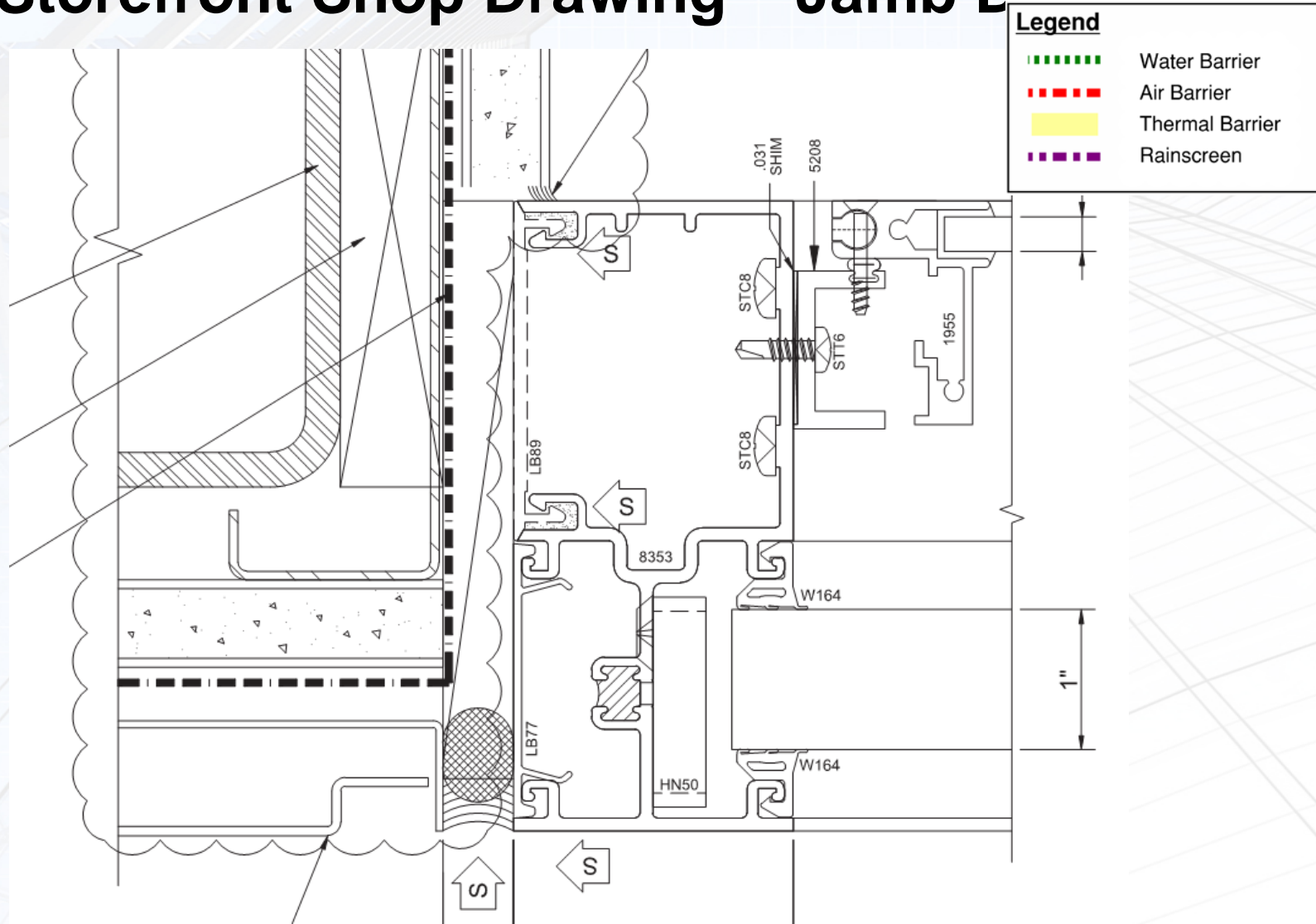


BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Storefront Shop Drawing – Jamb Detail



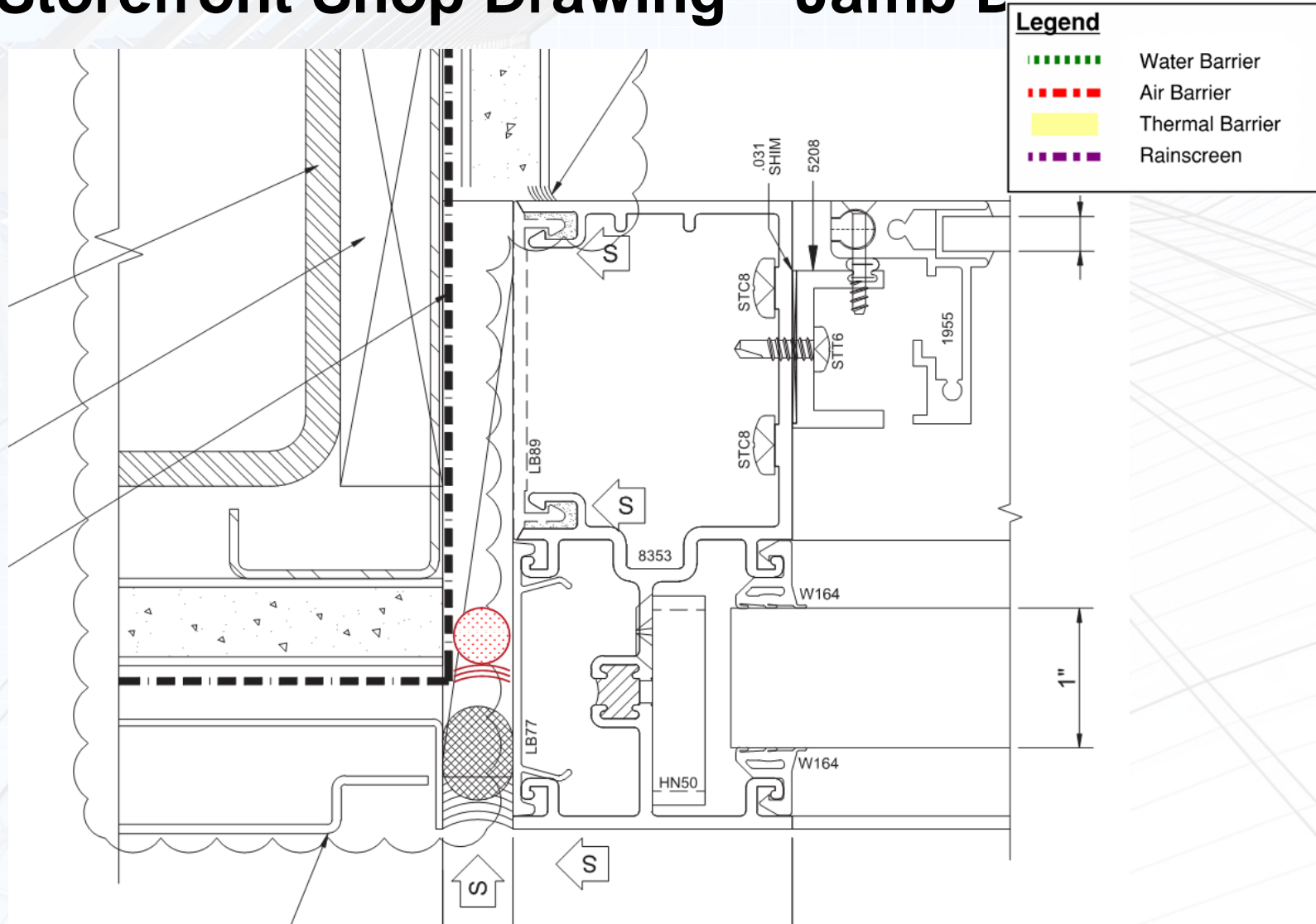


BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Storefront Shop Drawing – Jamb Detail



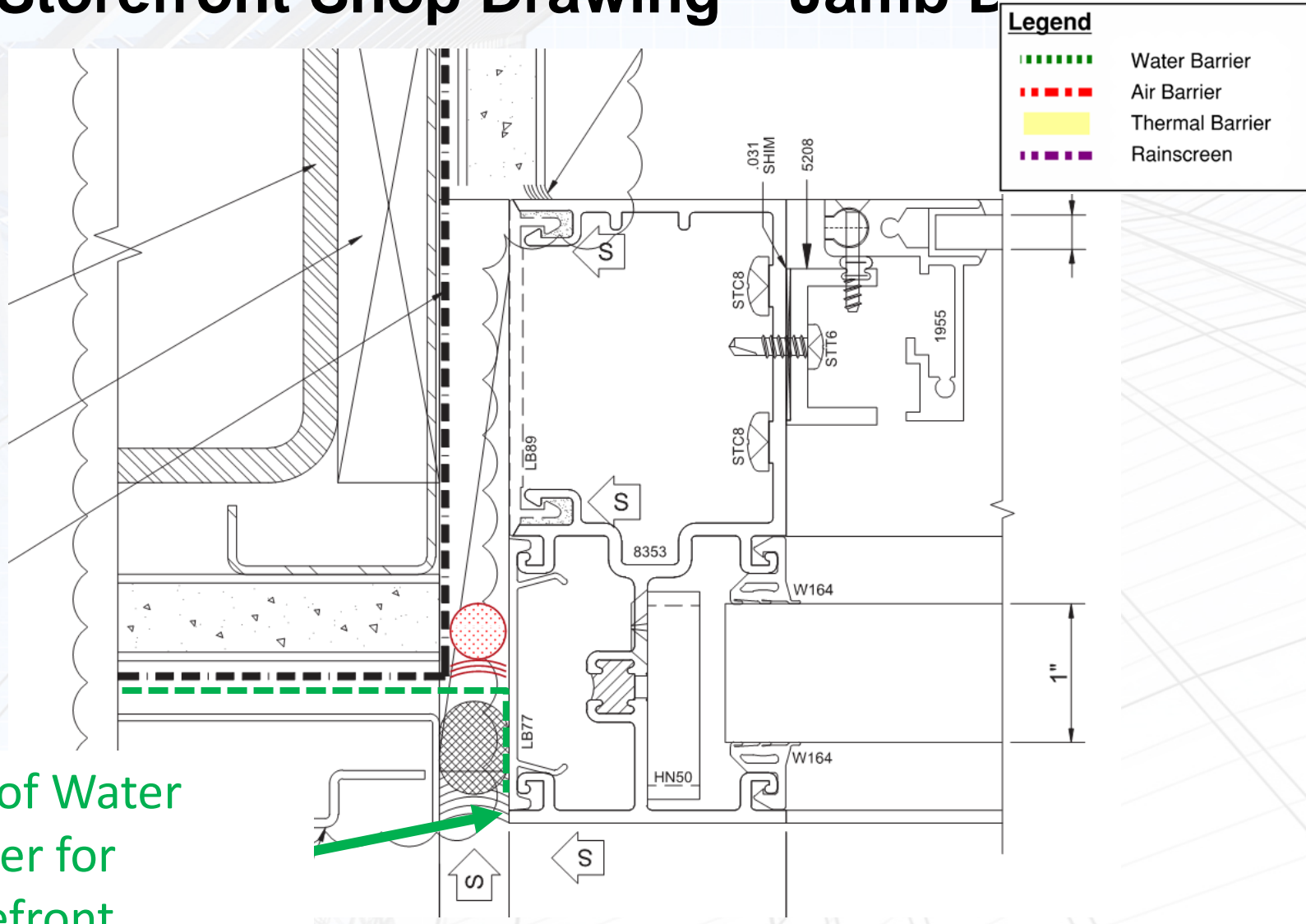


BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Storefront Shop Drawing – Jamb Detail



Part of Water
Barrier for
Storefront.

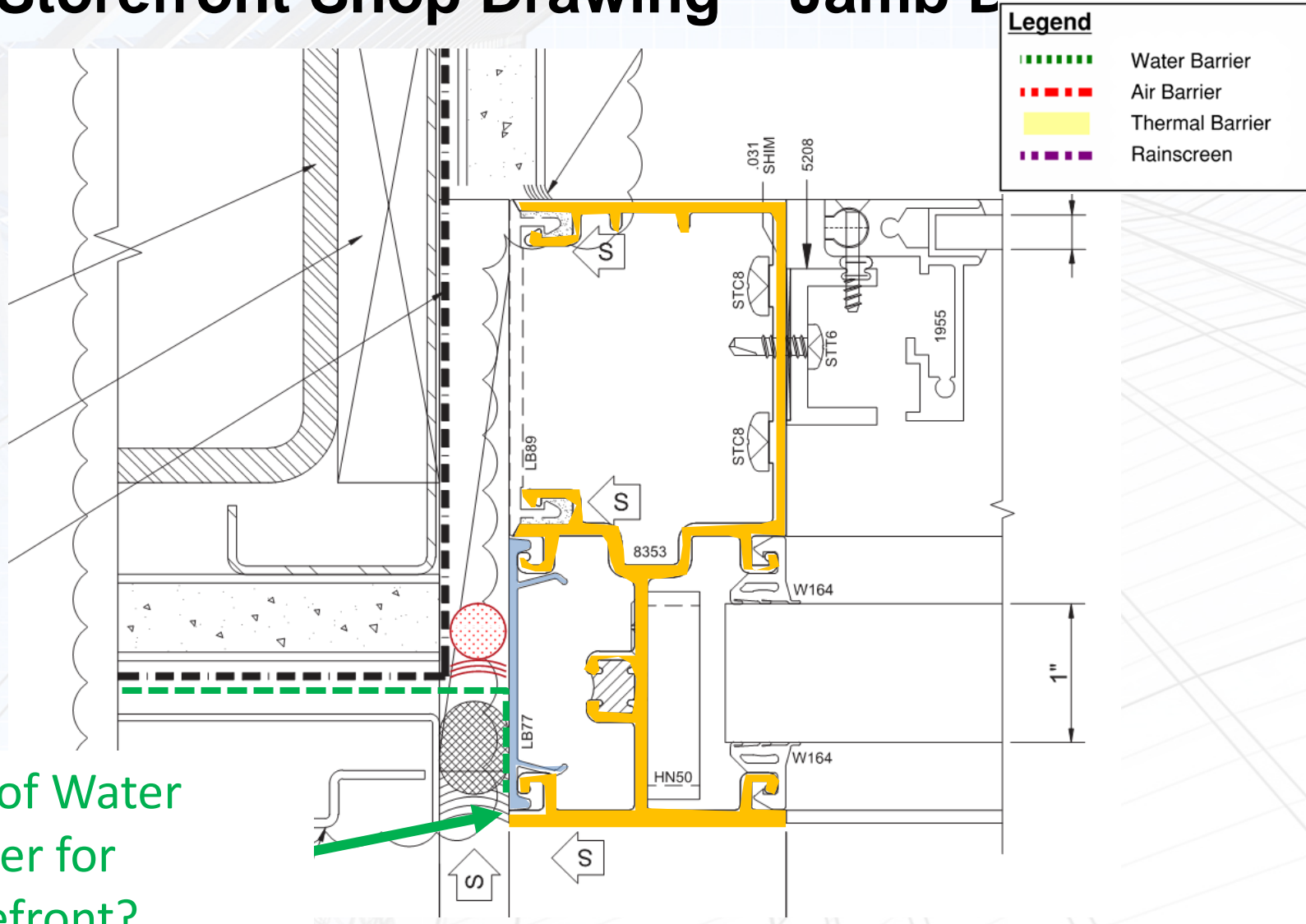


BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Storefront Shop Drawing – Jamb Detail



Part of Water
Barrier for
Storefront?

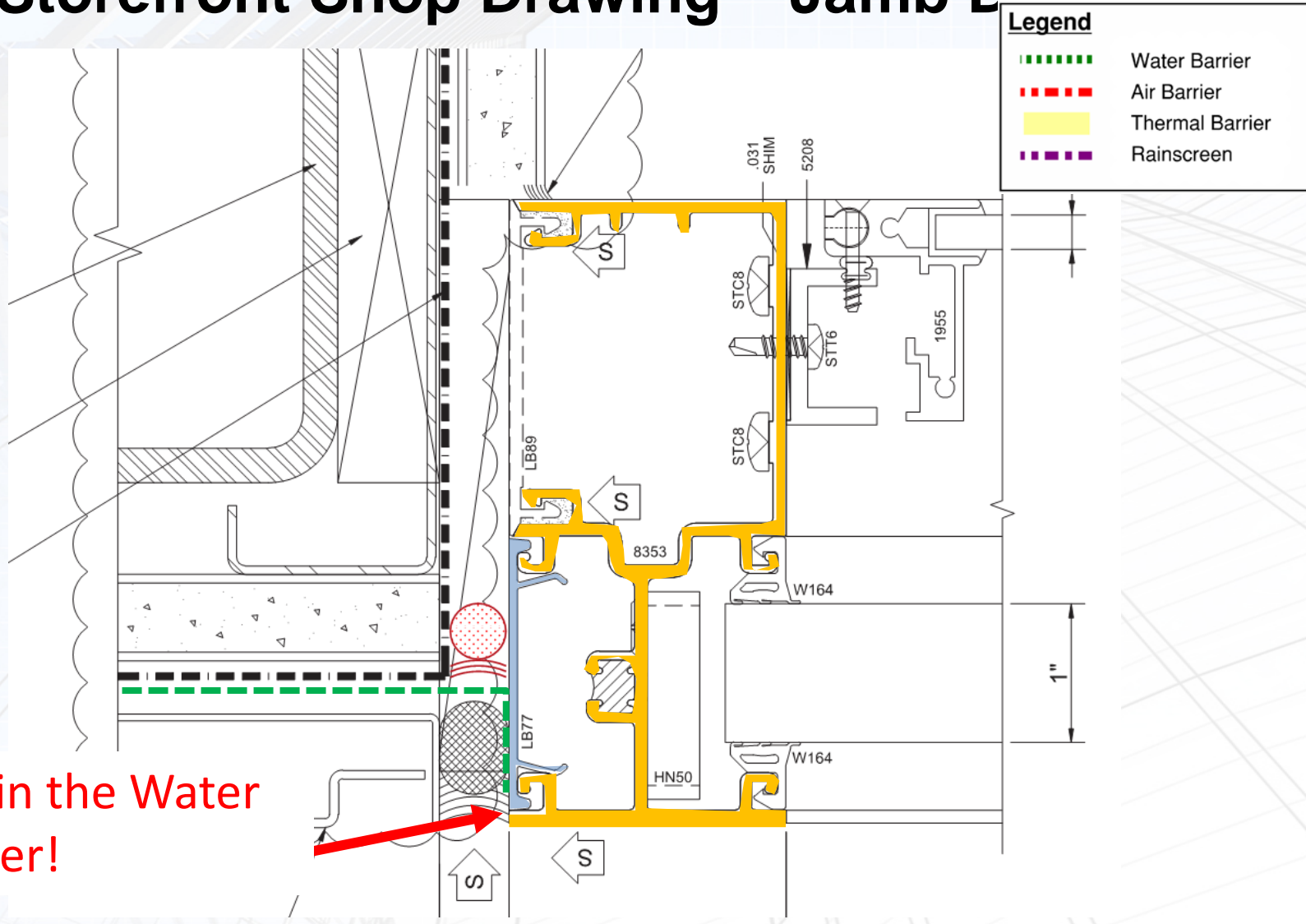


BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Storefront Shop Drawing – Jamb Detail

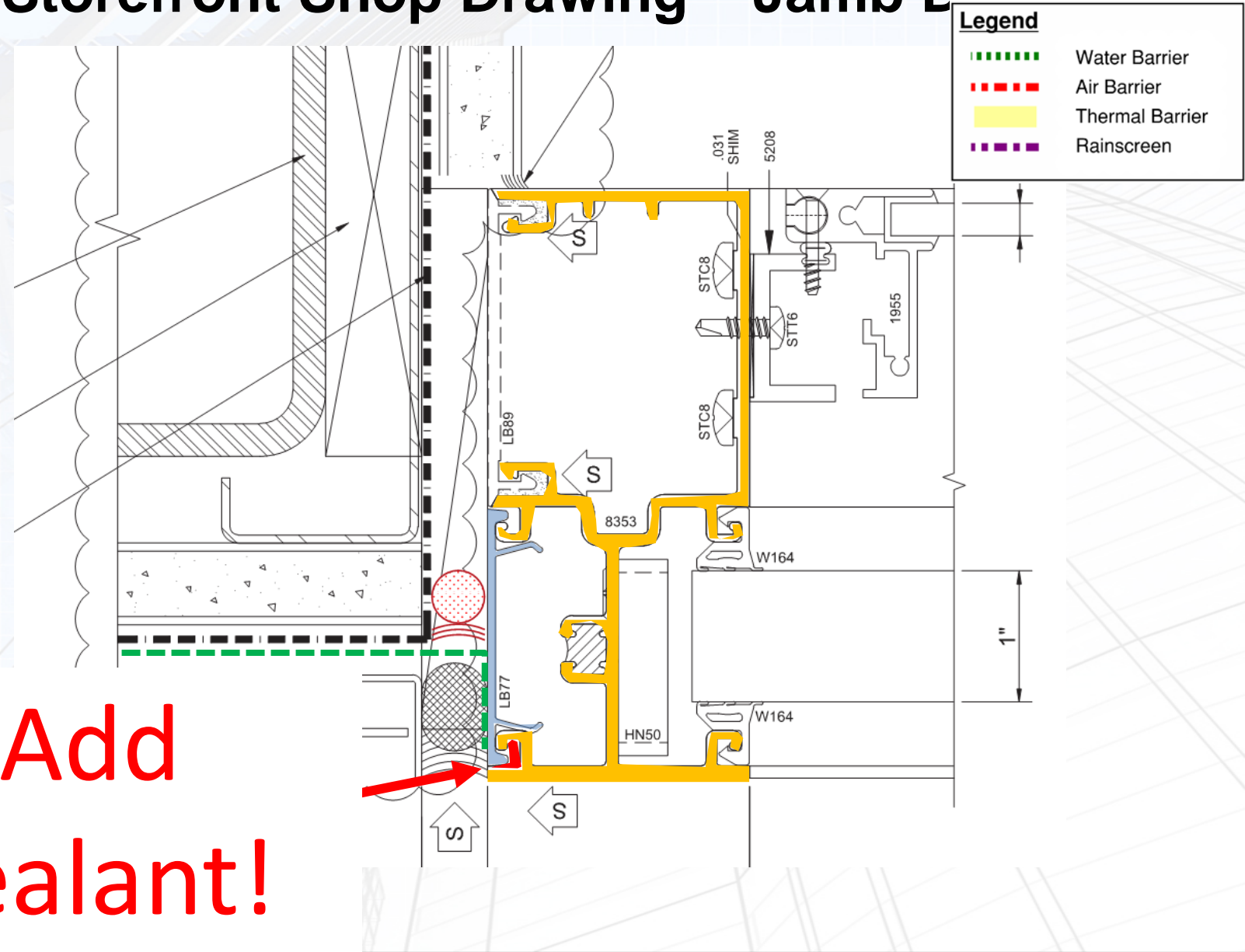


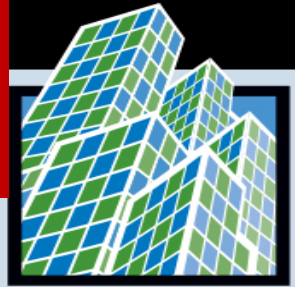
Storefront Shop Drawing – Jamb Detail



Gap in the
Barrier!

Storefront Shop Drawing – Jamb Detail





BUILDING 2018
INNOVATION

 National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

During Construction



BUILDING INNOVATION 2018

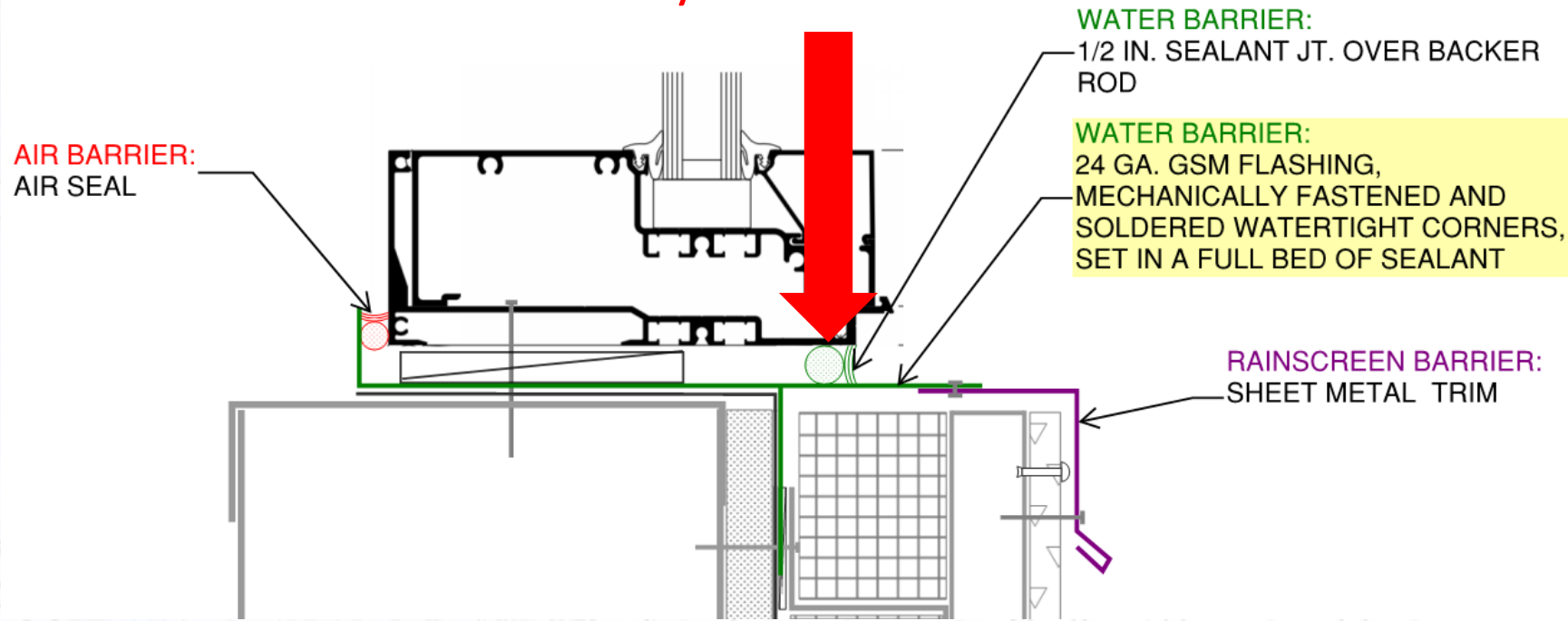
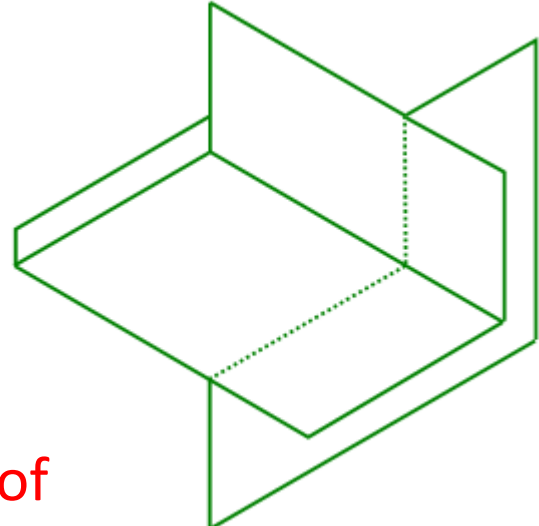
National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

During Construction



Sealant Jt. To the Face of Storefront Systems

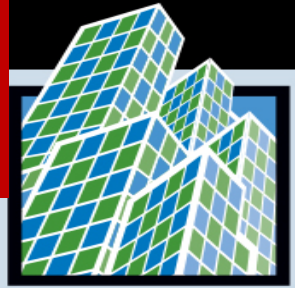


Learning Objective

- How to incorporate the structure in the glazing system selection.
- How to integrate the air, water, vapor and thermal barriers of glazing systems at the transition to facade cladding system.
- How to identify the advantages and disadvantages of different glazing systems based on transitions to adjacent facade cladding assemblies.
- How to continuously improve glazing system details based on lessons learned.
 - Learn typical characteristics of glazing system.

Learning Objective

- How to incorporate the structure in the glazing system selection.
- How to integrate the air, water, vapor and thermal barriers of glazing systems at the transition to facade cladding system.
- How to identify the advantages and disadvantages of different glazing systems based on transitions to adjacent facade cladding assemblies.
- How to continuously improve glazing system details based on lessons learned.
 - Learn typical characteristics of glazing system.



BUILDING 2018
INNOVATION

 National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

Case Study #2

Deflection Joints

The exterior will be composed of brick, metal panels, fiber cement panels, and cedar siding.



Considerations of Glazing System Selection

1. Movement joint present at perimeter of the glazing system.
2. Position of glazing system relative to the structure.
3. Exterior framing and slab construction.

			Glazing System Type		
Structural Consideration			<u>Window</u>	<u>Storefront</u>	<u>Curtain Wall</u>
	1. Deflection Joint		Limited Manu.	Yes.	Yes.
	2. Glazing System Position Relative to Structure	Recessed	Yes.	Yes.	Yes.
		Flush	No.	No.	Yes.
		Projected	No.	No.	No.
3. Slab-to-Slab		No.	Yes.	Yes.	



**BUILDING
INNOVATION 2018**

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

During Construction



Photo 6

Silicone sheet flashing
required at deflection joint
along window head.

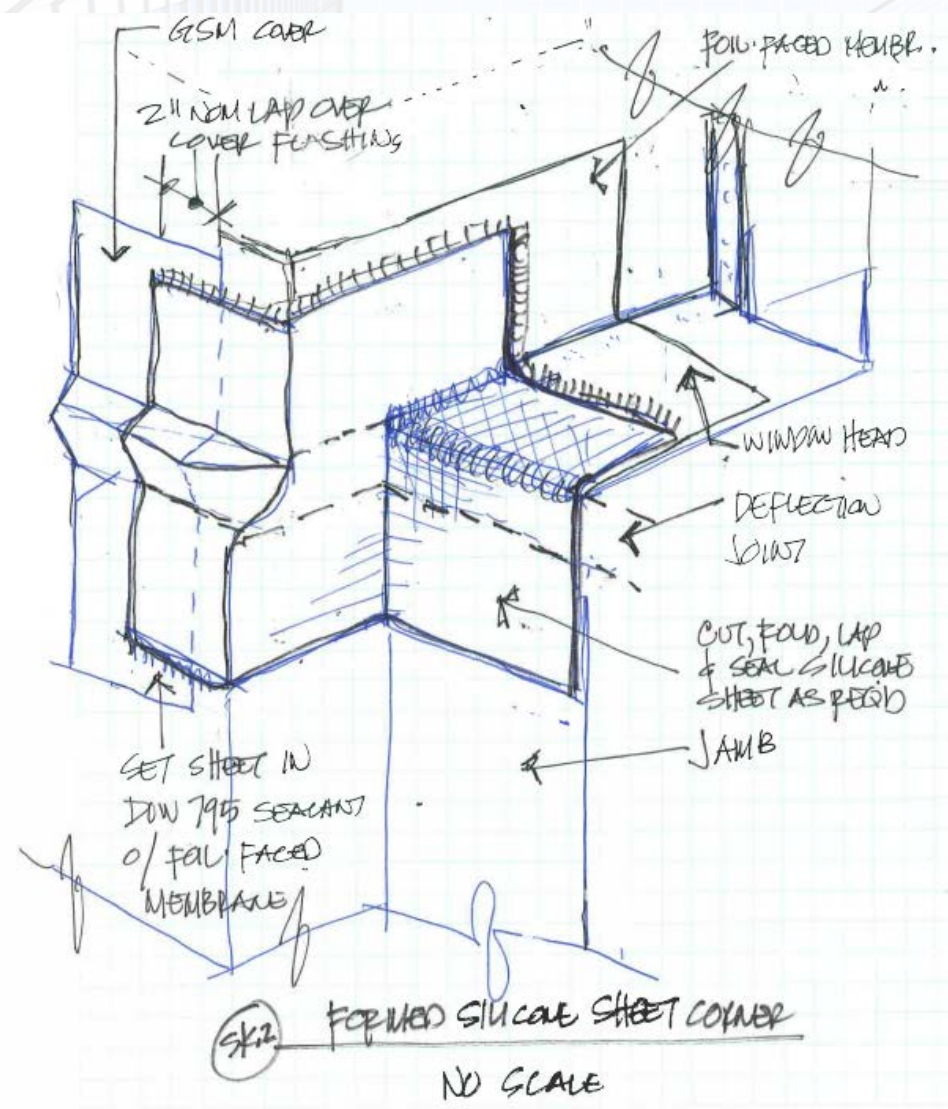


BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

During Construction





BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

During Construction





**BUILDING
INNOVATION 2018**

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

During Construction



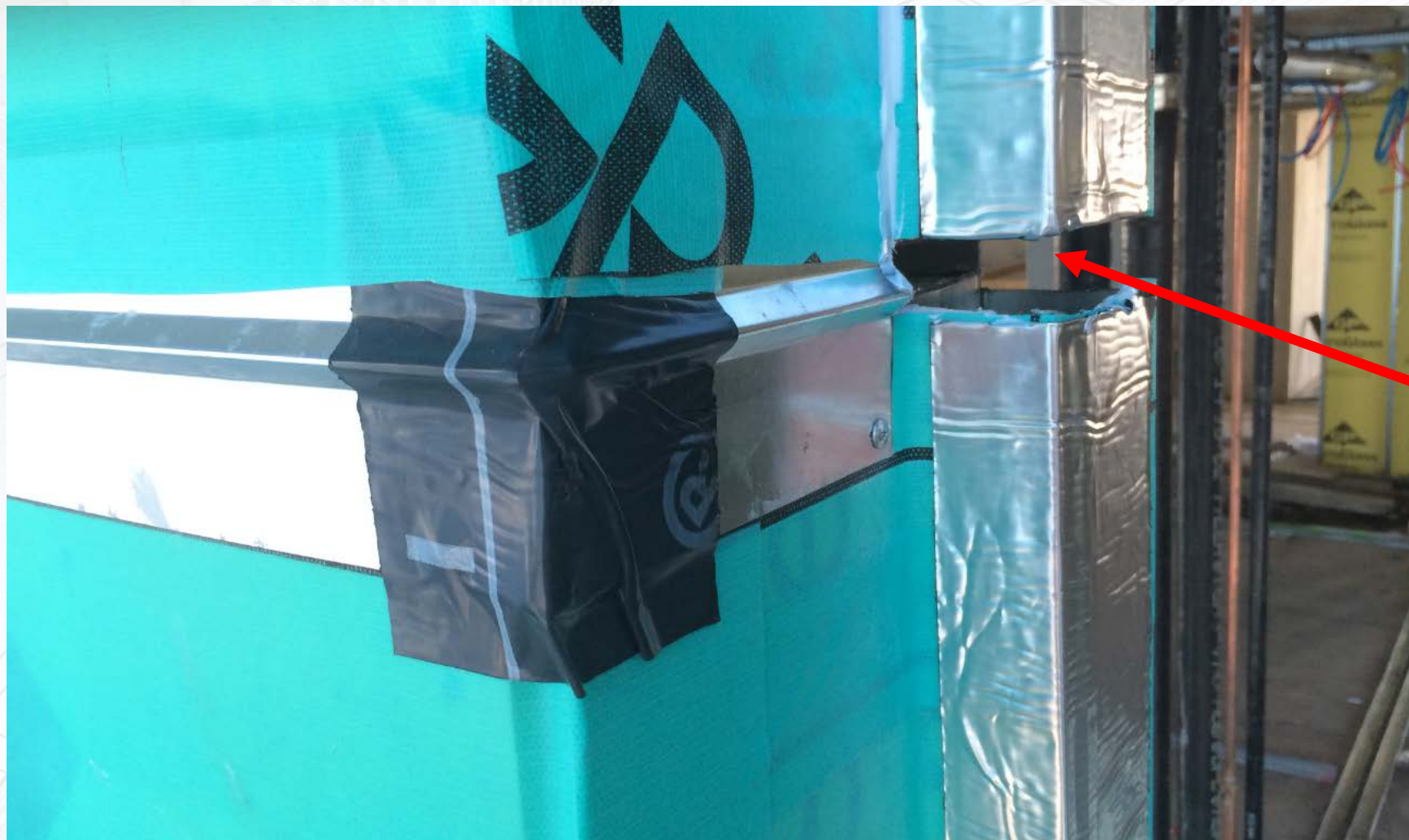


**BUILDING
INNOVATION 2018**

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

During Construction





**BUILDING
INNOVATION 2018**

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

During Construction

Seal is not at the exterior
face.

Exterior cladding and
curtain wall system are
seismically compatible.



Learning Objective

- How to incorporate the structure in the glazing system selection.
- How to integrate the air, water, vapor and thermal barriers of glazing systems at the transition to facade cladding system.
- How to identify the advantages and disadvantages of different glazing systems based on transitions to adjacent facade cladding assemblies.
- How to continuously improve glazing system details based on lessons learned.
 - Learn typical characteristics of system.
 - “Every section turns or terminates.”

Learning Objective

- How to incorporate the structure in the glazing system selection.
- How to integrate the air, water, vapor and thermal barriers of glazing systems at the transition to facade cladding system.
- How to identify the advantages and disadvantages of different glazing systems based on transitions to adjacent facade cladding assemblies.
- How to continuously improve glazing system details based on lessons learned.
 - Learn typical characteristics of system.
 - “Every section turns or terminates.”

Summary

- How to incorporate the structure in the glazing system selection.
 - Exterior Wall Construction
 - Movement Joint, Position of Glazing System, Slab-to-Slab.
- How to integrate the air, water, vapor and thermal barriers of glazing systems at the transition to facade cladding system.
- How to identify the advantages and disadvantages of different glazing systems based on transitions to adjacent facade cladding assemblies.
- How to continuously improve glazing system details based on lessons learned.
 - Learn typical characteristics of system.
 - “Every section turns or terminates.”



BUILDING INNOVATION 2018

National Institute of
BUILDING SCIENCES

CONFERENCE & EXPO

This concludes The American Institute of Architects Continuing Education Systems Course

Xiu T. Li, P.E. (CA)

Senior Staff II - Building Technology

SIMPSON GUMPERTZ & HEGER

| Engineering of Structures and Building Enclosures

100 Pine Street, Suite 1600
San Francisco, CA 94111

415.495.3700 main
415.343.3003 direct
415.312.2730 mobile
415.495.3550 fax
www.sgh.com

