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## Installation Manual EXTERIOR WALL SIPs



**Thermapan**  
Structural  
Insulated  
Panels

## EXTERIOR WALL SIPs Installation Manual

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## **EXTERIOR WALL SIPs Installation Manual**

### **1. General Requirements**

#### **1.1 Scope**

The basic design and construction requirements for the Thermapan Structural Insulated Panel (SIP) wall system is set forth in this specification. Criteria for materials, environmental control, design loads, and structural design are included. Where requirements are based on internationally recognized standards and specifications, these standards and specifications are referenced without elaboration.

**Installers shall reference engineering design package for fastening arrangements.**

### **2. Materials**

- 2.1** The Thermapan Wall SIP is composed of an expanded polystyrene (EPS) foam core laminated between two layers of oriented strand board (OSB) with a structural adhesive. (See Detail W-1)
- 2.2** Framing Lumber shall be DOC PS 20 or NLGA No.2 or better.
- 2.3** Wire nails, ring nails, spikes and staples shall conform to CSA B111 or ANSI/ASME B11.1.
- 2.4** Wood screws shall conform to ANSI/ASME B18.6.1..
- 2.5** SIP screws shall conform to ICC-AC233.
- 2.6** Caulking Compounds shall conform to CAN/CGSB 19.13 or ASTM C 920.
- 2.7** Polyethylene Sheeting shall conform to CAN/CGSB-37.2, CAN/CGSB-37.16, or ASTM D 4397.
- 2.8** Low expansion foam seal shall conform to AAMA 812-04.
- 2.9** Structural adhesive shall conform to CAN/CGSB 71GP26, APA AFG-01 or ASTM D3498.

### **3. Electrical Wiring**

- 3.1** All wire chases to be vertically cut into the wall SIP at a minimum depth of 2". See Detail W-14.

#### **4. Interior Finish**

- 4.1** The interior of the wall SIP can be finished with any of the common required building code materials. It is recommended that the SIP joints and connections be sealed as per Details AB-1 and AB-2.

#### **5. Exterior Cladding**

- 5.1** A weather barrier is to be installed over the exterior OSB of the SIP and under the cladding and/or furring. Refer to Details W-15 and W-16 and your local building code for compliant weather barrier materials.

MATERIALS ESTIMATING  
**Above Grade Exterior Walls  
Estimation Only**

**Lumber Requirements:**

- SPF Single top and bottom plate
- OSB 1-1/8" (28mm) Cap plate – 12 ft (3658mm) lengths
- Every panel requires a spline
- Every corner requires 2 SPF studs
- Windows and doors require jack studs as per OBC and cripples

**Caulking and Sealant Requirements:**

- Every 1200 sqft (111 m<sup>2</sup>) of SIP equals 1 case of Expandable Foam
- Every 2000 sqft (185 m<sup>2</sup>) of SIP requires 1 case of Sealant

**Fasteners:**

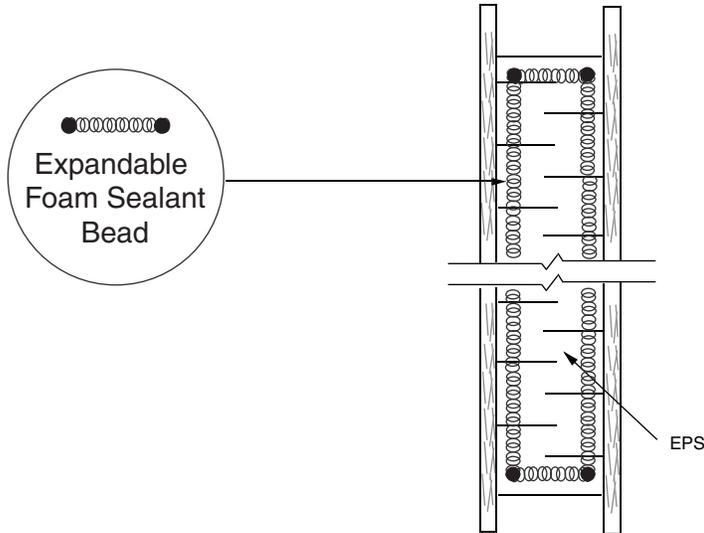
- Recommend 2" (50mm) Ring nail or 2" (50mm) screws for connection to panel
- 3.0 times the square footage of SIPs

# AIR BARRIER

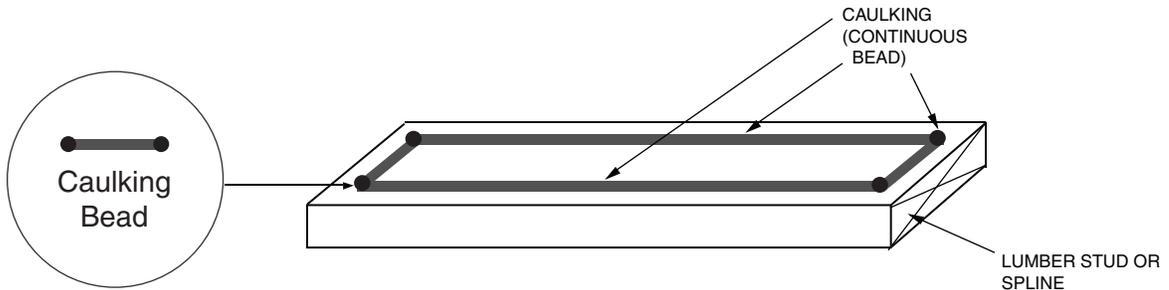
## RECOMMENDED DETAILS FOR AIR BARRIER SEALANTS

All sealants, FOAM (A) or CAULKING (B), should be applied onto the SIP in a continuous rectangular pattern along the outer most edge of the area to be sealed.

(A) A low expansion EXPANDABLE FOAM SEALANT should conform to the AAMA 812-04 standard. Apply a 1/2 inch or a 12.5 mm diameter of a *continuous* bead of expandable foam sealant onto the SIP:



(B) A CAULKING SEALANT should conform to ASTM C920-02 and/or CAN/CGSB 19.13-M. Apply a 3/8 inch or a 10 mm diameter *continuous* bead of caulking onto the lumber spline:



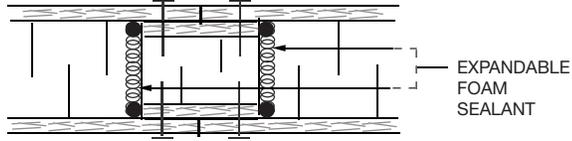
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|   |          |          |  |
|---|----------|----------|--|
| TITLE   |          | PROJECT  |  |
| AIR BARRIER DETAILS<br>FOR AIR BARRIER SEALANTS |          |          |  |
| REFERENCE                                       | SCALE    |          |  |
|   | N.T.S.   |          |  |
| DATE  | REVISION | DWG. No. |  |
| NOVEMBER 2010                                   | 1        | AB-1     |  |

# AIR BARRIER

## RECOMMENDED DETAILS FOR SEALING SIP CONNECTIONS

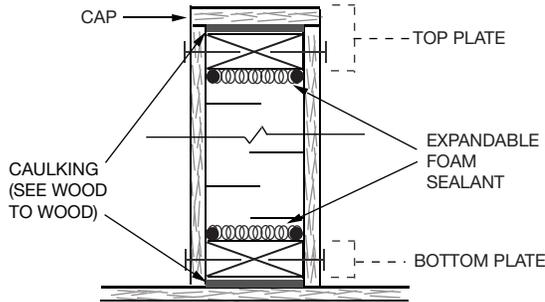
(1) Foam to Foam: Use a low expansion foam sealant.



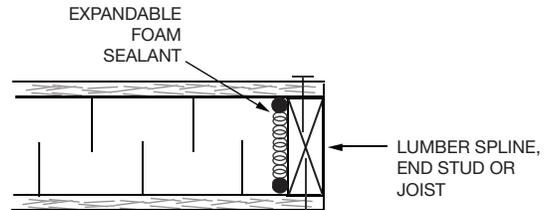
SIP SPLINE JOINT

(2) Foam to Wood: Use a low expansion foam sealant.

PLATES SECTION

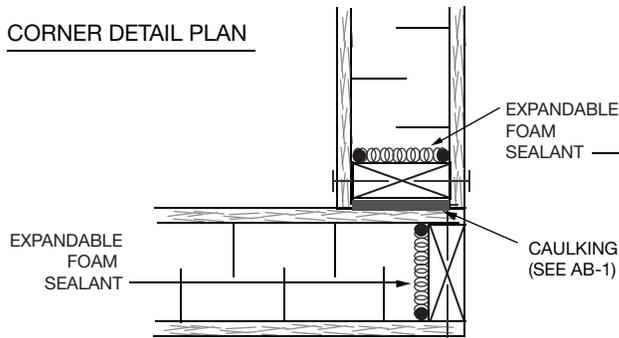


LUMBER SPLINES

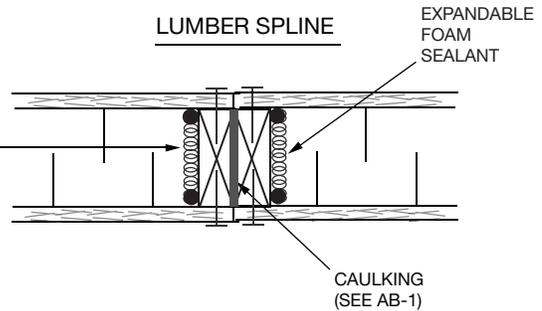


(3) Wood to Wood: Use caulking and a low expansion foam sealant.

CORNER DETAIL PLAN



LUMBER SPLINE



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|   |          |          |  |
|---|----------|----------|--|
| TITLE   |          | PROJECT  |  |
| AIR BARRIER DETAILS FOR SEALING SIP CONNECTIONS |          |          |  |
| REFERENCE                                       | SCALE    |          |  |
|   | N.T.S.   |          |  |
| DATE  | REVISION | DWG. No. |  |
| MAY 2020  | 1        | AB-2     |  |

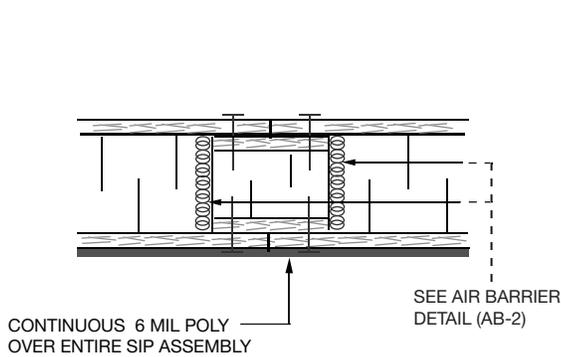
# VAPOUR BARRIER

## RECOMMENDED DETAILS FOR VAPOUR SEALING SIP CONNECTIONS

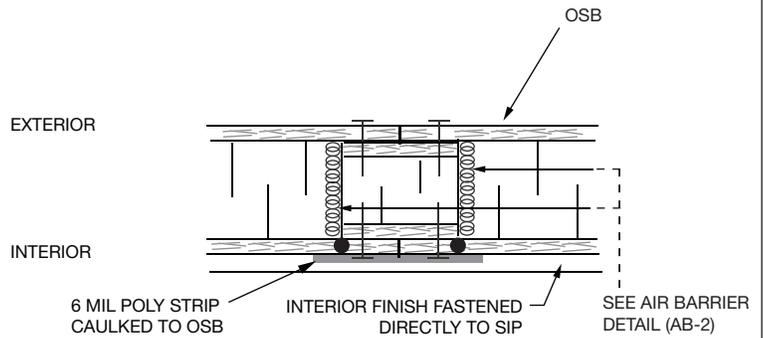
The function of a vapour barrier is to control the entry of water vapour into the building assembly. Vapour barriers should not be confused with an air barrier.

All SIP seams and connections must be VAPOUR SEALED from the INTERIOR.

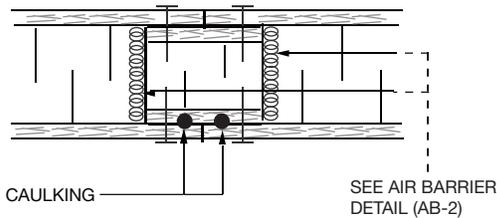
These are recommended vapour barrier methods:



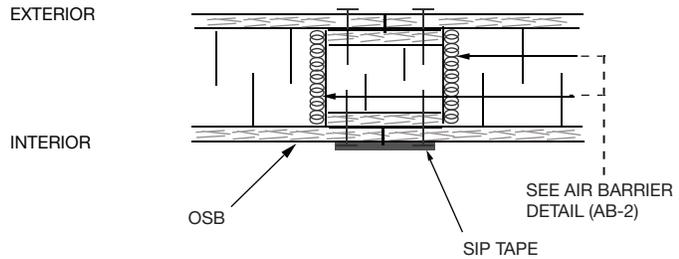
CONTINUOUS 6 MIL POLY  
**RECOMMENDED**



6 MIL POLY STRIPS & CAULKING



CAULKING



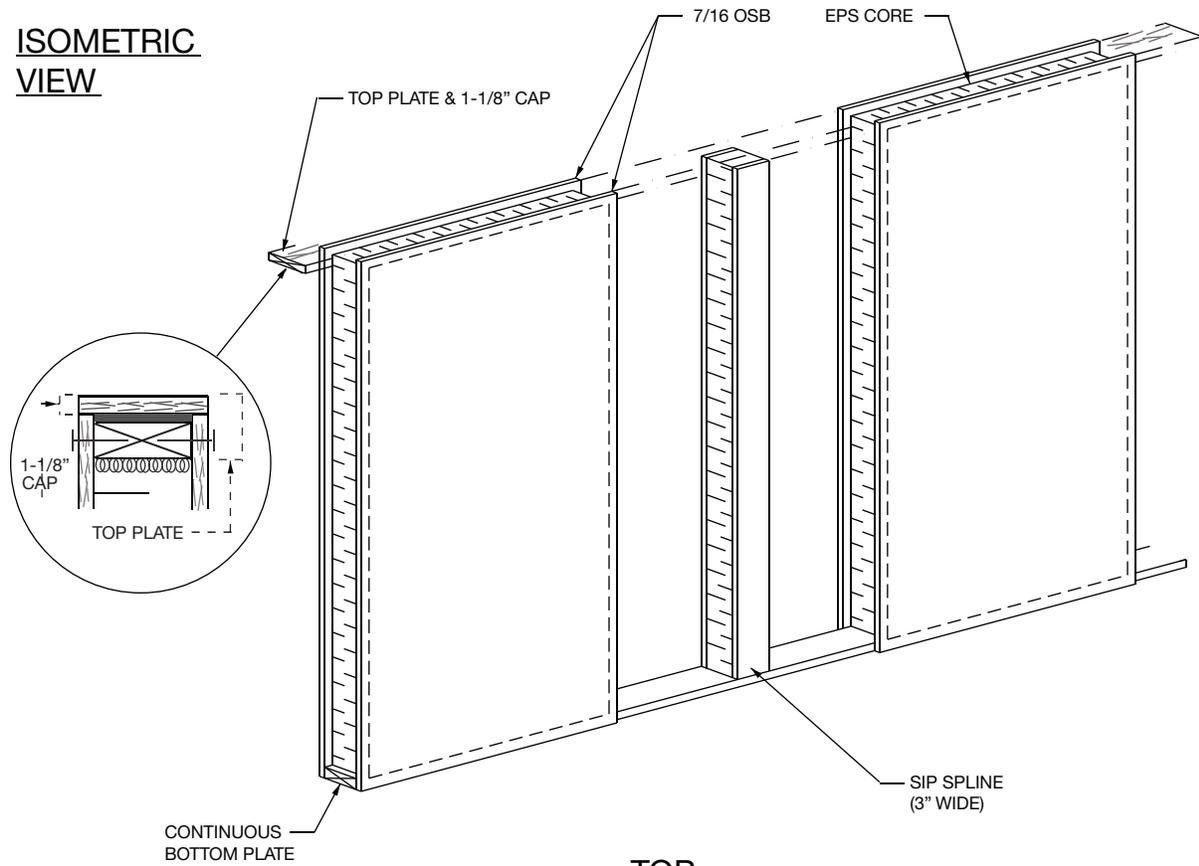
SIP TAPE



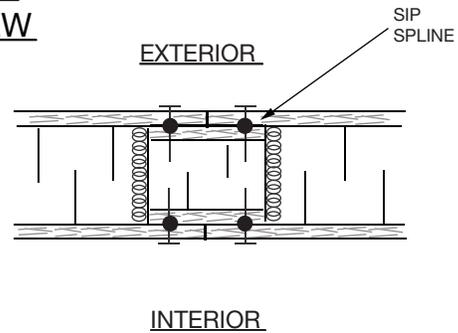
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|   |          |          |  |
|---|----------|----------|--|
| TITLE   |          | PROJECT  |  |
| VAPOUR BARRIER DETAILS FOR VAPOUR SEALING SIP CONNECTIONS |          |          |  |
| REFERENCE   | SCALE    |          |  |
|   | N.T.S.   |          |  |
| DATE  | REVISION | DWG. No. |  |
| MAY 2020  | 2        | VB-1     |  |

**ISOMETRIC  
VIEW**



**TOP  
VIEW**



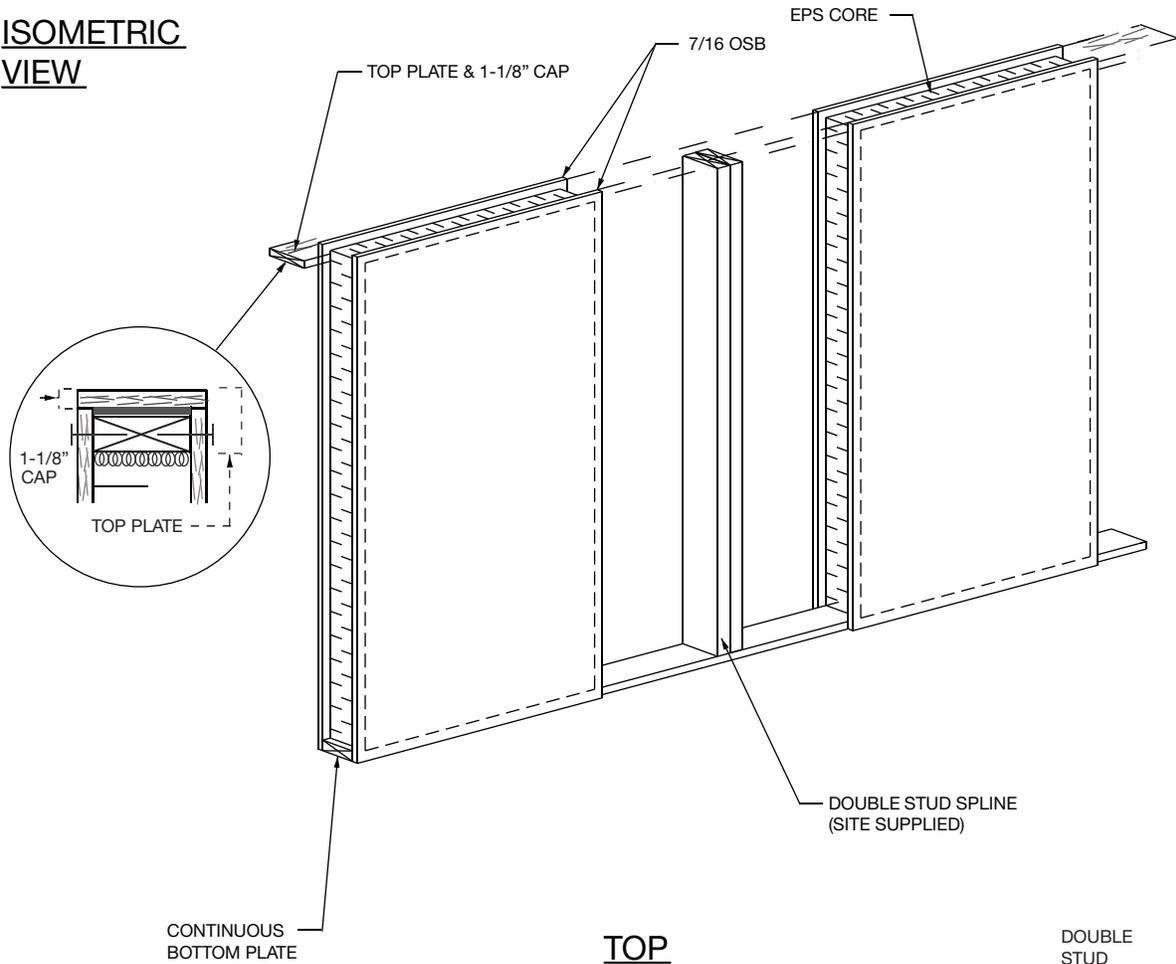
**NOTE:** REFER TO AIR BARRIER (AB-2) DETAIL FOR SEALING SIP CONNECTIONS.



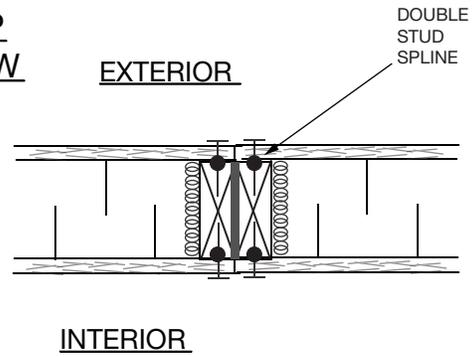
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|   |          |           |       |
|---|----------|-----------|-------|
| TITLE   |          | PROJECT   |       |
| <p style="text-align: center;"><b>FOAM CORE (SIP)<br/>SPLINE DETAIL</b></p> |          |           |       |
|   |          | REFERENCE | SCALE |
| DATE  | REVISION | DWG. No.  |       |
| APRIL 2014  | 6        | W-1       |       |

**ISOMETRIC  
VIEW**



**TOP  
VIEW**

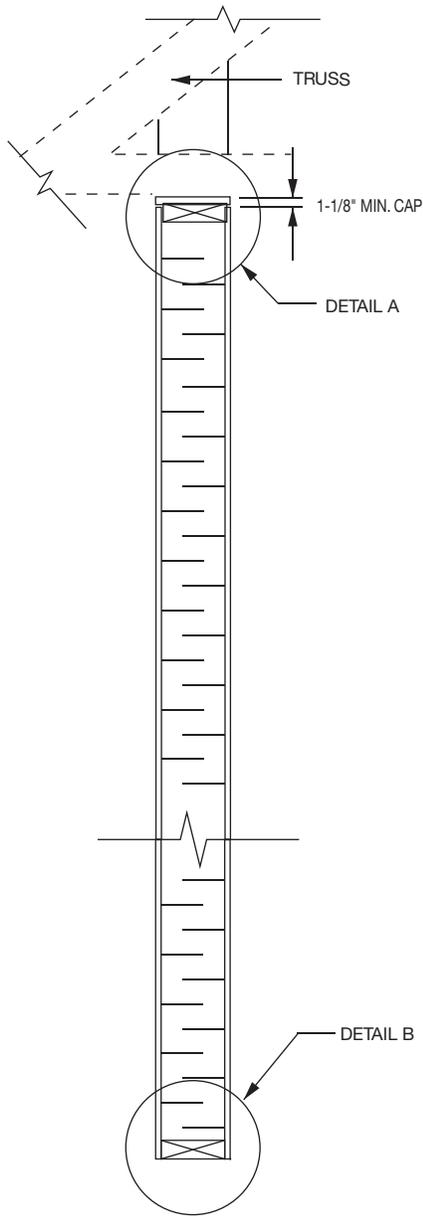


**NOTE:** REFER TO AIR BARRIER (AB-2) DETAIL FOR SEALING SIP CONNECTIONS.



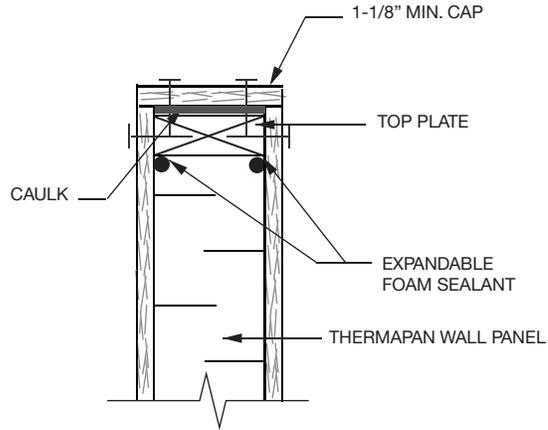
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|                                  |          |          |  |
|----------------------------------|----------|----------|--|
| TITLE                            |          | PROJECT  |  |
| WOOD STUD SPLINE<br>JOINT DETAIL |          |          |  |
| REFERENCE                        | SCALE    |          |  |
|                                  | N.T.S.   |          |  |
| DATE                             | REVISION | DWG. No. |  |
| APRIL 2014                       | 6        | W-2      |  |

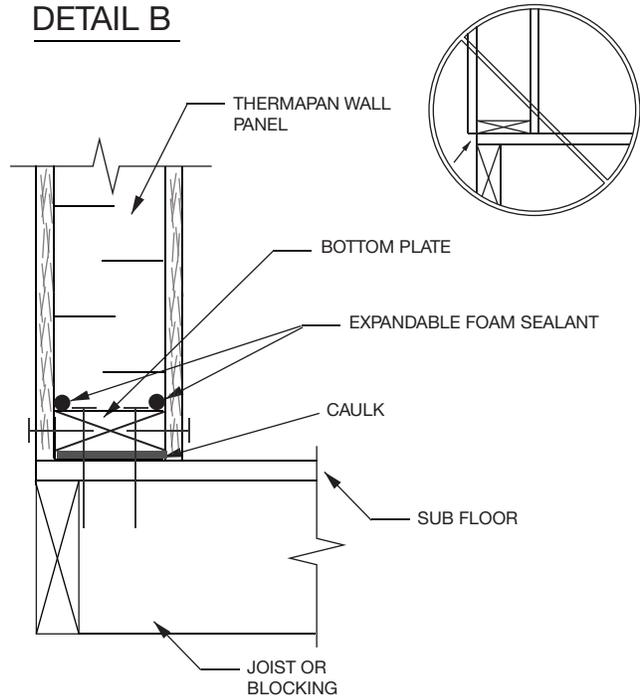


**SECTION**

**DETAIL A**



**DETAIL B**



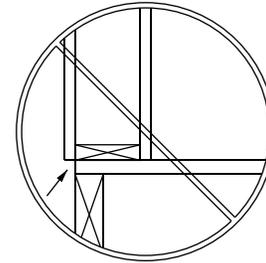
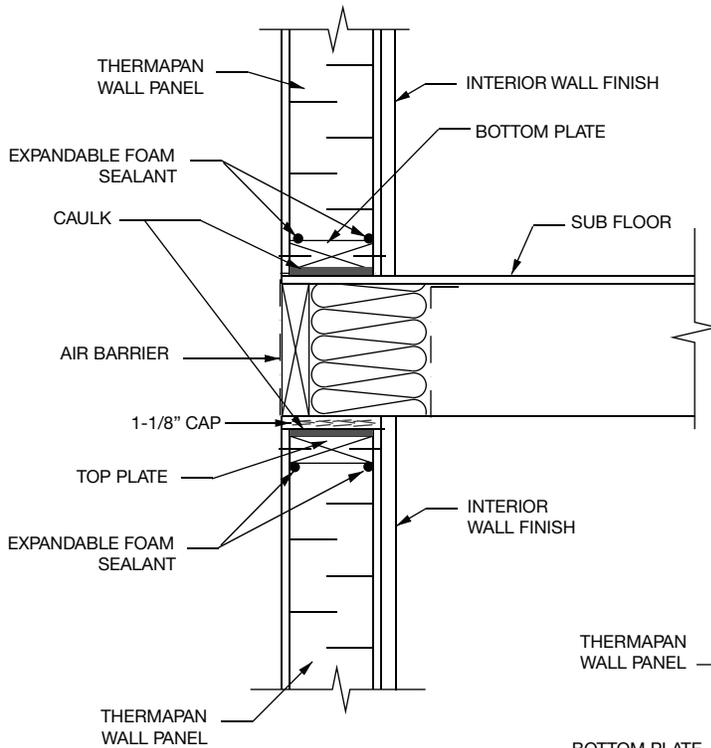
**NOTE:** REFER TO AIR BARRIER (AB-2) DETAIL FOR SEALING SIP CONNECTIONS.



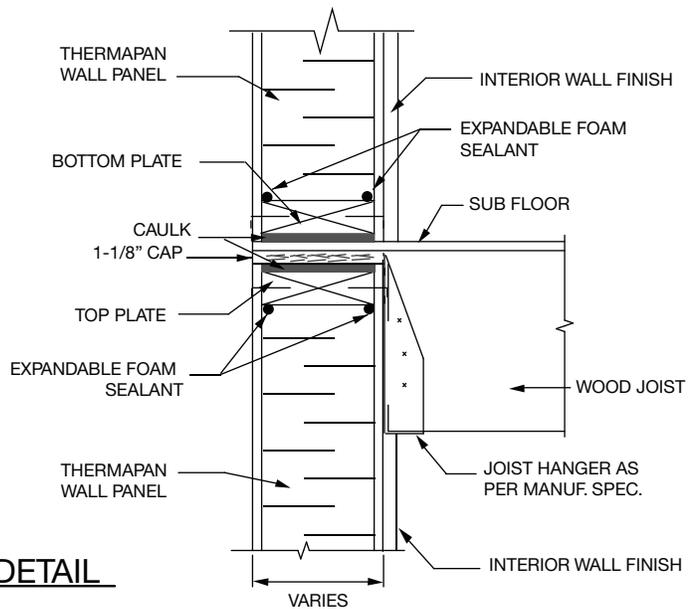
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|                      |          |          |  |
|----------------------|----------|----------|--|
| TITLE                |          | PROJECT  |  |
| TYPICAL WALL SECTION |          |          |  |
| REFERENCE            | SCALE    |          |  |
|                      | N.T.S.   |          |  |
| DATE                 | REVISION | DWG. No. |  |
| APRIL 2014           | 6        | W-3      |  |

# PLATFORM FRAMING



# SUSPENDED FLOOR DETAIL

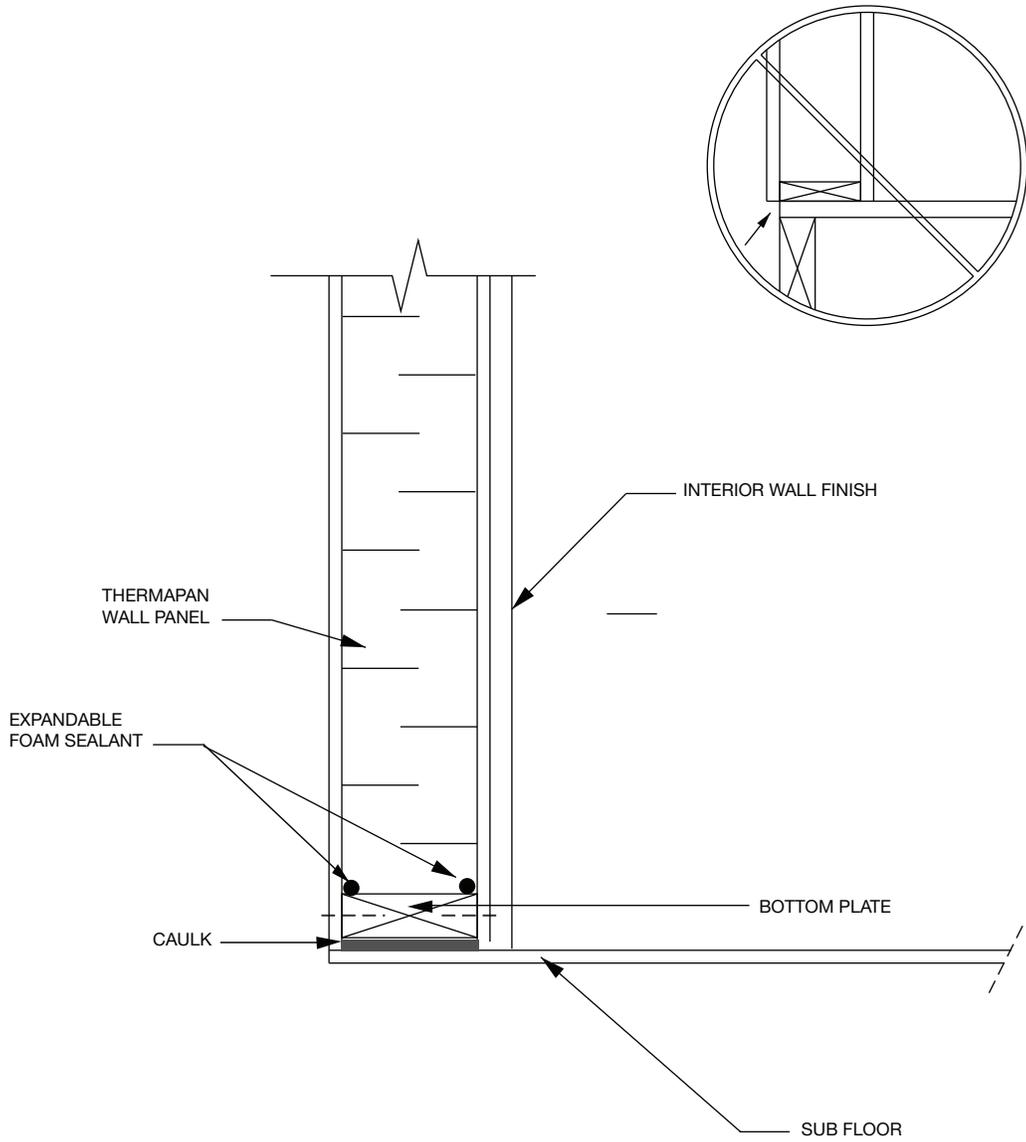


**NOTE:** REFER TO AIR BARRIER (AB-2) DETAIL FOR SEALING SIP CONNECTIONS.



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|                                    |          |          |  |
|------------------------------------|----------|----------|--|
| TITLE                              |          | PROJECT  |  |
| FLOOR-TO-WALL<br>CONNECTION DETAIL |          |          |  |
| REFERENCE                          | SCALE    |          |  |
|                                    | N.T.S.   |          |  |
| DATE                               | REVISION | DWG. No. |  |
| JUNE 2016                          | 6        | W-4      |  |



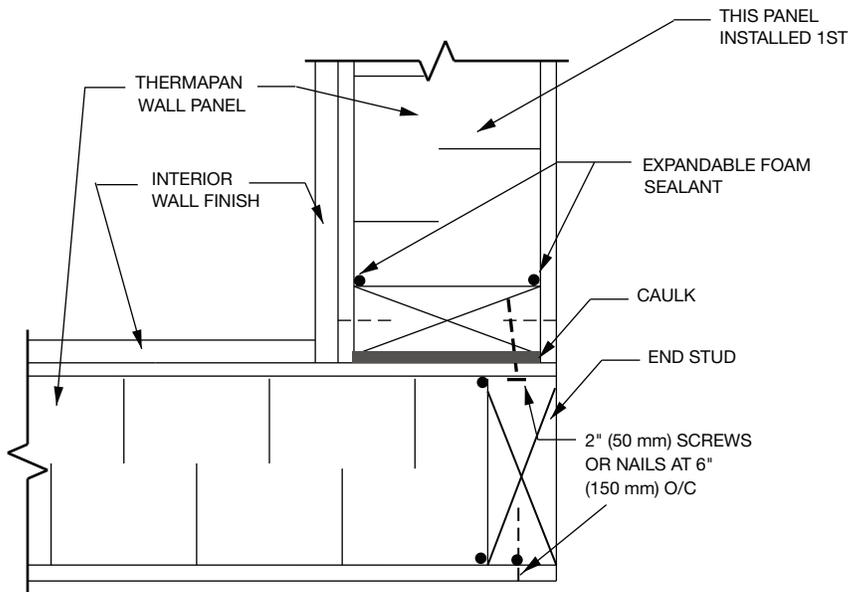
**NOTE:** REFER TO AIR BARRIER (AB-2) DETAIL FOR SEALING SIP CONNECTIONS.



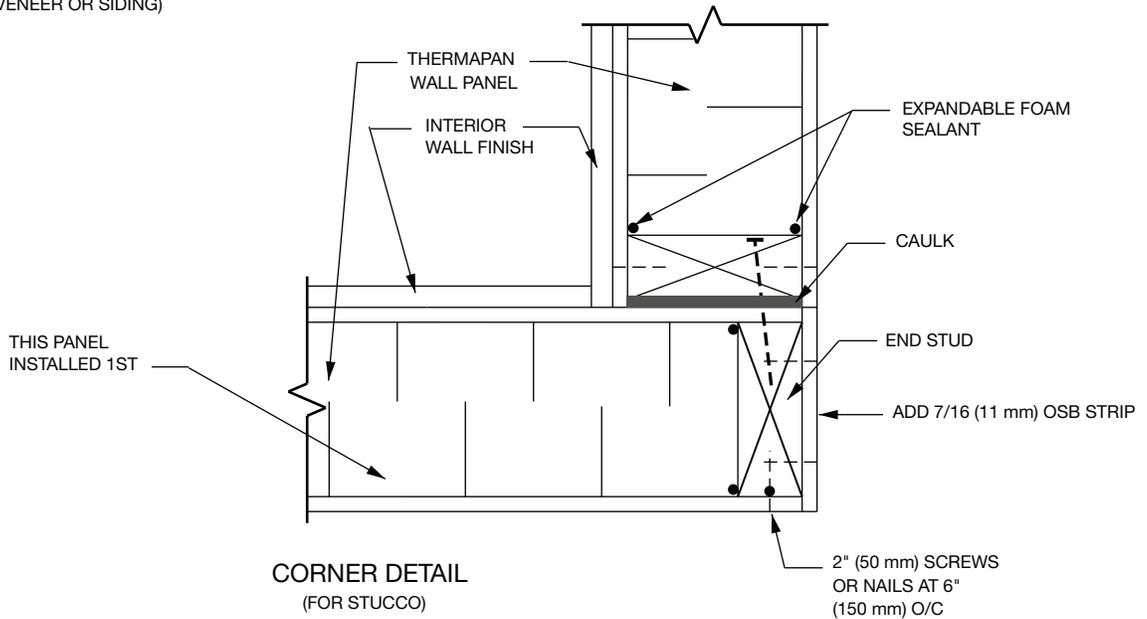
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|                   |          |          |  |
|-------------------|----------|----------|--|
| TITLE             |          | PROJECT  |  |
| SILL PLATE DETAIL |          |          |  |
| REFERENCE         | SCALE    |          |  |
|                   | N.T.S.   |          |  |
| DATE              | REVISION | DWG. No. |  |
| JUNE 2016         | 5        | W-5      |  |



**CORNER DETAIL**  
(FOR BRICK VENEER OR SIDING)



**CORNER DETAIL**  
(FOR STUCCO)

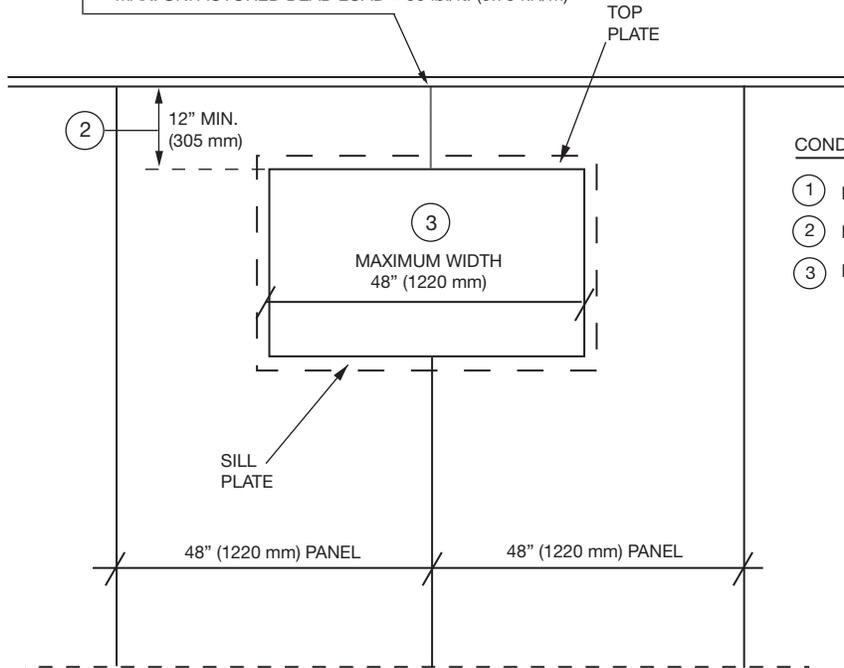
**NOTE:** REFER TO AIR BARRIER (AB-2) DETAIL FOR SEALING SIP CONNECTIONS.



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|                                    |          |          |  |
|------------------------------------|----------|----------|--|
| TITLE                              |          | PROJECT  |  |
| WALL BUTT CORNER CONNECTION DETAIL |          |          |  |
| REFERENCE                          | SCALE    |          |  |
|                                    | N.T.S.   |          |  |
| DATE                               | REVISION | DWG. No. |  |
| JUNE 2016                          | 5        | W-6      |  |

- ① NON-LOAD BEARING WALL:  
MAX. UNFACTORED LIVE LOAD = 160 lb./ft. (2.4 kN/m)  
MAX. UNFACTORED DEAD LOAD = 50 lb./ft. (0.75 kN/m)

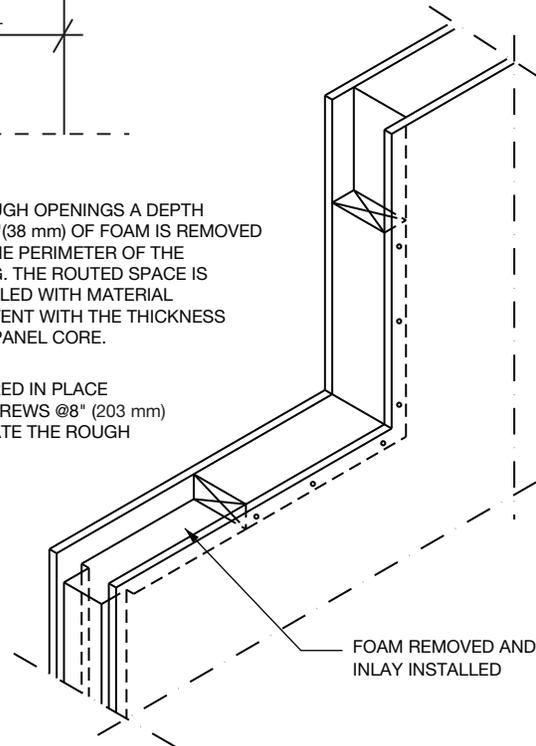


**CONDITIONS**

- ① NON-LOAD BEARING WALL
- ② MINIMUM LINTEL HEIGHT OF 12" (305 mm)
- ③ MAXIMUM OPENING WIDTH OF 48" (1220 mm)

FOR ROUGH OPENINGS A DEPTH OF 1-1/2" (38 mm) OF FOAM IS REMOVED FROM THE PERIMETER OF THE OPENING. THE ROUTED SPACE IS THEN FILLED WITH MATERIAL CONSISTENT WITH THE THICKNESS OF THE PANEL CORE.

THESE ARE SECURED IN PLACE WITH NAILS OR SCREWS @8" (203 mm) O/C MAX., TO CREATE THE ROUGH OPENING.



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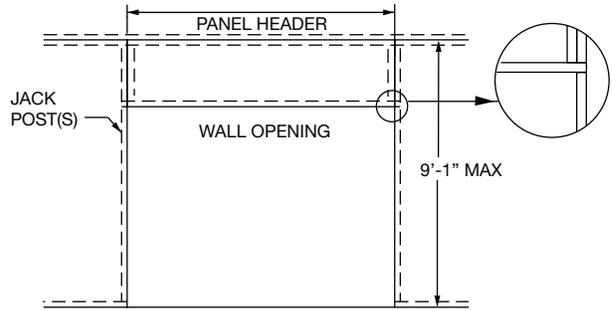
|   |          |         |  |
|---|----------|---------|--|
| TITLE   |          | PROJECT |  |
| <b>WINDOW CUT-OUT<br/>(NON-LOAD BEARING WALL)</b> |          |         |  |
| REFERENCE   | SCALE    | N.T.S.  |  |
| DATE  | REVISION |         |  |
| FEBRUARY 2012                                     | 2        | W-7     |  |

## DETAIL 1

### CONDITION 1:

- (1) MAX 9'-1" WALL HEIGHT
- (2) MAX 5,000 LBS. (22.3 kN) FACTORED REACTION
- (3) CONFIRM JACK POST REACTIONS
- (4) SINGLE JACK STUD

NOTE: REFER TO APPENDIX A OR DESIGN HANDBOOK FOR ALLOWABLE HEADER LOADS.

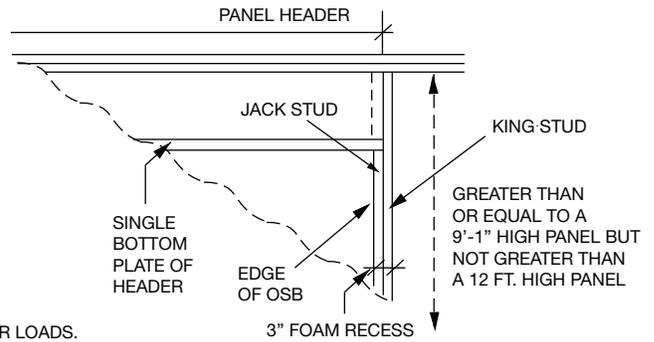


## DETAIL 2

### CONDITION 2:

- (1)  $9'-1" \leq X \leq 12'$  (WALL HEIGHT)
- (2) MAX 5,000 LBS. (22.3 kN) FACTORED REACTION
- (3) CONFIRM JACK POST REACTIONS
- (4) SINGLE JACK AND KING STUD

NOTE: OSB TO BE ADDED TO BOTH SIDES OF STUDS WHEN ONLY 1-1/2" FOAM RECESS IS PROVIDED IN WALL PANEL. REFER TO APPENDIX A OR DESIGN HANDBOOK FOR ALLOWABLE HEADER LOADS.



## DETAIL 3

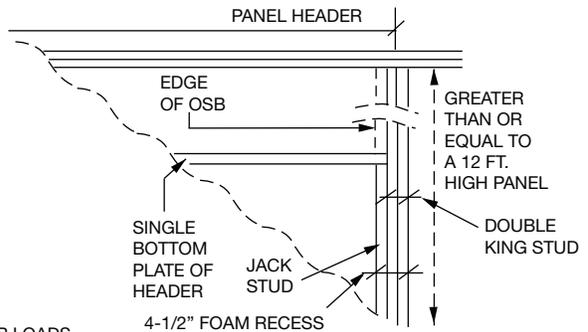
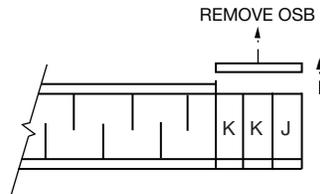
### INSTALLING STUDS:

1. REMOVE OSB ONE SIDE
2. REMOVE FOAM
3. INSTALL STUDS
4. REPLACE OSB

### CONDITION 3:

- (1)  $X \geq 12'$  (WALL HEIGHT)
- (2) MAX 5000 LBS. (22.3 kN) FACTORED REACTION
- (3) CONFIRM JACK POST REACTIONS
- (4) SINGLE JACK AND DOUBLE KING STUDS

NOTE: REFER TO APPENDIX A OR DESIGN HANDBOOK FOR ALLOWABLE HEADER LOADS.



## DETAIL 4

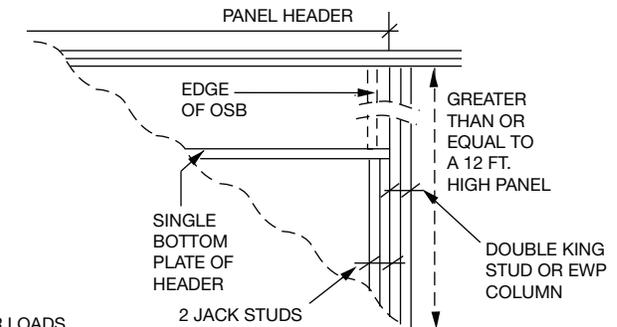
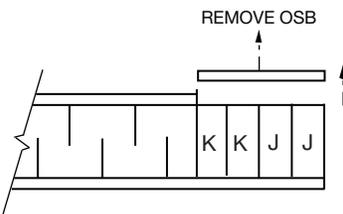
### INSTALLING STUDS:

1. REMOVE OSB ONE SIDE
2. REMOVE FOAM
3. INSTALL STUDS
3. REPLACE OSB

### CONDITION 4:

- (1)  $X \geq 12'$  (WALL HEIGHT)
- (2) MAX 10,000 LBS. (44.6 kN) FACTORED REACTION
- (3) CONFIRM JACK POST REACTIONS
- (4) DOUBLE JACK AND DOUBLE KING STUDS

NOTE: REFER TO APPENDIX A OR DESIGN HANDBOOK FOR ALLOWABLE HEADER LOADS.



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TITLE

PANEL LINTEL/HEADER  
DETAILS & BEARING  
CONDITIONS 1 - 4

PROJECT

REFERENCE

SCALE

N.T.S.

DATE

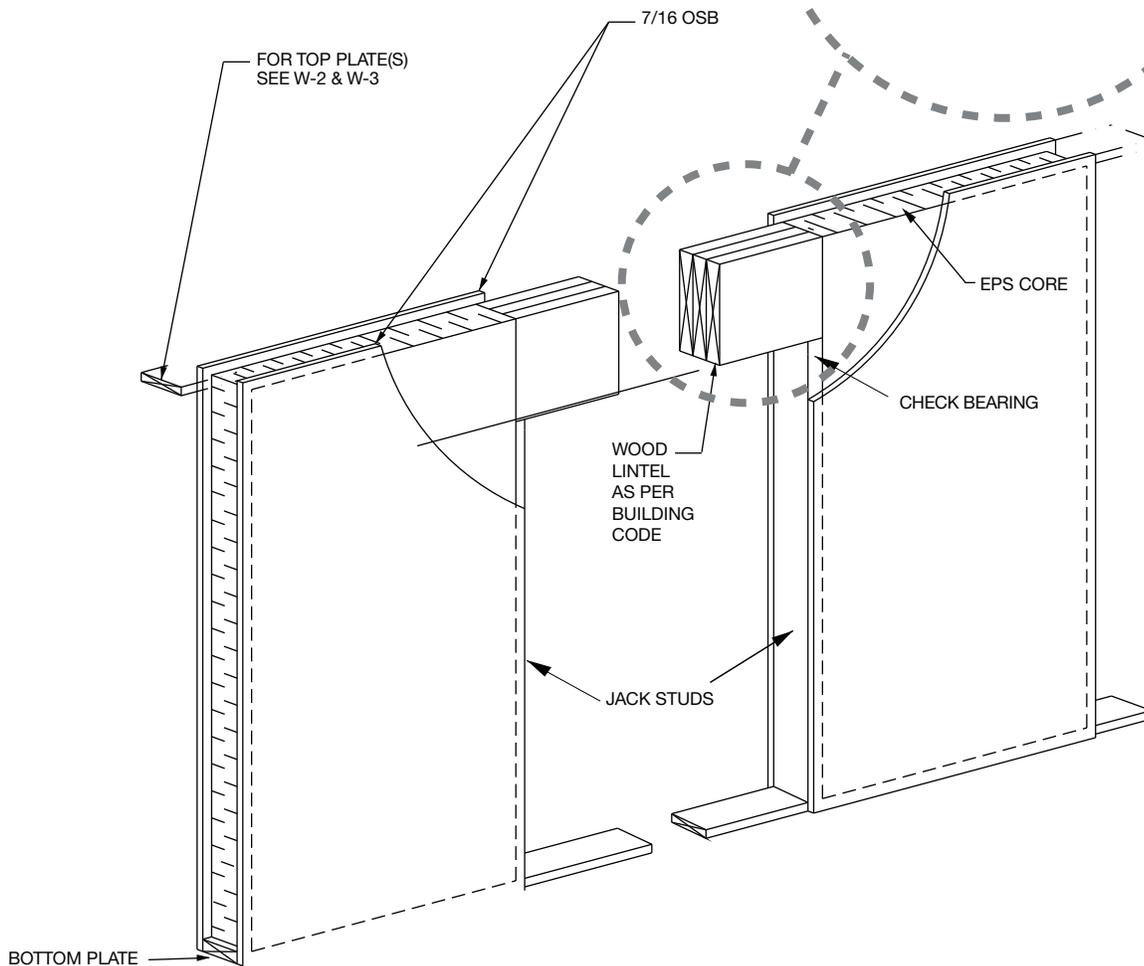
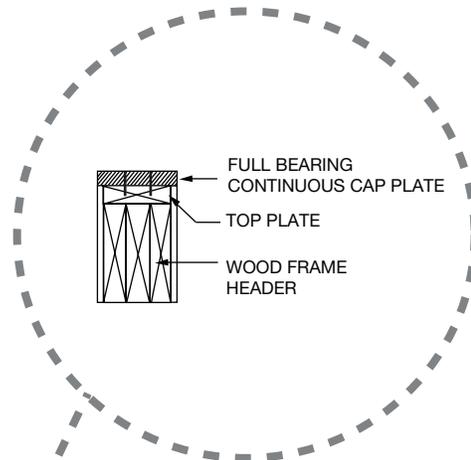
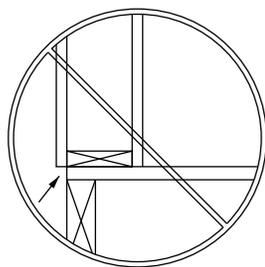
NOVEMBER 2023

REVISION

DWG. No.

1

W-8

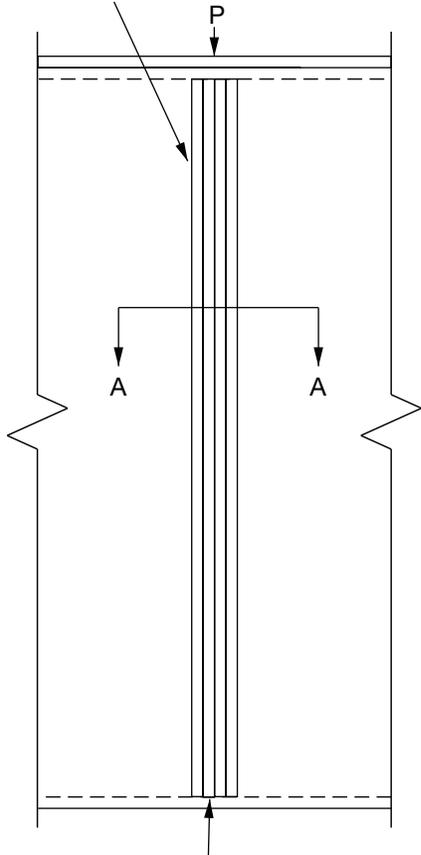


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Structural  
Insulated  
Panels

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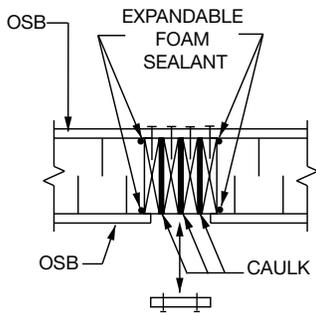
|  |          |           |       |
|--|----------|-----------|-------|
| TITLE  |          | PROJECT   |       |
| <p style="text-align: center;"><b>LINTEL DETAIL<br/>(HEADER BY OTHERS)</b></p> |          |           |       |
|  |          | REFERENCE | SCALE |
|  |          | N.T.S.    |       |
| DATE   | REVISION | DWG. No.  |       |
| NOVEMBER 2021  | 5        | W-9       |       |

COLUMN (BUILT-UP STUDS, TIMBER, STEEL, ETC.)  
INSTALL AS PER LOCAL BUILDING CODE.



REMOVE BOTTOM PLATE SECTION AND INSTALL  
COLUMN DIRECTLY ONTO FLOOR IF LOAD IS GREATER  
THAN BEARING RESISTANCE OF WOOD PLATE.

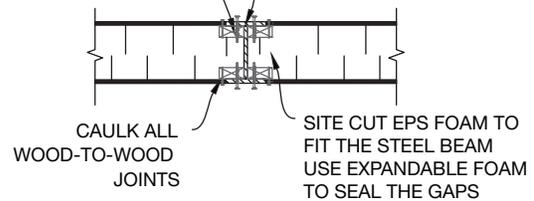
**SECTION A-A**



**TYPICAL STEEL POST  
TO SIP CONNECTIONS**

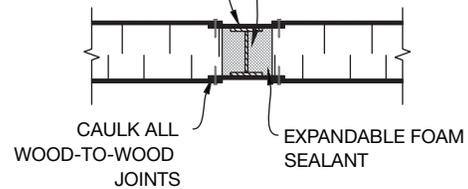
FASTEN WOOD BLOCKING TO STEEL  
COLUMN USING STEEL-TO-WOOD  
SCREWS AND FASTEN SIP PANEL SKIN  
TO BLOCKING USING  
8d NAILS @ 6" O.C. TYP.

**WIDE FLANGE  
STEEL POST**



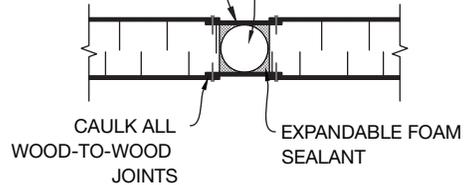
FASTEN STRIP OF  
OSB/PLYWOOD  
TO SIP SKIN USING 8d  
NAILS @ 6" O.C. TYP.

**WIDE FLANGE  
STEEL POST**



FASTEN STRIP OF  
OSB/PLYWOOD  
TO SIP SKIN USING 8d  
NAILS @ 6" O.C. TYP.

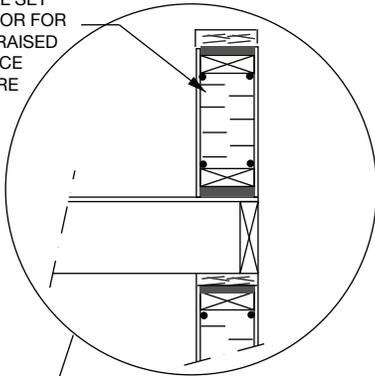
**ROUND  
STEEL POST**



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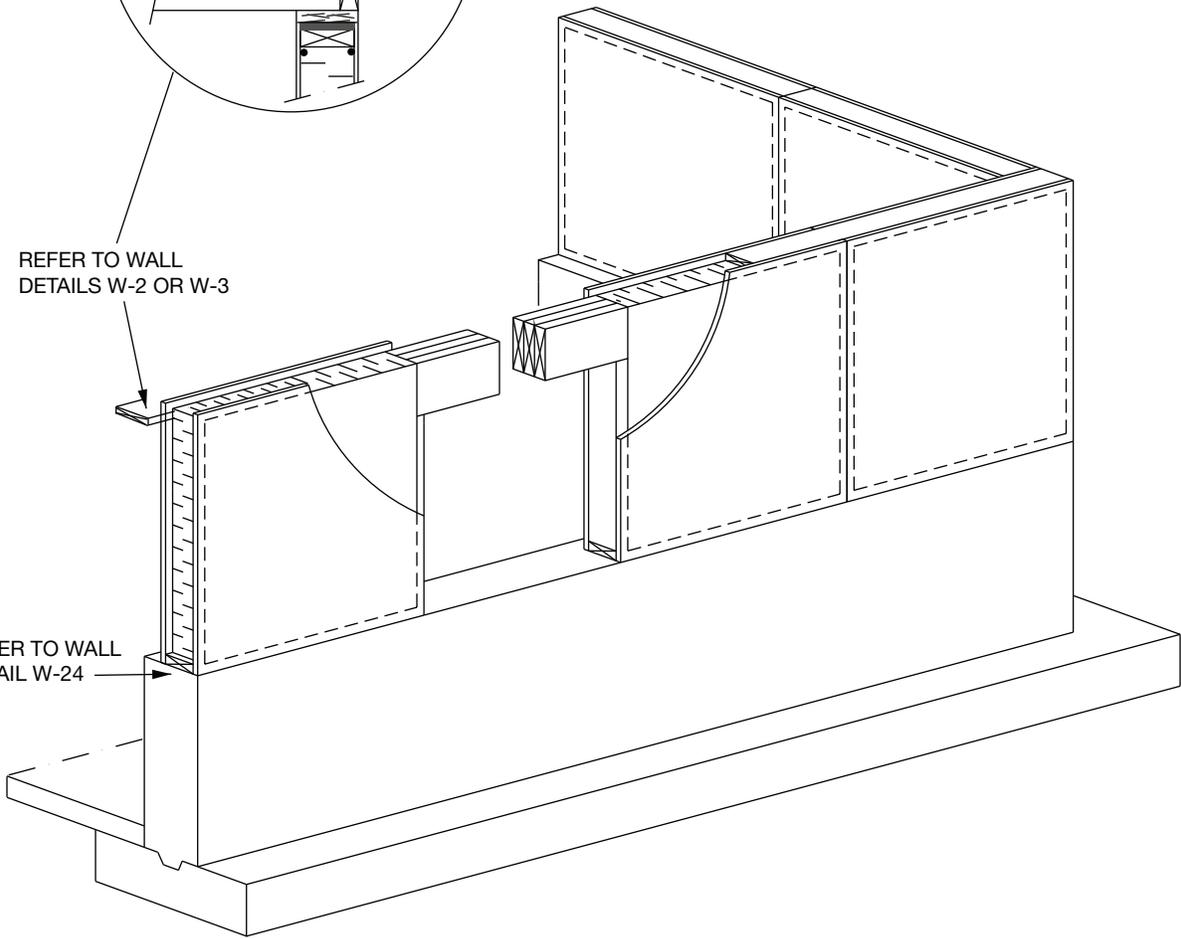
|                          |          |         |  |
|--------------------------|----------|---------|--|
| TITLE                    |          | PROJECT |  |
| <b>POINT LOAD DETAIL</b> |          |         |  |
| REFERENCE                | SCALE    | N.T.S.  |  |
| DATE                     | REVISION |         |  |
| AUGUST 2025              | 5        | W-10    |  |

KNEE WALL SET  
 ONTO FLOOR FOR  
 ATTIC OR RAISED  
 ROOF SPACE  
 ENCLOSURE



REFER TO WALL  
 DETAILS W-2 OR W-3

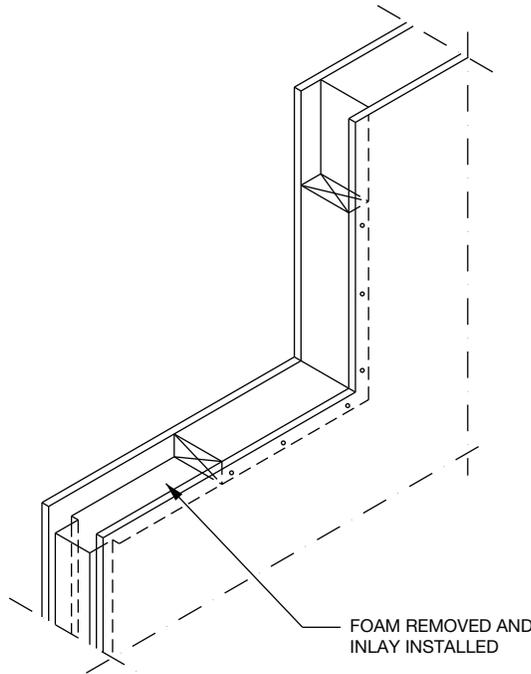
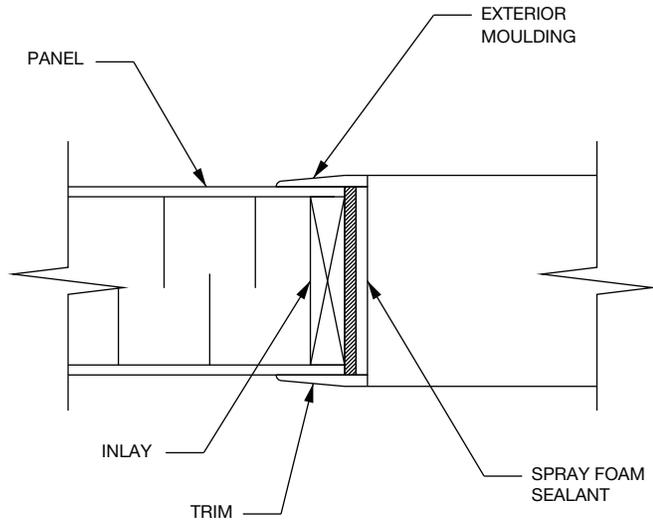
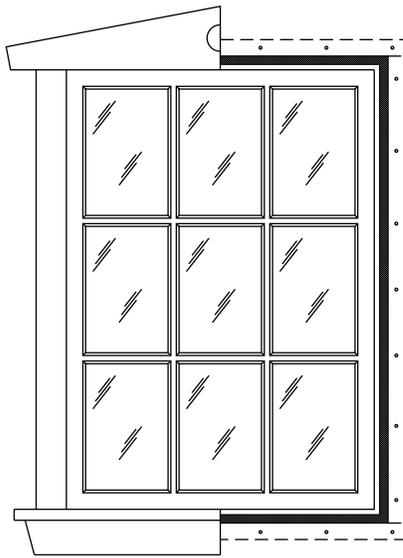
REFER TO WALL  
 DETAIL W-24



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|           |  |          |          |
|-----------|--|----------|----------|
| TITLE     |  | PROJECT  |          |
| REFERENCE |  | SCALE    |          |
|           |  | N.T.S.   |          |
| DATE      |  | REVISION | DWG. No. |
| MAY 2009  |  | 1        | W-11     |



FOR ROUGH OPENINGS A DEPTH OF 1 1/2 " OF FOAM IS REMOVED FROM THE PERIMETER OF THE OPENING. THE ROUTED SPACE IS THEN FILLED WITH A MATERIAL CONSISTENT WITH THE THICKNESS OF THE PANEL CORE.

THESE ARE SECURED IN PLACE WITH NAILS OR SCREWS @8" O/C MAX., TO CREATE THE ROUGH OPENING.

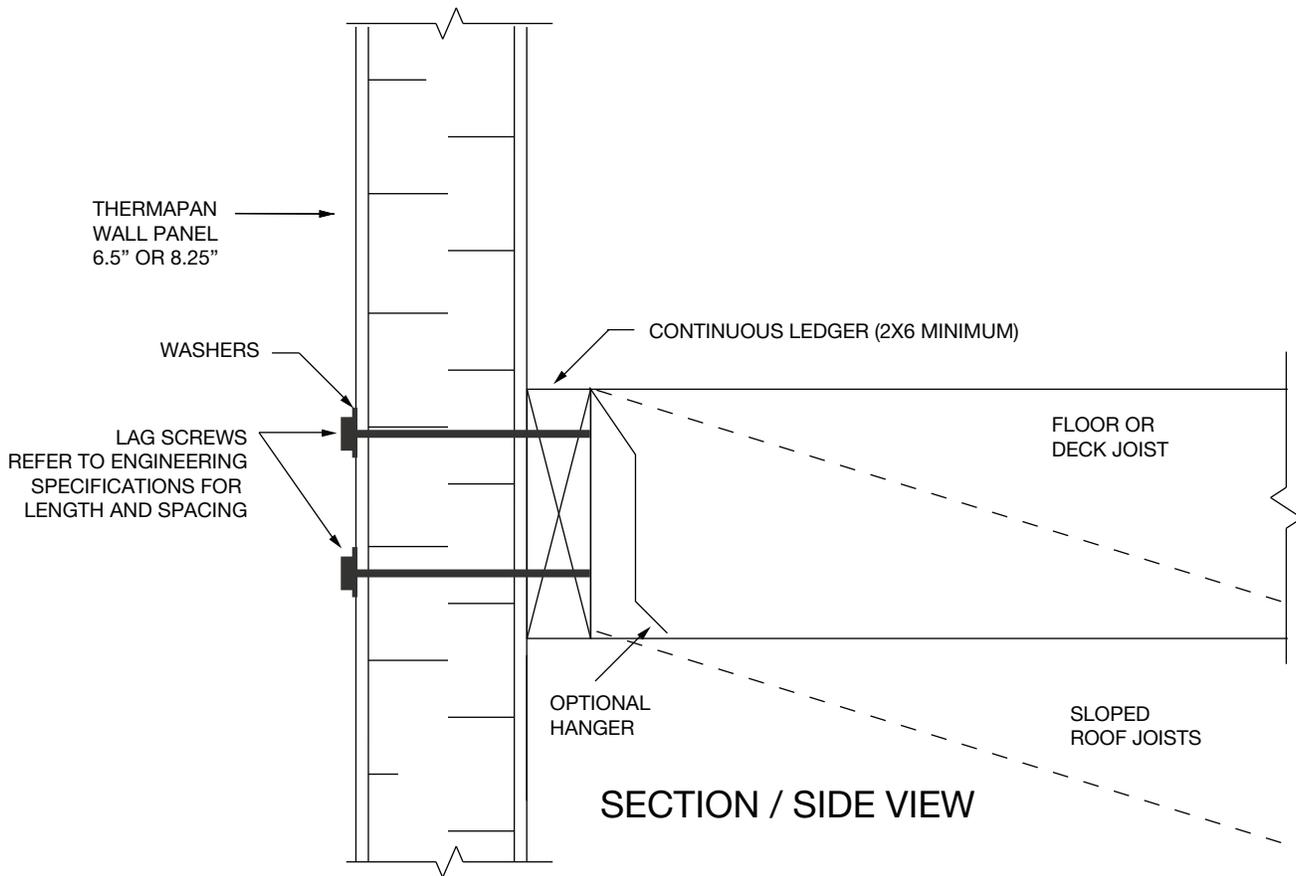
THE WINDOW OR DOOR IS THEN INSTALLED CONVENTIONALLY.

NOTE: REFER TO LINTEL DETAILS W-7.

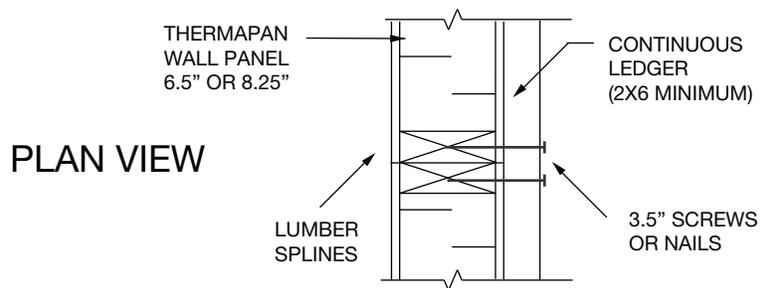


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|   |          |          |      |
|---|----------|----------|------|
| TITLE                                       |          | PROJECT  |      |
| <b>DOOR &amp; WINDOW<br/>ROUGH OPENINGS</b> |          |          |      |
| REFERENCE                                   | SCALE    | N.T.S.   |      |
| DATE  | REVISION |          |      |
| FEBRUARY 2012                               | 3        | DWG. No. | W-12 |

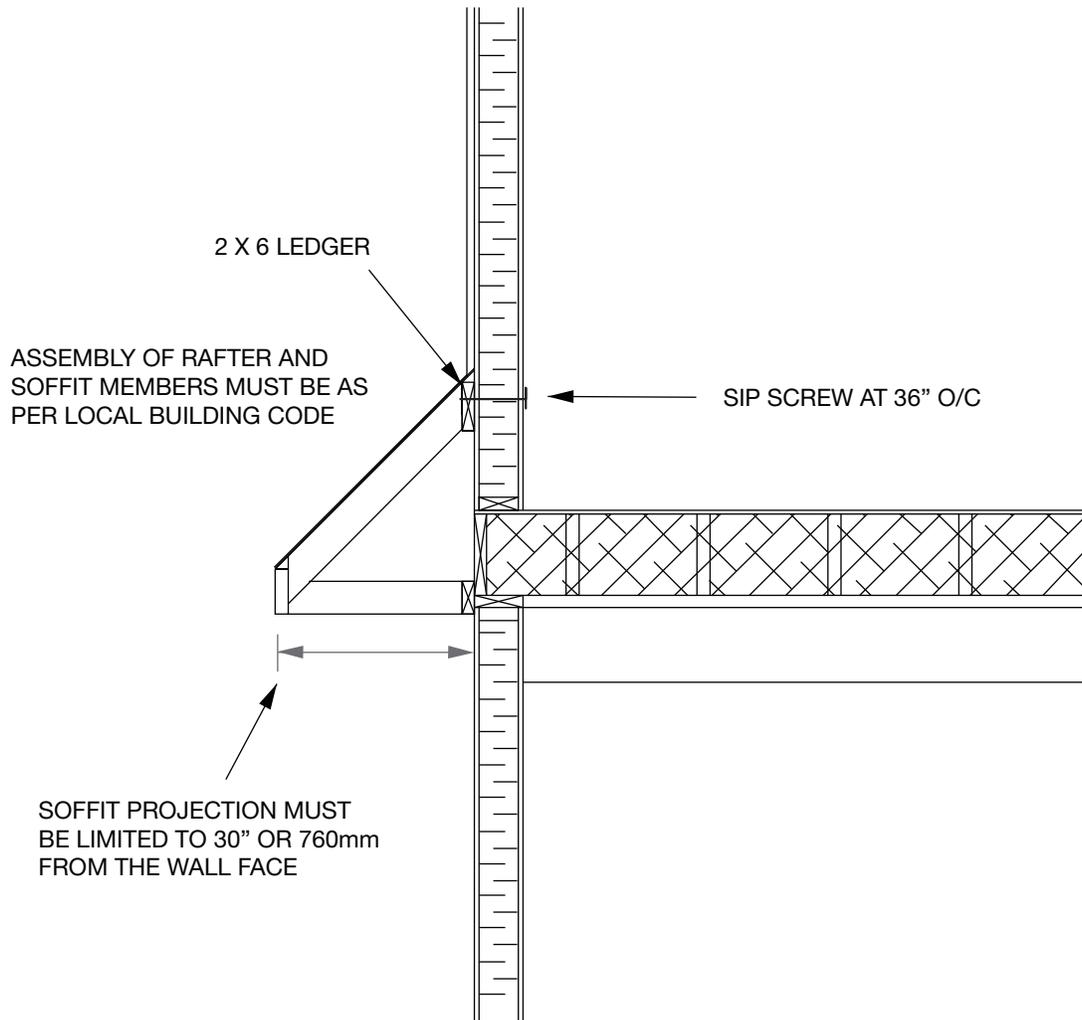


LEDGER CAN ALSO BE NAILED OR SCREWED (3.5" LONG) INTO LUMBER SPLINES (IF USED) AT 4' O/C



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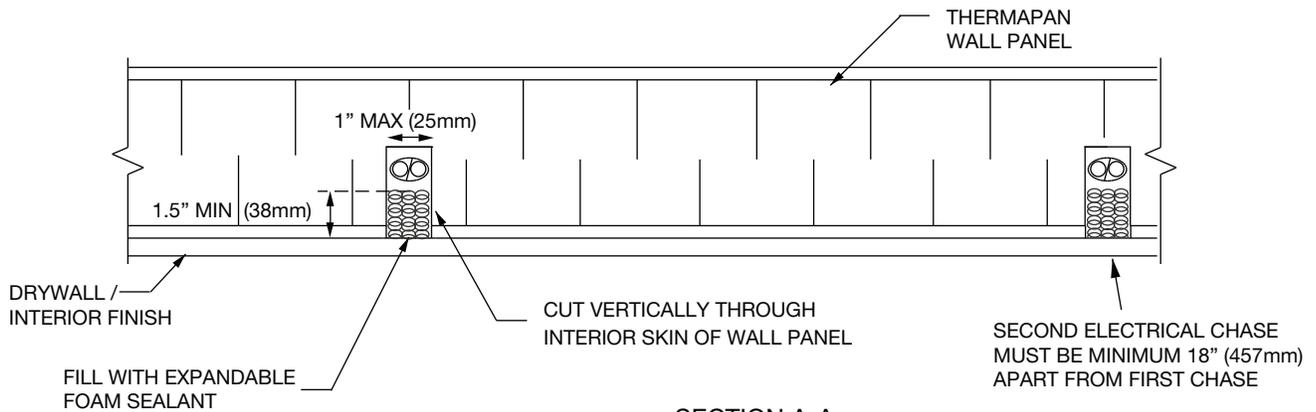
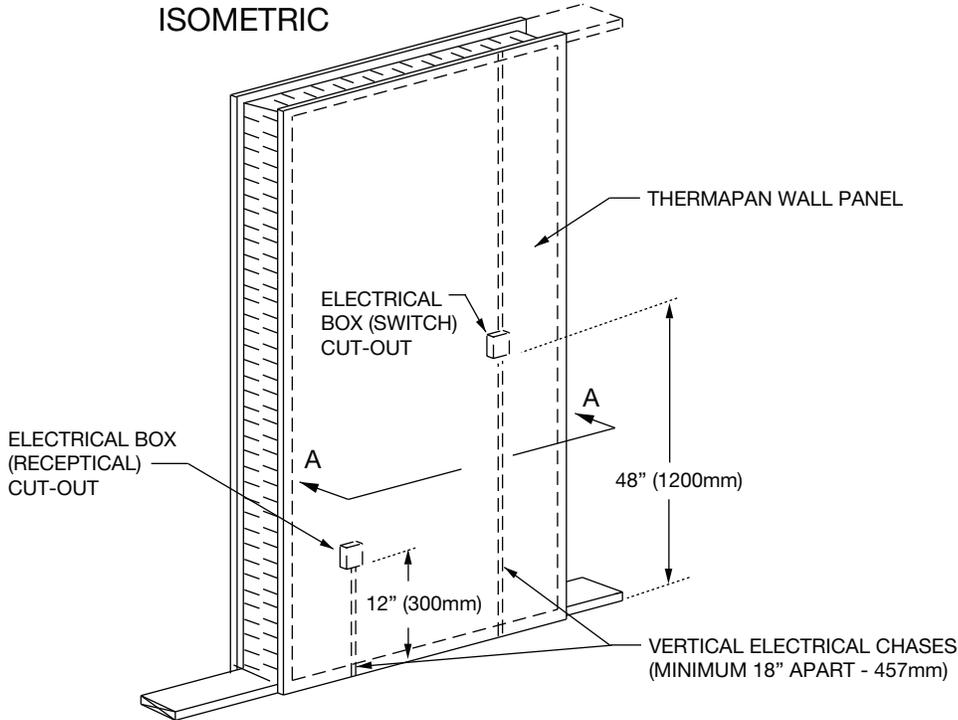
|   |          |          |  |
|---|----------|----------|--|
| TITLE   |          | PROJECT  |  |
| WOOD LEDGER ATTACHED TO SIP WALL PANEL <sup>®</sup> |          |          |  |
| REFERENCE   | SCALE    | NTS      |  |
| DATE  | REVISION | DWG. No. |  |
| APRIL 2020  | 3        | W-13     |  |



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|                     |          |          |  |
|---------------------|----------|----------|--|
| TITLE               |          | PROJECT  |  |
| KICKER TRUSS DETAIL |          |          |  |
| REFERENCE           | SCALE    |          |  |
|                     | N.T.S.   |          |  |
| DATE                | REVISION | DWG. No. |  |
| OCTOBER 2021        | 1        | W-14     |  |

ISOMETRIC



SECTION A-A

NOTES:

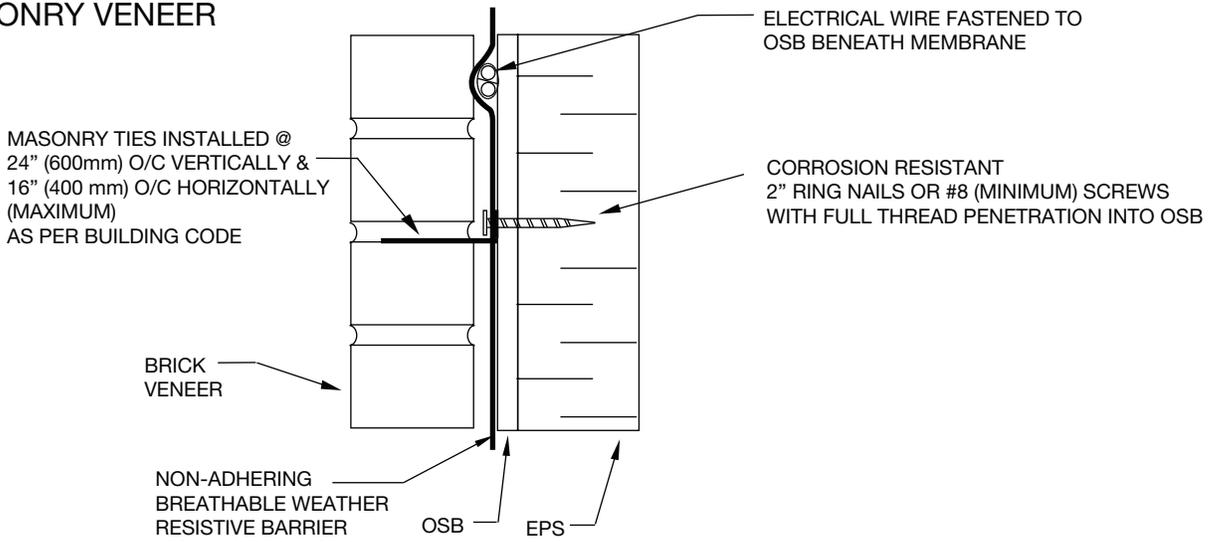
1. MAXIMUM OF TWO (2) VERTICAL CHASES PERMITTED FOR WALL PANELS 2'-6" (760mm) TO 4' (1220 mm) WIDE, MINIMUM 18"(457mm) APART.
2. MAXIMUM OF ONE (1) VERTICAL CHASE PERMITTED FOR WALL PANELS LESS THAN 2'-6" WIDE (760mm) .



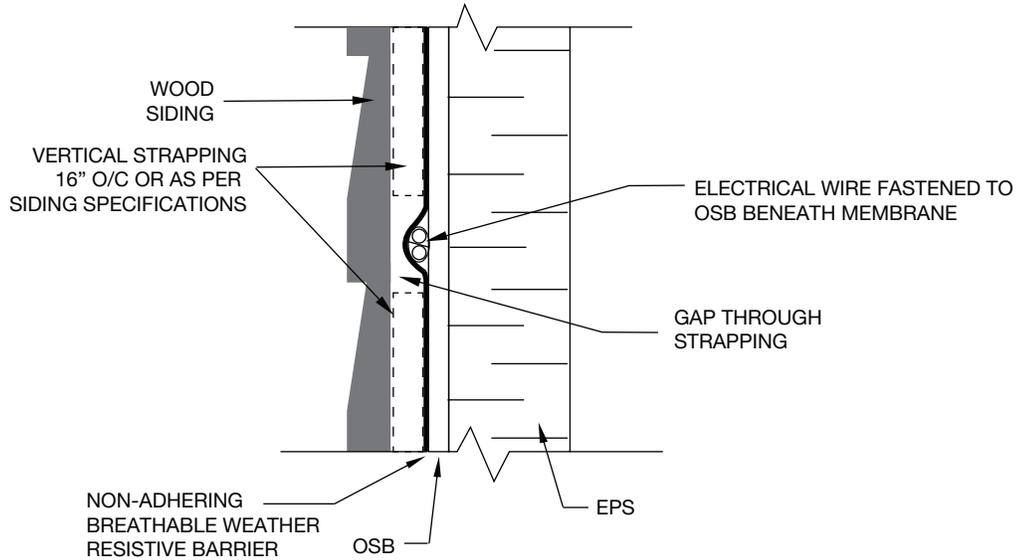
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|  |          |          |  |
|--|----------|----------|--|
| TITLE                                  |          | PROJECT  |  |
| VERTICAL ELECTRICAL CHASE <sup>®</sup> |          |          |  |
| REFERENCE                              | SCALE    |          |  |
| DATE                                   | REVISION | DWG. No. |  |
| FEBRUARY 2018                          | 2        | W-15     |  |

### MASONRY VENEER



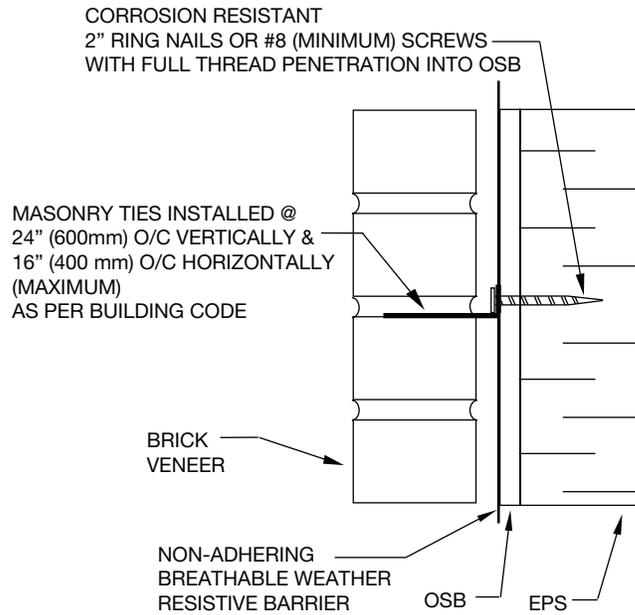
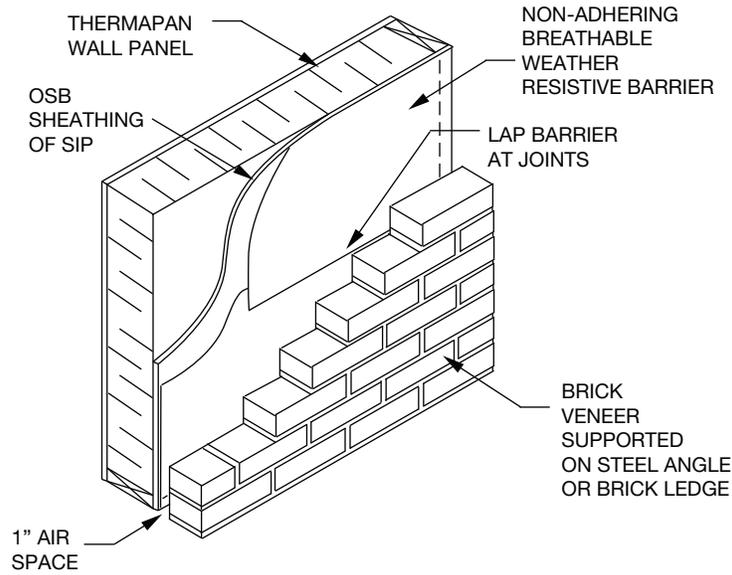
### WOOD SIDING



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|  |          |          |  |
|--|----------|----------|--|
| TITLE                                    |          | PROJECT  |  |
| ELECTRICAL WIRE FASTENED TO SIP EXTERIOR |          |          |  |
| REFERENCE                                | SCALE    |          |  |
|  | N.T.S.   |          |  |
| DATE                                     | REVISION | DWG. No. |  |
| MARCH 2026                               | 1        | W-16     |  |

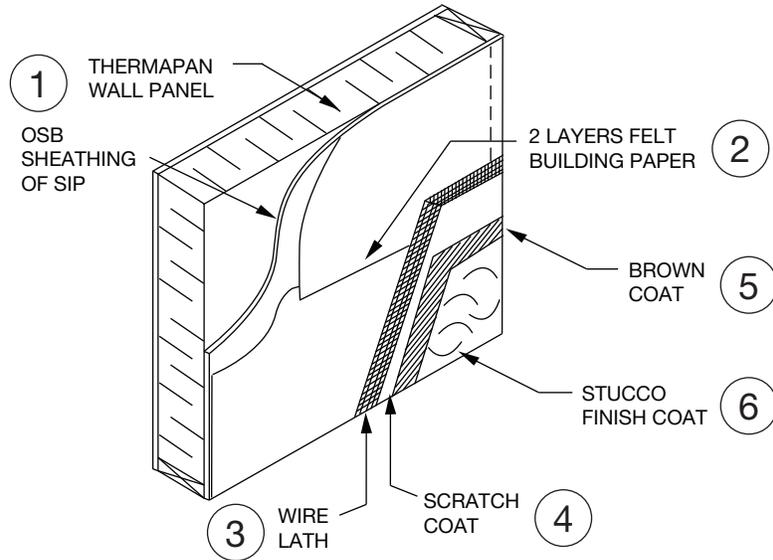
# MASONRY VENEER



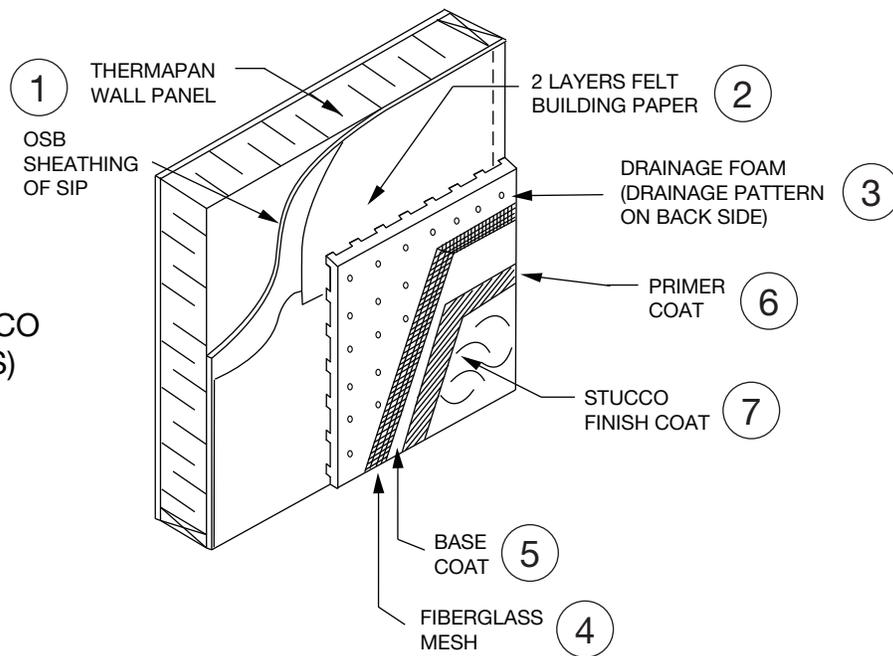
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|  |          |          |  |
|--|----------|----------|--|
| TITLE  |          | PROJECT  |  |
| EXTERIOR WALL CLADDING<br>BRICK & CULTURED STONE |          |          |  |
| REFERENCE  | SCALE    |          |  |
|  | N.T.S.   |          |  |
| DATE   | REVISION | DWG. No. |  |
| MARCH 2023                                       |          | W-17     |  |

STUCCO  
(TRADITIONAL)



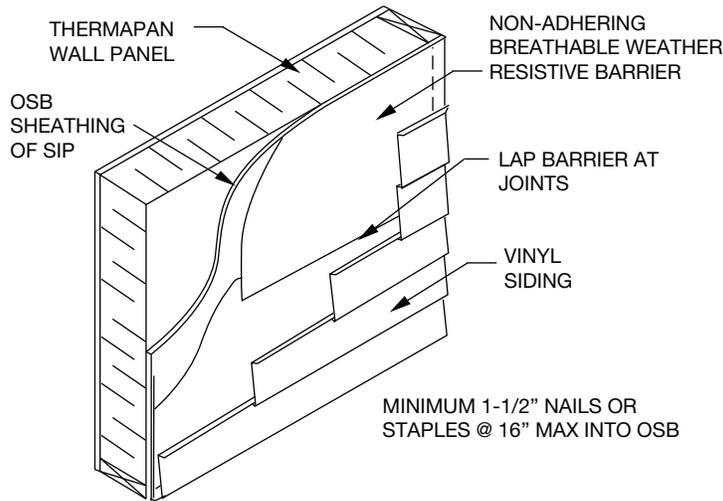
STUCCO  
(EIFS)



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|   |          |          |  |
|---|----------|----------|--|
| TITLE   |          | PROJECT  |  |
| EXTERIOR WALL CLADDING<br>STUCCO (TRADITIONAL & EIFS) |          |          |  |
| REFERENCE   | SCALE    |          |  |
|   | N.T.S.   |          |  |
| DATE  | REVISION | DWG. No. |  |
| MARCH 2023  |          | W-18     |  |

### VINYL SIDING

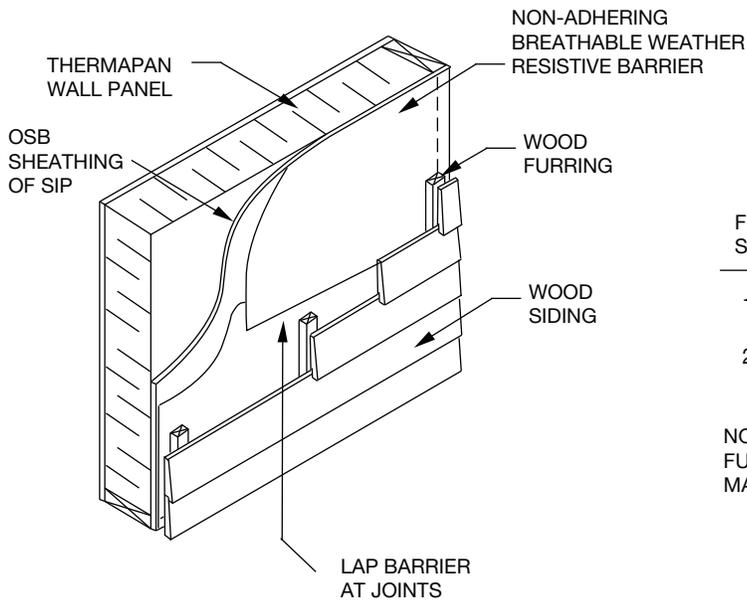


MINIMUM 1-1/2" NAILS OR STAPLES @ 16" MAX INTO OSB

### FIBRE CEMENT SIDING

FOR FIBRE CEMENT LAP SIDING REFER TO MANUFACTURER'S RECOMMENDED FASTENING METHODS.

### WOOD SIDING



### FURRING REQUIREMENTS (WOOD SIDING)

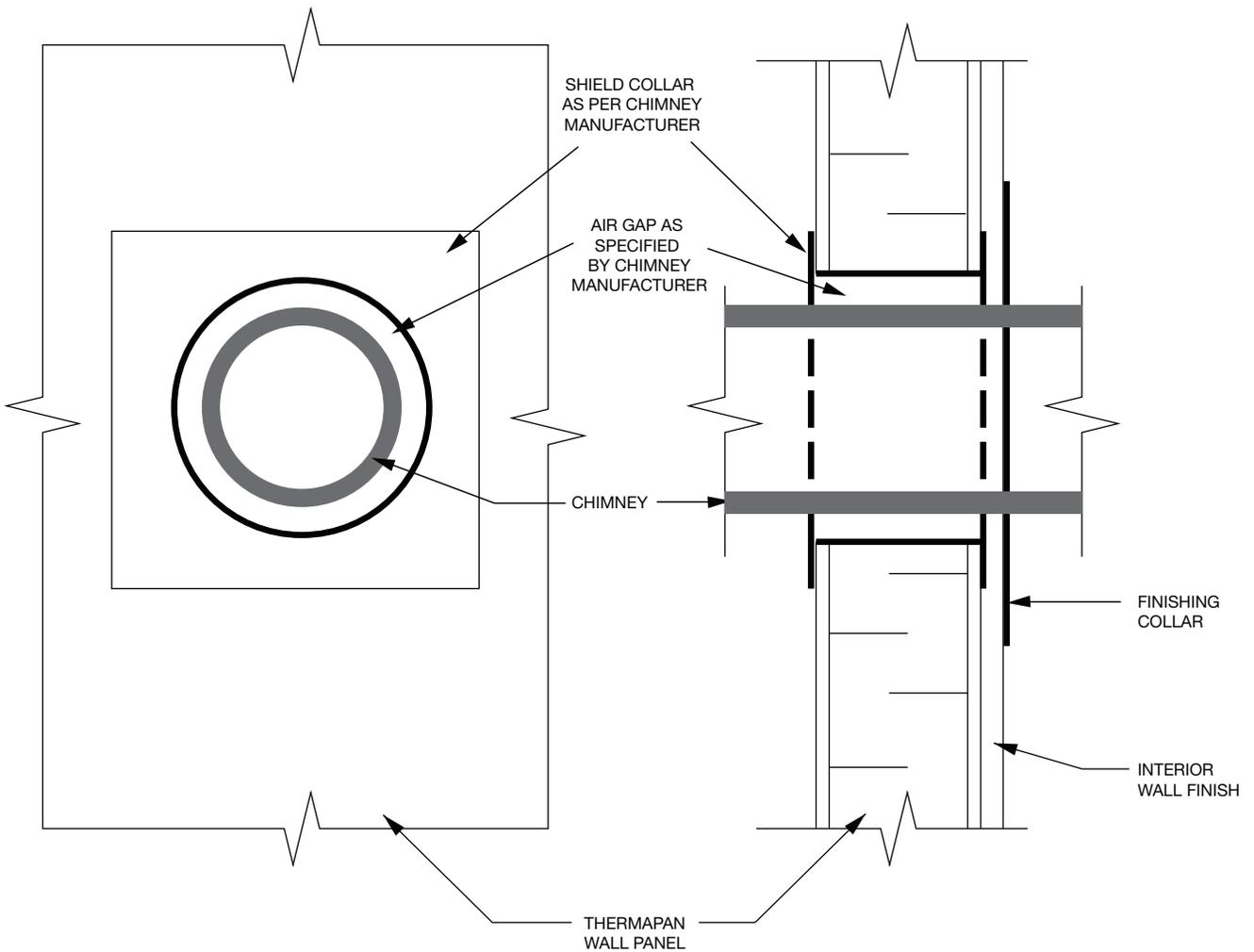
| FURRING SPACING | FASTENER SPACING (MIN 1-1/2" SCREWS) | FASTENER SPACING (MIN 1-1/4" NAILS) |
|-----------------|--------------------------------------|-------------------------------------|
| 16" O/C         | 10" O/C                              | 8" O/C                              |
| 24" O/C         | 8" O/C                               | 8" O/C                              |

NOTE: ALL NAILS TO BE RING (ANNULARLY THREADED). FURRING TO BE AS RECOMMENDED BY SIDING MANUFACTURER.



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|                                   |                 |          |  |
|-----------------------------------|-----------------|----------|--|
| TITLE                             |                 | PROJECT  |  |
| EXTERIOR WALL CLADDING:<br>SIDING |                 |          |  |
| REFERENCE                         | SCALE<br>N.T.S. |          |  |
| DATE                              | REVISION        | DWG. No. |  |
| AUGUST 2017                       | 3               | W-19     |  |

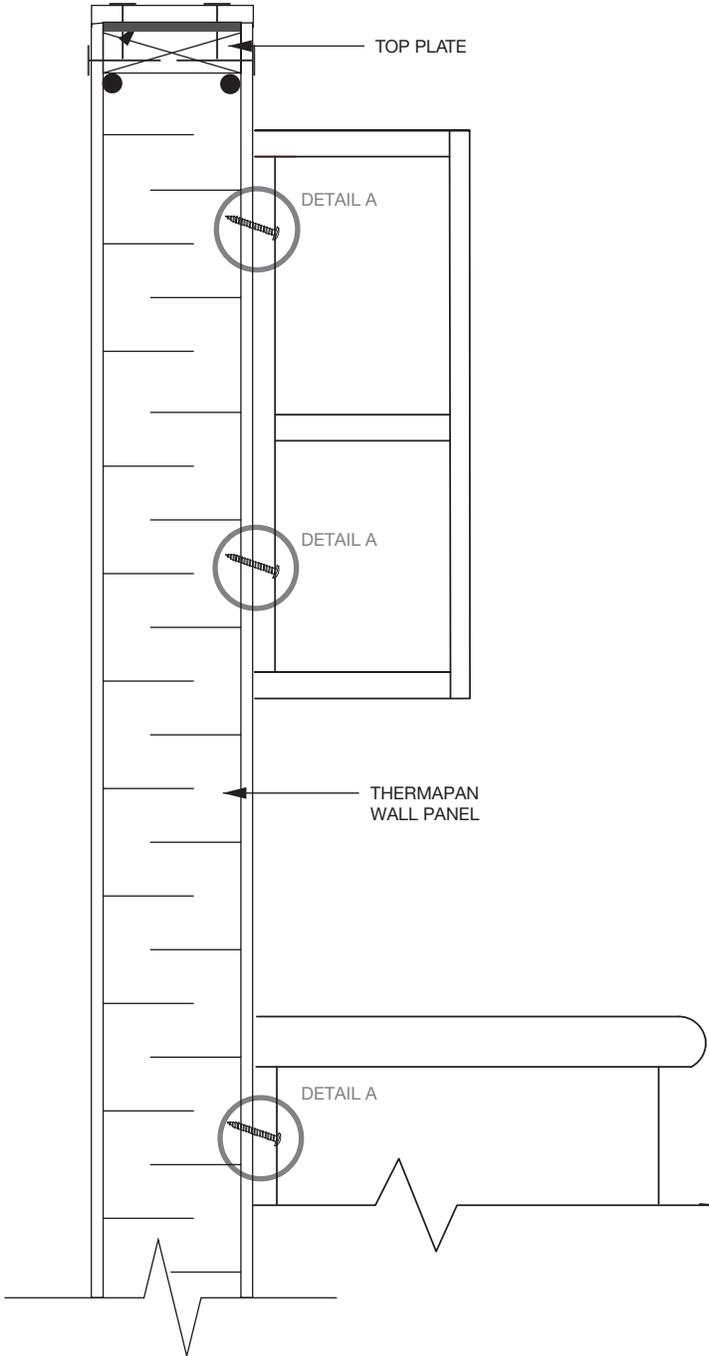


NOTE: ABOVE DETAILS ARE TYPICAL REQUIREMENTS TO INSTALL A PREFABRICATED METAL CHIMNEY IN A THERMAPAN STRUCTURAL INSULATED PANEL. THE CHIMNEY INSTALLATION MUST COMPLY WITH THE CHIMNEY MANUFACTURERS'S SPECIFICATION AND THE APPLICABLE BUILDING CODE.

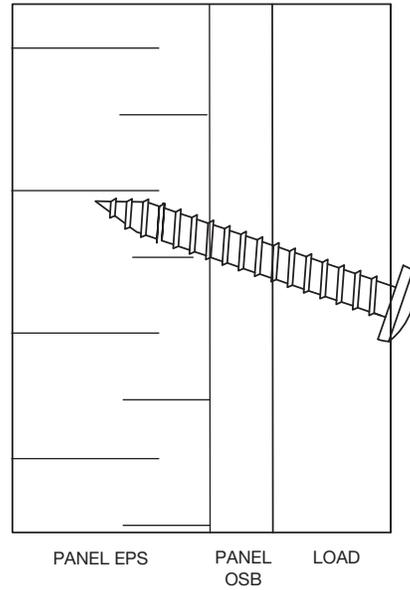


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|   |          |          |
|---|----------|----------|
| TITLE   |          | PROJECT  |
| PRE-FABRICATED METAL CHIMNEY INSTALLATION IN WALL |          |          |
| REFERENCE   | SCALE    |          |
|   | N.T.S.   |          |
| DATE  | REVISION | DWG. No. |
| FEBRUARY 2019                                     |          | W-21     |



### DETAIL A



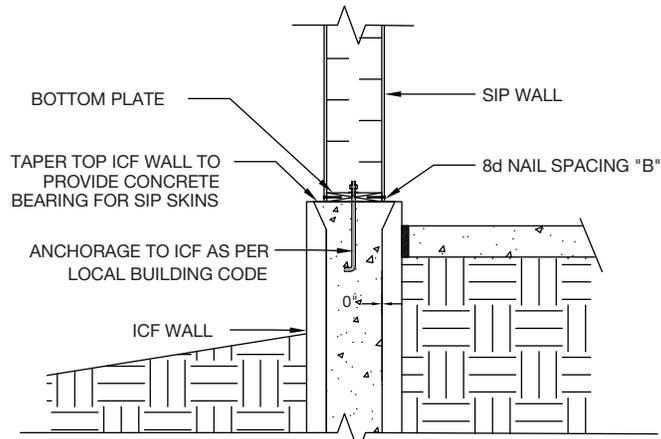
NOTE: NUMBER 10 TYPE A SHEET METAL SCREWS CAN RESIST A PULL OUT OF 106 POUNDS IN 7/16" OSB. CONTRACTOR TO CONFIRM LOAD TO BE SECURED AND NUMBER OF FASTENERS REQUIRED. FULL THICKNESS OF OSB TO RECEIVE SCREW THREAD ON ANGLE AS DETAILED

\*THE GIVEN LOAD CAPACITY OF THE SCREW IS BASED ON THE AVERAGE ULTIMATE FAILURE LOAD DIVIDED BY A FACTOR OF SAFETY OF 3 AND TAKING INTO ACCOUNT A LONG TERM LOAD DURATION FACTOR OF 0.9. DESIGNERS MUST USE THE APPROPRIATE SAFETY FACTOR AND LOAD DURATION FACTOR FOR EACH LOADING CONDITION.

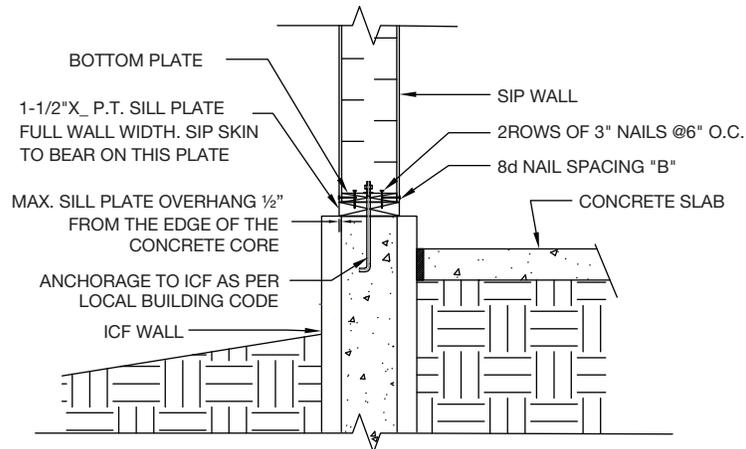


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|  |          |          |  |
|--|----------|----------|--|
| TITLE  |          | PROJECT  |  |
| SCREW FASTENER DETAIL FOR SECURING SHELVING TO THERMAPAN PANEL |          |          |  |
| REFERENCE  | SCALE    |          |  |
|  | N.T.S.   |          |  |
| DATE   | REVISION | DWG. No. |  |
| MARCH 2022   | 1        | W-22     |  |



**SIP WALL TO ICF CONNECTION  
(TAPERED TOP OF ICF WALL)**



**SIP WALL TO ICF CONNECTION  
(SQUARE TOP OF ICF WALL)**

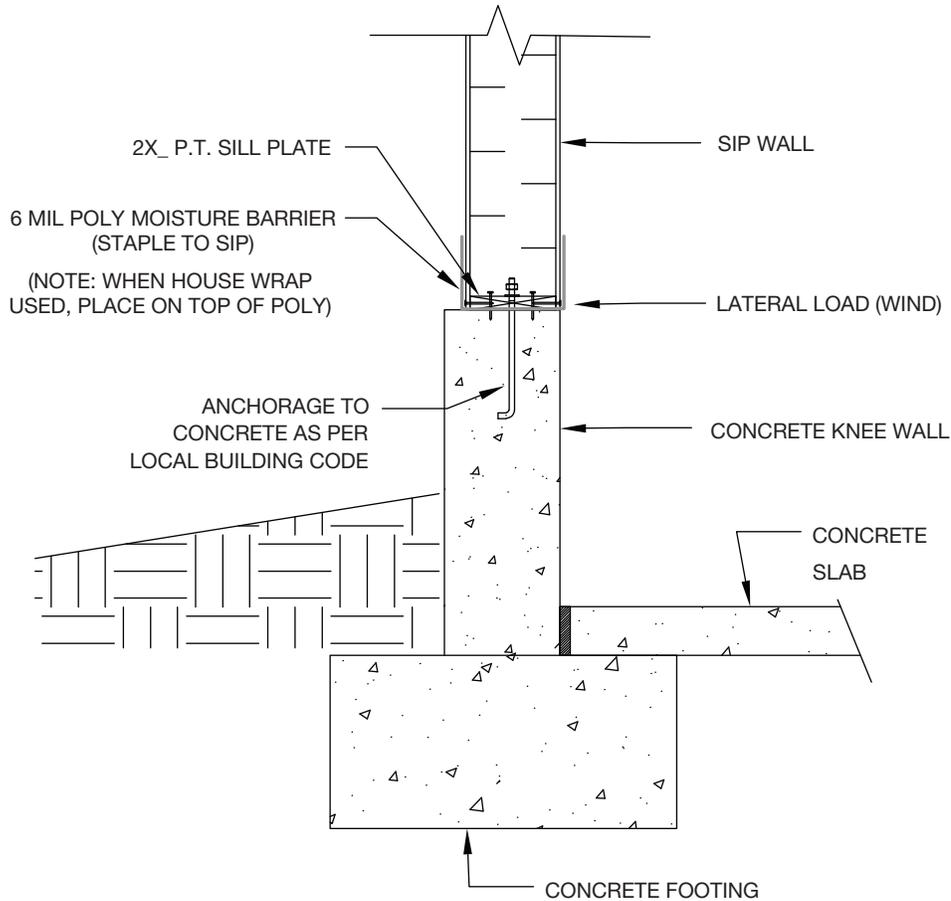


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|            |          |          |  |
|------------|----------|----------|--|
| TITLE      |          | PROJECT  |  |
| REFERENCE  |          | SCALE    |  |
|            |          | N.T.S.   |  |
| DATE       | REVISION | DWG. No. |  |
| MARCH 2024 | 1        | W-23     |  |

**NOTE:**

1. THE CONCRETE CONTRACTOR SHALL ENSURE THAT THE KNEE WALL IS DESIGNED TO RESIST LATERAL LOADS AT THE BASE OF THE SIP WALL.
2. THE CONTRACTOR SHALL ENSURE THAT ALL SIP SKINS (OSB) BEAR FULLY ON THE CONCRETE WALLS. OFFSETTING OF SIP SKINS IS NOT PERMITTED.



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|   |          |          |  |
|---|----------|----------|--|
| TITLE                                     |          | PROJECT  |  |
| SIP WALL TO CONCRETE KNEE WALL CONNECTION |          |          |  |
| REFERENCE                                 | SCALE    |          |  |
|   | N.T.S.   |          |  |
| DATE                                      | REVISION | DWG. No. |  |
| DECEMBER 2025                             | 1        | W-24     |  |

TRUSSES INSTALLED AS PER LOCAL BUILDING CODE

5/8" TYPE C GYPSUM BD.  
5/8" TYPE C GYPSUM BD.  
SONOSECUR ACOUSTICAL PANEL  
(one side only)  
1/2" RESILIENT CHANNEL RC-1  
6 1/2" STRUCTURAL FOAM  
CORE PANEL

CONT. FIRE RATED CAULKING TYP.

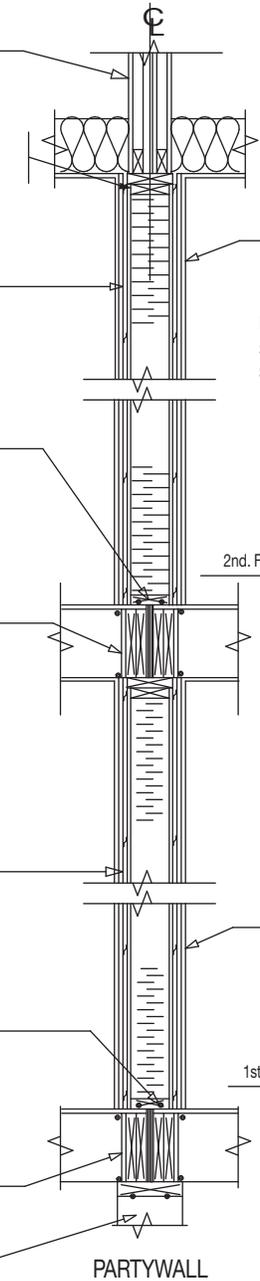
INSTALL AS PER LOCAL BUILDING CODE OR JOIST SUPPLIER SPEC.

5/8" TYPE C GYPSUM BD.  
5/8" TYPE C GYPSUM BD.  
SONOSECUR ACOUSTICAL PANEL  
(one side only)  
1/2" RESILIENT CHANNEL RC-1  
6 1/2" STRUCTURAL FOAM  
CORE PANEL

CONT. FIRE RATED CAULKING TYP.

INSTALL AS PER LOCAL BUILDING CODE OR JOIST SUPPLIER SPEC.

POURED CONCRETE OR BLOCK FOUNDATION WALL



\* UL / ULC LABELLED GYPSUM SHEATHING

STRUCTURAL CAPACITY FOR WALL NOT TO EXCEED 32.4 kn/m (2217 LBS. PER LINEAR FOOT) FOR OTHER REQUIREMENTS, INCLUDING STRUCTURAL LOAD, REFER TO MANUFACTURER'S INSTRUCTIONS.

INSTALL TOP PLATE AND CAP SECURED TO STUDS WITH 95 mm SPIRAL NAILS

50 mm RING NAILS @ 250 mm O/C (TYP.)

5/8" TYPE C GYPSUM BD.  
5/8" TYPE C GYPSUM BD.  
1/2" RESILIENT CHANNEL

DOUBLE STUD SPLINE SECURED TO PLATE WITH 83 mm SPIRAL NAILS

NOTE: TESTED IN CONFORMANCE WITH CAN/ULC-S101-M, "FIRE ENDURANCE TESTS OF BUILDING CONSTRUCTION AND MATERIALS"



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TITLE

60 MIN. PARTYWALL  
SINGLE WALL STC RATING 50

PROJECT

REFERENCE

SCALE

N.T.S.

DATE

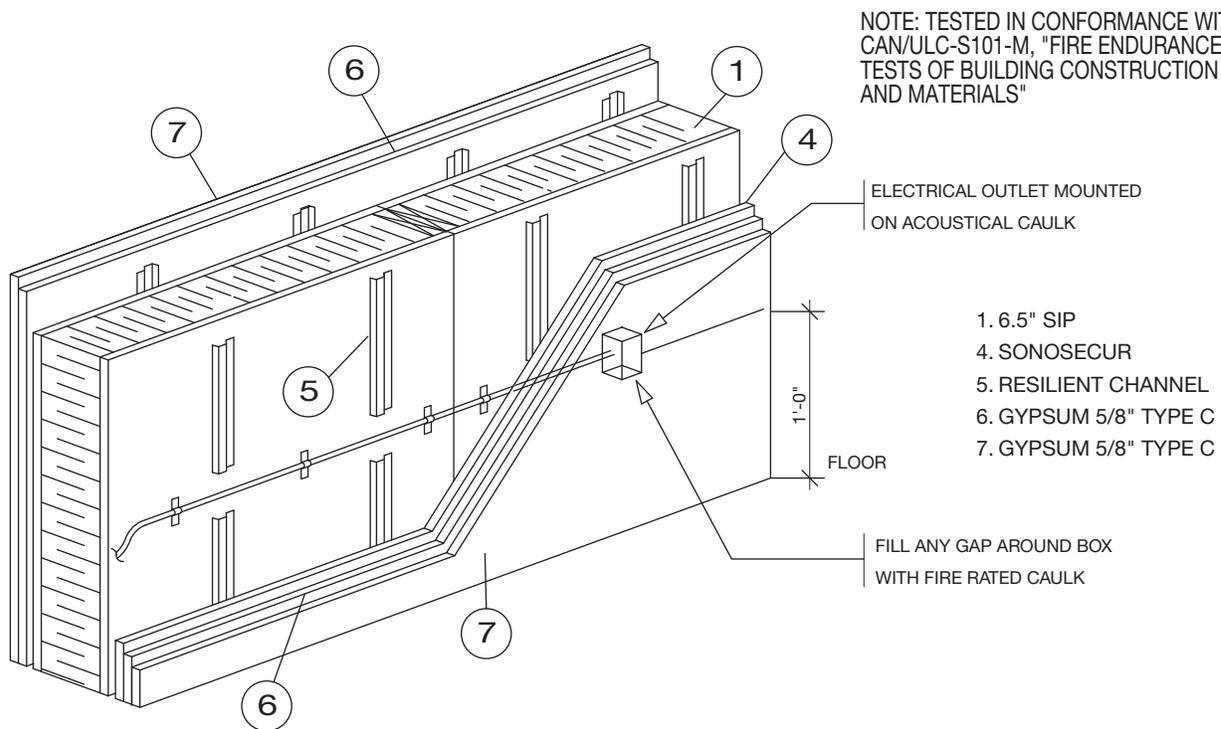
JULY 2023

REVISION

DWG. No.

9

W-PW-1



ASSEMBLY OF RESILIENT CHANNEL (5)

THE RESILIENT CHANNELS ARE ORIENTED VERTICALLY AT 16" (400 mm) OC AND SECURED WITH 1" (25 mm) TYPE W GYPSUM BOARD SCREWS AT 16" (400 mm) OC TO THE STRUCTURAL INSULATED PANEL (SIP)

ASSEMBLY OF SONOSECUR ACOUSTIC PANEL (4)

TACK THE SONOSECUR ACOUSTIC PANEL WITH 1" (25 mm) LONG TYPE W GYPSUM BOARD SCREWS TO HOLD IN PLACE. THE SONOSECUR ACOUSTIC PANEL IS ASSEMBLED ON ONE SIDE ONLY.

ASSEMBLY OF FIRST LAYER 5/8" TYPE C GYPSUM (6)

INSTALL THE FIRST GYPSUM LAYER (6) VERTICALLY ONTO RESILIENT CHANNELS WITH 1" (25 mm) TYPE W GYPSUM SCREWS SPACED 16" (400 mm) OC.

ASSEMBLY OF SECOND LAYER 5/8" TYPE C GYPSUM (7)

THE JOINTS OF THE SECOND LAYER SHOULD BE OFFSET AND STAGGERED FROM FIRST LAYER. THE SECOND LAYER SHOULD HAVE 1.75" (44 mm) SCREWS AT 12" (304 mm) OC . THE FIRST LAYER OF GYPSUM DOES NOT HAVE TO BE TAPED. ONLY THE SECOND LAYER HAS TO BE FINISHED. JOINTS SHOULD BE COVERED WITH COMPOUND, COVERED WITH JOINT TAPE AND COVERED WITH AN ADDITIONAL TWO COATS OF JOINT COMPOUND. SCREW HEADS COVERED WITH JOINT COMPOUND.

UL GYPSUM BOARD FIRECODE "C"



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|   |          |          |  |
|---|----------|----------|--|
| TITLE   |          | PROJECT  |  |
| PARTYWALL ELECTRICAL DETAIL<br>(60 MINUTE WALL RATED ASSEMBLY<br>(SINGLE WALL) STC RATING 50) |          |          |  |
| REFERENCE   | SCALE    |          |  |
| 8015  | N.T.S.   |          |  |
| DATE  | REVISION | DWG. No. |  |
| JULY 2023   | 9        | W-PW-2   |  |

TRUSSES INSTALLED AS PER BUILDING CODE

5/8" TYPE C GYPSUM BD.  
5/8" TYPE C GYPSUM BD.  
SONOSECUR ACOUSTICAL PANEL  
(one side only)  
1/2" RESILIENT CHANNEL RC-1  
4 1/2" STRUCTURAL FOAM  
CORE PANEL

1" AIR SPACE

CONTINUOUS FIRE RATED CAULKING

INSTALL AS PER LOCAL BUILDING CODE OR JOIST SUPPLIER SPEC.

5/8" TYPE C GYPSUM BD.  
5/8" TYPE C GYPSUM BD.  
SONOSECUR ACOUSTICAL PANEL  
(one side only)  
1/2" RESILIENT CHANNEL RC-1  
4 1/2" STRUCTURAL FOAM  
CORE PANEL

1" AIR SPACE

CONTINUOUS FIRE RATED CAULKING

INSTALL AS PER LOCAL BUILDING CODE OR JOIST SUPPLIER SPEC.

POURED CONCRETE OR BLOCK WALL FOUNDATION

STRUCTURAL CAPACITY FOR WALL NOT TO EXCEED 32.4 kn/m (2217 LBS. PER LINEAR FOOT) FOR OTHER REQUIREMENTS, INCLUDING STRUCTURAL LOAD, REFER TO MANUFACTURER'S INSTRUCTIONS.

INSTALL TOP PLATE AND CAP SECURED TO STUDS WITH 95 mm SPIRAL NAILS

50 mm RING NAILS @ 250 mm O/C (TYP)

5/8" TYPE C GYPSUM BD.  
5/8" TYPE C GYPSUM BD.  
1/2" RESILIENT CHANNEL

DOUBLE STUD SPLINE SECURED TO PLATE WITH 83 mm SPIRAL NAILS

ULC LABELLED CANADIAN GYPSUM COMPANY "SHEETROCK FIRECODE C" OR "SHEETROCK SW FIRECODE C"

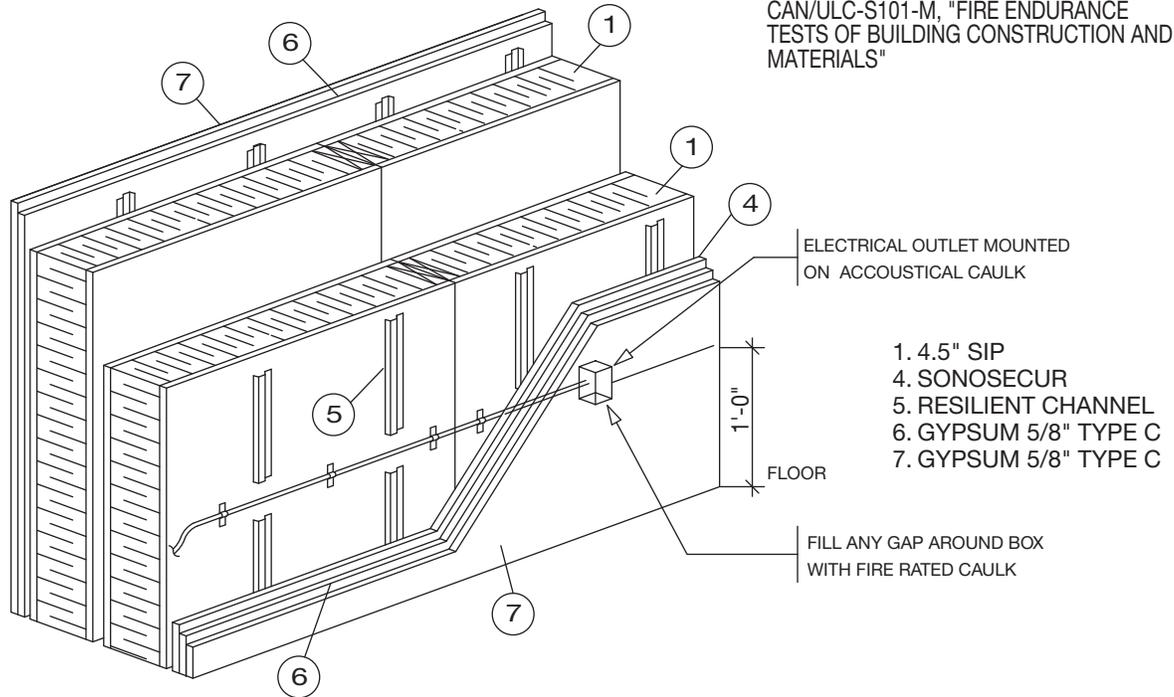
NOTE: TESTED IN CONFORMANCE WITH CAN/ULC-S101-M, "FIRE ENDURANCE TESTS OF BUILDING CONSTRUCTION AND MATERIALS"



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1-877-443-WALL (9255)

|  |          |          |  |
|--|----------|----------|--|
| TITLE  |          | PROJECT  |  |
| 60 MIN. PARTYWALL<br>DOUBLE WALL STC RATING 50 |          |          |  |
| REFERENCE                                      | SCALE    |          |  |
| 7016   | N.T.S.   |          |  |
| DATE   | REVISION | DWG. No. |  |
| JULY 2023                                      | 6        | W-PW-3   |  |

NOTE: TESTED IN CONFORMANCE WITH CAN/ULC-S101-M, "FIRE ENDURANCE TESTS OF BUILDING CONSTRUCTION AND MATERIALS"



- 1. 4.5" SIP
- 4. SONOSECUR
- 5. RESILIENT CHANNEL
- 6. GYPSUM 5/8" TYPE C
- 7. GYPSUM 5/8" TYPE C

ASSEMBLY OF RESILIENT CHANNEL (5)

THE RESILIENT CHANNELS ARE ORIENTED VERTICALLY AT 16" (400 mm) OC AND SECURED WITH 1" (25 mm) TYPE W GYPSUM BOARD SCREWS AT 16" (400 mm) OC TO THE STRUCTURAL INSULATED PANEL (SIP).

ASSEMBLY OF SONOSECUR ACOUSTIC PANEL (4)

TACK THE SONOSECUR ACOUSTIC PANEL WITH 1" (25 mm) LONG TYPE W GYPSUM BOARD SCREWS TO HOLD IN PLACE. THE SONOSECUR ACOUSTIC PANEL IS ASSEMBLED ON ONE SIDE ONLY.

ASSEMBLY OF FIRST LAYER 5/8" TYPE C GYPSUM (6)

INSTALL THE FIRST GYPSUM LAYER (6) VERTICALLY ONTO RESILIENT CHANNELS WITH 1" (25 mm) TYPE W GYPSUM SCREWS SPACED 16" (400 mm) OC.

ASSEMBLY OF SECOND LAYER 5/8" TYPE C GYPSUM (7)

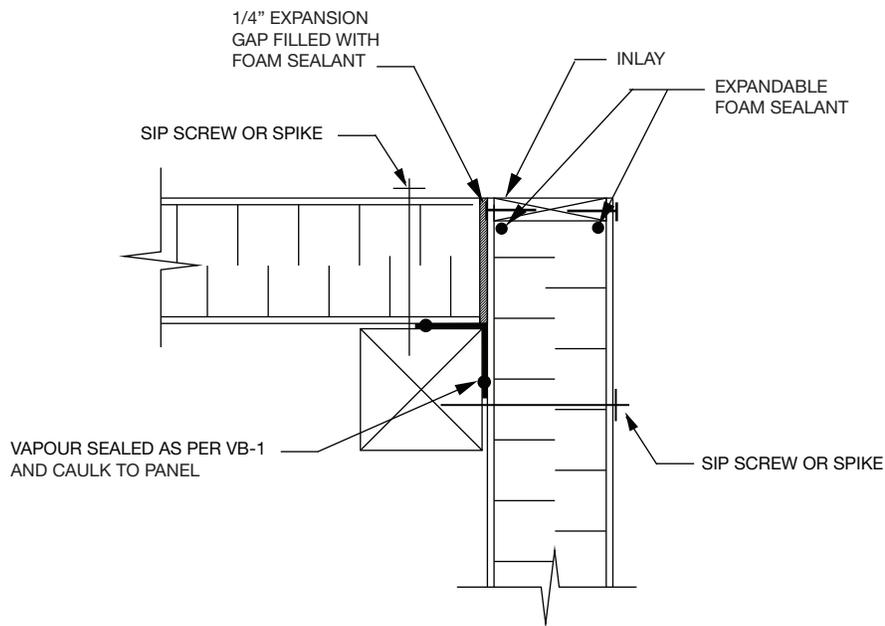
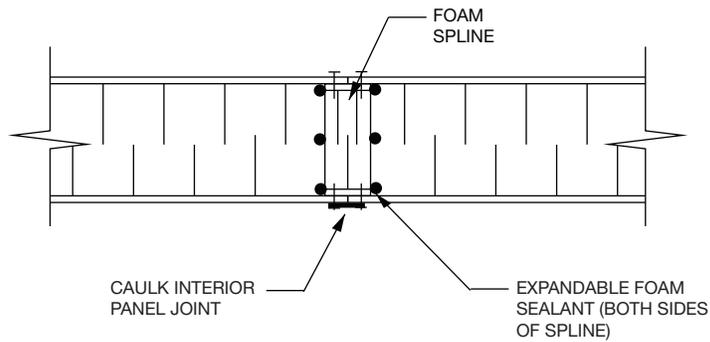
THE JOINTS OF THE SECOND LAYER SHOULD BE OFFSET AND STAGGERED FROM FIRST LAYER. THE SECOND LAYER SHOULD HAVE 1.75" (44 mm) SCREWS AT 12" (304 mm) OC . THE FIRST LAYER OF GYPSUM DOES NOT HAVE TO BE TAPED. ONLY THE SECOND LAYER HAS TO BE FINISHED. JOINTS SHOULD BE COVERED WITH COMPOUND, COVERED WITH JOINT TAPE AND COVERED WITH AN ADDITIONAL TWO COATS OF JOINT COMPOUND. SCREW HEADS COVERED WITH JOINT COMPOUND.

UL GYPSUM BOARD FIRECODE "C"



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|   |          |          |  |
|---|----------|----------|--|
| TITLE   |          | PROJECT  |  |
| PARTYWALL ELECTRICAL DETAIL<br>(60 MIN. WALL RATED ASSEMBLY<br>(DOUBLE WALL) STC RATING 50) |          |          |  |
| REFERENCE   | SCALE    |          |  |
| 8015  | N.T.S.   |          |  |
| DATE  | REVISION | DWG. No. |  |
| JULY 2023   | 7        | W-PW-4   |  |



NOTE: REFER TO W-1 FOR SPLINE CONNECTION DETAILS. REFER TO AIR BARRIER (AB-1 & AB-2) DETAILS FOR SEALING SIP CONNECTIONS.

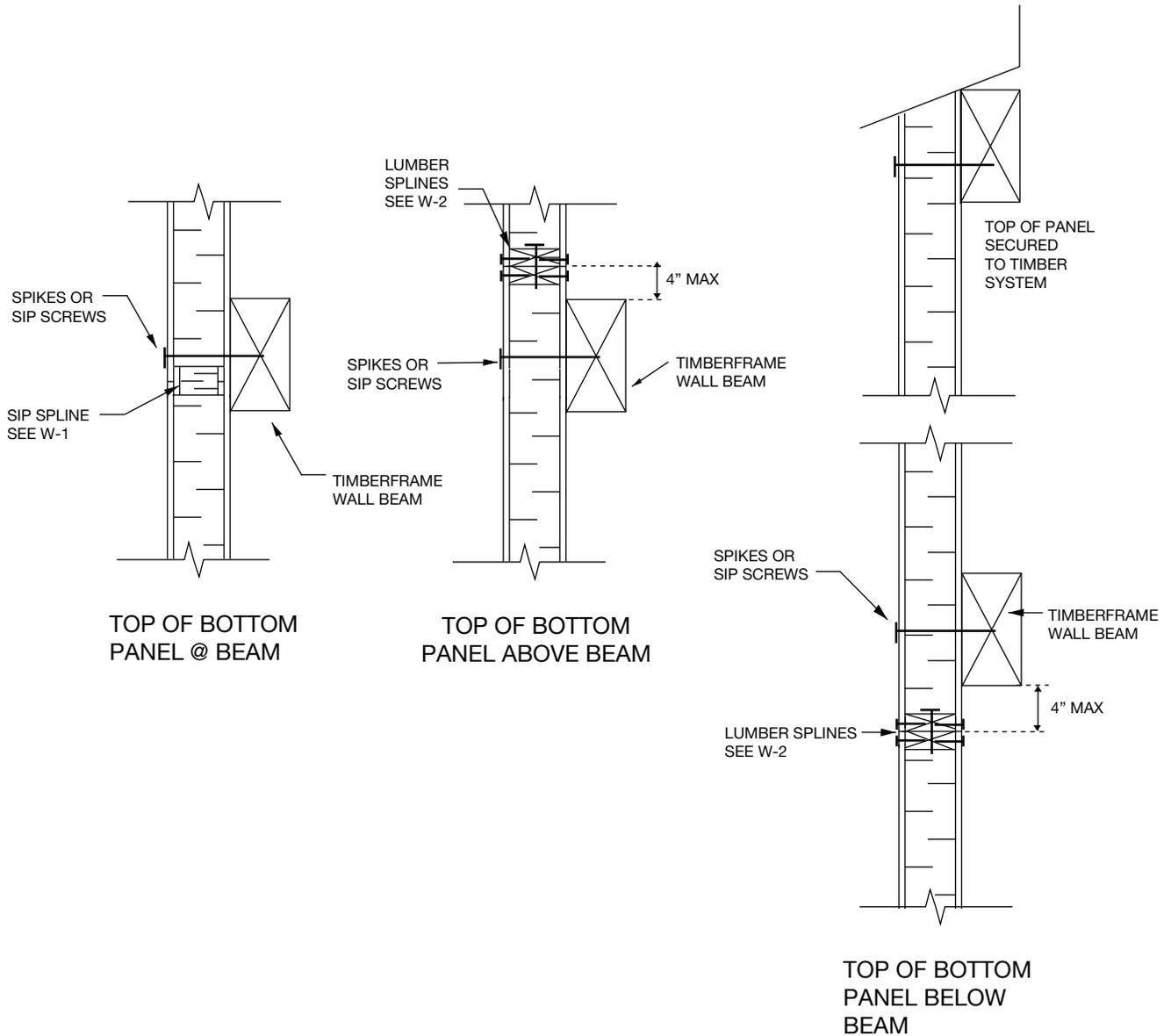
THE PANELS ARE FASTENED TO THE POST AT THE CORNERS AS SHOWN LEAVING A GAP TO BE SEALED WITH EXPANDING SPRAY FOAM.

DIMENSIONAL LUMBER INLAYS COMPLETE THE NAILING SURFACE AT THE CORNER.



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|  |          |          |  |
|--|----------|----------|--|
| TITLE  |          | PROJECT  |  |
| VERTICAL PANEL CONNECTIONS<br>SPLINE & CORNER<br>(TIMBERFRAME) |          |          |  |
| REFERENCE  | SCALE    |          |  |
|  | N.T.S.   |          |  |
| DATE   | REVISION | DWG. No. |  |
| APRIL 2014   | 6        | W-TF-1   |  |

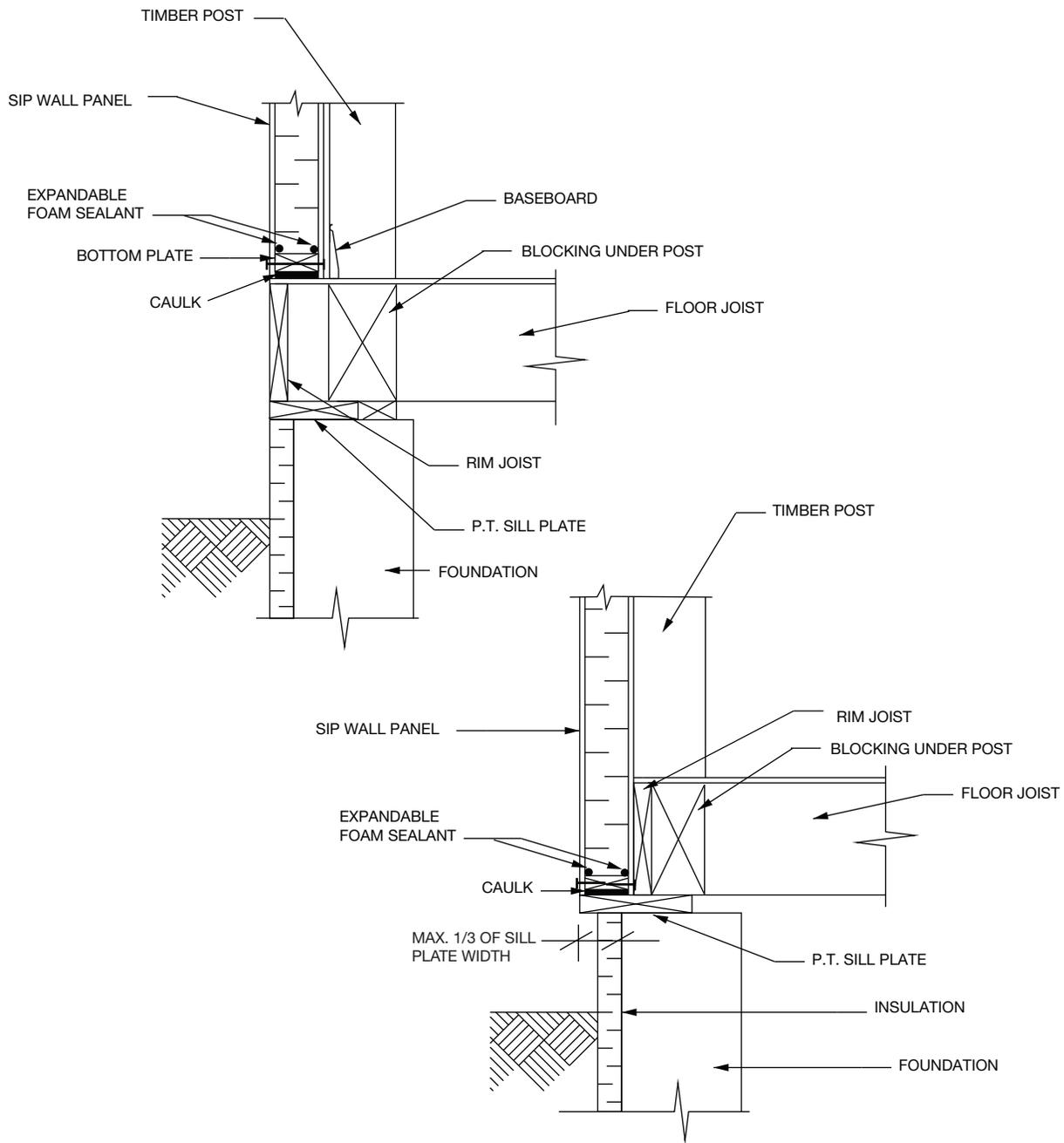


**NOTE:** REFER TO AIR BARRIER (AB-1 & AB-2) DETAILS FOR SEALING SIP CONNECTIONS.



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|  |          |          |  |
|--|----------|----------|--|
| TITLE  |          | PROJECT  |  |
| <b>HORIZONTAL<br/>CONNECTIONS AT BEAMS<br/>(TIMBERFRAME)</b> |          |          |  |
| REFERENCE  | SCALE    |          |  |
|  | N.T.S.   |          |  |
| DATE   | REVISION | DWG. No. |  |
| APRIL 2014   | 3        | W-TF-2   |  |



**NOTE:** REFER TO AIR BARRIER (AB-2) DETAIL FOR SEALING SIP CONNECTIONS.



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|  |          |          |  |
|--|----------|----------|--|
| TITLE  |          | PROJECT  |  |
| <b>FOUNDATION DETAILS<br/>DECK OPTIONS<br/>(TIMBERFRAME)</b> |          |          |  |
| REFERENCE  | SCALE    |          |  |
|  | N.T.S.   |          |  |
| DATE   | REVISION | DWG. No. |  |
| APRIL 2014   | 5        | W-TF-3   |  |