Construction Detail Manual

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

SIPs Done Right!

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PREMIER
BUILDING SYSTEMS

SIPA
Structural Insulated
Panel Association

TABLE OF CONTENTS

TOOLS & MISCELLANEOUS ITEMS NEEDED FOR CONSTRUCTION

1 ½" SCREWS (#8 OR #9)
3" CONSTRUCTION LAGS OR #9 x 3" SCREWS
MINIMAL EXPANDING FOAM & FOAM GUN
PANEL SEALANT
CAULKING GUN (20 oz. SAUSAGE PACK STYLE)
ELECTRIC FOAM CUTTER
JIMMY'S STRAP JACK PANEL PULLER
OR 2" NYLON LOAD STRAP (WITH FLAT HOOK)
LIFTING PLATES FOR ROOF & TALL WALL PANELS
PRE-CUT TREATED BOTTOM PLATE FOR WIDTH

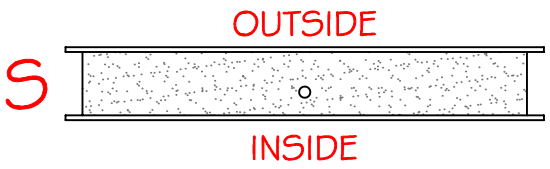
⅜" DRILL OR IMPACT DRIVER (CORDLESS)
½" DRILL (FOR LONG PANEL SCREWS)
CIRCULAR SAW
RECIPROCATING SAW (6" & 12" BLADES)
1 ¼" OR 1 ½" CHIPPER BIT (FOR ELECTRICAL CHASE THROUGH PLATES)
T25 & T30 TORX DRIVER BIT
4'-0" LEVEL
CHALK LINE
SLEDGE HAMMER
HARD WOOD BLOCK (APPROXIMATELY 8" x 12")
DRILL BIT FOR ANCHOR HOLES IN BOTTOM PLATE
HAMMER

NOTE: ANY BUILDING SIDEWALL THAT HAS 60'-0" OR MORE WITH NO PARTITIONS MUST HAVE PROPER BRACING FROM RAFTER TO SIDEWALL FOR STRUCTURAL STRENGTH.
EXAMPLE: SPECIAL TRUSS CONNECTIONS, KNEE BRACING, PARTITION WALL, OR TEMPORARY BRACING UNTIL SUCH BRACING IS COMPLETED.

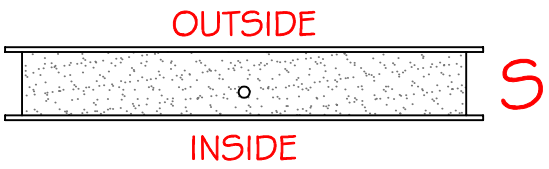
MATERIAL TERMS IN GUIDE DETAILS VS. ACTUAL ITEMS SENT

1 ½" SCREWS (#8 OR #9)	1 ½" BTX SCREWS (ACQ APPROVED)
3" CONST. LAGS	3" CTX CONSTRUCTION LAG SCREWS
(16d NAILS @ 12" O.C.	TYP-24" O.C. IN 2 ROWS STAGGERED
IN 2 ROWS STAGGERED	#9X3" BTX SCREWS AS REQUESTED
CAN BE USED-BY OTHER)	TYP-12" O.C. IN 2 ROWS STAGGERED
PANEL SCREWS	TRUFAST PANEL SCREWS
PANEL SEALANT	SIP-SEAL ADHESIVE SEALANT
SIP TAPE	SIP-SEAL VAPOR TAPE

THE "TYPES" OF CONNECTIONS USED ON DETAILS



TYPE 3:
SPECIAL SETBACK = S



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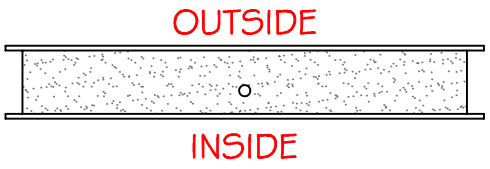
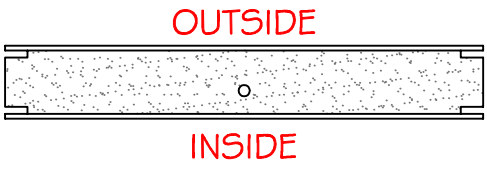
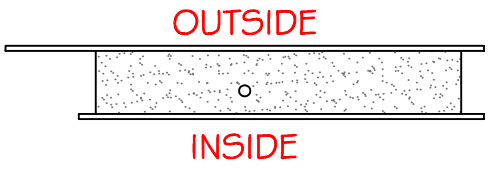


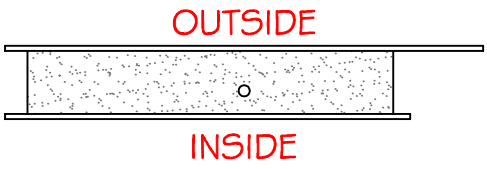
TYPE 6:
BLOCK SPLINE
I-JOIST SPLINE
2x LUMBER SPLINE



TYPE 5:
PLYWOOD SPLINE



TYPE 1:
RIGHT FLANGE



TYPE 2:
LEFT FLANGE

NOTE: WALL TYPE 5, 1, & 2 ARE OPTIONAL AND ARE ONLY USED IN SPECIAL SITUATIONS

LICENSE EXTREME PANELS IS A LICENSEE OF PREMIER BUILDING SYSTEMS (PBS). ALL PANELS ARE MANUFACTURED PER PBS STANDARDS AND TESTING.

FOAM CORE EXTREME PANELS USE EXPANDED POLYSTYRENE (EPS) FOAM INSULATION AS THE EXTREME PANEL CORE. EPS OFFERS AN INSULATION VALUE OF APPROXIMATELY R-4 PER INCH. PANELS ARE AVAILABLE WITH FOAM THICKNESS OF 3 5/8", 5 5/8", 7 3/8", 9 3/8", AND 11 3/8", WITH PANEL INSULATING VALUES RANGING FROM R-14 TO R-48. EPS DOES NOT CONTAIN ANY FORMALDEHYDE OR OZONE-DEPLETING CFC'S.

BUILDING CODE REPORTS REFER TO THE FOLLOWING CODE REPORTS (AVAILABLE FROM YOUR MANUFACTURER) FOR DETAILED INFORMATION ABOUT EXTREME PANEL / PREMIER PANEL PROPERTIES AND TEST PERFORMANCE:

NTA - LISTING REPORT: PRS032808-3
NTA DOES 3rd PARTY INSPECTION FOR QUALITY CONTROL

ICC-ES REPORT - ESR-1882
UL CLASSIFIED - MFRS. REF. NO. R14340

IMPORTANT INSTALLATION REQUIREMENTS FOR PROPER PERFORMANCE AND SAFETY WITH PANELS, THE FOLLOWING MINIMUM GUIDELINES MUST BE FOLLOWED:

* STORAGE AND HANDLING OF PANELS PANELS SHOULD BE KEPT DRY DURING STORAGE. KEEP STACKED OFF THE GROUND ON LEVEL BLOCKING TO PREVENT WARPING & TWISTING.

* SEALING EXTERIOR SKINS OF ROOF AND FLOOR PANELS ALL EXPOSED PANEL SEAMS NEED TO BE SEALED WITH PANEL SEALANT.

* VAPOR BARRIER MUST BE USED IF PANELS ARE BEING APPLIED OVER TIMBER FRAME OR OTHER STRUCTURE THAT ALREADY HAS TONGUE AND GROOVE LUMBER OR GYPSUM BOARD APPLIED.

* SEALING BETWEEN PANELS ALL PANEL JOINTS MAY BE SEALED WITH PANEL SEALANT TO BLOCK MOISTURE / AIR MOVEMENT THROUGH THE PANELS. PROPER SEALING IS EXTREMELY IMPORTANT. REFER TO GUIDELINES IN THIS MANUAL FOR PROPER TECHNIQUES.

* ASSEMBLY EXTREME PANELS ARE CAREFULLY ENGINEERED FOR STRENGTH AND DURABILITY. TO BENEFIT FULLY FROM THE PANEL STRENGTH, PANELS MUST BE PROPERLY SECURED TO EACH OTHER. SECURE PANELS FIRMLY AT ALL JOINTS AND INTERSECTIONS USING THE DETAILS FOUND IN THIS MANUAL. ATTACH PANELS FIRMLY TO ALL DIMENSIONAL LUMBER WHICH THEY CONTACT USING PANEL SEALANT AND FASTENERS. FOLLOW FASTENER SIZE, LENGTH, AND ON-CENTER SPACING REQUIREMENTS LISTED IN THIS MANUAL PRECISELY. SPECIAL LOADING SITUATIONS MAY REQUIRE ADDITIONAL ENGINEERING, REVIEW, AND CONSIDERATION.

* HOISTING PANELS PANELS CAN BE HOISTED ONTO THE ROOF USING VARIOUS METHODS. WHEN USING A CRANE, MAKE SURE THE CRANE OPERATOR IS SKILLED IN THIS KIND OF WORK. THE MOST EFFECTIVE AND SIMPLEST WAY TO HOLD THE PANELS IS TO USE STEEL PLATES BOLTED THROUGH THE PANEL. THE STEEL PLATES ARE SECURED WITH STRAPS TO THE CABLE FROM THE CRANE. BEFORE HOISTING, FASTEN A SERIES OF 2x4s TO THE TOP FACE OF THE PANEL, USING AT LEAST #9x3" SCREWS 12" O.C. TO SERVE AS FOOT HOLDS ONCE THE PANEL IS ON THE ROOF. NEVER LET ANYONE BE UNDER THE PANEL AS IT IS BEING LIFTED.

INSTALLATION GUIDELINES

1. HANDLE PANELS WITH CARE.
2. YOU MUST INVENTORY PANELS UPON DELIVERY.
3. ALWAYS PROVIDE ADEQUATE SUPPORT FOR PANELS WHEN STORING THEM. STORE PANELS LAYING FLAT AND COVERED.
4. KEEP PANEL SEALANT TUBES WARM FOR BEST RESULTS IN COLD WEATHER.
5. APPLY PANEL SEALANT ALONG THE LEADING EDGE OF LUMBER BEING INSTALLED INTO PANELS.
6. USE ONLY EXTREME PANEL APPROVED PANEL SEALANT/ADHESIVE.
7. PROVIDE LEVEL AND SQUARE FOUNDATIONS OR FLOOR THAT SUPPORT BOTH SKINS OF WALL PANELS.
8. HOLD BOTTOM PLATE BACK FROM EDGE OF RIM BOARD 7/16" TO ALLOW FULL BEARING OF OSB SKINS FOR WALL PANELS.
9. DRILL 1 ½" DIAMETER ACCESS HOLES IN BOTTOM AND TOP PLATES TO ALIGN WITH ELECTRICAL WIRE CHASES IN PANELS.
10. PROVIDE ADEQUATE BRACING OF PANELS DURING INSTALLATION.
11. SWEEP DEBRIS FROM PLATE AREA PRIOR TO PANEL SEALANT AND PANEL PLACEMENT.
12. DO NOT INSTALL PANELS DIRECTLY ON CONCRETE WITHOUT A CAPILLARY BREAK. SEE FOUNDATION / SLAB DETAILS.
13. MINIMUM 1 ½" BEARING ON BOTH ENDS OF ANY PANEL PLACED IN A HORIZONTAL POSITION.
14. DO NOT LIFT PANELS BY TOP SKIN.
15. DO NOT PUT PLUMBING IN EXTREME PANELS.
16. CONSULT YOUR HVAC PROFESSIONAL FOR PROPER VENTILATION AND INDOOR AIR CONTROL DESIGN OR THE BUILDING DEPARTMENT FOR LOCAL CODE COMPLIANCE.
17. READ SHOP DRAWINGS AND FULLY UNDERSTAND ALL DETAILS PRIOR TO FRAMING.
18. CONSULT YOUR BUILDING DEPARTMENT OR ARCHITECT FOR VAPOR BARRIER DESIGN.
19. STRAPS AND HOLD DOWNS MUST BE INSTALLED AS SPECIFIED BY ENGINEER.
20. ALWAYS VERIFY REQUIREMENTS IMPOSED BY THE CODE JURISDICTION OR LOCAL BUILDING DEPARTMENT.
21. FOAM ALL PENETRATIONS IN PANELS, INCLUDING ELECTRICAL BOXES.
22. A VAPOR RETARDANT IS ALWAYS REQUIRED IN COLD CLIMATE RESIDENTIAL APPLICATIONS ON WARM SIDE OF THE PANEL. IF SIP FLASHING IS USED ALONG WITH PANEL SEALANTS AT PANEL CONNECTIONS, THIS ASSEMBLY IS CONSIDERED AN ADEQUATE VAPOR RETARDANT. REFER TO PBS TECHNICAL BULLETIN #28 FOR ADDITIONAL INFORMATION.
23. FIELD CUTTING AND TRIMMING OF PANELS MAY BE REQUIRED DUE TO THE IMPERFECTIONS OF THE BUILDING MATERIALS. PANELS TEND TO GROW IN LENGTH AS THEY ARE PUT TOGETHER. FIELD MEASURE PANELS AS THEY ARE INSTALLED TO MAKE SURE CRITICAL DIMENSIONS ARE MET, FOR EXAMPLE, CENTERLINES OF WINDOWS AND STRUCTURAL BEARING POINTS.
24. EXTREME PANELS AS WITH MOST BUILDING COMPONENTS MAY BE EXPOSED TO RAIN AND OR SNOW DURING THE ERECTION OF A PROJECT. PROVIDED WATER AND ICE ARE ALLOWED TO DISSIPATE AND THE PANELS ARE DRY PRIOR TO FINISHING, INCIDENTAL EXPOSURE TO PRECIPITATION IS NOT PROBLEMATIC. IT IS STILL RECOMMENDED THAT PROLONGED WATER EXPOSURE BE MINIMIZED AND THAT WEATHER RESISTIVE MATERIALS BE PLACED OVER THE PANELS AS SOON AS POSSIBLE.
25. DO NOT UNDER ANY CONDITION, COVER TOP SIDE OF ROOF PANELS ENTIRELY WITH ANY PEAL & STICK (ICE & WATER SHIELD) MATERIAL OTHER THAN WHERE REQUIRED BY CODE.

ELECTRICAL INSTALLATION HINTS

1. USE VERTICAL CHASES WHENEVER POSSIBLE.

2. USE A REMODELER'S BOX THAT CLAMPS THE WIRE SECURELY TO THE BOX AND HAS FLANGES SO THAT THE BOX CAN BE FASTENED TO THE PANEL SKIN.

3. DO NOT CUT LONG GROOVES IN THE PANEL SKINS. (IF ABSOLUTELY NECESSARY USE A 24" DRILL AND GO FROM ONE 4" ACCESS HOLE TO ANOTHER ACCESS HOLE.)

4. USE INTERIOR STUD WALLS WHENEVER POSSIBLE. NAIL 2x BLOCKING TO THE STUD THAT ABUTS THE WALL PANEL IN ORDER TO BRING THE ELECTRICAL BOX OUT FROM THE CORNER. RATHER THAN TRYING TO BEND AROUND A 90° TURN, DRILL A LONG DIAGONAL HOLE FROM THE STUD THROUGH THE WALL PANEL AND INTO THE HORIZONTAL CHASES. WIRES WILL SLIDE MUCH EASIER THROUGH THIS CONFIGURATION.

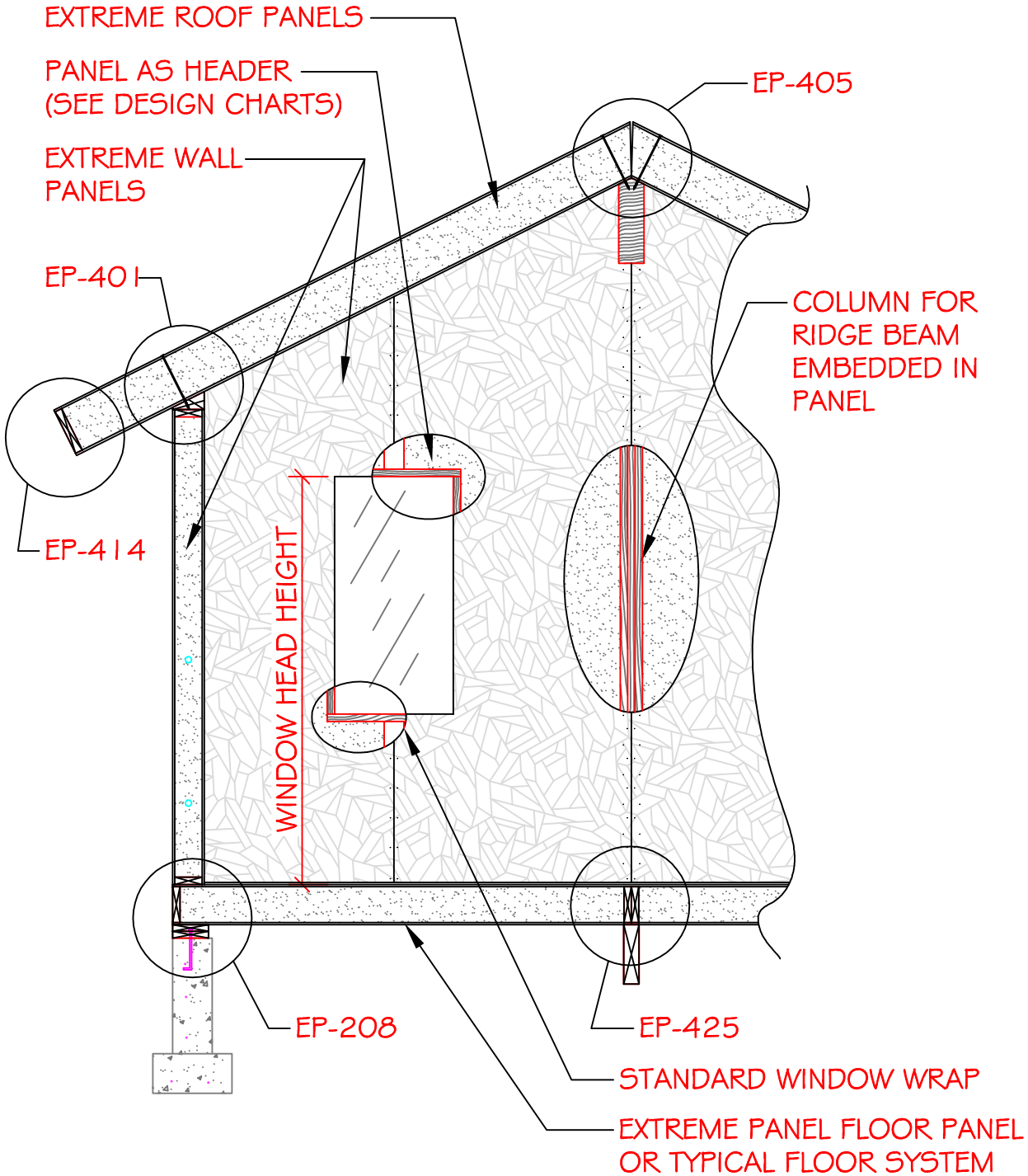
5. PUSH ALL WIRES THROUGH A CHASE AT THE SAME TIME. WITH ELECTRICIAN'S PLIERS, FOLD AND CRIMP THE LONGEST WIRE BACK ON ITSELF ABOUT 1". USE ELECTRICAL TAPE AND COVER THAT END. STAGGER THE ENDS OF ANY ADDITIONAL WIRES AND TAPE OVER THESE. KEEP ALL WIRES FLAT WHEN TAPING TOGETHER. HAVE 8"-10" OF STRAIGHT WIRE TO SLIDE INTO THE ELECTRICAL CHASE HOLES.

6. TO GAIN ACCESS AT ELECTRICAL CHASE INTERSECTIONS USE A 4" HOLE SAW. USE A FLAT BLADE SCREWDRIVER TO PRY OUT PLUG. NAIL THE PLUG TO THE WALL FOR LATER REINSTALLATION. AFTER ALL WIRES ARE PULLED, SPRAY FOAM THE HOLE AND REPLACE THE PLUG.

7. AVOID HORIZONTAL RUNS BETWEEN OUTLETS AND SWITCHES UNLESS THE DISTANCE IS SHORT (3' OR LESS) OR THERE ARE NO OTHER OPTIONS. IT IS USUALLY QUICKER AND MORE ECONOMICAL TO USE THE VERTICAL CHASES TO GO INTO FLOOR AND ROOF SYSTEM.

SECTION 1

GENERAL DETAILS



SECTION
NOT TO SCALE

DETAIL TITLE : BUILDING SECTION
DETAIL NO. : EP-101
PAGE NO. : 1 - 1
UPDATED : MARCH 2017

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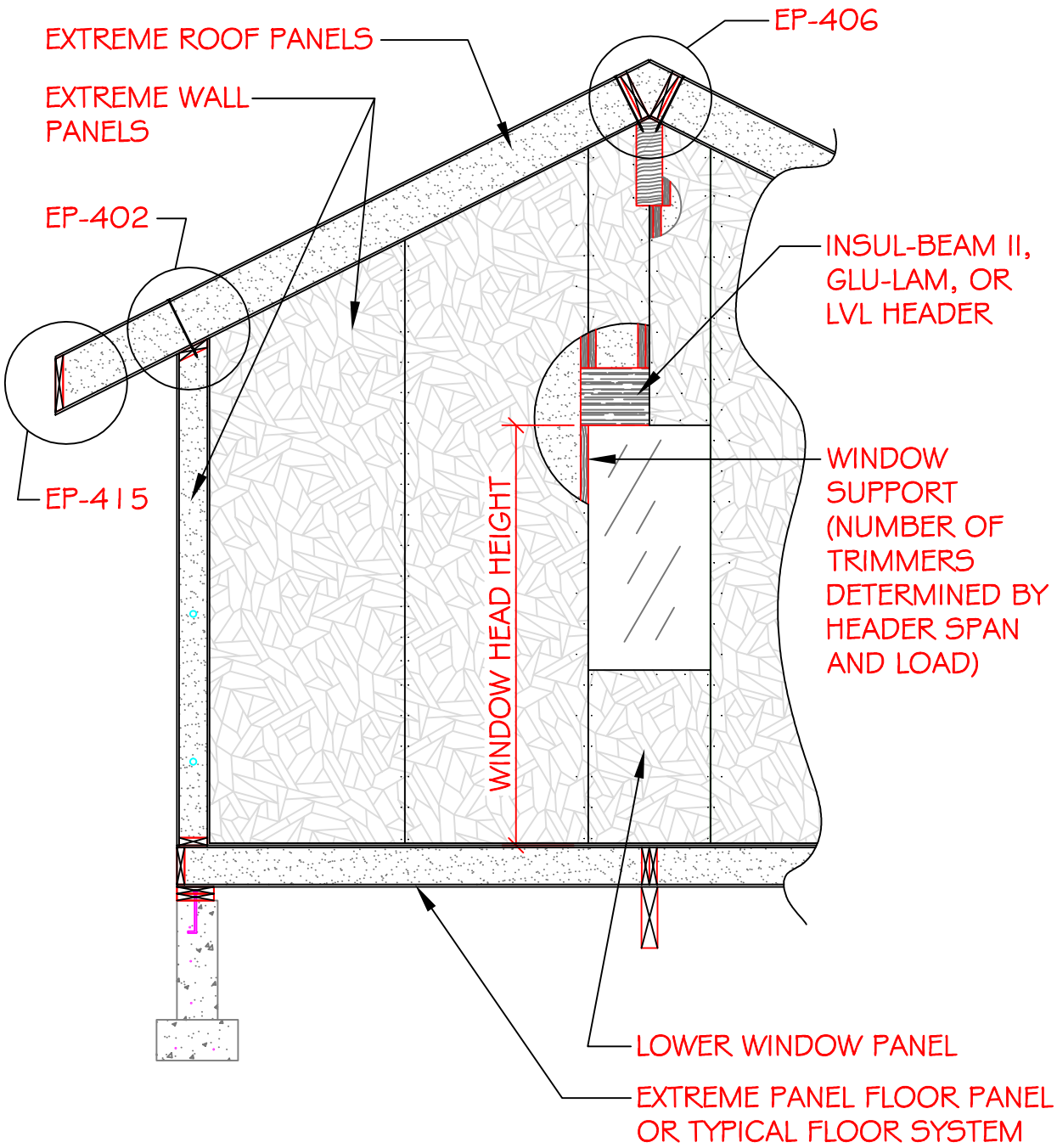

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DETAIL TITLE : BUILDING SECTION
DETAIL NO. : EP-102
PAGE NO. : 1 - 2
UPDATED : MARCH 2017

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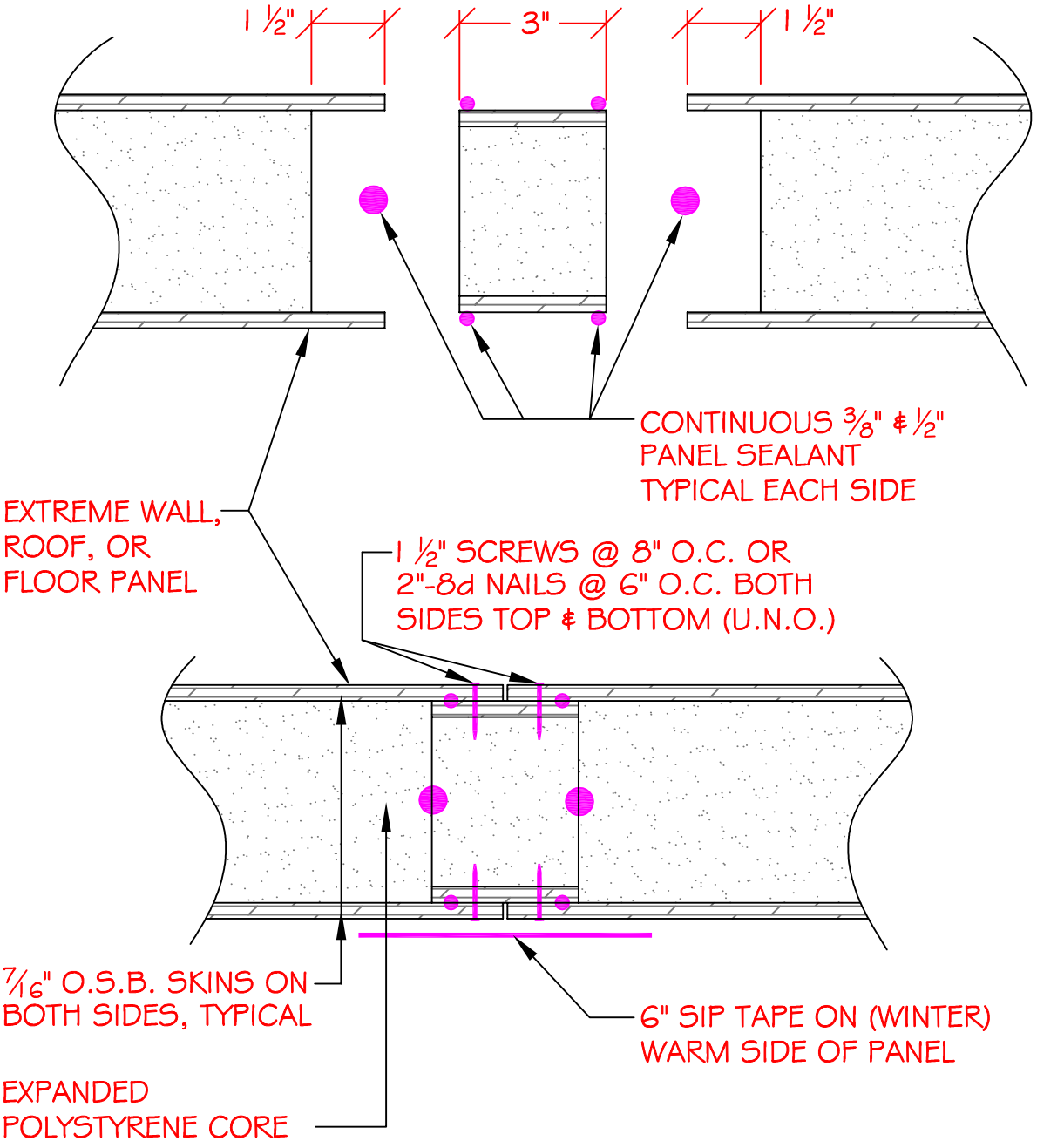
PRE-ASSEMBLED VIEW



ASSEMBLED VIEW

SECTION
NOT TO SCALE

DETAIL TITLE : BLOCK SPLINE CONNECTION (STD)
DETAIL NO. : EP-103
PAGE NO. : 1 - 3
UPDATED : MARCH 2017

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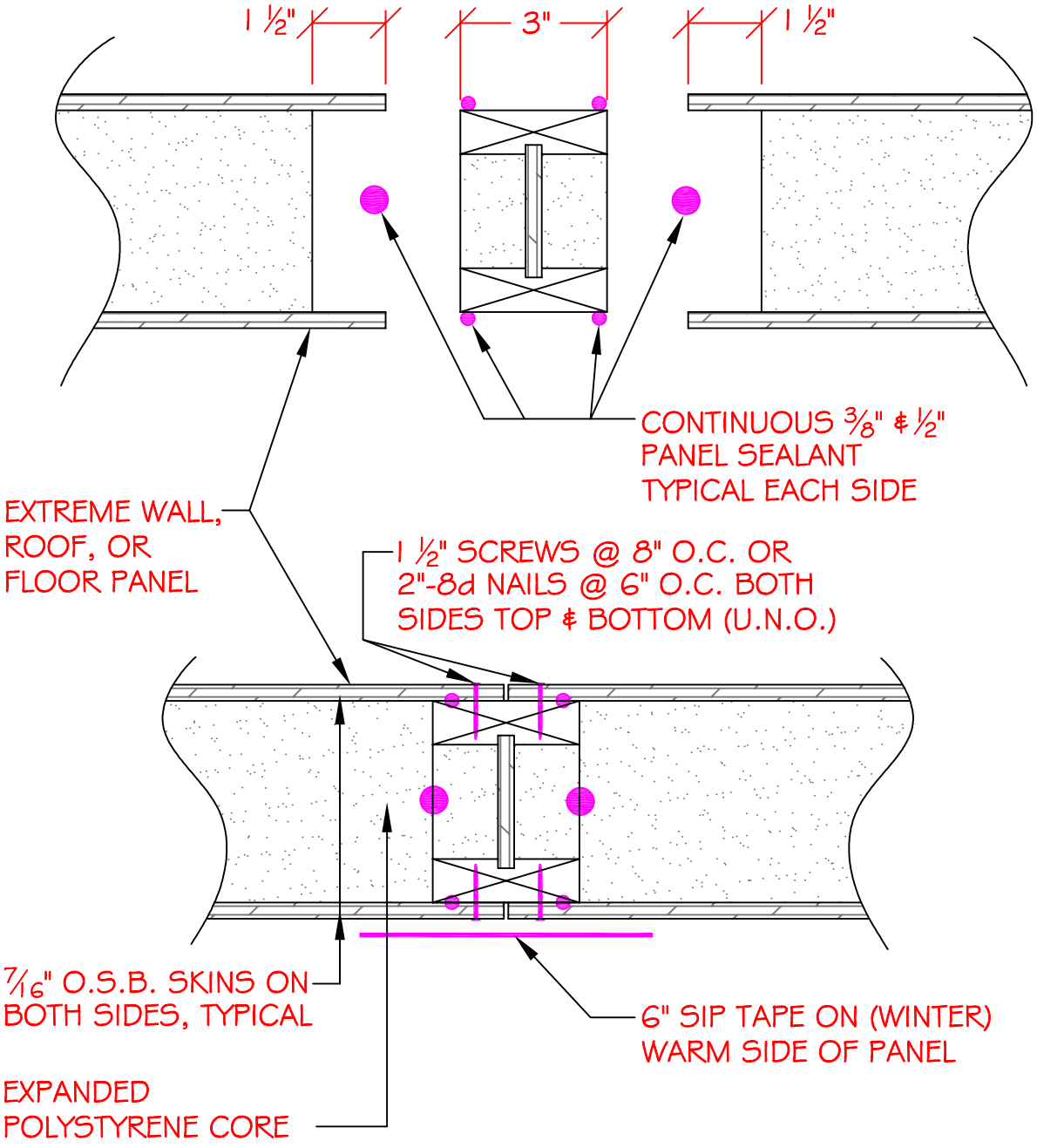
PRE-ASSEMBLED VIEW



ASSEMBLED VIEW

SECTION
NOT TO SCALE

DETAIL TITLE : I-JOIST SPLINE CONNECTION
DETAIL NO. : EP-104
PAGE NO. : 1 - 4
UPDATED : MARCH 2017

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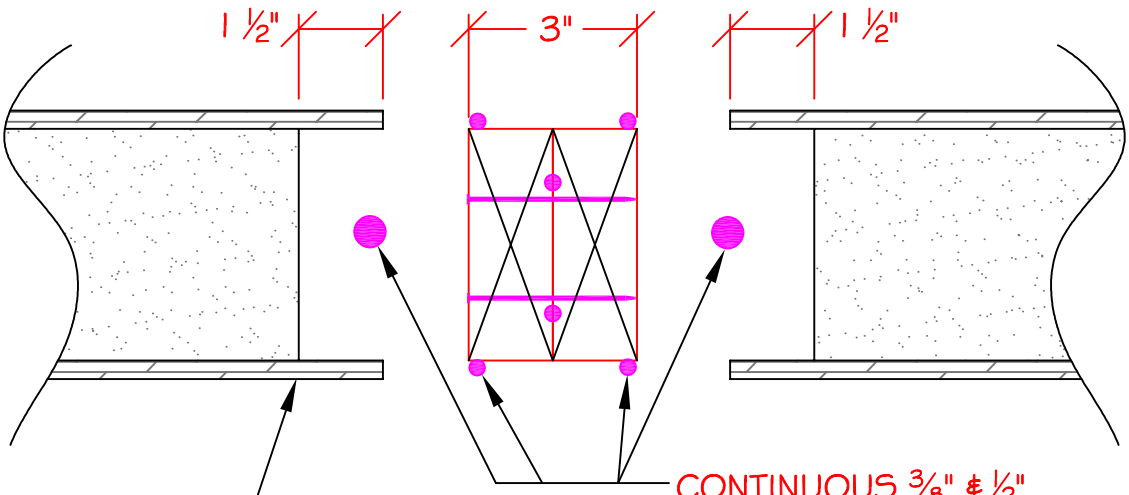
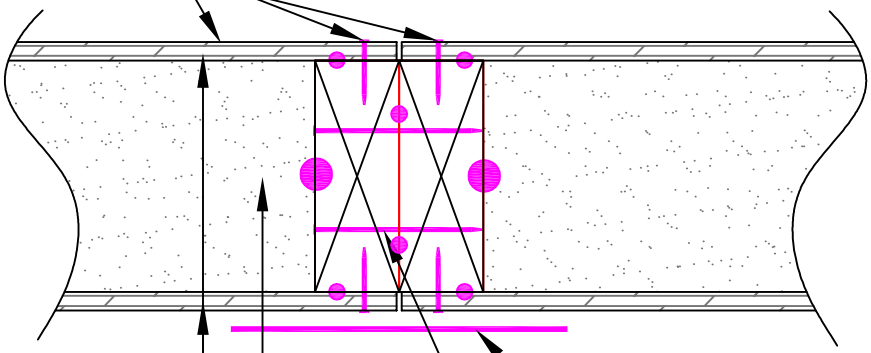
PRE-ASSEMBLED VIEW



EXTREME WALL,
ROOF, OR
FLOOR PANEL

1 ½" SCREWS @ 8" O.C. OR
2"-8d NAILS @ 6" O.C. BOTH
SIDES TOP & BOTTOM (U.N.O.)



7/16" O.S.B. SKINS ON
BOTH SIDES, TYPICAL

EXPANDED
POLYSTYRENE CORE

6" SIP TAPE ON (WINTER)
WARM SIDE OF PANEL

3" CONST. LAGS 24" O.C.
OR 16d NAILS @ 12" O.C.
IN 2 ROWS STAGGERED W/
PANEL SEALANT BETWEEN
2x MEMBERS

ASSEMBLED VIEW

SECTION
NOT TO SCALE

DETAIL TITLE : DOUBLE 2x LUMBER CONNECTION
DETAIL NO. : EP-105
PAGE NO. : 1 - 5
UPDATED : MARCH 2017

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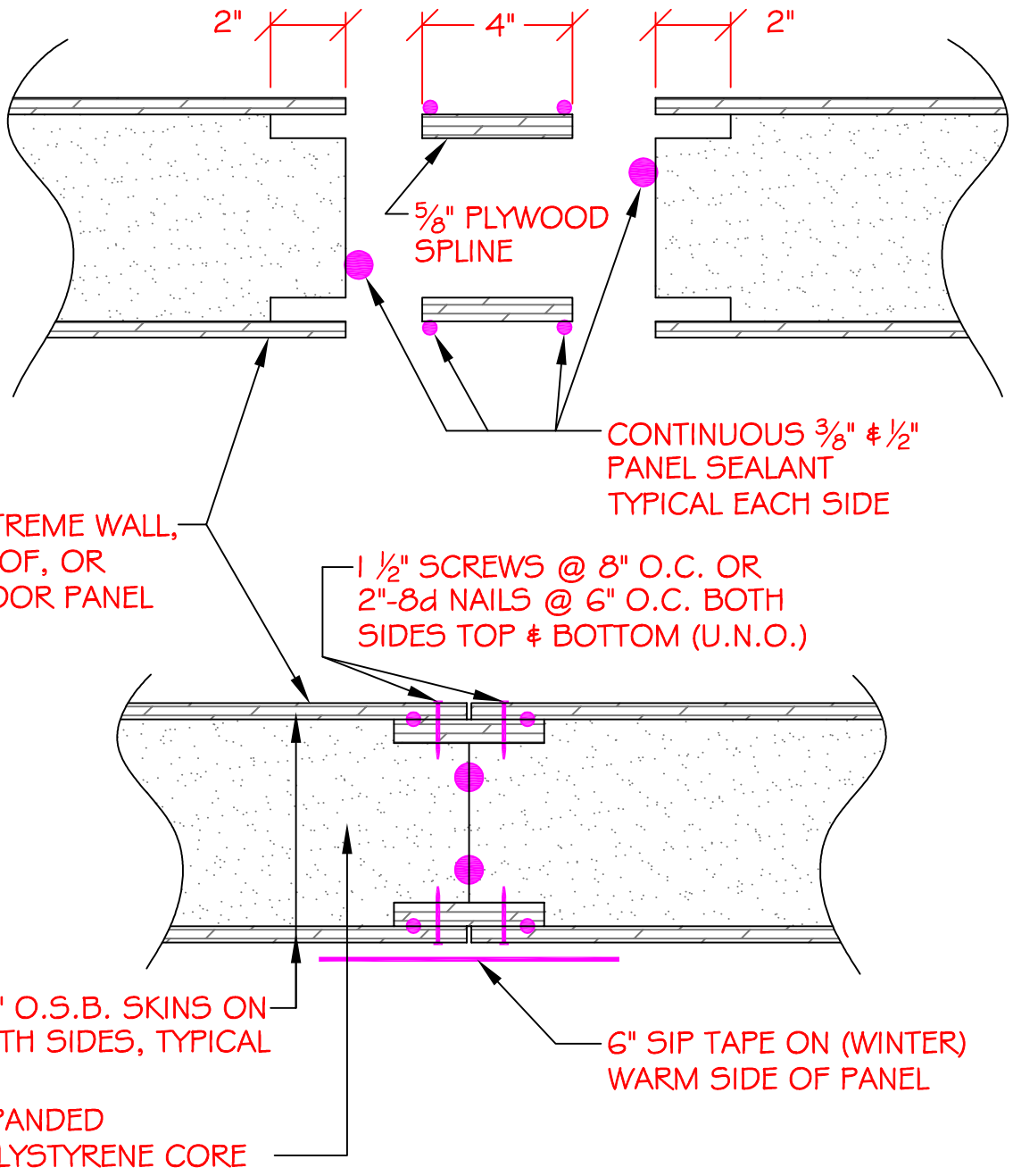
PRE-ASSEMBLED VIEW



ASSEMBLED VIEW

SECTION
NOT TO SCALE

DETAIL TITLE : PLYWOOD SPLINE CONNECTION
DETAIL NO. : EP-106
PAGE NO. : 1 - 6
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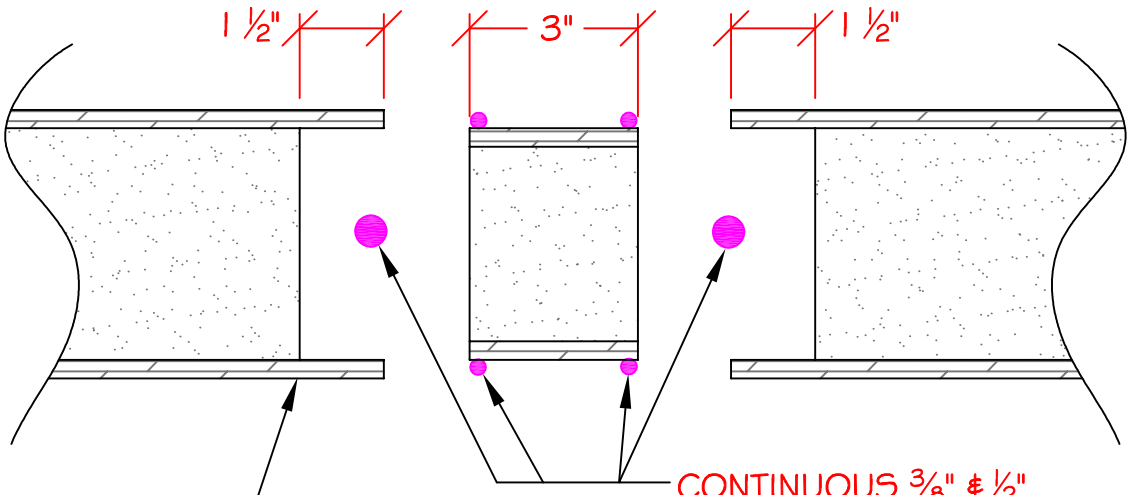
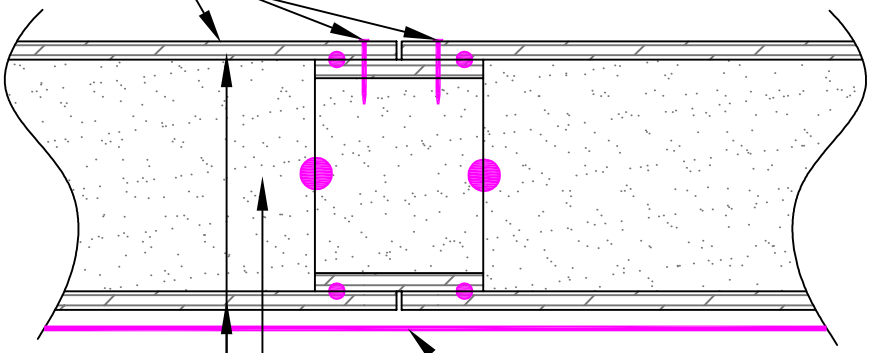
PRE-ASSEMBLED VIEW



EXTREME WALL,
ROOF, OR
FLOOR PANEL

1 ½" SCREWS @ 8" O.C. OR
2"-8d NAILS @ 6" O.C. TOP
SIDE ONLY (U.N.O.)



7/16" O.S.B. SKINS ON
BOTH SIDES, TYPICAL

EXPANDED
POLYSTYRENE CORE

VAPOR RETARDER ON (WINTER)
WARM SIDE OF PANEL

NOTE: THIS DETAIL USED IN SITUATIONS WHERE THE SPLINE CONNECTION ON THE WARM SIDE OF THE PANELS IS NOT ACCESSIBLE

ASSEMBLED VIEW

SECTION
NOT TO SCALE

DETAIL TITLE : BLOCK SPLINE (VAPOR RETARDER)
DETAIL NO. : EP-107
PAGE NO. : 1 - 7
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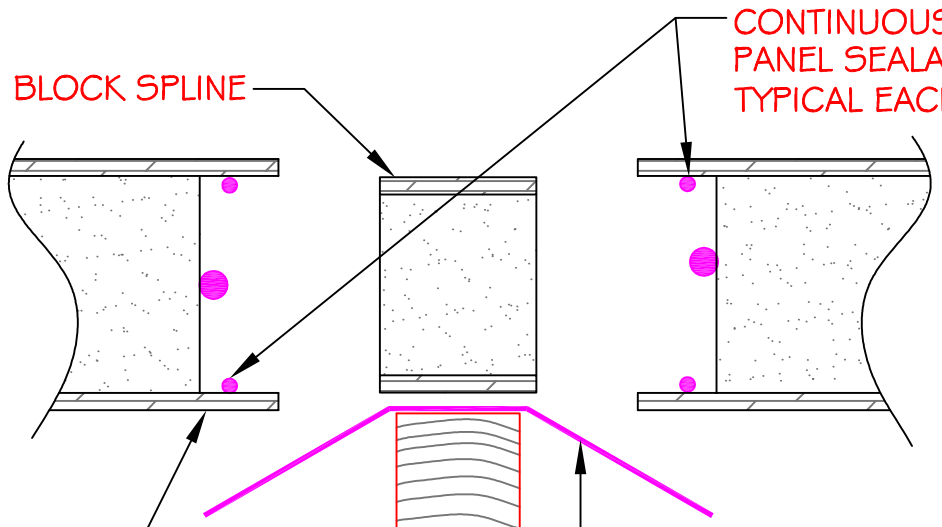
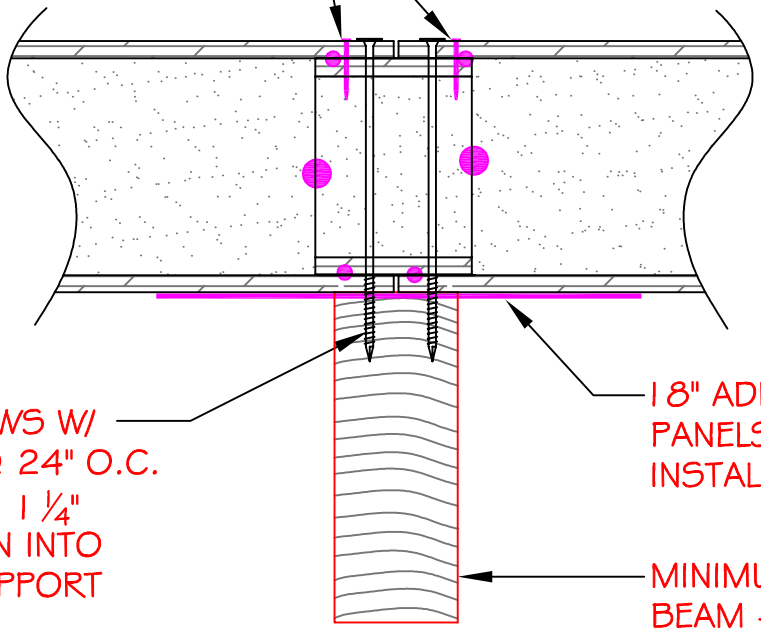
PRE-ASSEMBLED VIEW



EXTREME WALL, ROOF, OR FLOOR PANEL

18" SIP TAPE ON (WINTER) WARM SIDE OF PANEL - ATTACH TO TOP OF BEARING SUPPORT, STICKY SIDE UP, W/ EDGES OF TAPE EXTENDING MINIMUM 3" BEYOND THE SUPPORT

1 1/2" SCREWS @ 8" O.C. OR 2"-8d NAILS @ 6" O.C. BOTH SIDES TOP & BOTTOM (U.N.O.)



PANEL SCREWS W/ WASHERS @ 24" O.C. W/ MINIMUM 1 1/4" PENETRATION INTO BEARING SUPPORT

18" ADHERE SIP TAPE TO PANELS AFTER PANEL INSTALLATION

MINIMUM 3" WIDE BEAM - PANELS REQUIRE MINIMUM 1 1/2" BEARING

ASSEMBLED VIEW

SECTION
NOT TO SCALE

DETAIL TITLE : SPLINE FASTENED AT TOP ONLY
DETAIL NO. : EP-108
PAGE NO. : 1 - 8
UPDATED : MARCH 2017

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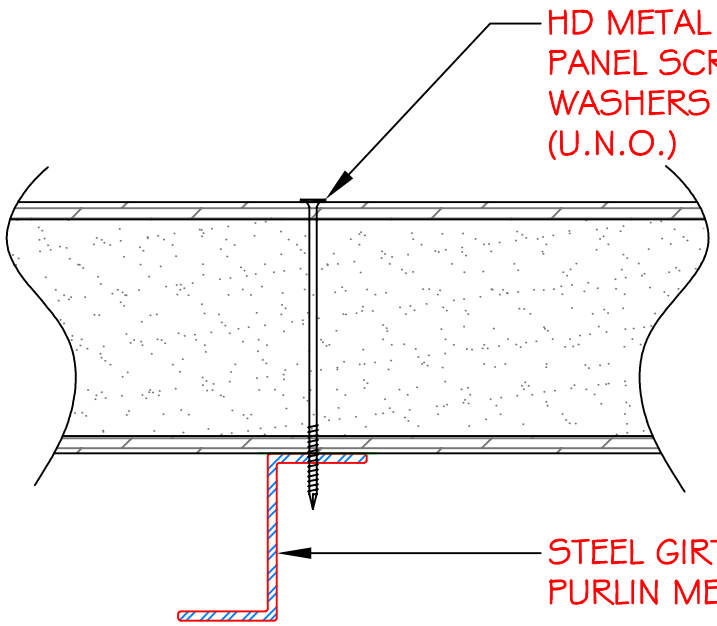

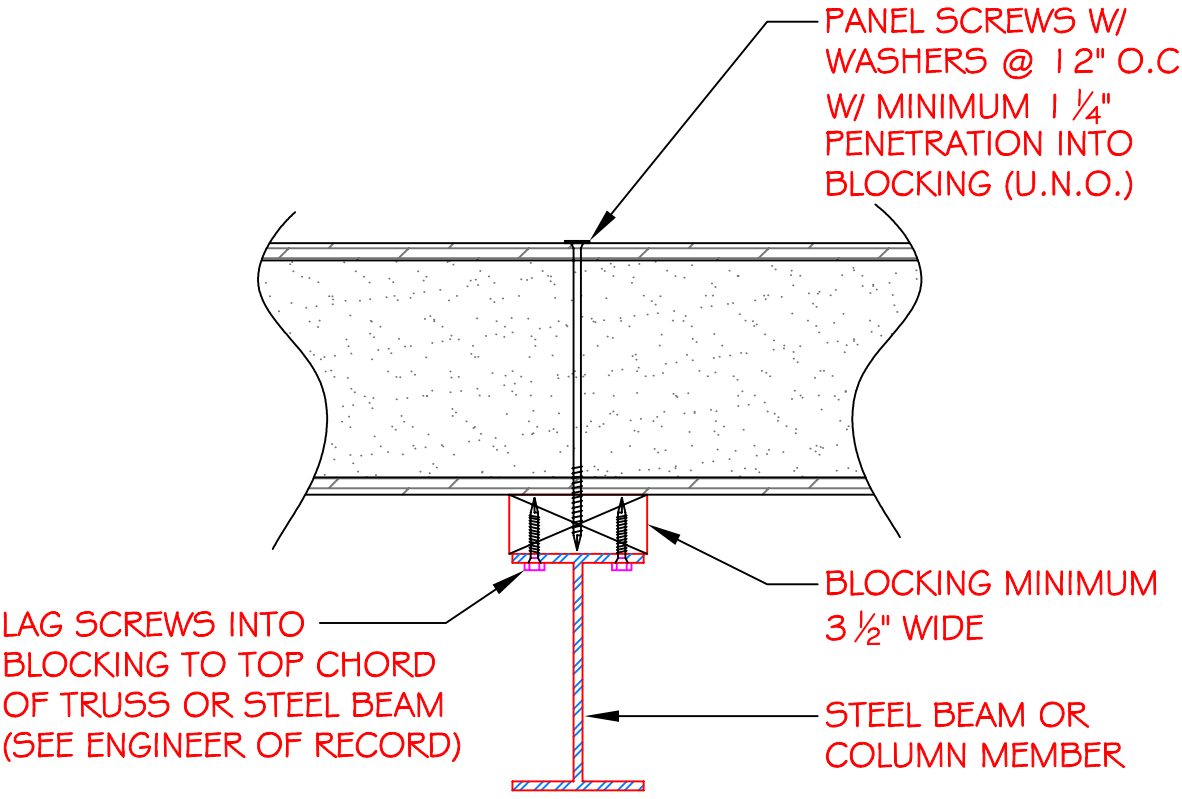

SECTION
NOT TO SCALE

DETAIL TITLE : PANEL TO STEEL CONNECTION
DETAIL NO. : EP-109
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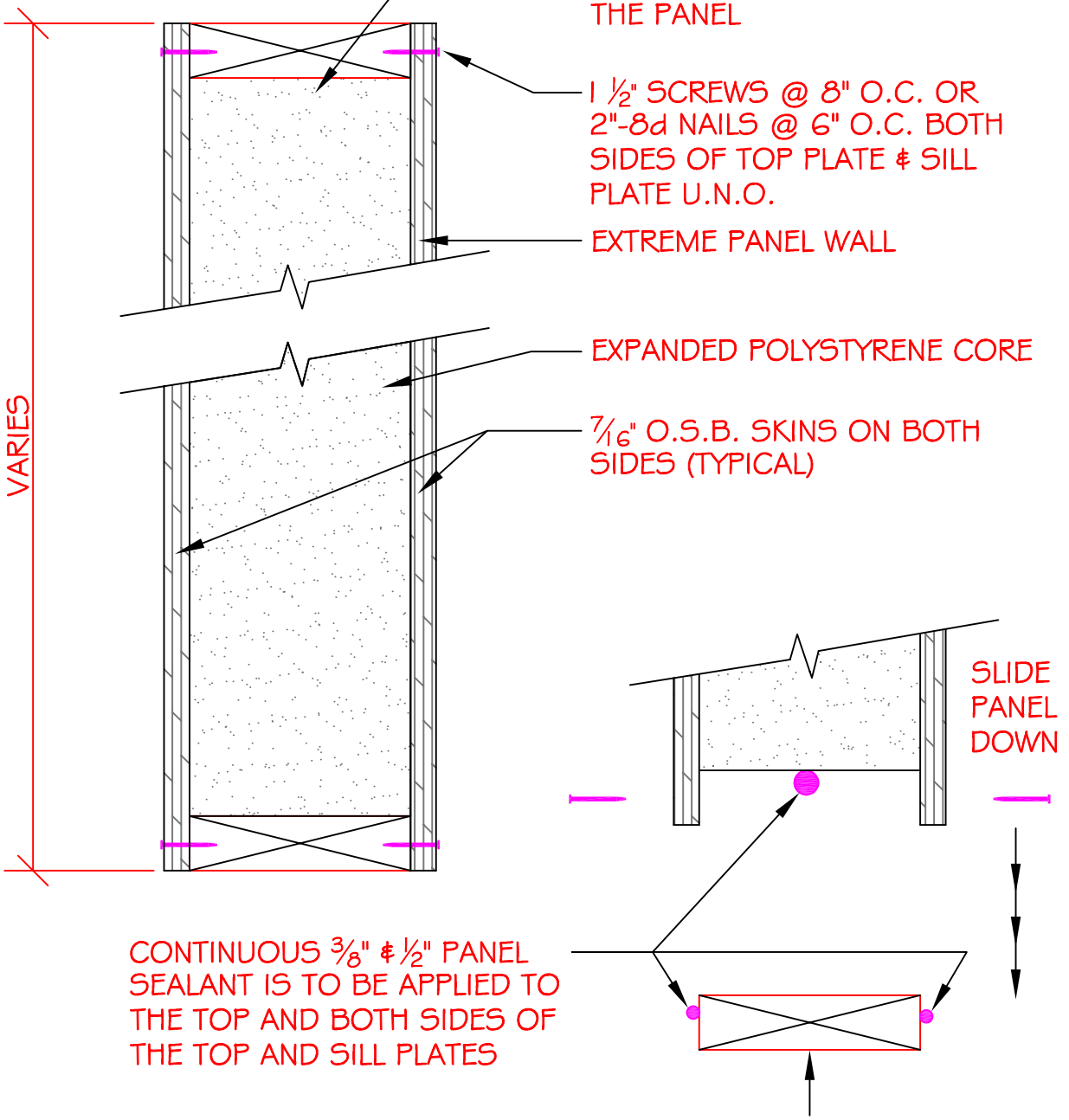

SECTION
NOT TO SCALE

DETAIL TITLE : TOP AND SILL PLATE CONNECTIONS
DETAIL NO. : EP-110
PAGE NO. : 1 - 10
UPDATED : MARCH 2017

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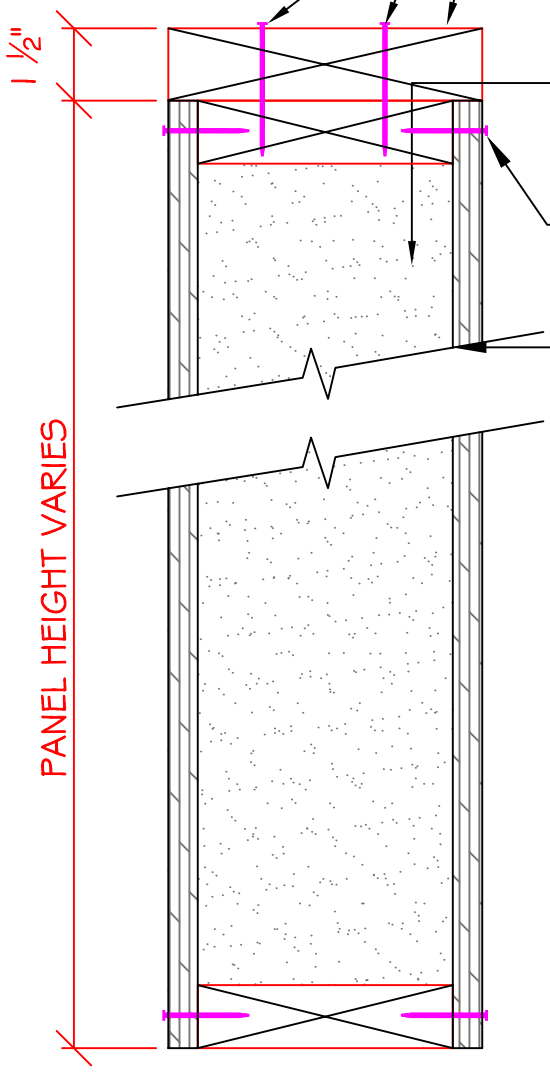
3" CONST. LAGS @ 24" O.C. OR 16d NAILS @ 12" O.C. IN 2 ROWS STAGGERED U.N.O.

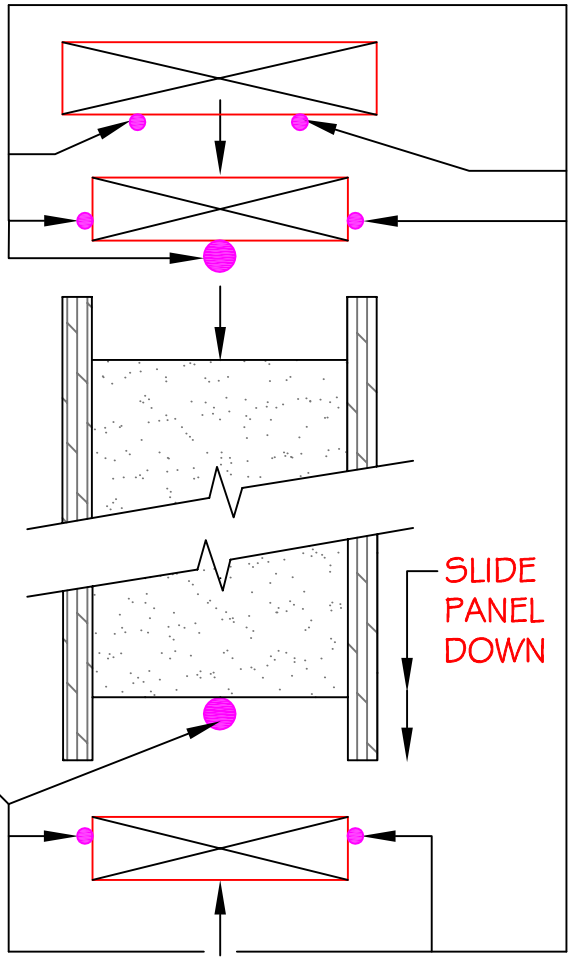
STANDARD 2x LUMBER, OSL RIMBOARD OR LVL MATERIAL RIPPED TO OVERALL WIDTH OF PANEL. MAY BE USED TO INCREASE WALL HEIGHT OR TO INCREASE POINT LOADING CAPACITY. SEE POINT LOAD CHART.

THE FOAM IS HELD BACK 1 ½" TO ALLOW THE TOP PLATE TO SIT FLUSH WITH THE TOP OF THE PANEL

1 ½" SCREWS @ 8" O.C. OR 2"-8d NAILS @ 6" O.C. BOTH SIDES, TOP AND BOTTOM (U.N.O.)

EXTREME PANEL WALL





CONTINUOUS ⅜" & ½" PANEL SEALANT IS TO BE APPLIED TO THE TOP AND BOTH SIDES OF THE TOP AND SILL PLATES AND BETWEEN TOP PLATE AND TOP SHIM PLATE

SILL PLATE IS TO BE FASTENED IN PLACE W/ 3" CONST. LAGS @ 24" O.C. OR 16d NAILS @ 12" O.C. IN 2 ROWS STAGGERED BEFORE PANEL INSTALLATION

SECTION
NOT TO SCALE

DETAIL TITLE : TOP SHIM PLATE CONNECTION
DETAIL NO. : EP-111
PAGE NO. : 1 - 11
UPDATED : MARCH 2017

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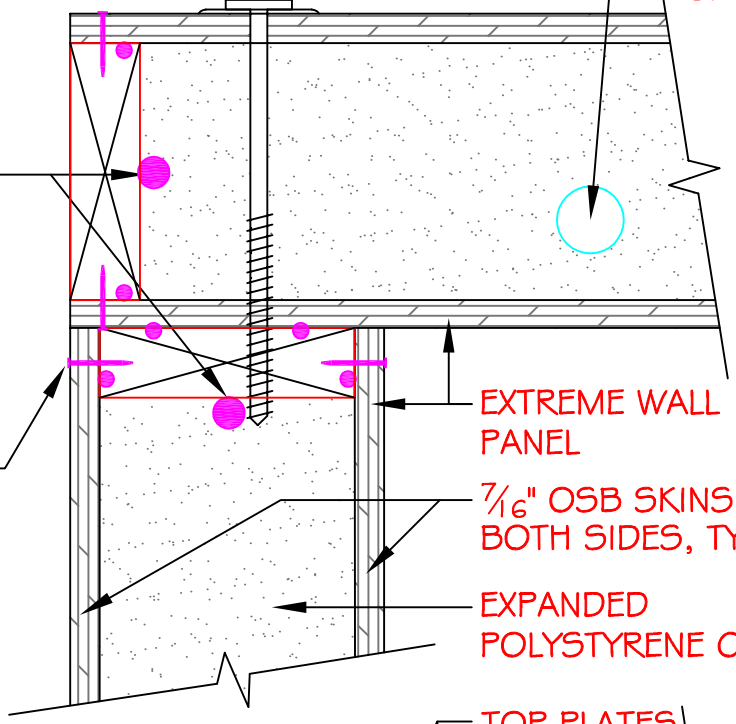
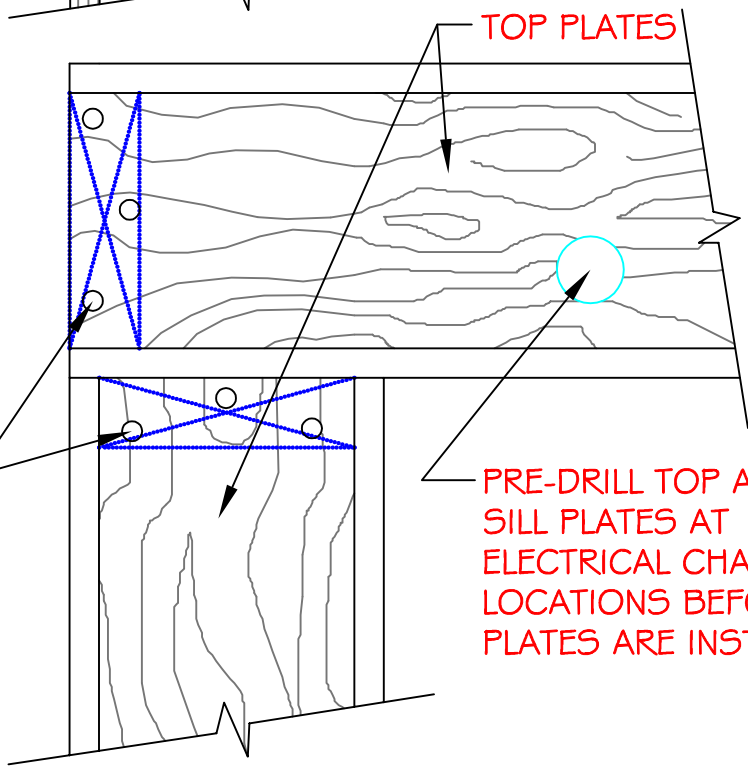
STRUCTURAL INSULATED PANELS

PRE-ASSEMBLED VIEW
(WITHOUT TOP PLATES)



ASSEMBLED VIEW

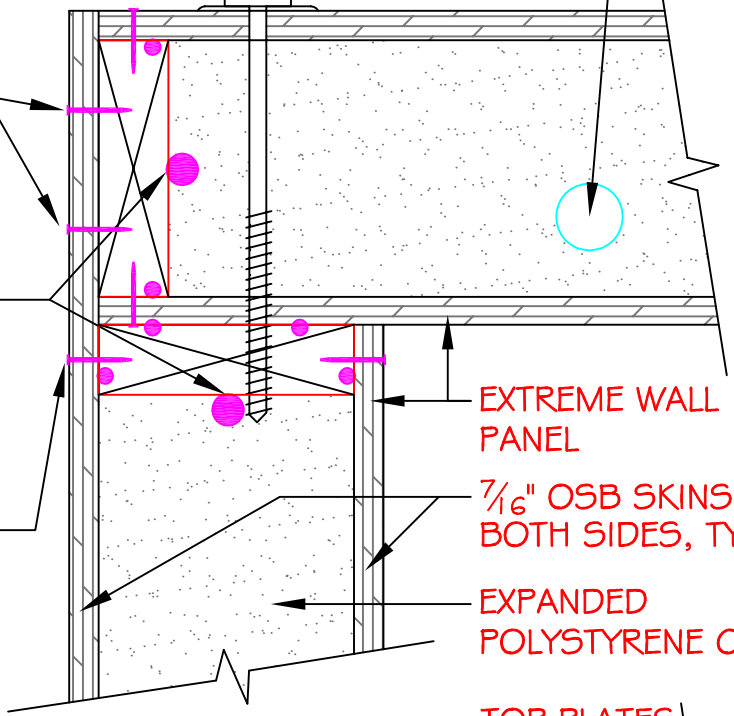


SECTION
NOT TO SCALE

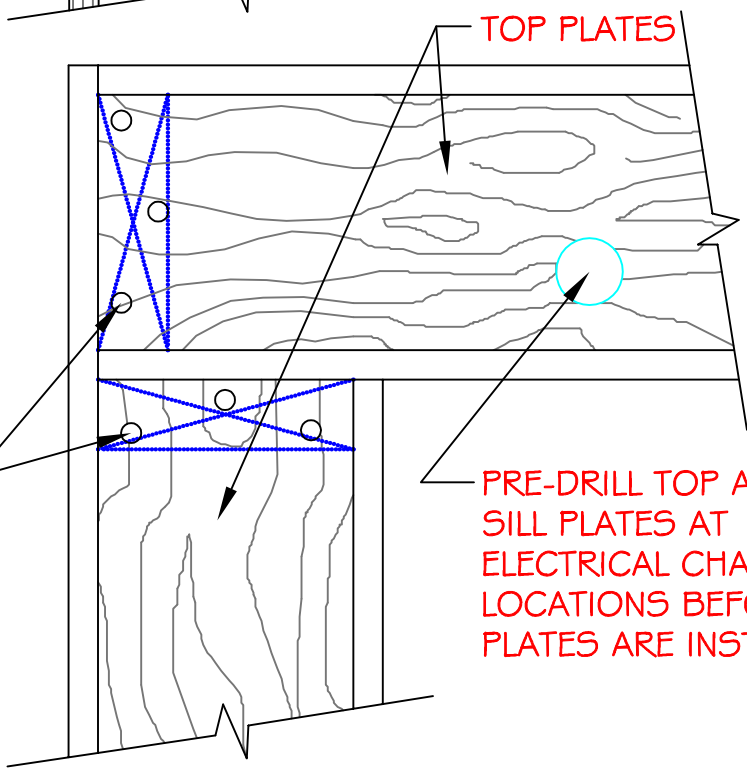
DETAIL TITLE : BUTT CORNER CONNECTION (STD)
DETAIL NO. : EP-112
PAGE NO. : 1 - 12
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

PRE-ASSEMBLED VIEW
(WITHOUT TOP PLATES)



ASSEMBLED VIEW



SECTION
NOT TO SCALE

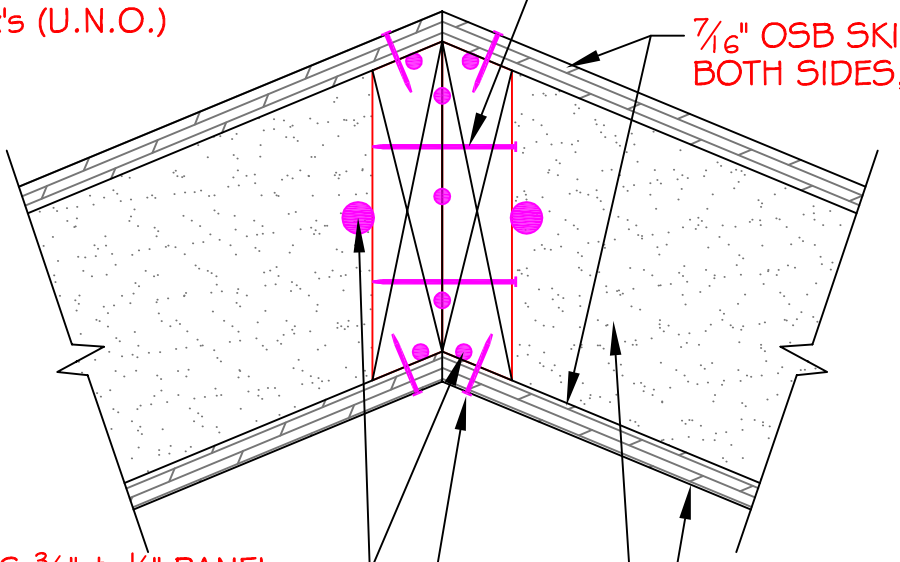
DETAIL TITLE : FLY-BY CORNER CONNECTION (OPT)
DETAIL NO. : EP-113
PAGE NO. : 1 - 13
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

DOUBLE 2x BEVEL SPLINES W/ 3" CONST. LAGS @ 24" O.C. OR 16d NAILS @ 12" O.C. IN 2 ROWS STAGGERED W/ PANEL SEALANT BETWEEN 2x's (U.N.O.)

PRE-ASSEMBLED VIEW (WITHOUT TOP PLATES)

7/16" OSB SKINS ON BOTH SIDES, TYPICAL



CONTINUOUS 3/8" & 1/2" PANEL SEALANT ON EACH SIDE OF LUMBER ON EACH PANEL

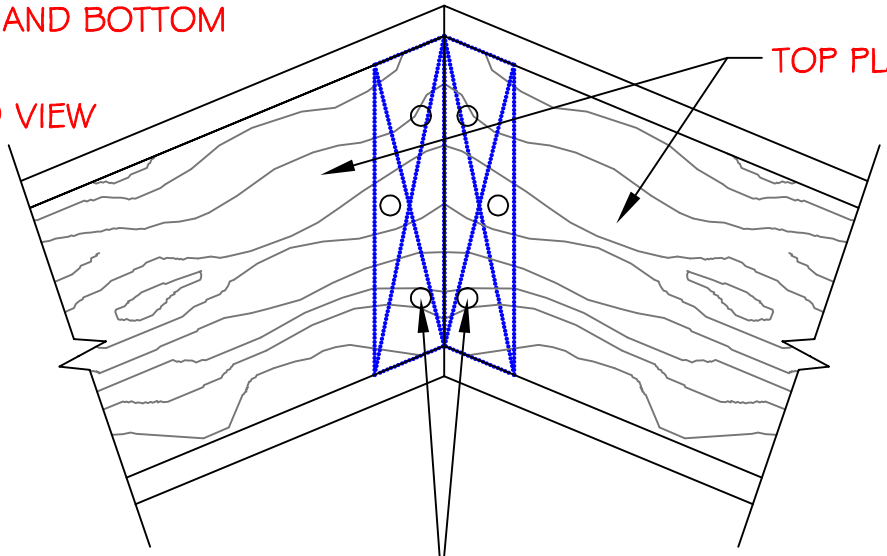
EXTREME WALL PANEL

1 1/2" SCREWS @ 8" O.C. OR 2"-8d NAILS @ 6" O.C. BOTH SIDES, TOP AND BOTTOM (U.N.O.)

EXPANDED POLYSTYRENE CORE

ASSEMBLED VIEW

TOP PLATES

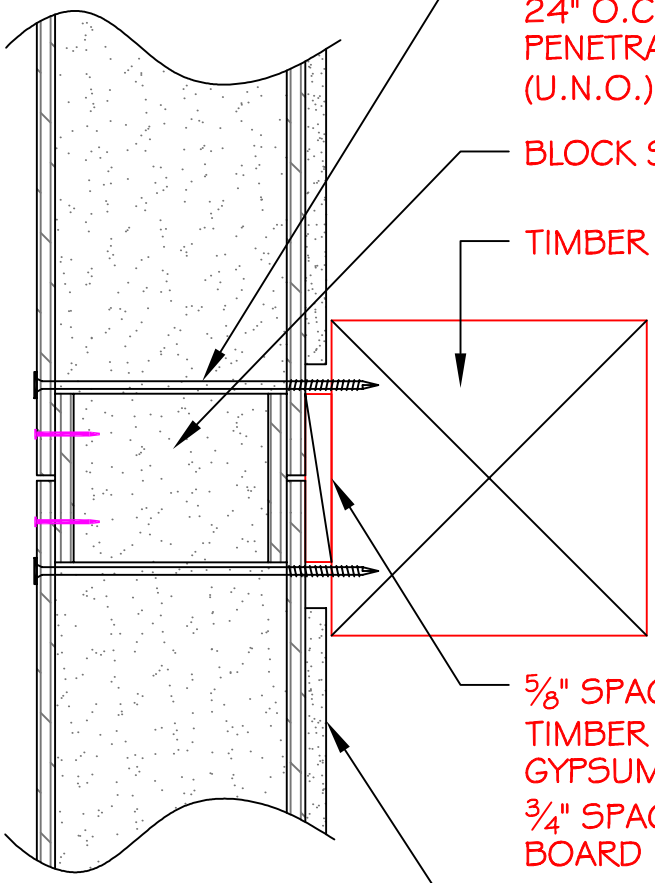


SCREW OR NAIL THE TOP PLATE TO THE VERTICAL STUD WITH (2) 3" CONST. LAGS OR (3) 16d NAILS

SECTION
NOT TO SCALE

DETAIL TITLE :	ANGLED CORNER CONNECTION
DETAIL NO. :	EP-114
PAGE NO. :	1 - 14
UPDATED :	MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



PANEL SCREWS W/ WASHERS @ 24" O.C. W/ MINIMUM 1 ¼" PENETRATION INTO TIMBER FRAME (U.N.O.)

BLOCK SPLINE (SEE DETAIL EP-107)

TIMBER FRAME MEMBER

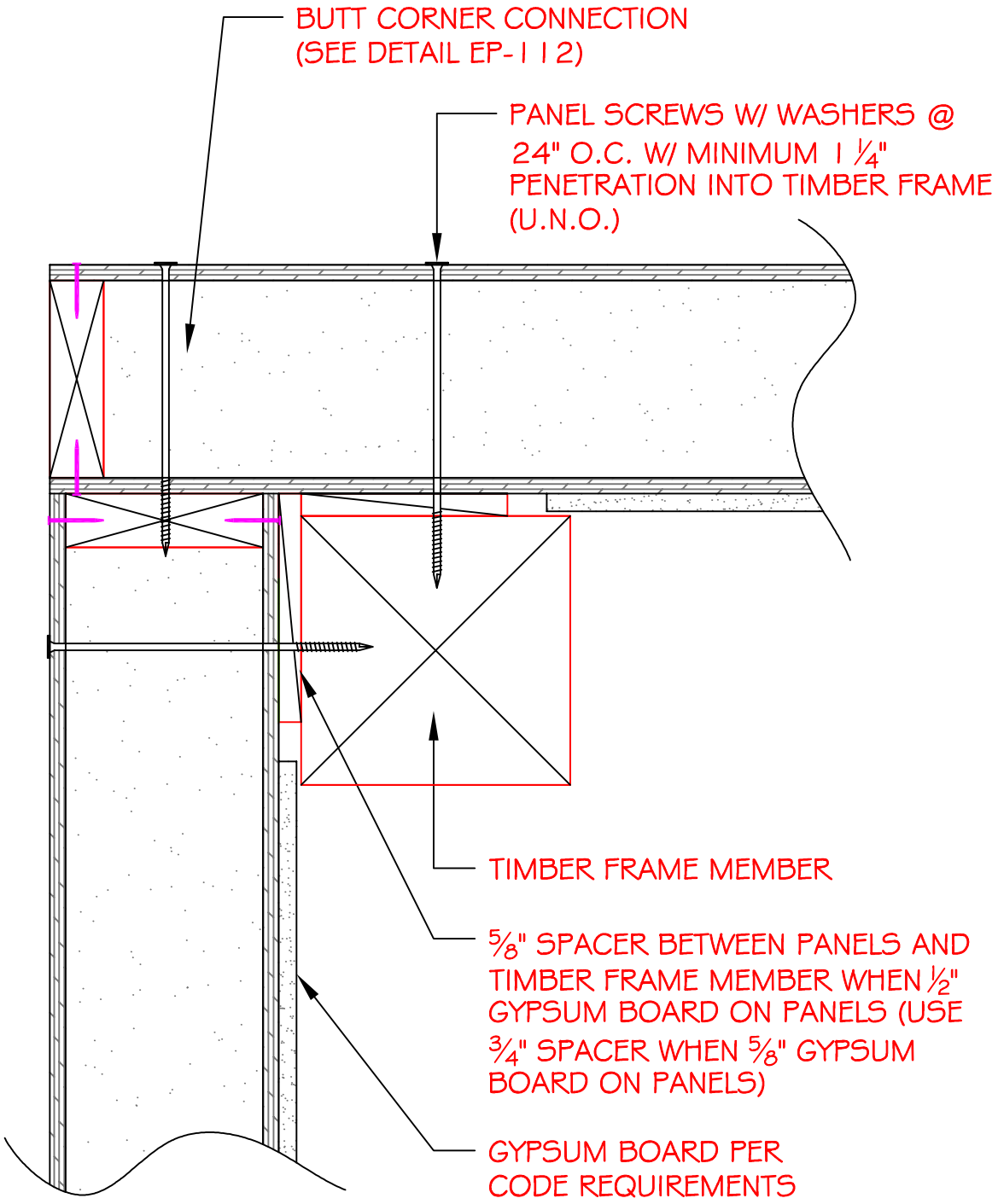
⅝" SPACER BETWEEN PANELS AND TIMBER FRAME MEMBER WHEN ½" GYPSUM BOARD ON PANELS (USE ¾" SPACER WHEN ⅝" GYPSUM BOARD ON PANELS)

GYPSUM BOARD PER CODE REQUIREMENTS

SECTION
NOT TO SCALE

DETAIL TITLE : TIMBER FRAME MEMBER CONNECTION
DETAIL NO. : EP-115
PAGE NO. : 1 - 15
UPDATED : MARCH 2017

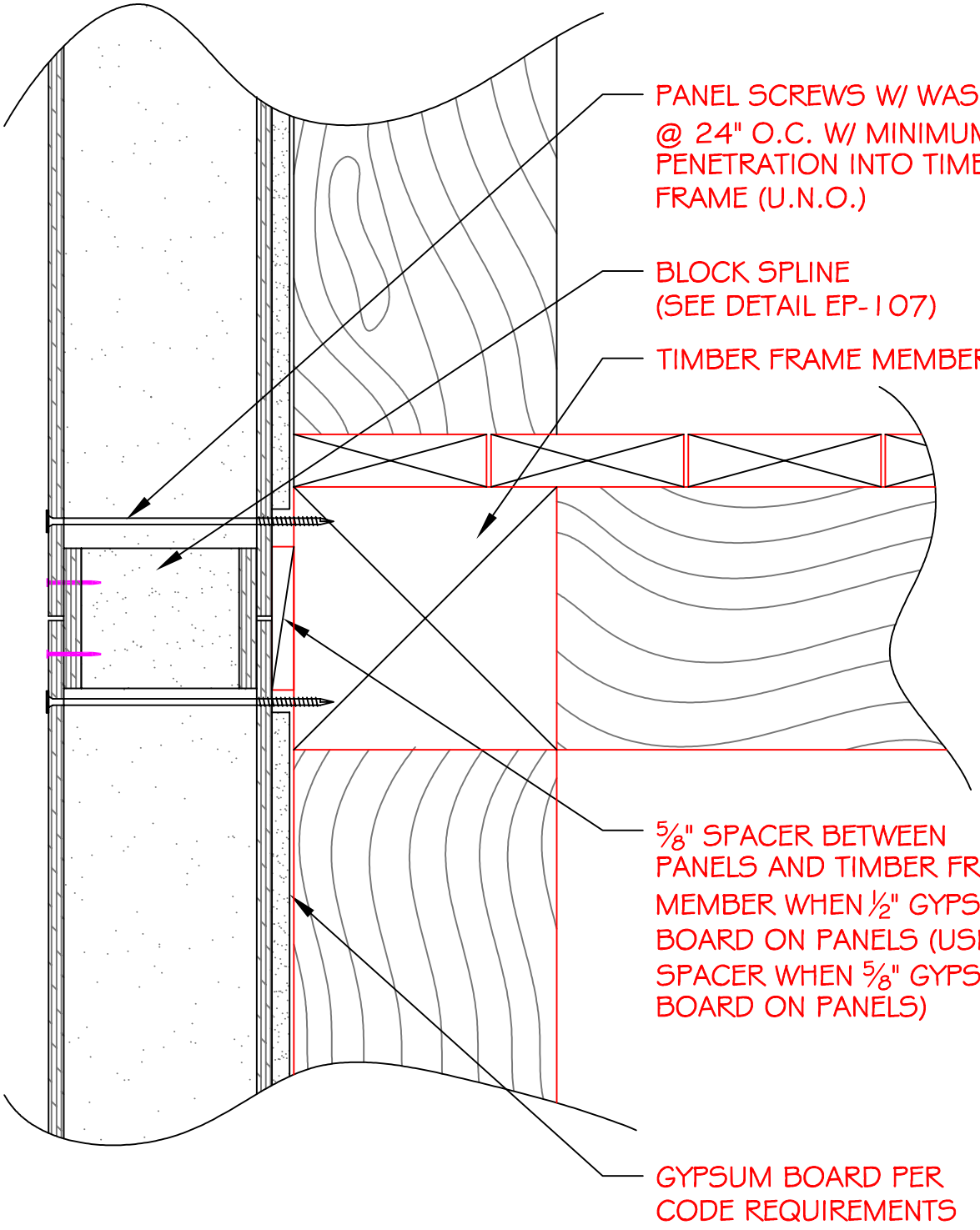
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

DETAIL TITLE : TIMBER FRAME CORNER CONNECTION
DETAIL NO. : EP-116
PAGE NO. : 1 - 16
UPDATED : MARCH 2017

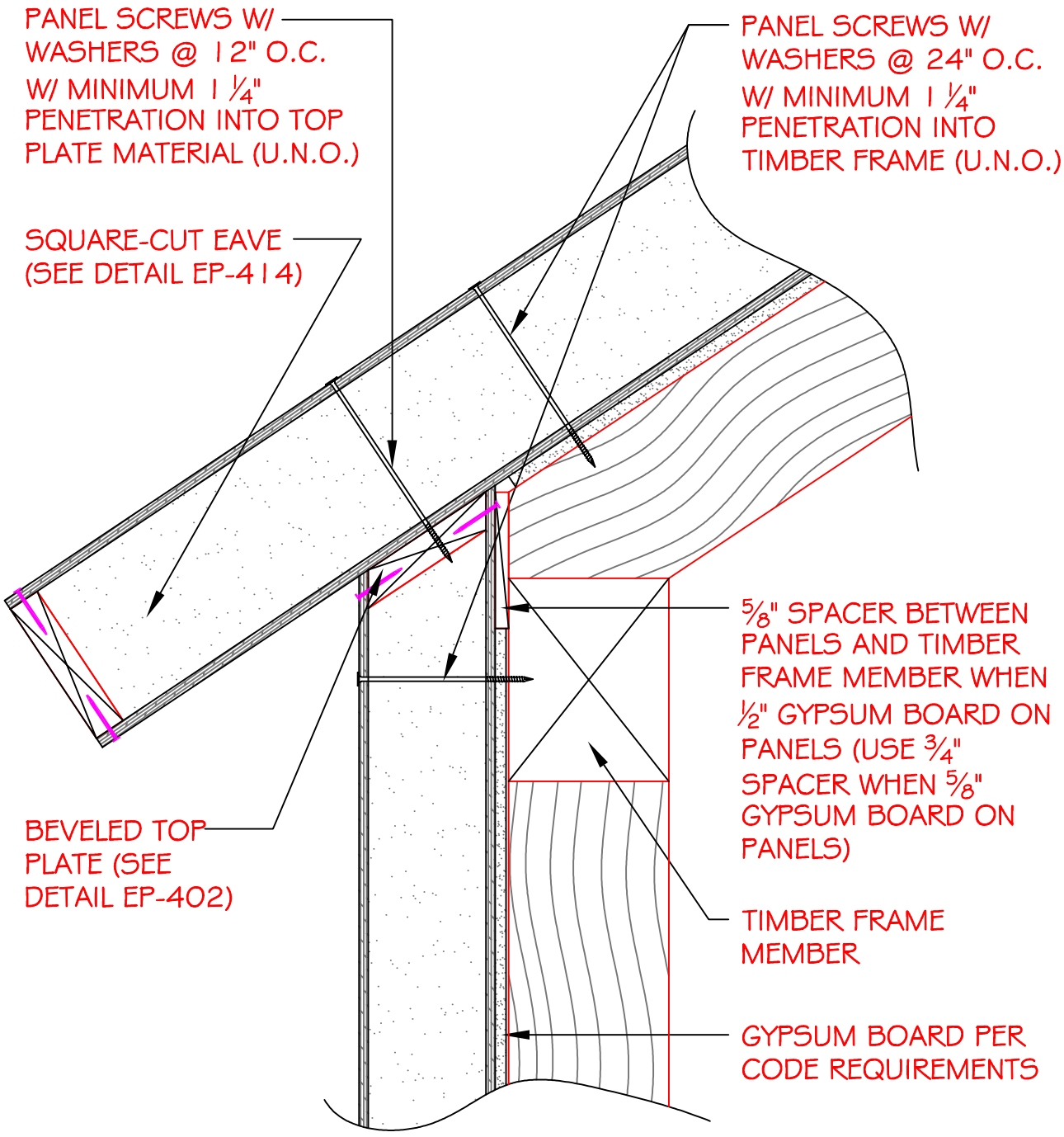
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

DETAIL TITLE : TIMBER FRAME MEMBER CONNECTION
DETAIL NO. : EP-117
PAGE NO. : 1 - 17
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

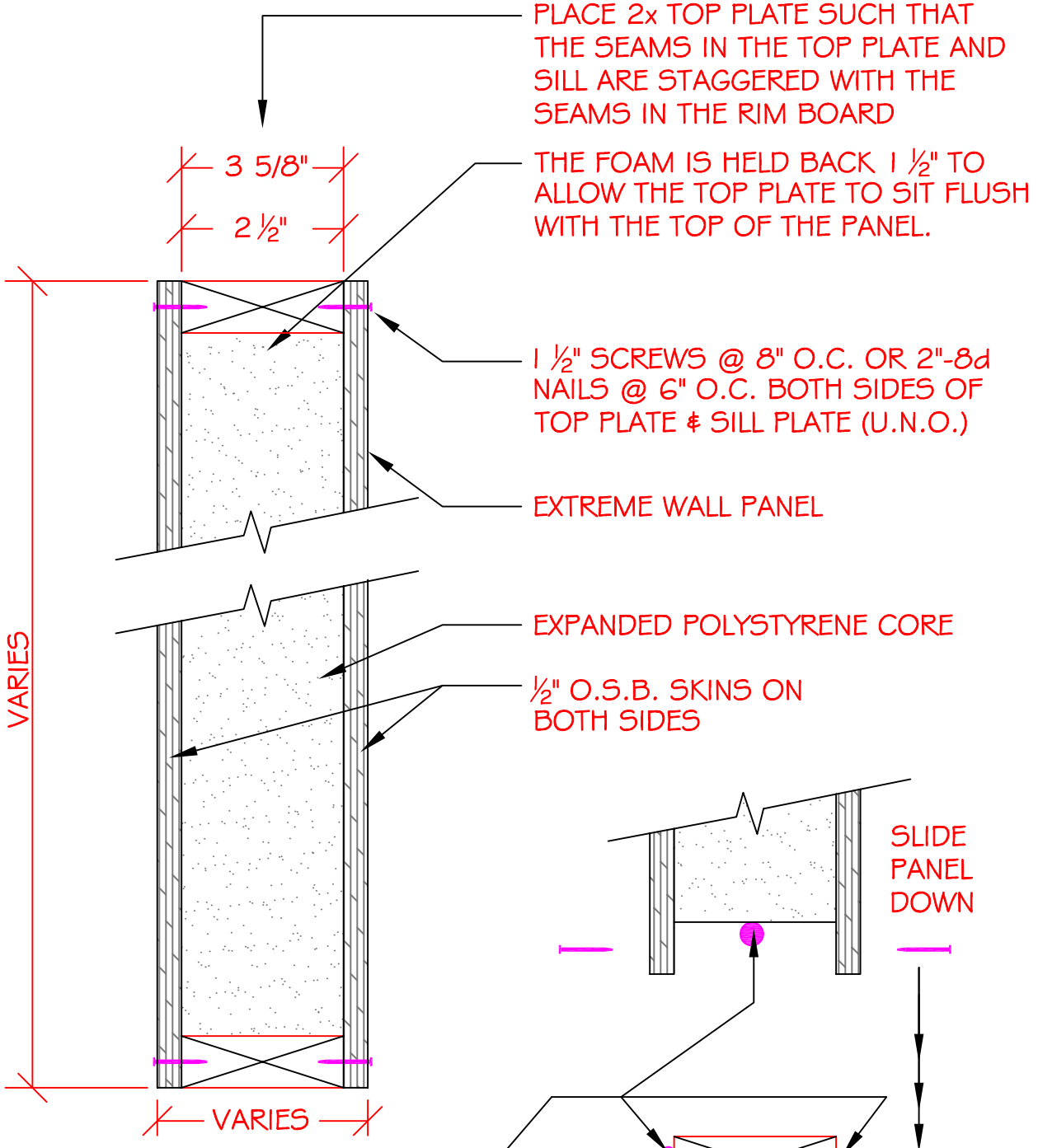


SECTION
NOT TO SCALE

DETAIL TITLE : TIMBER FRAME MEMBER CONNECTION
DETAIL NO. : EP-118
PAGE NO. : 1 - 18
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

NOTE: STOP RIM BOARD WHERE POINT LOADS GO THROUGH

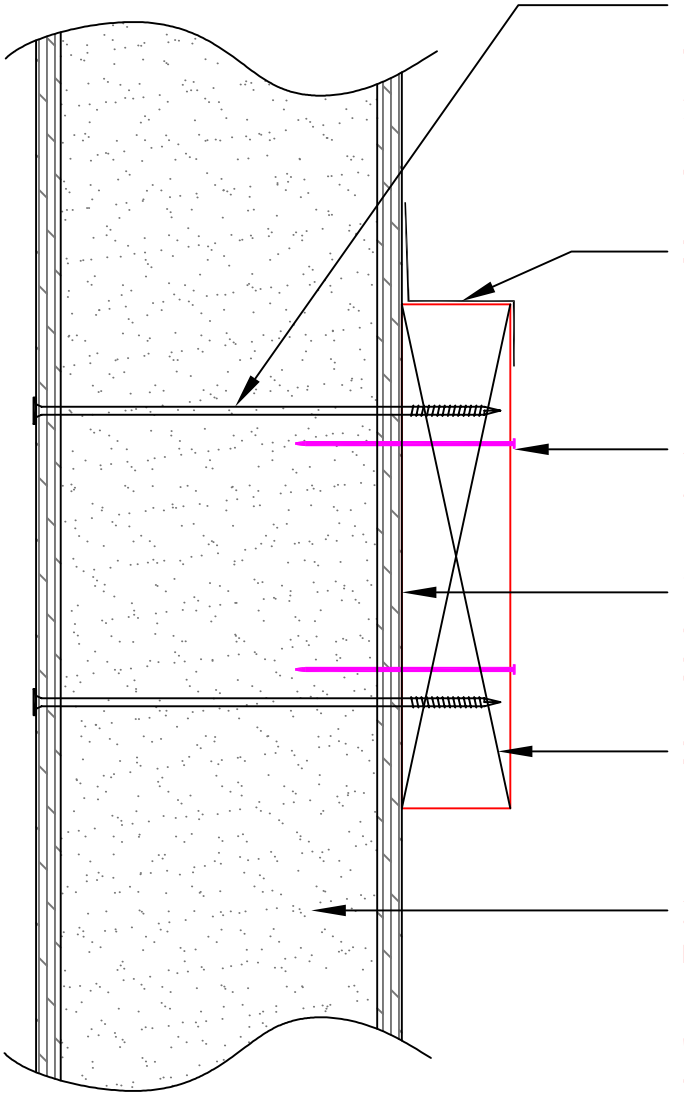


SECTION
NOT TO SCALE

DETAIL TITLE : STRUCTURAL INSULATED RIM BOARD
DETAIL NO. : EP-119
PAGE NO. : 1 - 19
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

INSTALLATION SEQUENCE:
TO ATTACH LEDGER TO WALL PANELS USE PANEL SEALANT SPREAD EVENLY ON ENTIRE CONTACT SURFACE AND 3" CONST. LAGS SPACED @ 12" O.C. IN 2 ROWS STAGGERED (U.N.O.) -- THEN USE PANEL SCREWS W/ WASHERS FROM OTHER SIDE OF WALL @ 12" O.C. IN 2 ROWS STAGGERED (U.N.O.)



PANEL SCREWS W/ WASHERS @ 12" O.C. IN 2 ROWS STAGGERED W/ MINIMUM 1 ¼" PENETRATION INTO LEDGER (U.N.O. PER ENGINEER)

LEDGER FLASHING

3" CONST. LAGS @ 12" O.C. IN 2 ROWS STAGGERED (U.N.O.)

PANEL SEALANT ON ENTIRE CONTACT SURFACE OF LEDGER

LEDGER

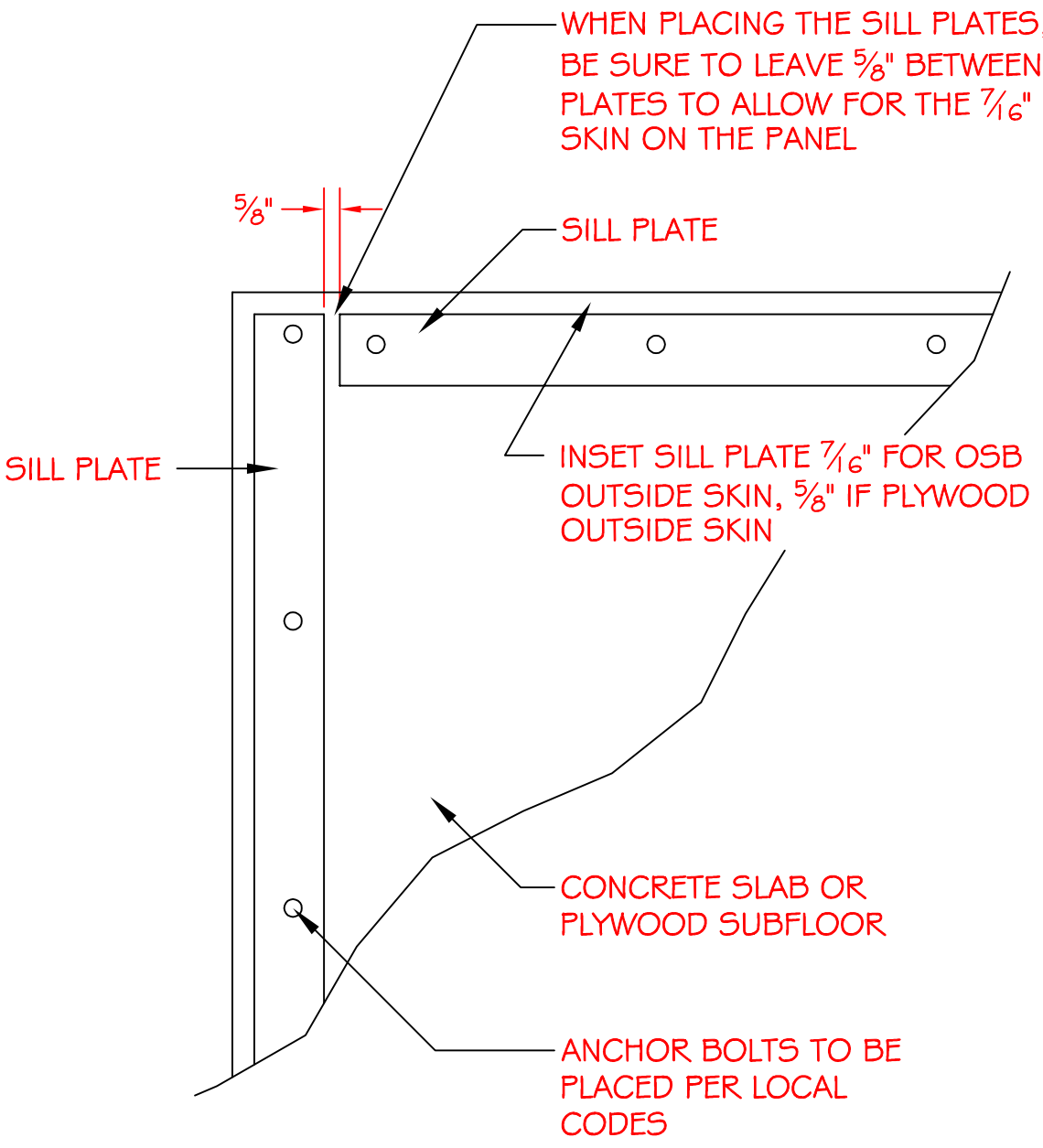
EXTREME WALL PANEL OR INSULATED RIM BOARD

NOTE:
MAXIMUM 6'-0" SPAN @ 40# LIVE LOAD.

SECTION
NOT TO SCALE

DETAIL TITLE : DECK LEDGER ATTACHMENT
DETAIL NO. : EP-120
PAGE NO. : 1 - 20
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

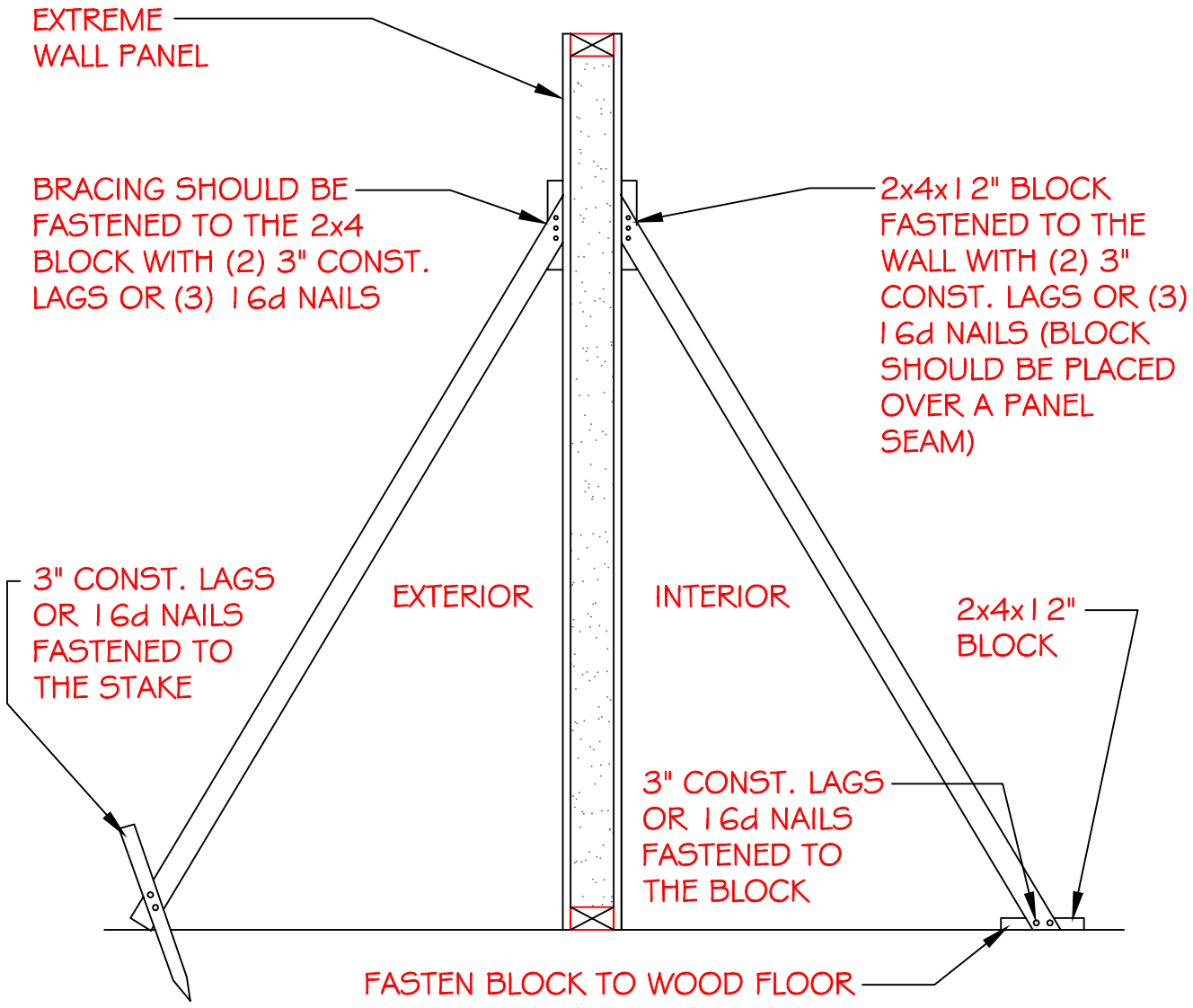


SECTION
NOT TO SCALE

DETAIL TITLE : SILL PLATE PLACEMENT
DETAIL NO. : EP-121
PAGE NO. : 1 - 21
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

1. RECOMMENDED BRACING SHOULD BE PLACED EVERY 12'-0".
2. RECOMMENDED BRACE THICKNESS:
   * 8'-0" TO 10'-0" PANEL - 2x4
   * 12'-0" TO 16"-0" PANEL - 2x6
3. KEEP THE TOP 2x4x12" BLOCK WITHIN 2'-0" FROM THE TOP OF THE PANEL.
4.) RECOMMENDED BRACE LENGTH SHOULD BE ⅔ THE HEIGHT OF THE PANEL.
5.) THE BRACING INSIDE AND OUTSIDE SHOULD BE LEFT ASSEMBLED UNTIL THE ROOF IS IN PLACE AND PROPERLY FASTENED.



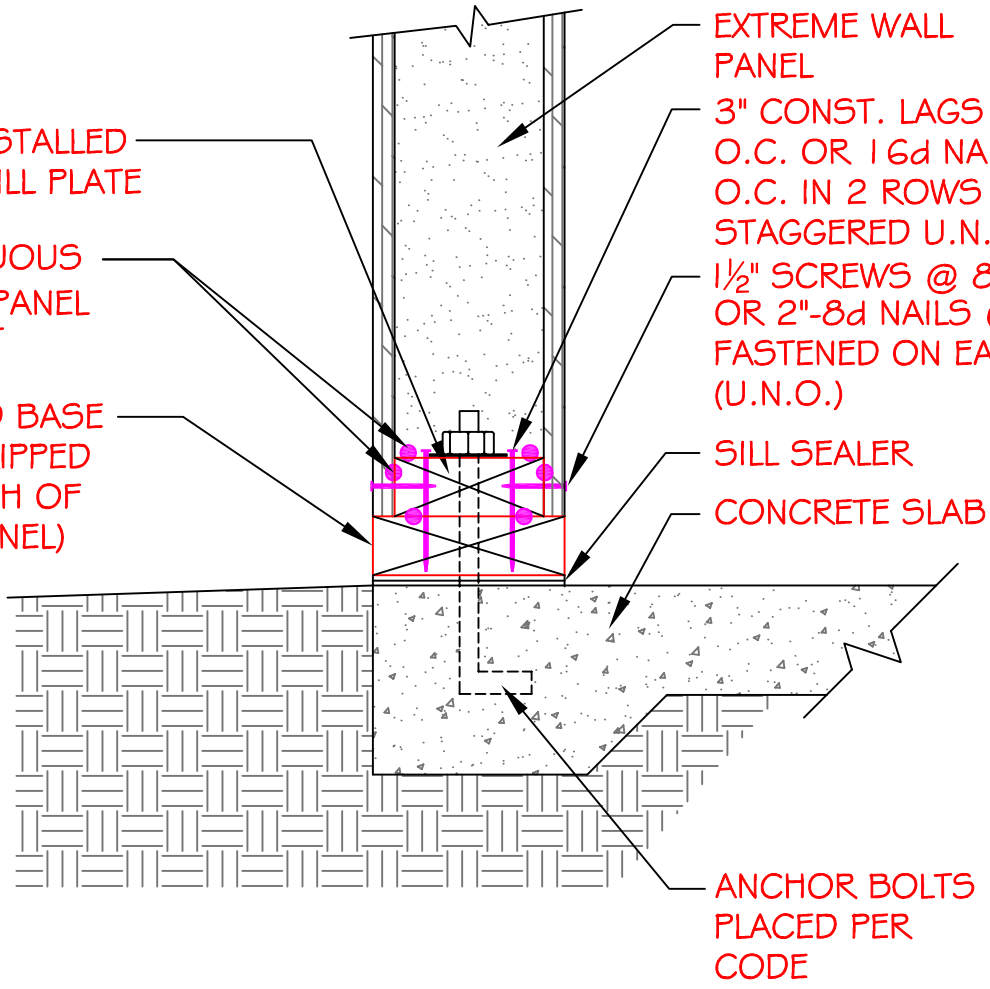
SECTION
NOT TO SCALE

DETAIL TITLE : WIND BRACING TIPS
DETAIL NO. : EP-122
PAGE NO. : 1 - 22
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

SECTION 2

FLOOR & FOUNDATION DETAILS

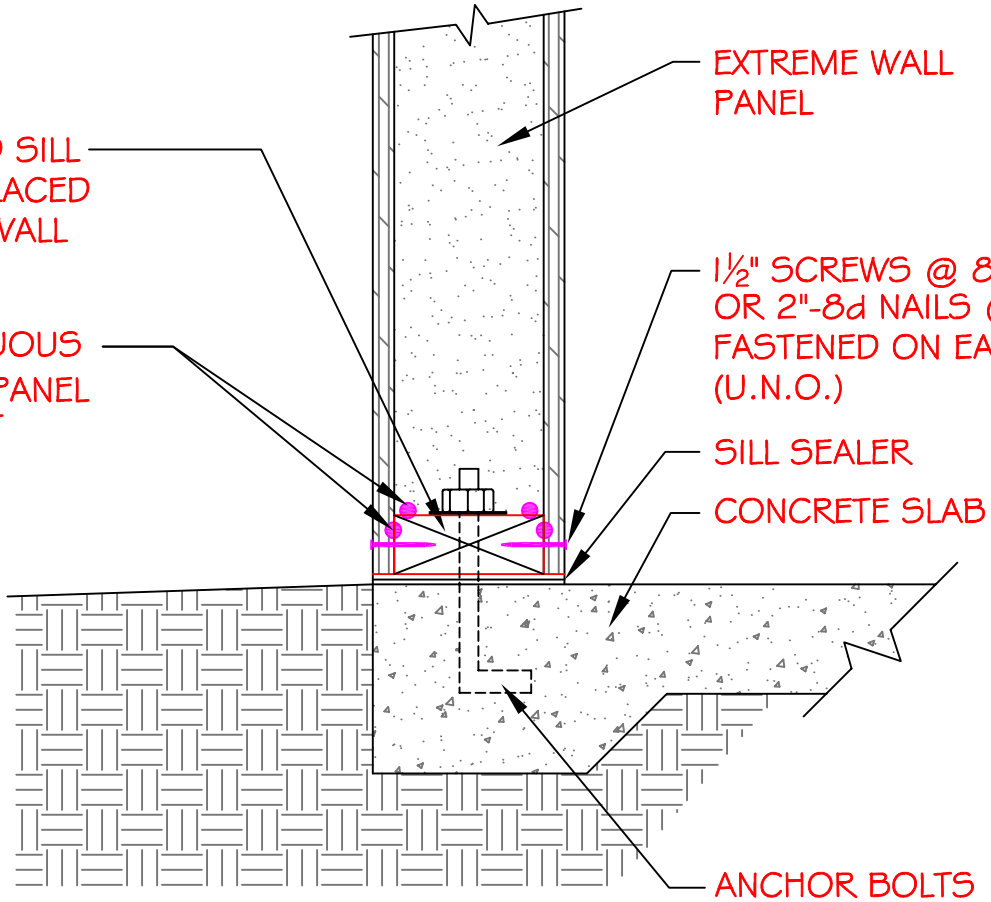


NOTE:
THIS DETAIL IS ONLY DESIGNED TO ILLUSTRATE THE BASE & SILL PLATES. CONCRETE PLACEMENT AND CONSTRUCTION PRACTICE SHOULD BE PER LOCAL CODES.

SECTION
NOT TO SCALE

DETAIL TITLE : TREATED BASE PLATE
DETAIL NO. : EP-201
PAGE NO. : 2 - 1
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

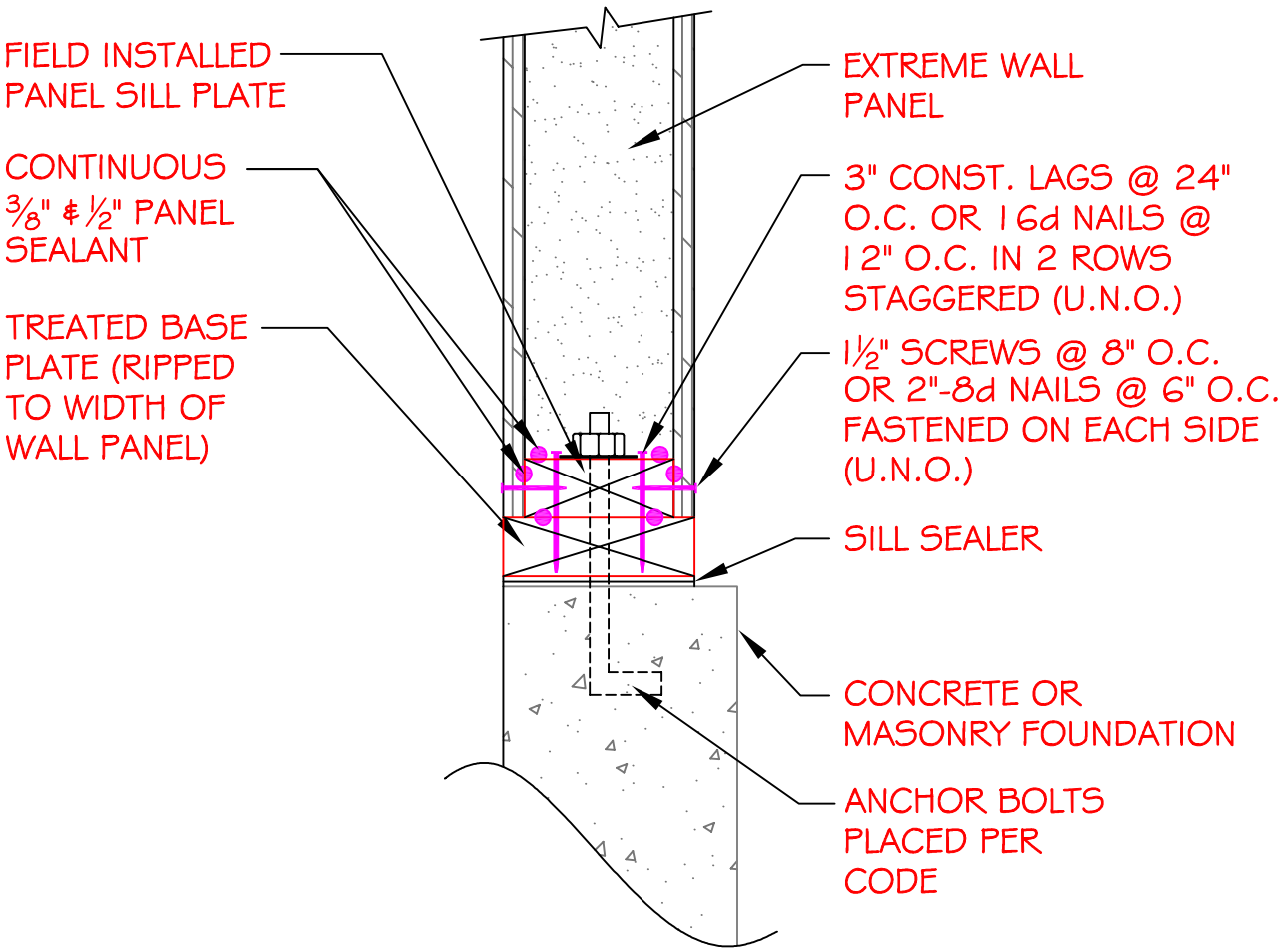


NOTE:
THIS DETAIL IS ONLY DESIGNED TO ILLUSTRATE THE BASE & SILL PLATES. CONCRETE PLACEMENT AND CONSTRUCTION PRACTICE SHOULD BE PER LOCAL CODES.

SECTION
NOT TO SCALE

DETAIL TITLE : TREATED SILL PLATE
DETAIL NO. : EP-202
PAGE NO. : 2 - 2
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

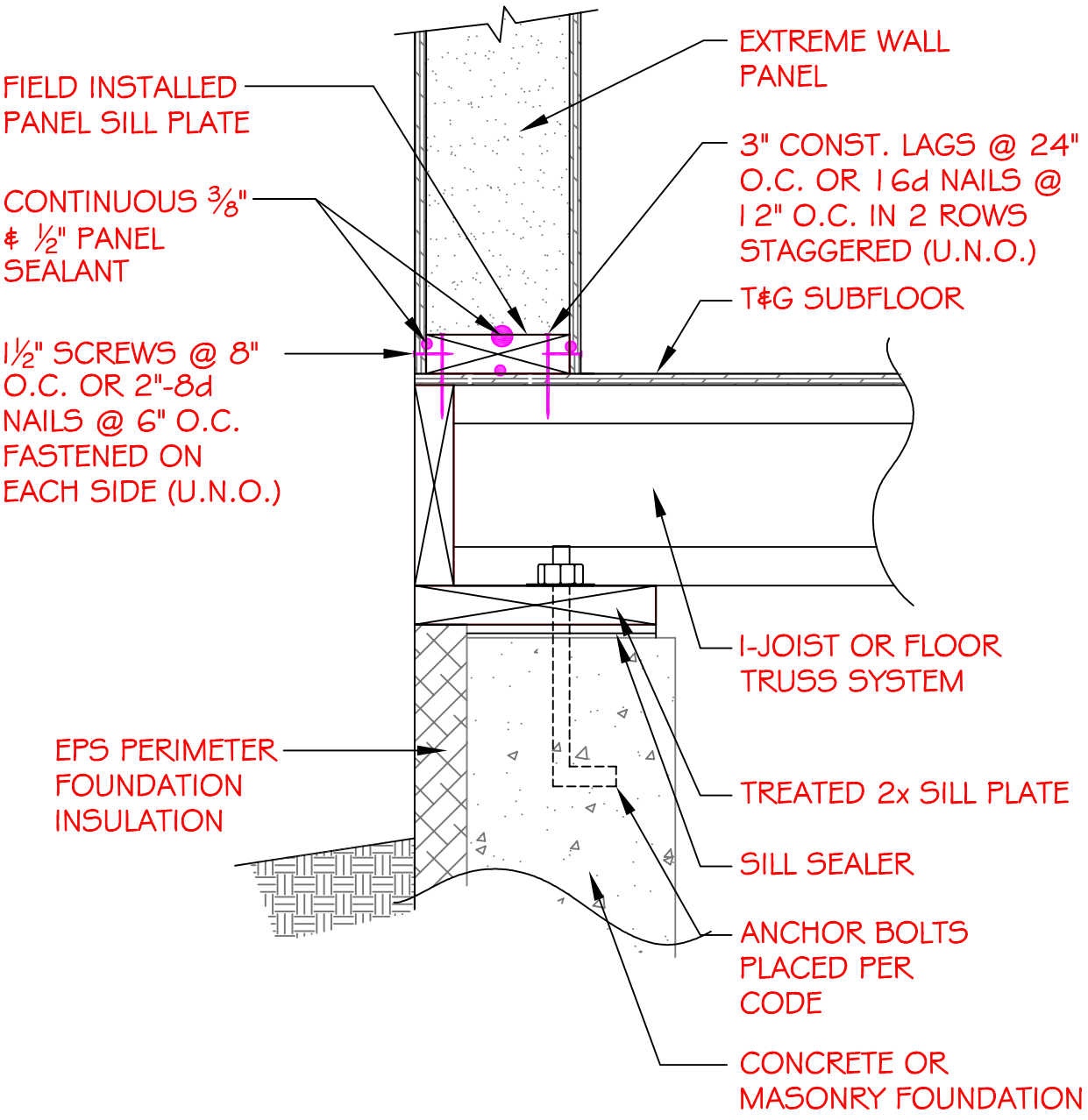


NOTE:
THIS DETAIL IS ONLY DESIGNED TO ILLUSTRATE THE BASE & SILL PLATES. CONCRETE PLACEMENT AND CONSTRUCTION PRACTICE SHOULD BE PER LOCAL CODES.

SECTION
NOT TO SCALE

DETAIL TITLE :	PANEL TO FOUNDATION CONNECTION
DETAIL NO. :	EP-203
PAGE NO. :	2 - 3
UPDATED :	MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



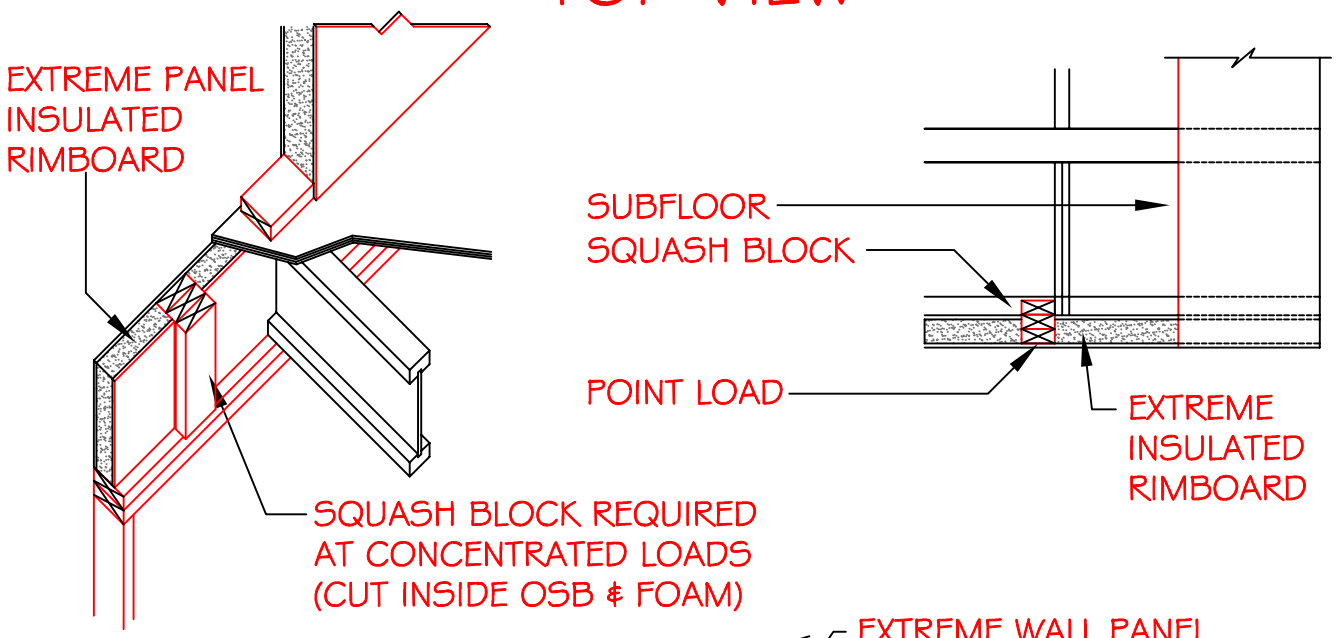
SECTION
NOT TO SCALE

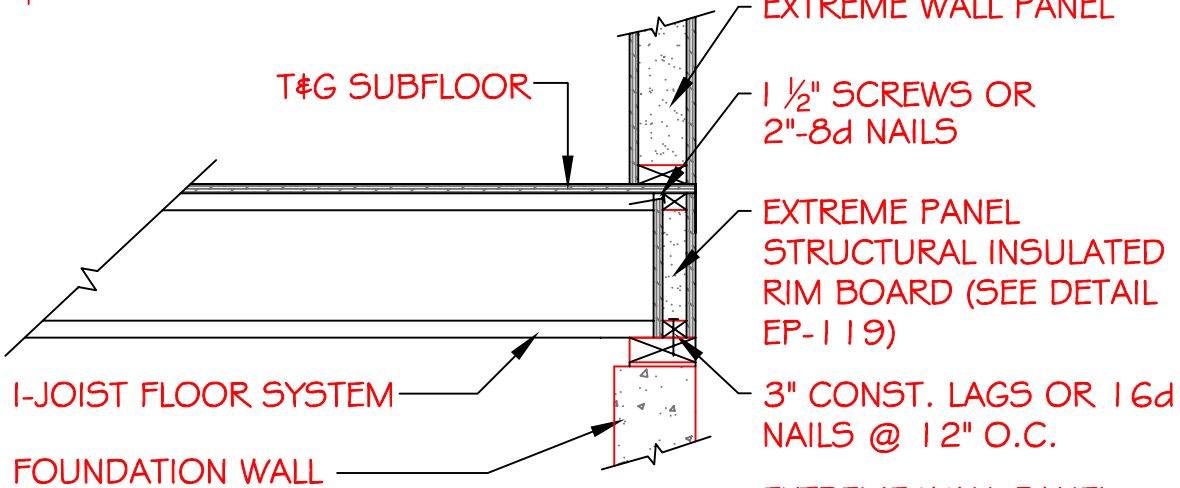
DETAIL TITLE : FOUNDATION FRAMING
DETAIL NO. : EP-204
PAGE NO. : 2 - 4
UPDATED : MARCH 2017

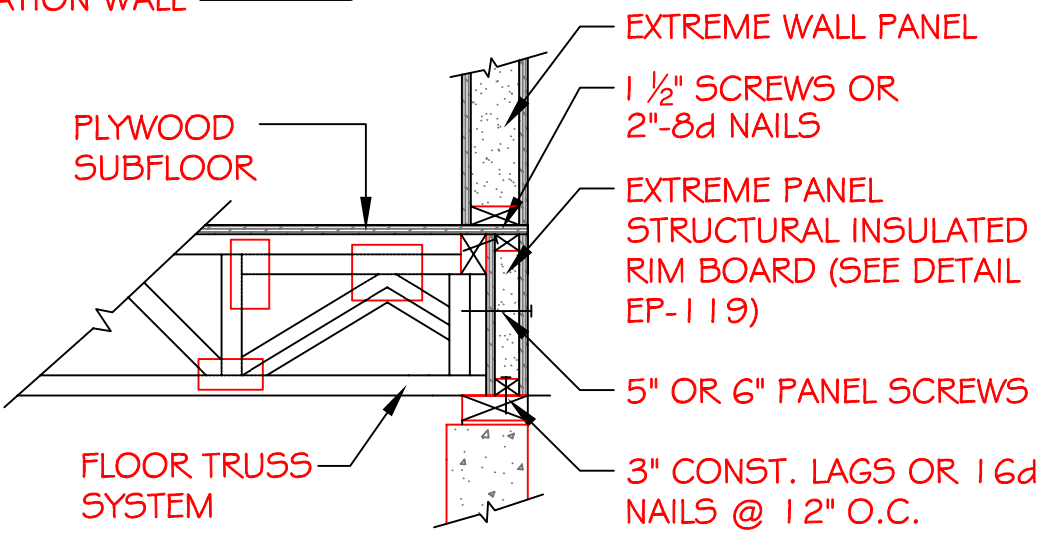
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

NOTE: STOP RIM BOARD WHERE POINT LOADS GO THROUGH

TOP VIEW



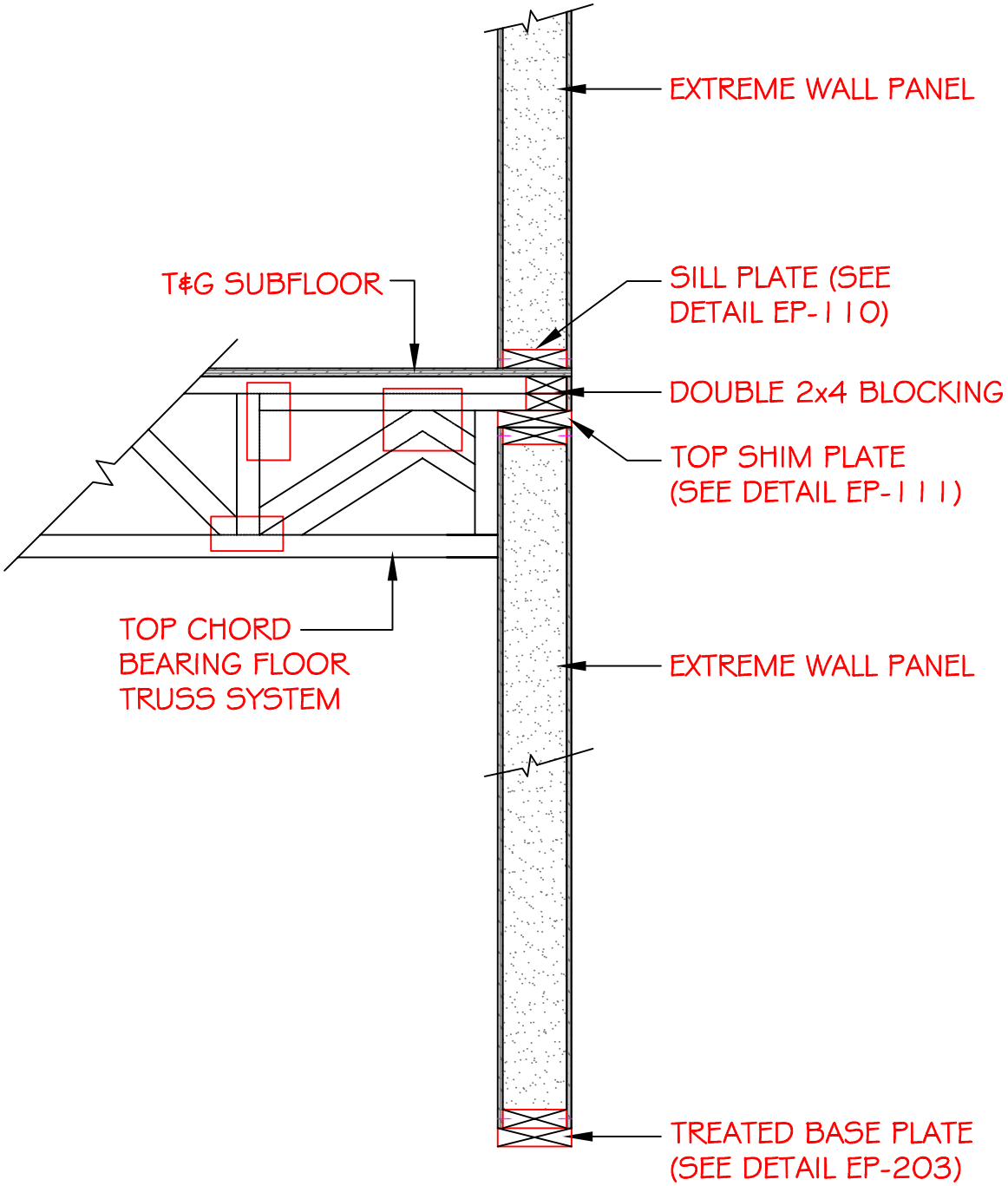




SECTION
NOT TO SCALE

DETAIL TITLE : INSULATED RIM BOARD CONNECTION
DETAIL NO. : EP-205
PAGE NO. : 2 - 5
UPDATED : MARCH 2017

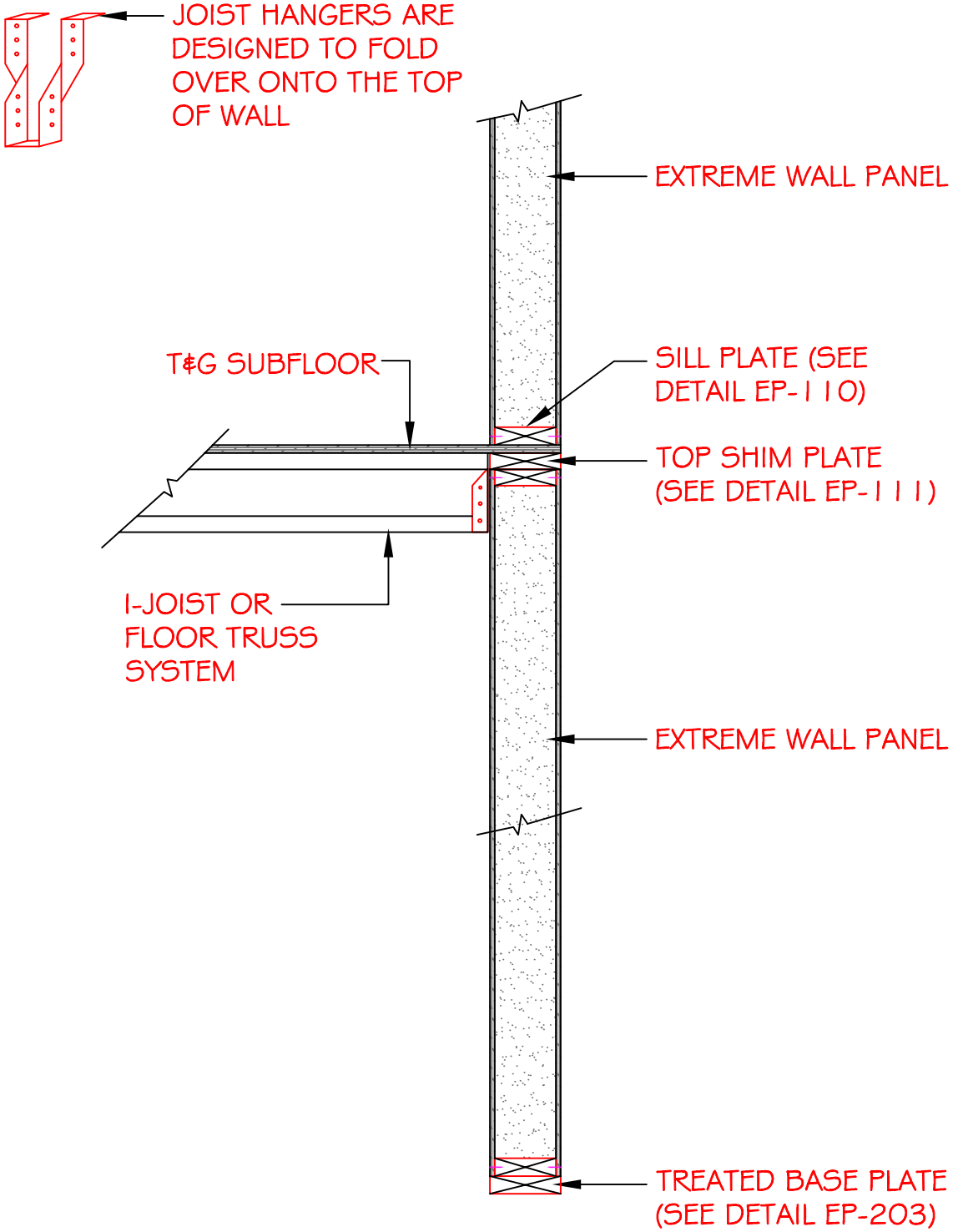
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

DETAIL TITLE : TOP CHORD BEARING FLOOR TRUSS
DETAIL NO. : EP-206
PAGE NO. : 2 - 6
UPDATED : MARCH 2017

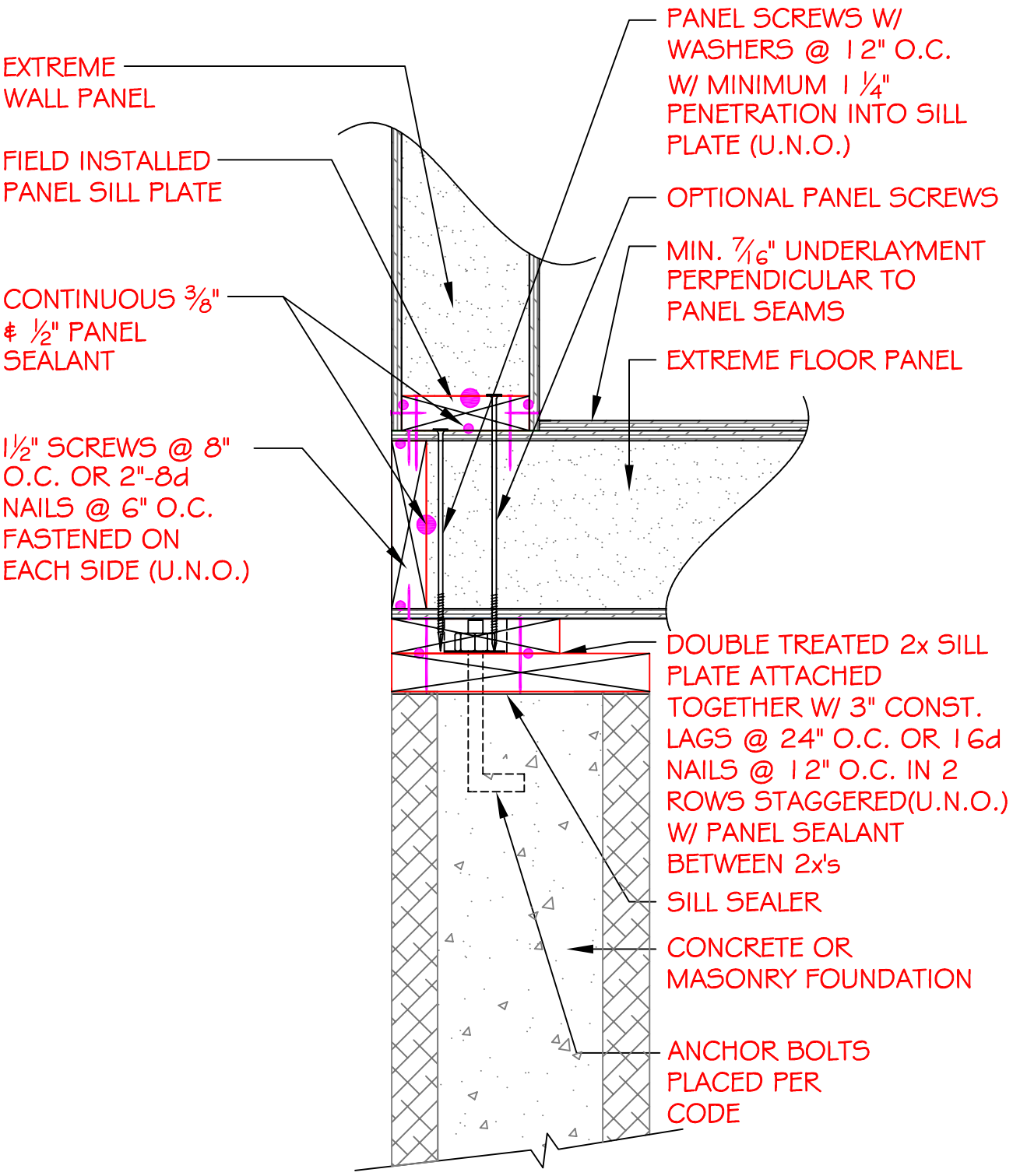
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

DETAIL TITLE : HANGING FLOOR SYSTEM
DETAIL NO. : EP-207
PAGE NO. : 2 - 7
UPDATED : MARCH 2017

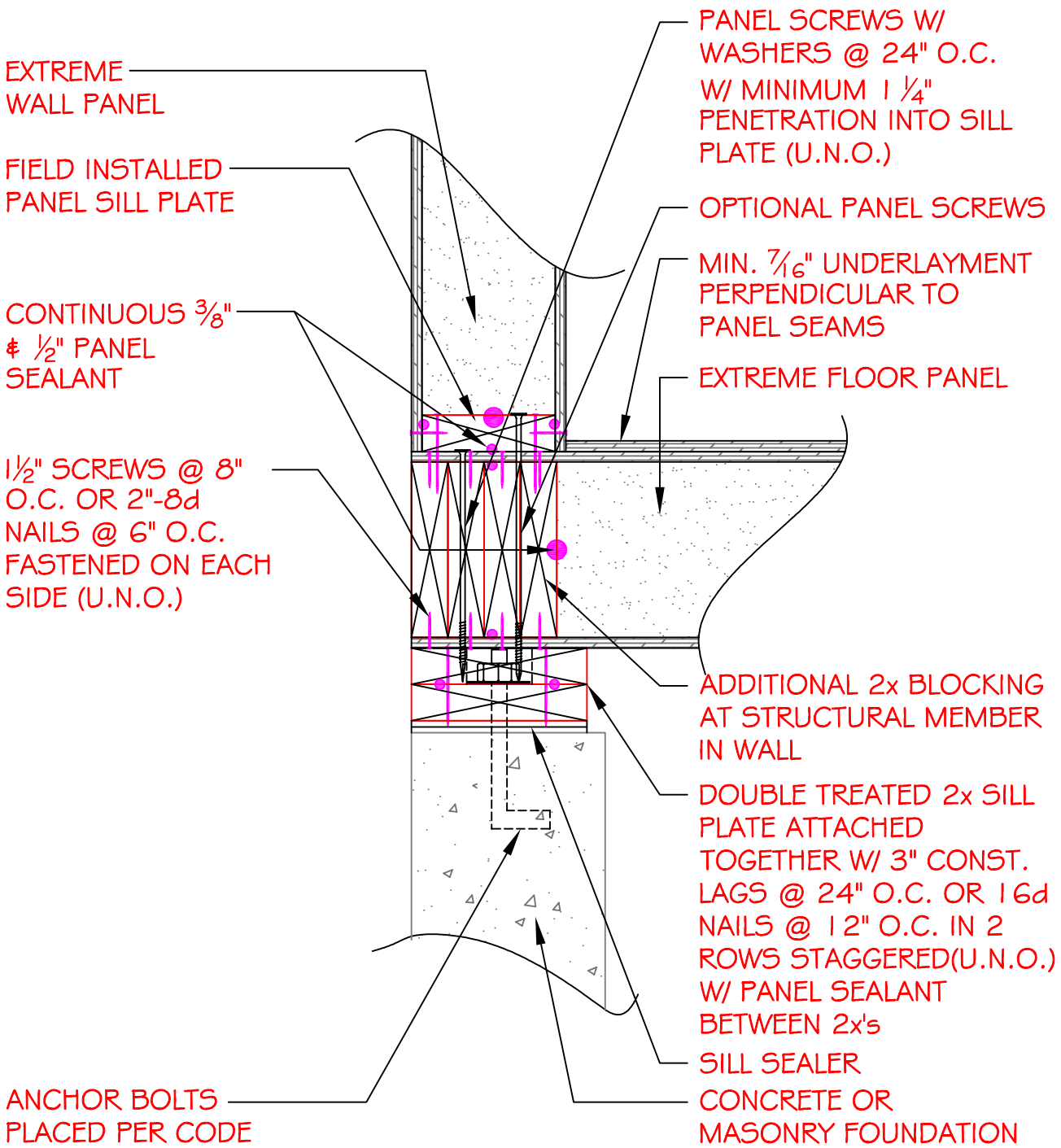
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

DETAIL TITLE : PANEL FLOOR TO FOUNDATION
DETAIL NO. : EP-208
PAGE NO. : 2 - 8
UPDATED : MARCH 2017

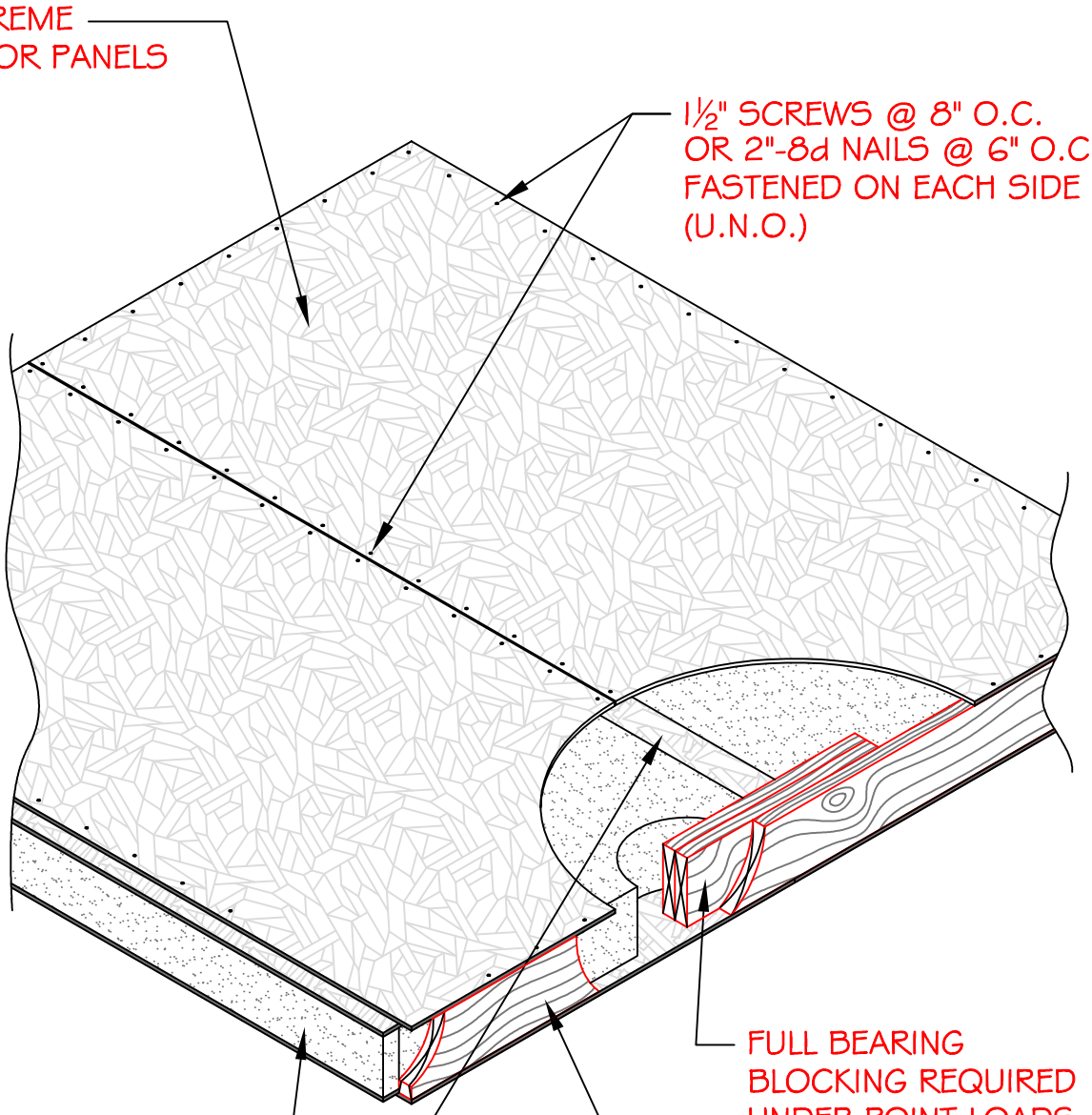
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

DETAIL TITLE : PANEL FLOOR BLOCKING
DETAIL NO. : EP-209
PAGE NO. : 2 - 9
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

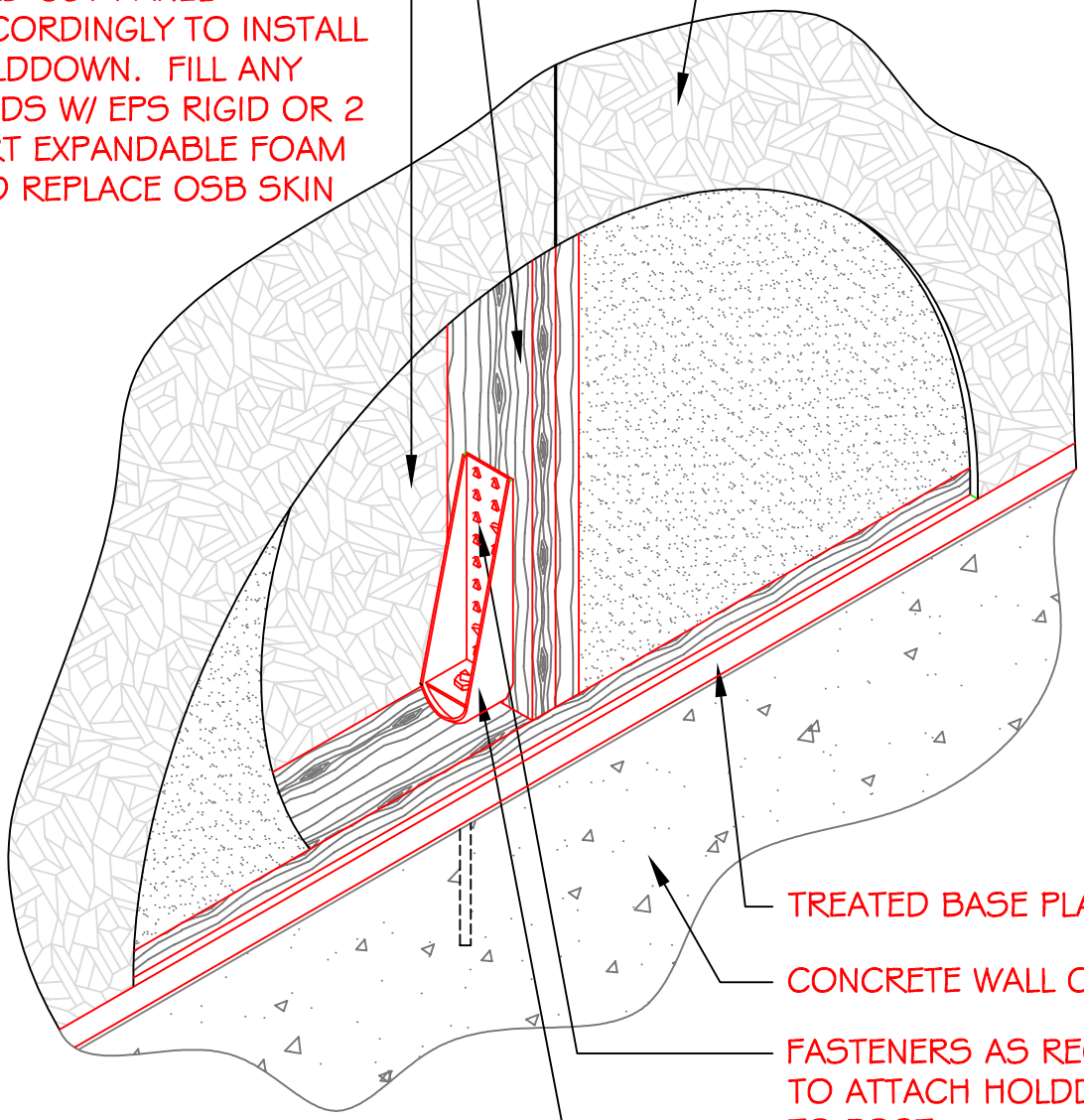
DETAIL TITLE : PANEL FLOOR BLOCKING
DETAIL NO. : EP-210
PAGE NO. : 2 - 10
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

TENSION / COMPRESSION POST IN END OF SHEAR WALL AS REQUIRED BY ENGINEERING

FIELD CUT PANEL ACCORDINGLY TO INSTALL HOLDDOWN. FILL ANY VOIDS W/ EPS RIGID OR 2 PART EXPANDABLE FOAM AND REPLACE OSB SKIN

EXTREME WALL PANEL



TREATED BASE PLATE

CONCRETE WALL OR SLAB

FASTENERS AS REQUIRED TO ATTACH HOLDDOWN TO POST

HOLDDOWN ANCHOR PER ENGINEERING

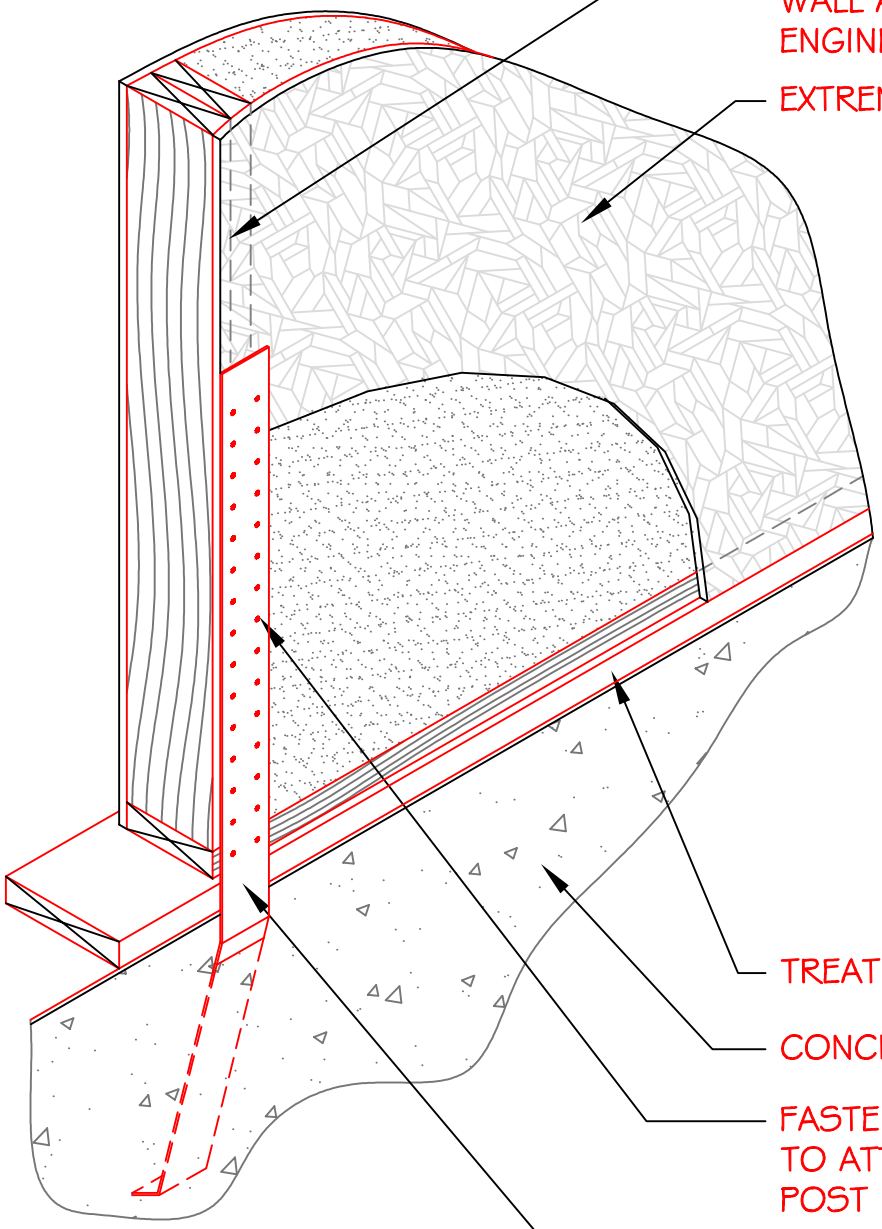
NOTE:
VERIFY W/ ENGINEER IF DOUBLE SILL PLATE W/ TWO ROWS OF 1 ½" SCREWS OR 2"-8d NAILS @ 4" O.C. STAGGERED ON EACH SIDE IS AN ACCEPTABLE ALTERNATE

SECTION
NOT TO SCALE

DETAIL TITLE : HOLDDOWN CONNECTION
DETAIL NO. : EP-211
PAGE NO. : 2 - 11
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

NOTE:
VERIFY W/ ENGINEER IF DOUBLE SILL PLATE W/ TWO ROWS OF 1 ½" SCREWS OR 2"-8d NAILS @ 4" O.C. STAGGERED ON EACH SIDE IS AN ACCEPTABLE ALTERNATE



TENSION / COMPRESSION POST IN END OF SHEAR WALL AS REQUIRED BY ENGINEERING

EXTREME WALL PANEL

TREATED BASE PLATE

CONCRETE WALL OR SLAB

FASTENERS AS REQUIRED TO ATTACH STRAP TO POST

METAL STRAP PER ENGINEERING

NOTE:
METAL STRAP MAY BE ATTACHED OVER THE OUTSIDE OF THE WALL PANEL - USE FASTENERS THAT WILL NOT AFFECT FINISHING OF THE WALL

SECTION
NOT TO SCALE

DETAIL TITLE : STRAP HOLDDOWN CONNECTION
DETAIL NO. : EP-212
PAGE NO. : 2 - 12
UPDATED : MARCH 2017

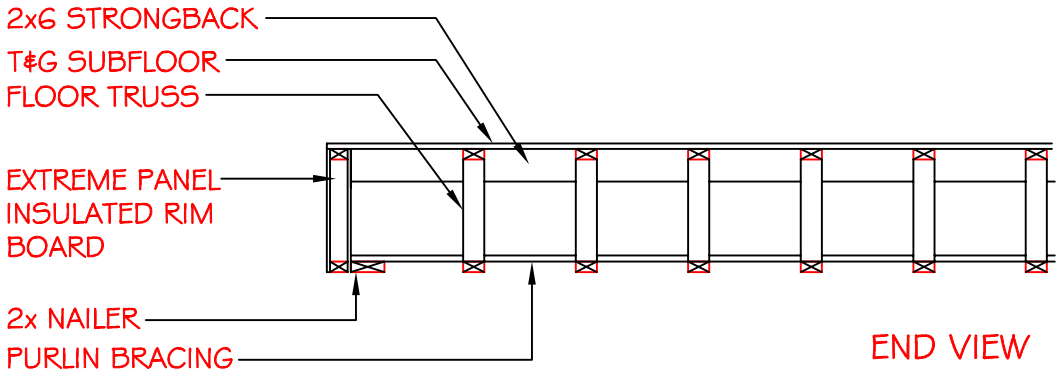
Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

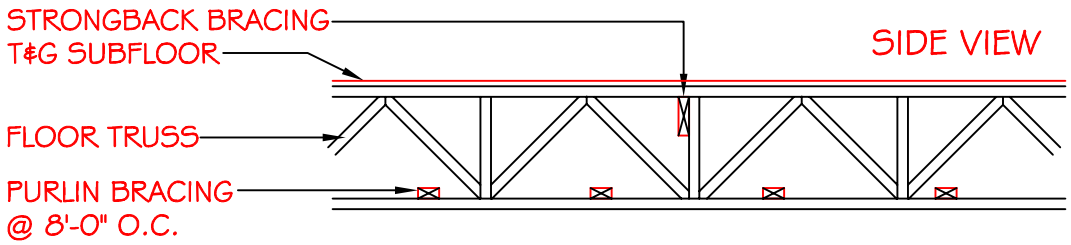
NOTE: STOP RIM BOARD WHERE POINT LOADS GO THROUGH.

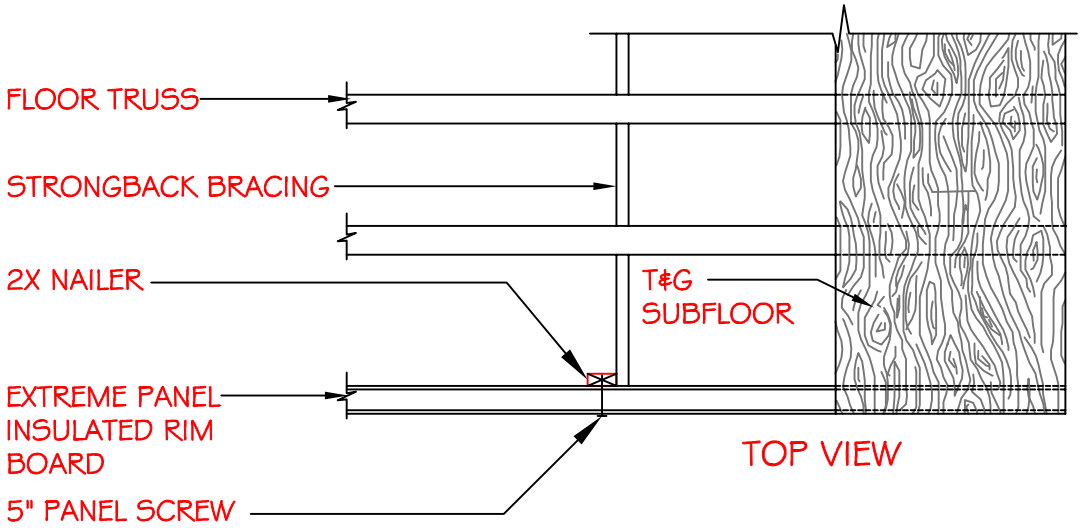
WHEN GABLE WALL GOES STRAIGHT THROUGH, THE FLOOR TRUSS MUST START NEXT TO THE WALL.*

STRONGBACK BRACING:
STRONGBACK, 2x6 MINIMUM, SHOULD BE SECURED TO A VERTICAL MEMBER WITH (3) 16d NAILS ON ALL FLOOR TRUSSES. FOR SPANS LESS THAN 20'-0" ONE ROW OF STRONGBACK AT THE CENTERLINE IS SUFFICIENT. FOR SPANS GREATER THAN 20'-0" USE ONE ROW OF STRONGBACK FOR EACH 10'-0" OF TRUSS SPAN. BLOCKING BEHIND THE VERTICAL IS RECOMMENDED WHILE NAILING THE STRONGBACK IN PLACE. STRONGBACK LUMBER SHOULD BE AT LEAST 14'-0" IN LENGTH AND LAPPED 2'-0" AT THERE ENDS OVER TWO ADJACENT FLOOR TRUSSES. ALWAYS FOLLOW THE FLOOR TRUSS LAYOUT FOR THE PLACEMENT OF THE BRACING AND SIZE.

FLOOR JOISTS ARE TO BE FASTENED TO TOP PLATE WITH (2) 3" CONST. LAGS OR (3)16d NAILS. FOR PANELS RUNNING PARALLEL TO THE FLOOR JOISTS, BLOCKING SPACERS MUST BE PLACED 8'-0" O.C. THE ENTIRE LENGTH OF THE HOUSE BETWEEN THE JOISTS.







SECTION
NOT TO SCALE

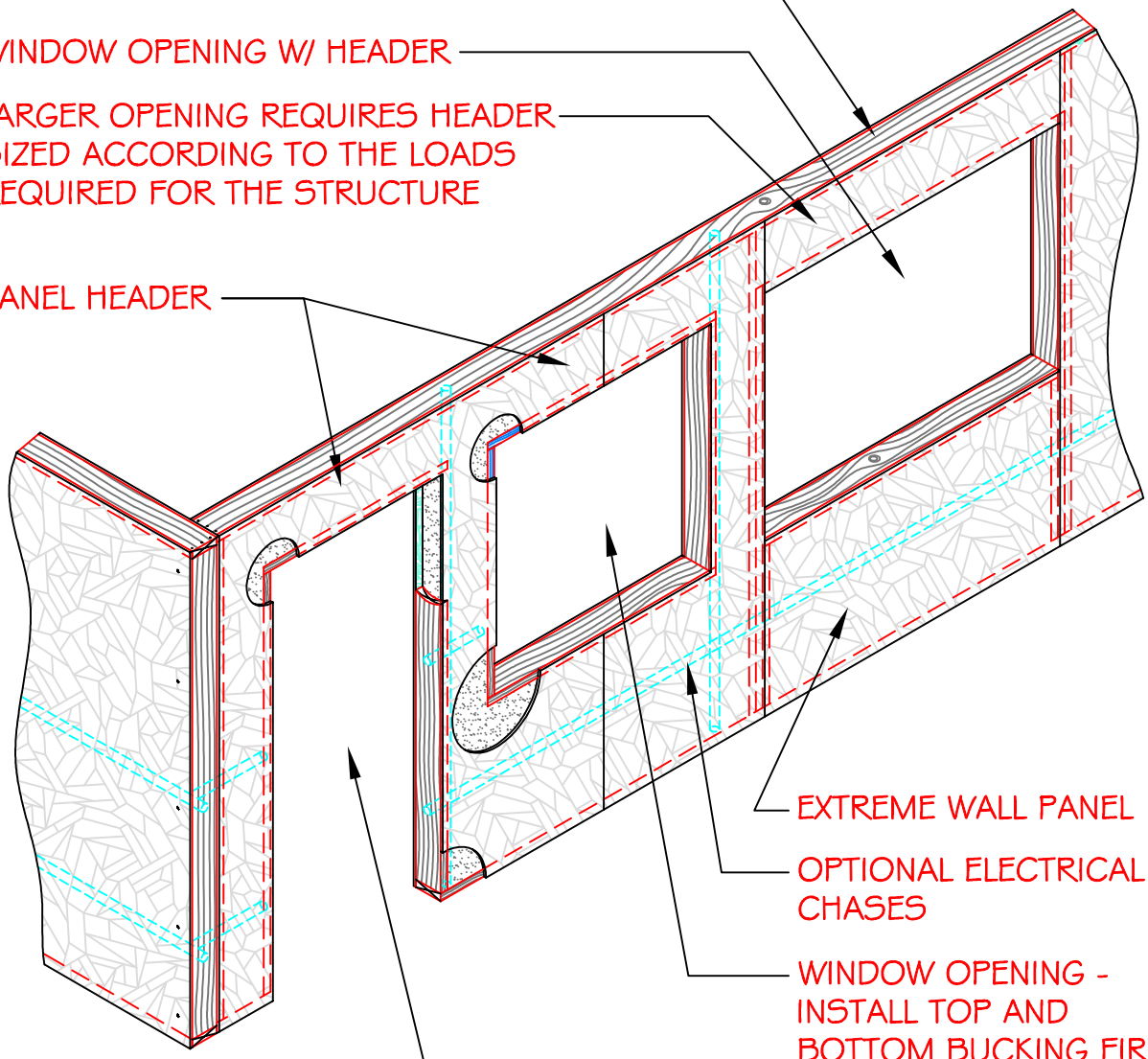
DETAIL TITLE : BRACING FOR OPEN WEB FLOORING
DETAIL NO. : EP-213
PAGE NO. : 2 - 13
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS

SECTION 3

WALL DETAILS

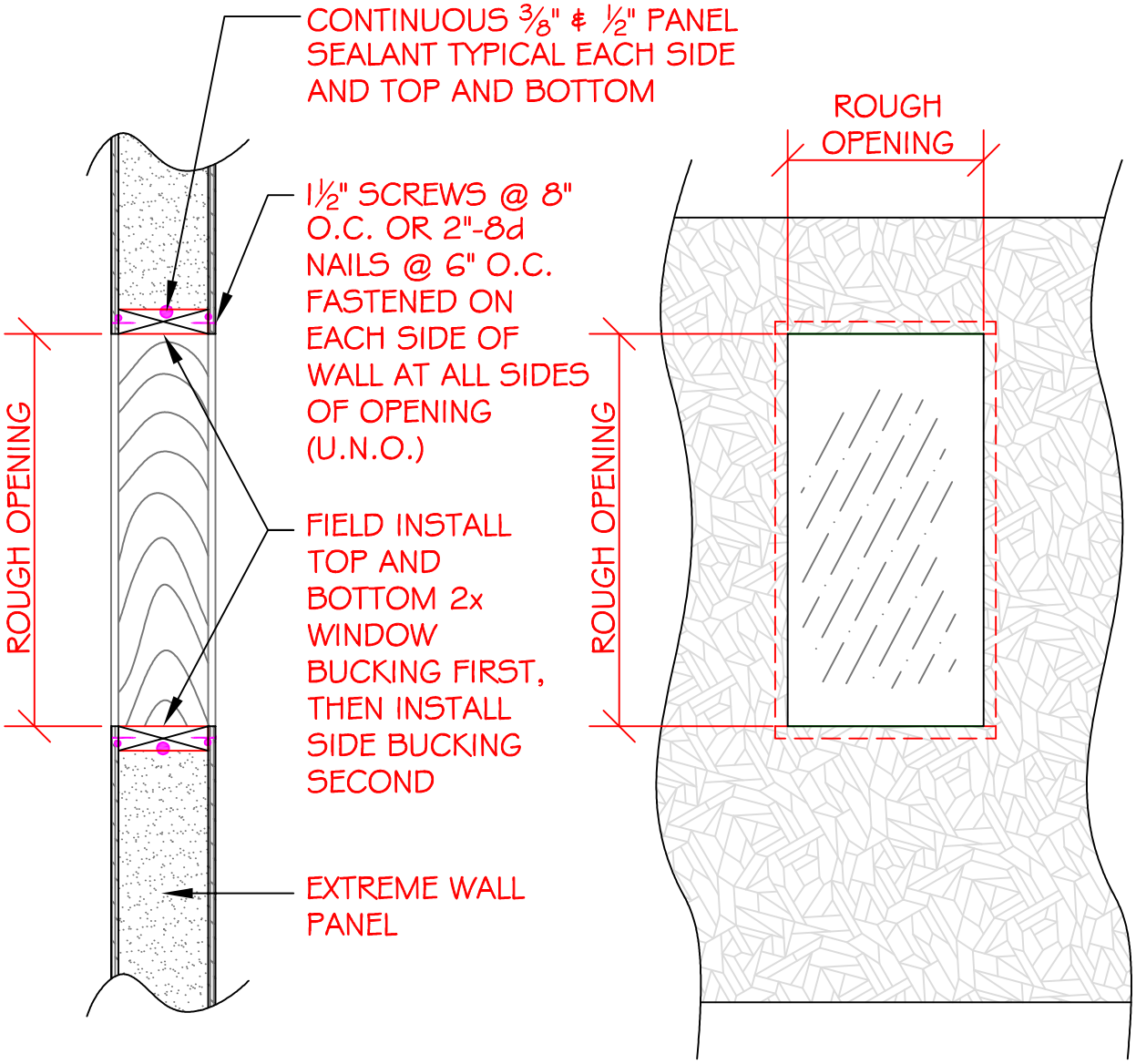
NOTE: SEE PBS DESIGN MANUAL LOAD CHARTS FOR ALLOWABLE LOADS



SECTION
NOT TO SCALE

DETAIL TITLE : TYPICAL PANEL WALL
DETAIL NO. : EP-301
PAGE NO. : 3 - 1
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



SECTION
NOT TO SCALE

DETAIL TITLE : TYPICAL WINDOW OPENING
DETAIL NO. : EP-302
PAGE NO. : 3 - 2
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
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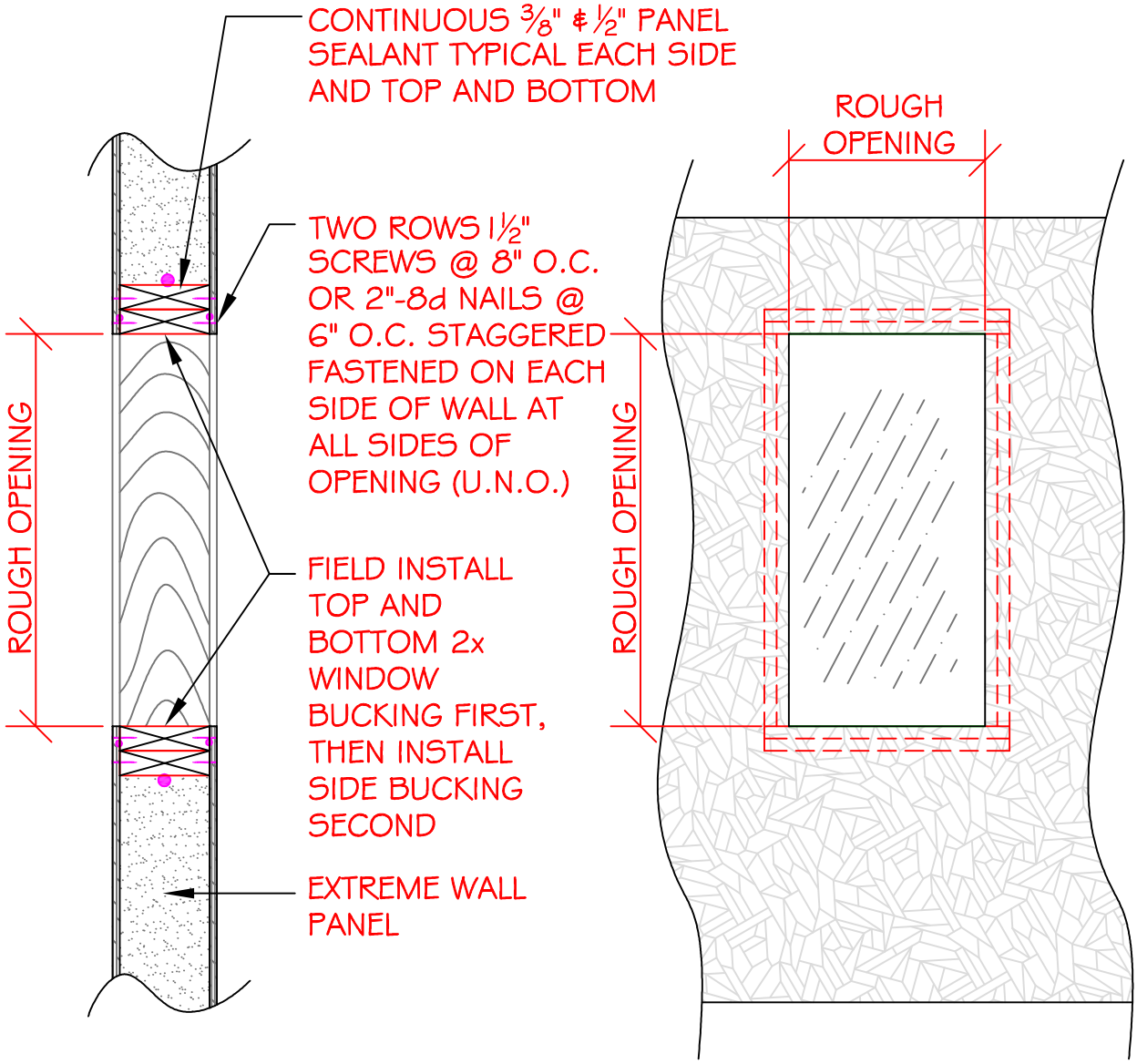

SECTION
NOT TO SCALE

DETAIL TITLE : DOUBLE BUCK WINDOW OPENING
DETAIL NO. : EP-303
PAGE NO. : 3 - 3
UPDATED : MARCH 2017

Extreme Panel
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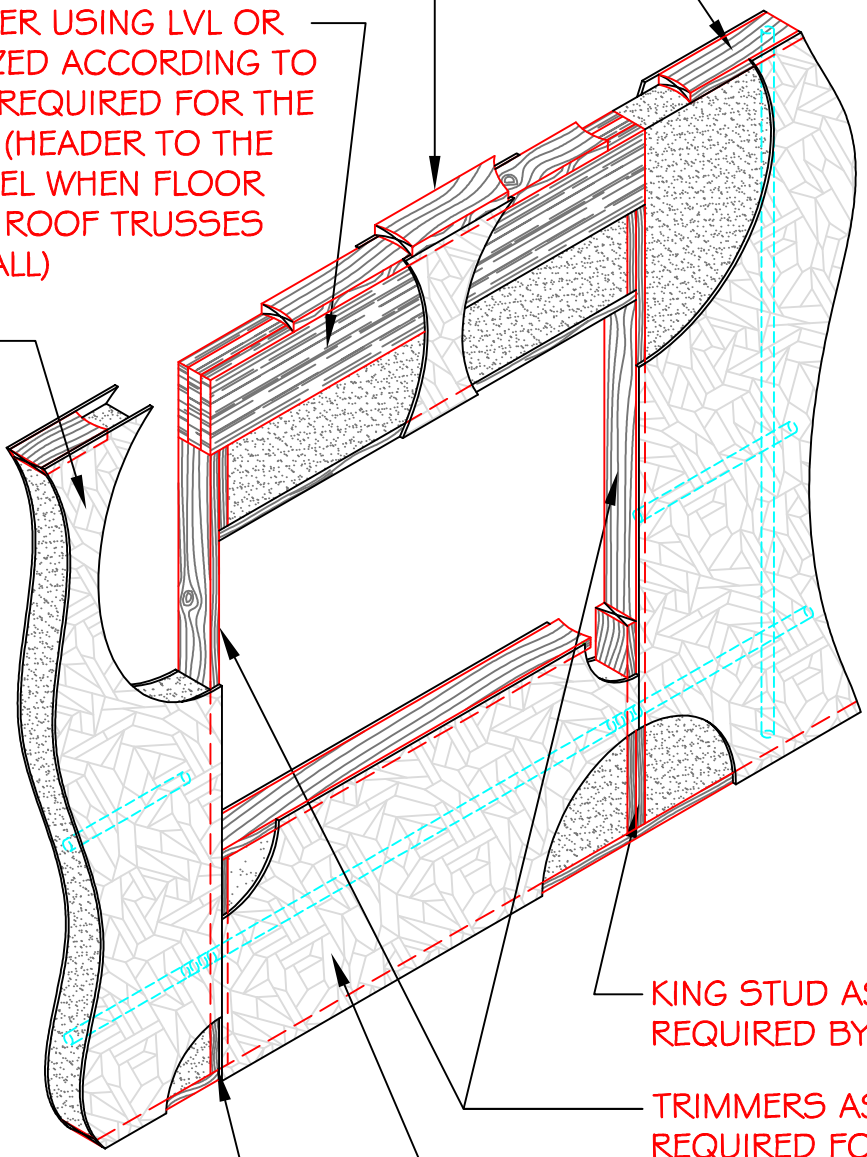

NOTE:
HEADER LOCATED AT BOTTOM OF UPPER WINDOW PANEL W/ PANEL ROOF

SECTION
NOT TO SCALE

DETAIL TITLE : HEADERED WINDOW OPENING
DETAIL NO. : EP-304A
PAGE NO. : 3 - 4
UPDATED : MARCH 2017

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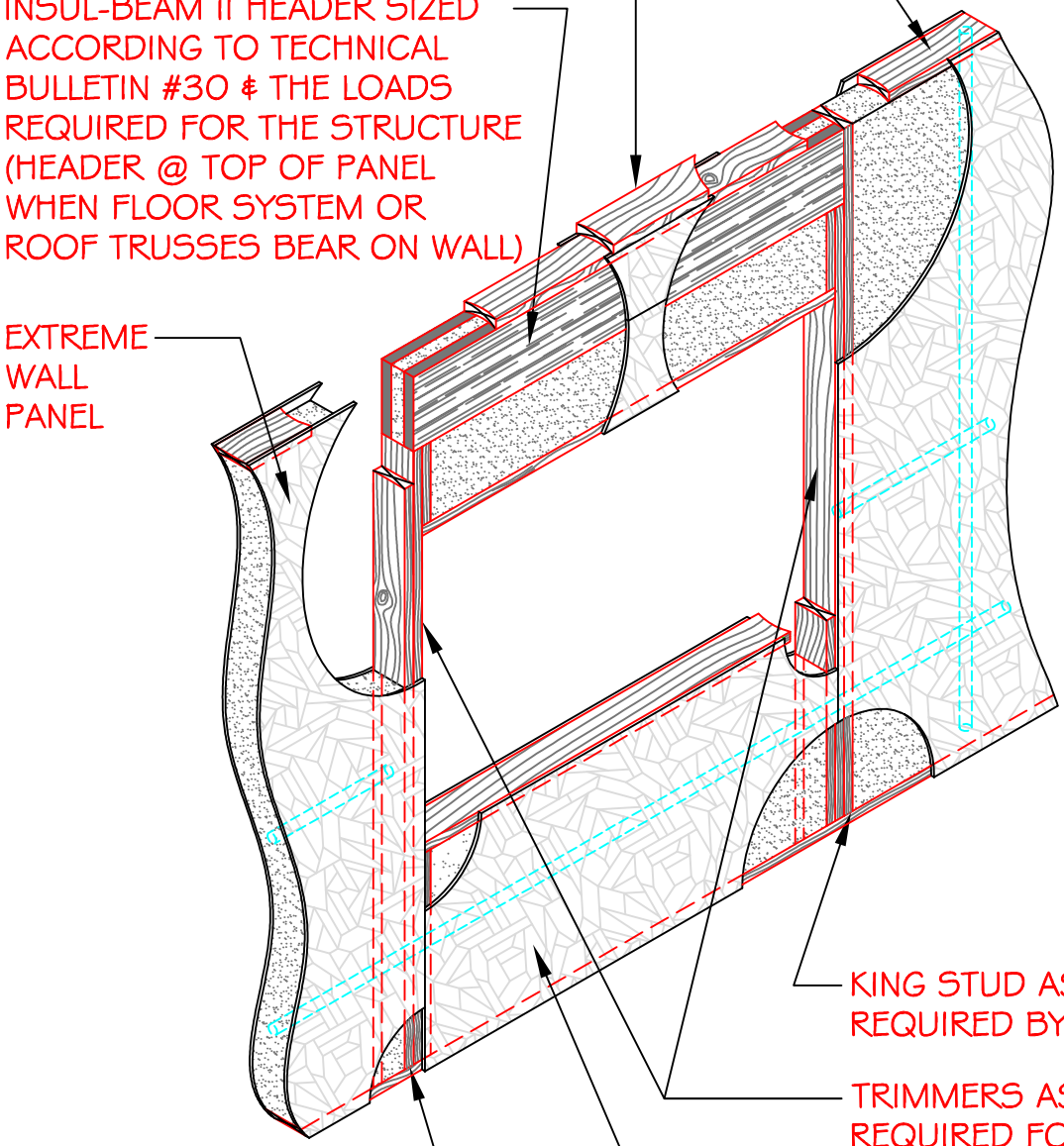

NOTE:
HEADER LOCATED AT BOTTOM OF UPPER WINDOW PANEL W/ PANEL ROOF

SECTION
NOT TO SCALE

DETAIL TITLE : INSUL-BEAM II HEADERED OPENING
DETAIL NO. : EP-304B
PAGE NO. : 3 - 4b
UPDATED : MARCH 2017

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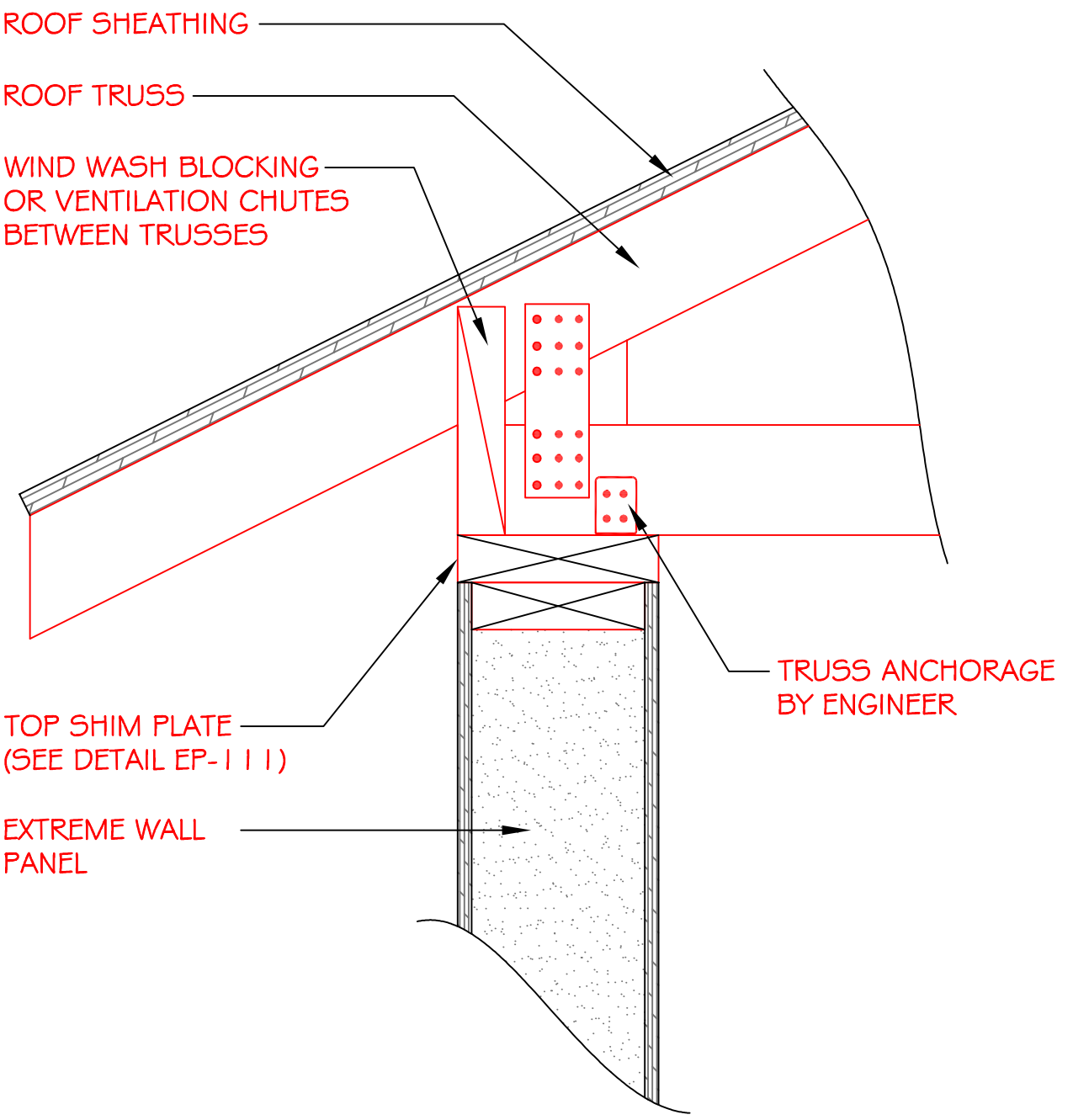

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF TRUSS BEARING
DETAIL NO. : EP-305
PAGE NO. : 3 - 5
UPDATED : MARCH 2017

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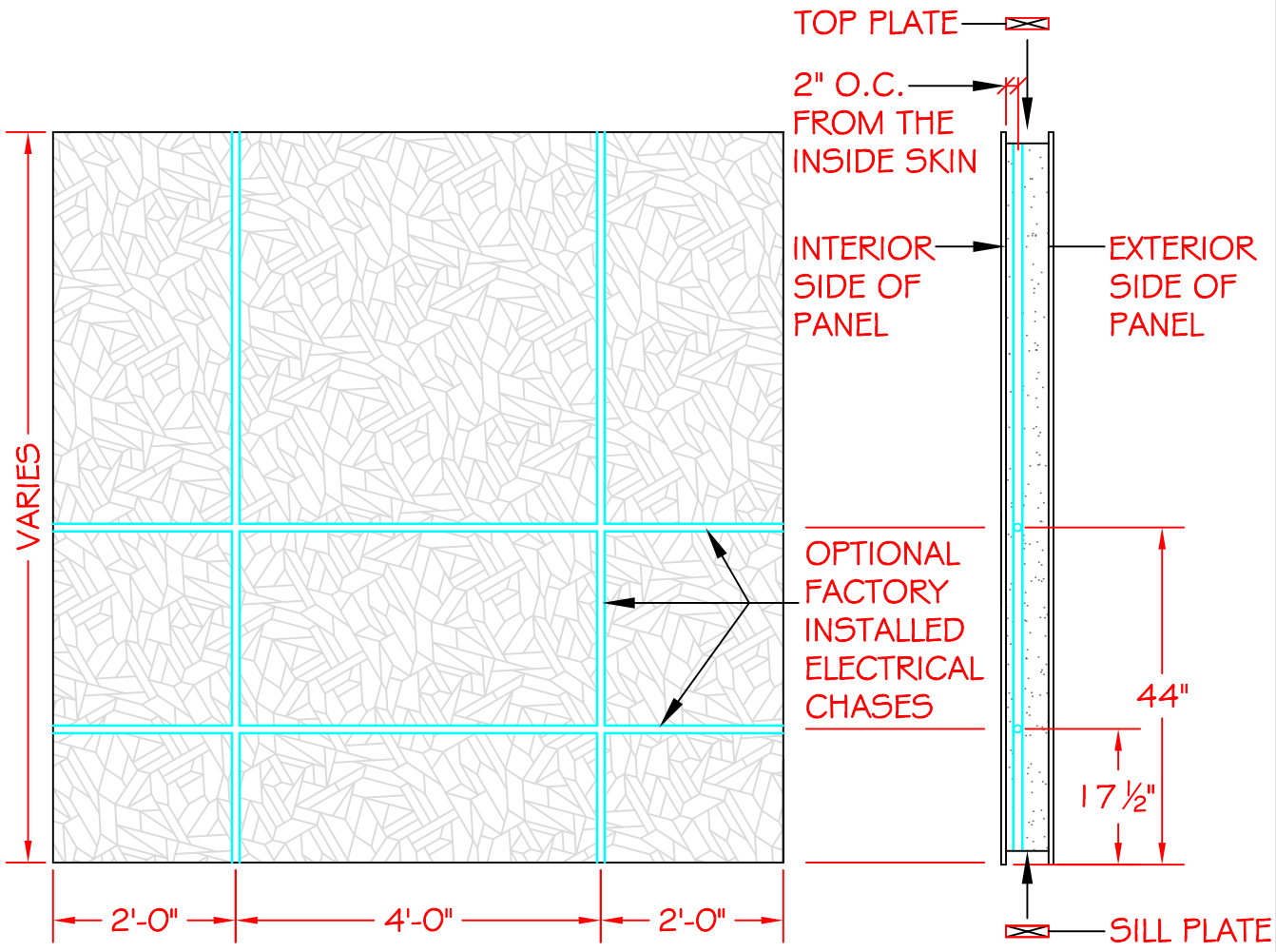
NOTES:

1. HOLES MUST BE DRILLED IN THE TOP AND BOTTOM PLATES AT THE LOCATION OF THE VERTICAL ELECTRICAL CHASES TO ALLOW ACCESS TO THE CHASE AFTER THE PANELS ARE IN PLACE. HOLES THAT ARE ON OR NEAR A TRUSS OR JOIST CAN BE DRILLED IN AT AN ANGLE TO ALLOW FOR ACCESS.
2. WITH THE EXCEPTION OF THE FACTORY INSTALLED CHASES, ALL OTHER NECESSARY ELECTRICAL HOLES ARE TO BE FIELD CUT ONSITE USING THE HOT IRON FOAM CUTTER SUPPLIED. ALSO, PLAN AHEAD FOR ELECTRICAL CHASES AROUND DOOR ROUGH OPENINGS.
3. ADDITIONAL FIELD INSTALLED ELECTRICAL CHASES MAY BE NEEDED AROUND ROUGH OPENINGS. THEY CAN BE FIELD CUT BEFORE INSTALLING DIMENSIONAL LUMBER WITH AN ELECTRIC FOAM CUTTER.
4. ALL PENETRATIONS ARE REQUIRED TO BE FOAMED IN PLACE AFTER ELECTRICAL ROUGH-IN IS DONE.
5. FOLLOW LOCAL CODE REQUIREMENTS FOR ELECTRICAL INSTALLATION.



SECTION
NOT TO SCALE

DETAIL TITLE : ELECTRICAL CHASES
DETAIL NO. : EP-306
PAGE NO. : 3 - 6
UPDATED : MARCH 2017

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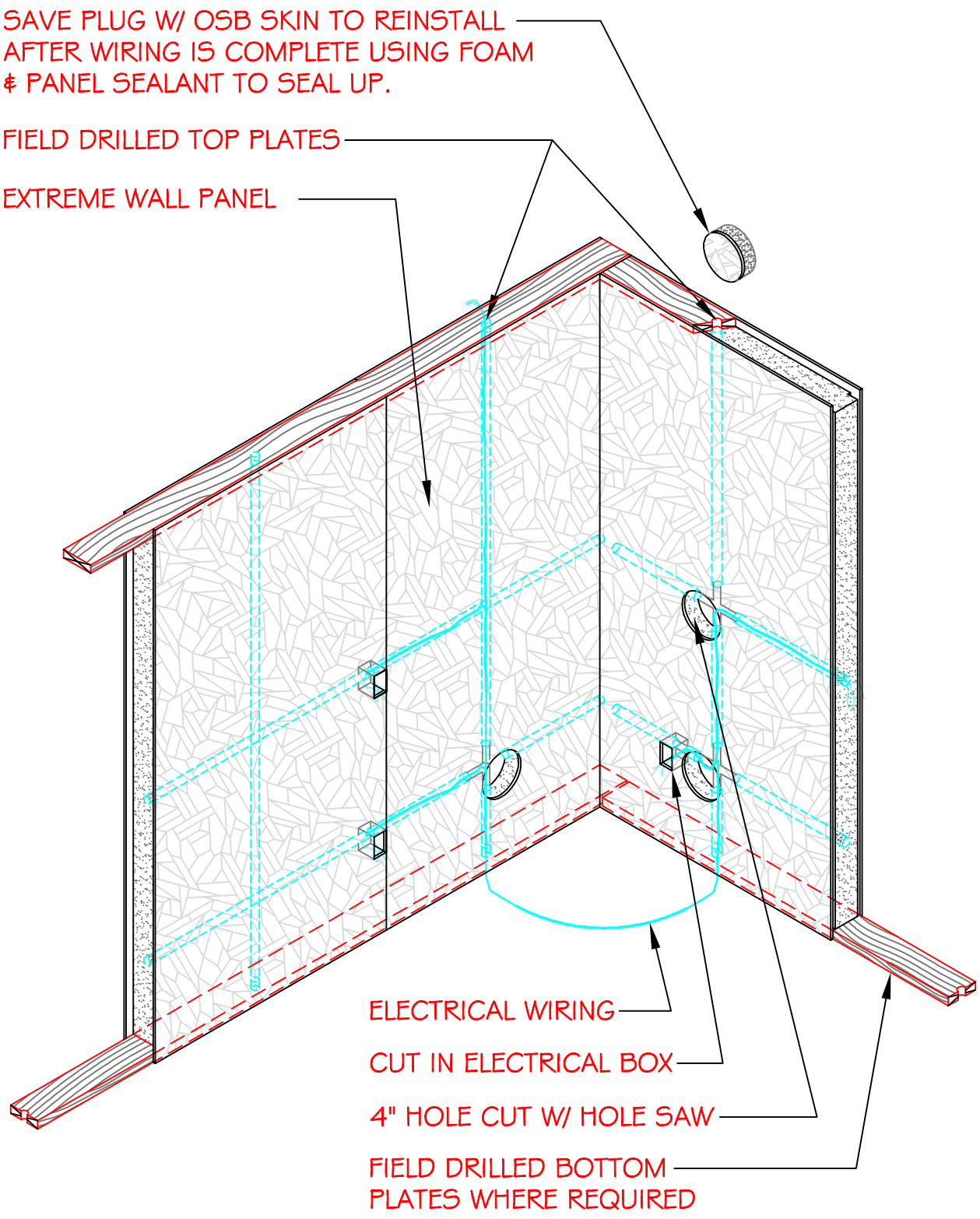

SECTION
NOT TO SCALE

DETAIL TITLE : ELECTRICAL CHASES
DETAIL NO. : EP-307
PAGE NO. : 3 - 7
UPDATED : MARCH 2017

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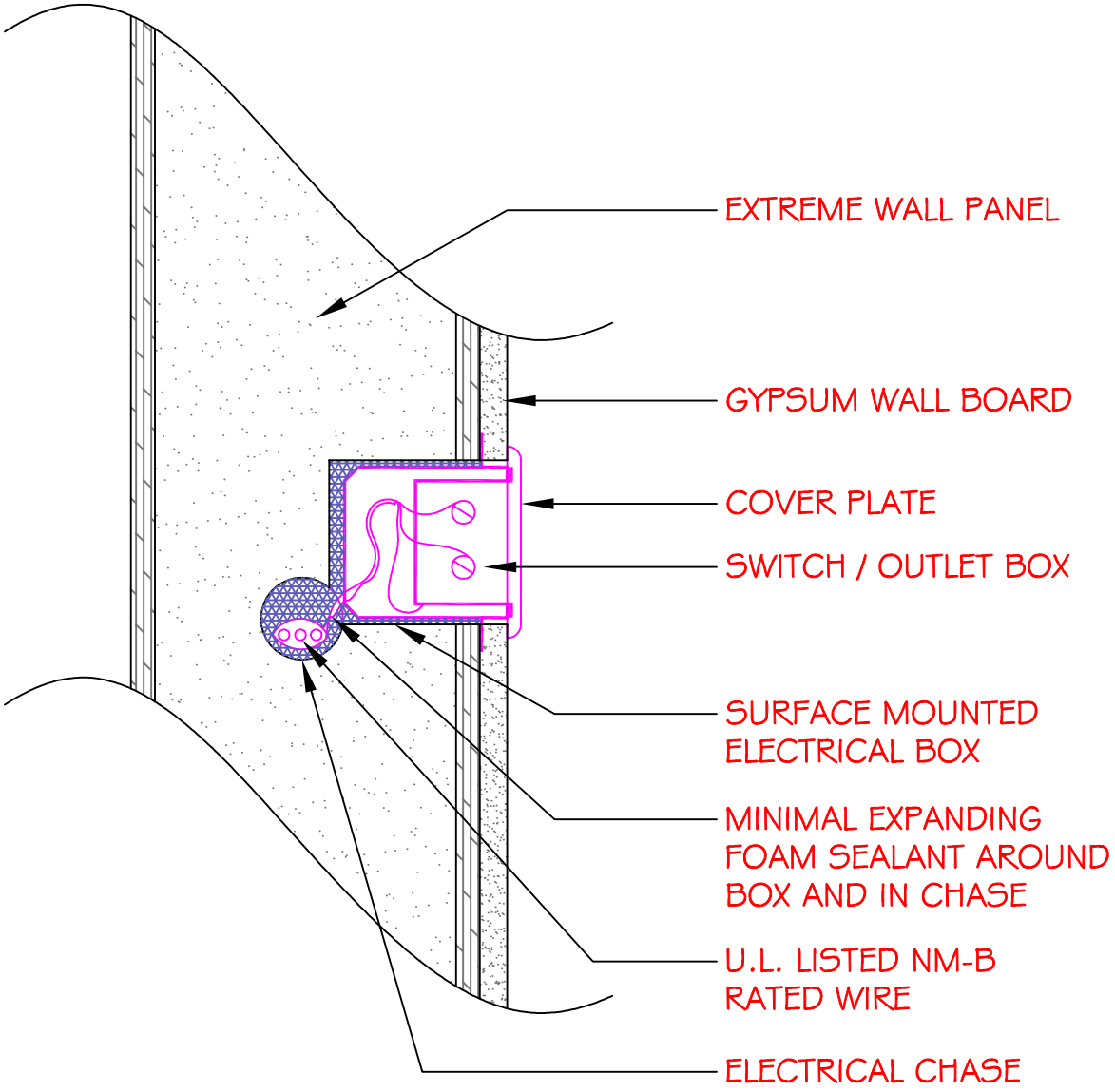

SECTION
NOT TO SCALE

DETAIL TITLE : ELECTRICAL BOX INSTALLATION
DETAIL NO. : EP-308
PAGE NO. : 3 - 8
UPDATED : MARCH 2017

Extreme Panel
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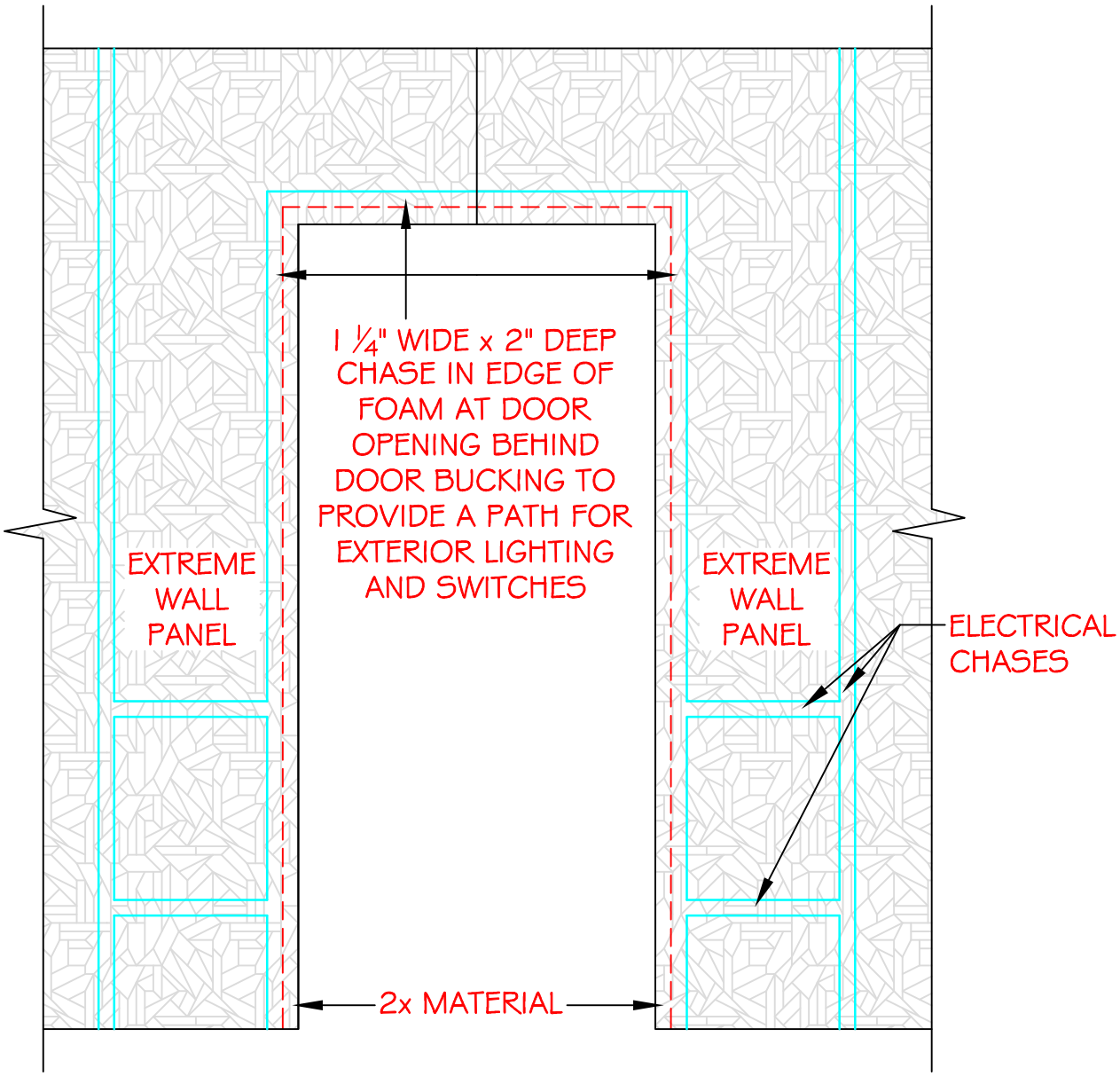
NOTE:
PLAN AHEAD FOR ELECTRICAL CHASES WHERE STANDARD CHASES ARE NOT AVAILABLE. COMMUNICATE WITH THE ELECTRICIAN BEFORE INSTALLING LUMBER AROUND DOORS.



SECTION
NOT TO SCALE

DETAIL TITLE : ELECTRICAL DOOR CHASES
DETAIL NO. : EP-309
PAGE NO. : 3 - 9
UPDATED : MARCH 2017

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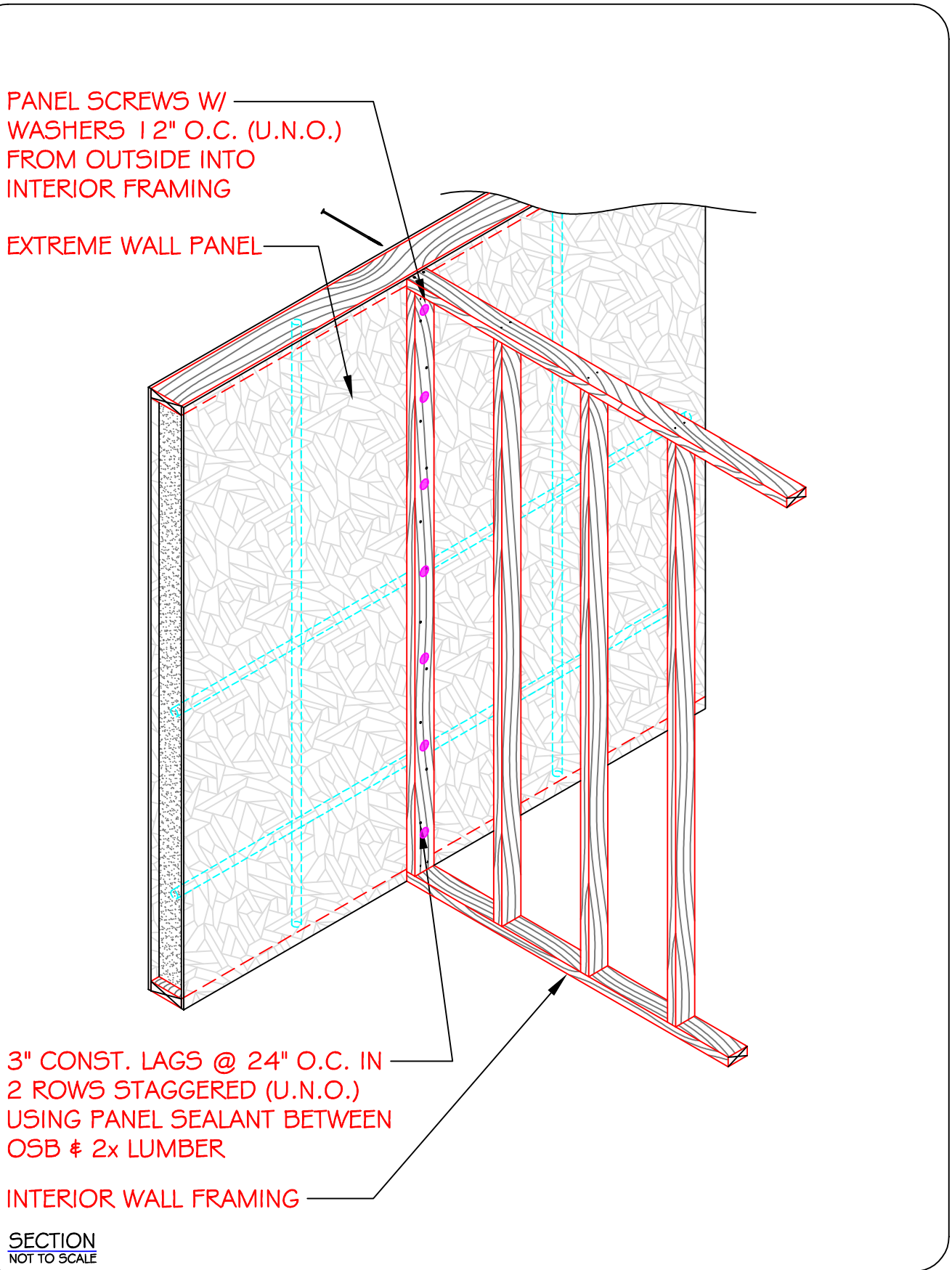

SECTION
NOT TO SCALE

DETAIL TITLE : INTERIOR WALL TO PANEL CONNECTION
DETAIL NO. : EP-310
PAGE NO. : 3 - 10
UPDATED : MARCH 2017

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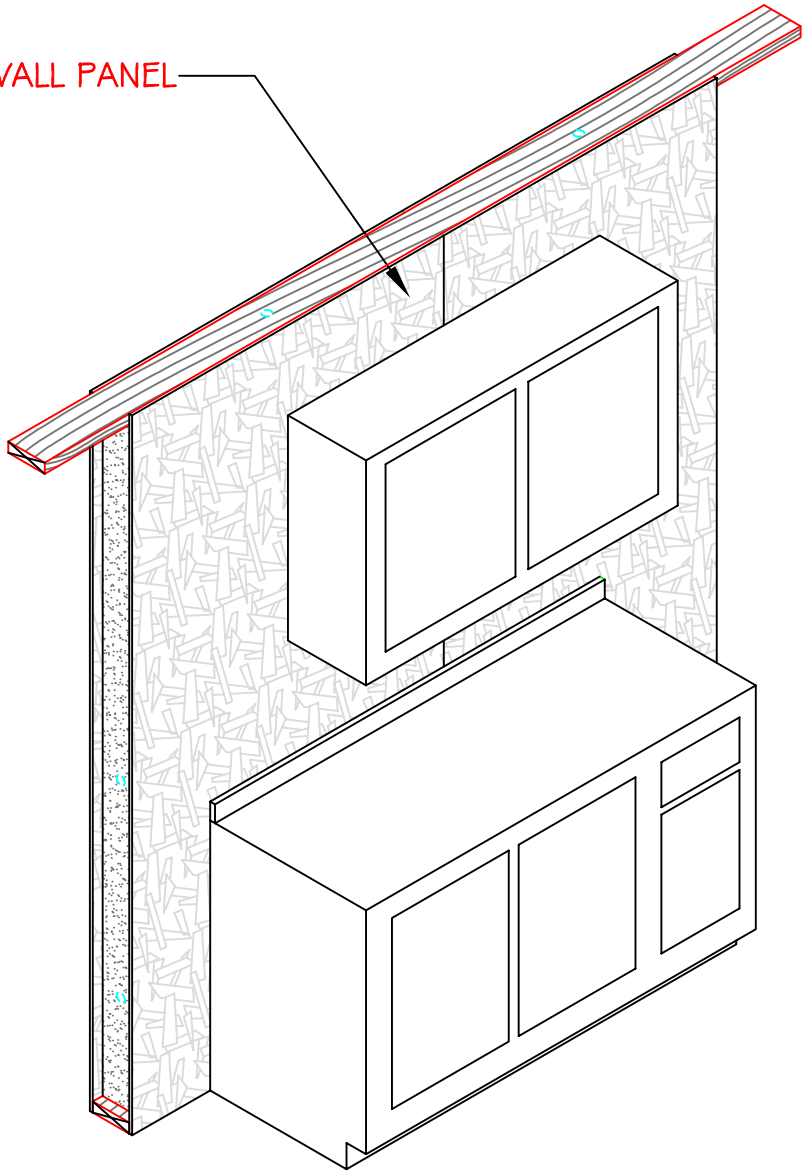

NOTE:
FASTEN CABINET TO PANELS FOLLOWING CABINET MANUFACTURER'S RECOMMENDATIONS (FOR HIGHER CABINET LOADS CONSULT EXTREME PANELS TECHNOLOGIES BEFORE INSTALLATION)

SECTION
NOT TO SCALE

DETAIL TITLE : TYPICAL CABINET CONNECTION
DETAIL NO. : EP-311
PAGE NO. : 3 - 11
UPDATED : MARCH 2017

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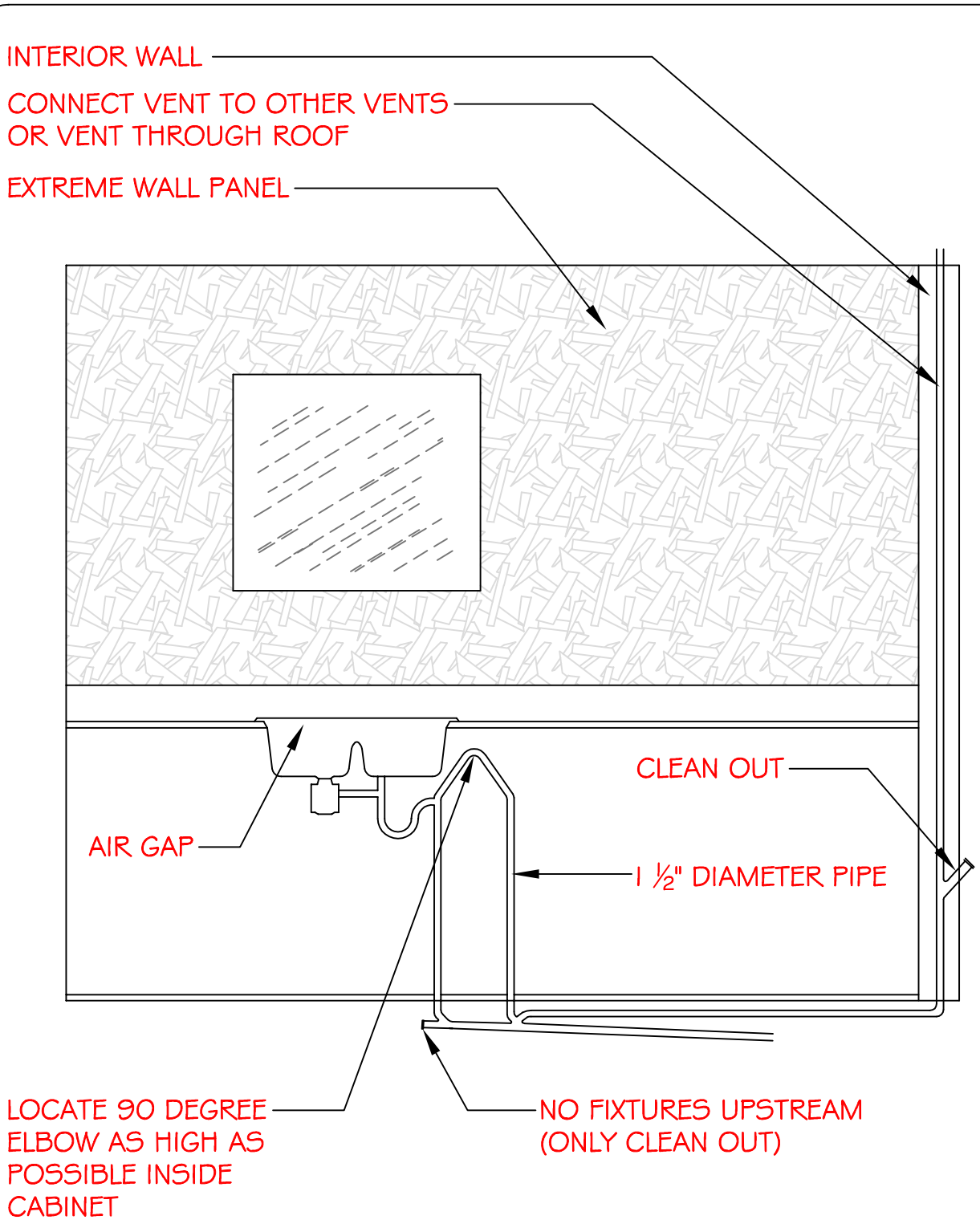

NOTE: CONSULT LOCAL BUILDING CODES FOR ACCEPTANCE

SECTION
NOT TO SCALE

DETAIL TITLE : ISLAND VENT INSTALLATION
DETAIL NO. : EP-312
PAGE NO. : 3 - 12
UPDATED : MARCH 2017

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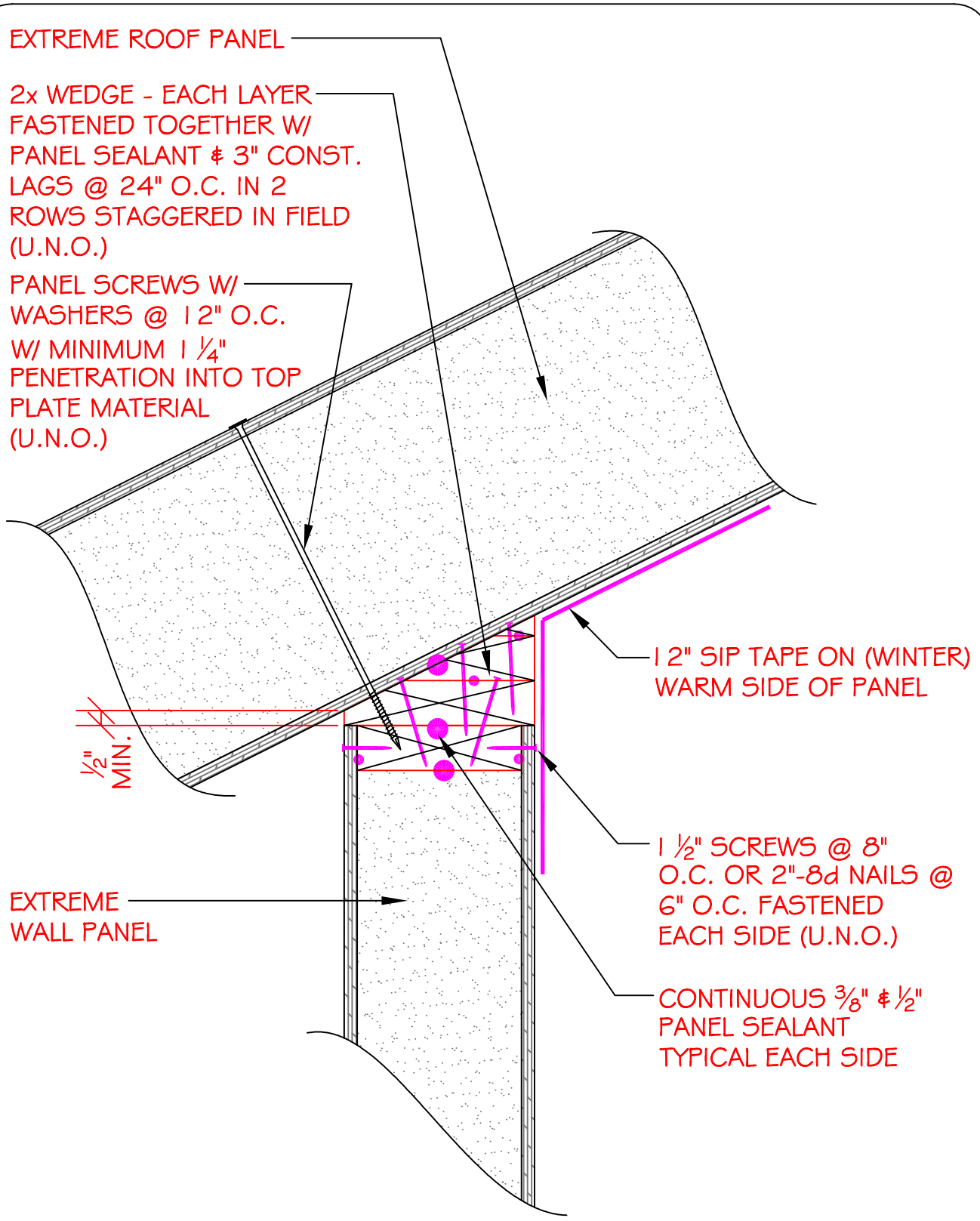

NOTE: 2x WEDGE ONLY USED UP THROUGH 6:12 ROOF PITCHES

SECTION
NOT TO SCALE

DETAIL TITLE :	BUILT-UP 2x WEDGE
DETAIL NO. :	EP-401
PAGE NO. :	4 - 1
UPDATED :	MARCH 2017

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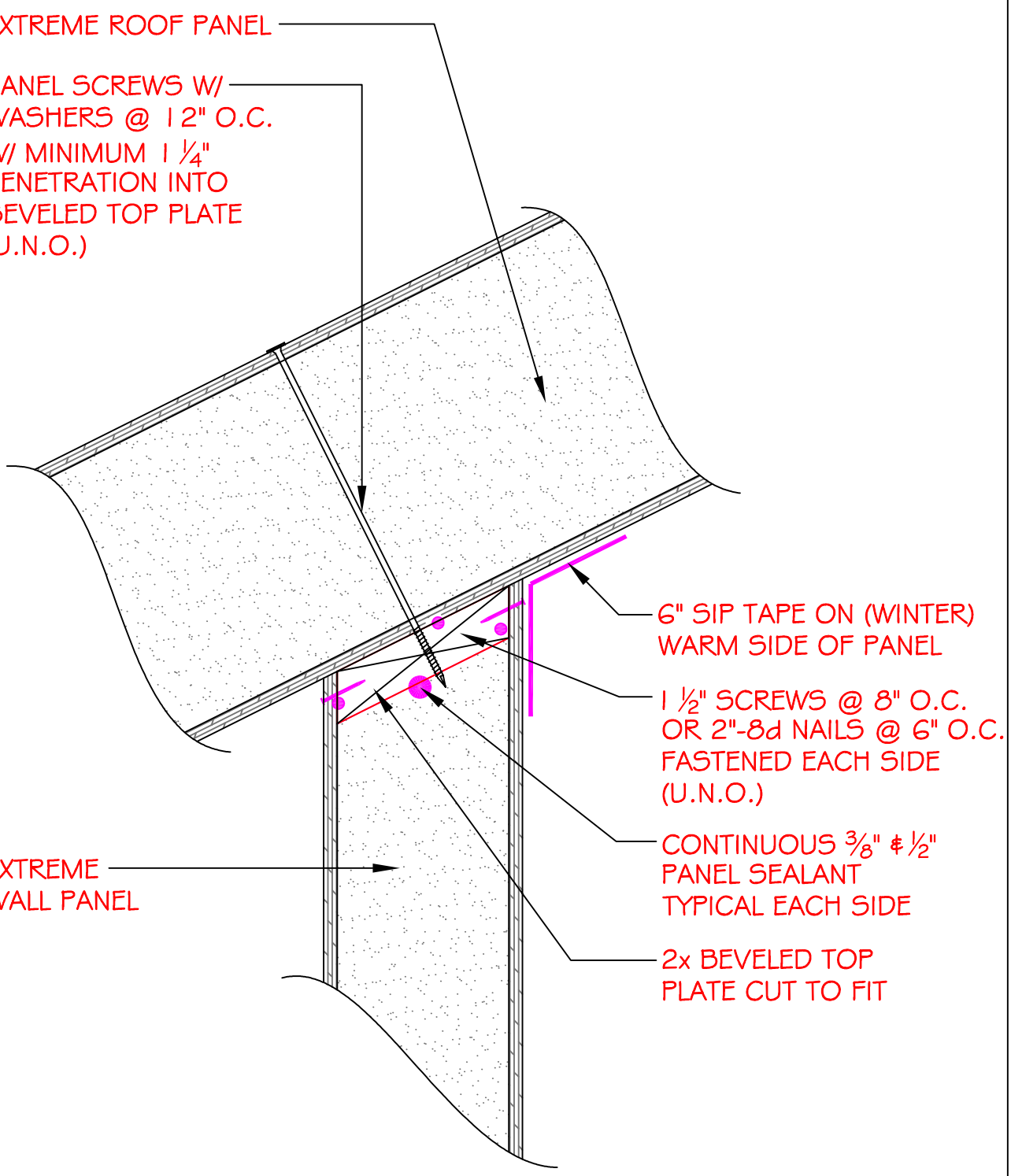

SECTION
NOT TO SCALE

DETAIL TITLE : BEVELED TOP PLATE
DETAIL NO. : EP-402
PAGE NO. : 4 - 2
UPDATED : MARCH 2017

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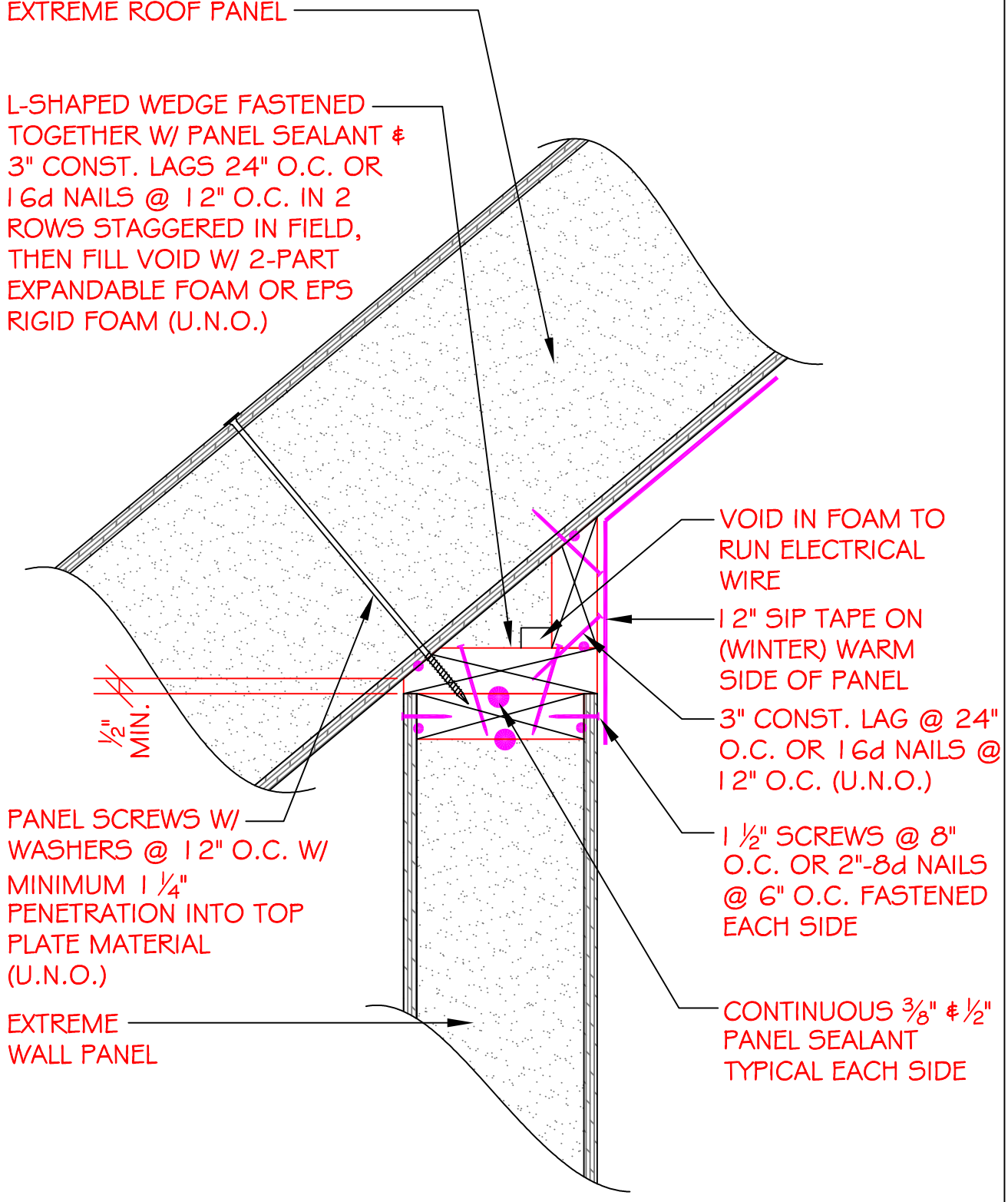

SECTION
NOT TO SCALE

DETAIL TITLE : L-SHAPED 2x WEDGE
DETAIL NO. : EP-403
PAGE NO. : 4 - 3
UPDATED : MARCH 2017

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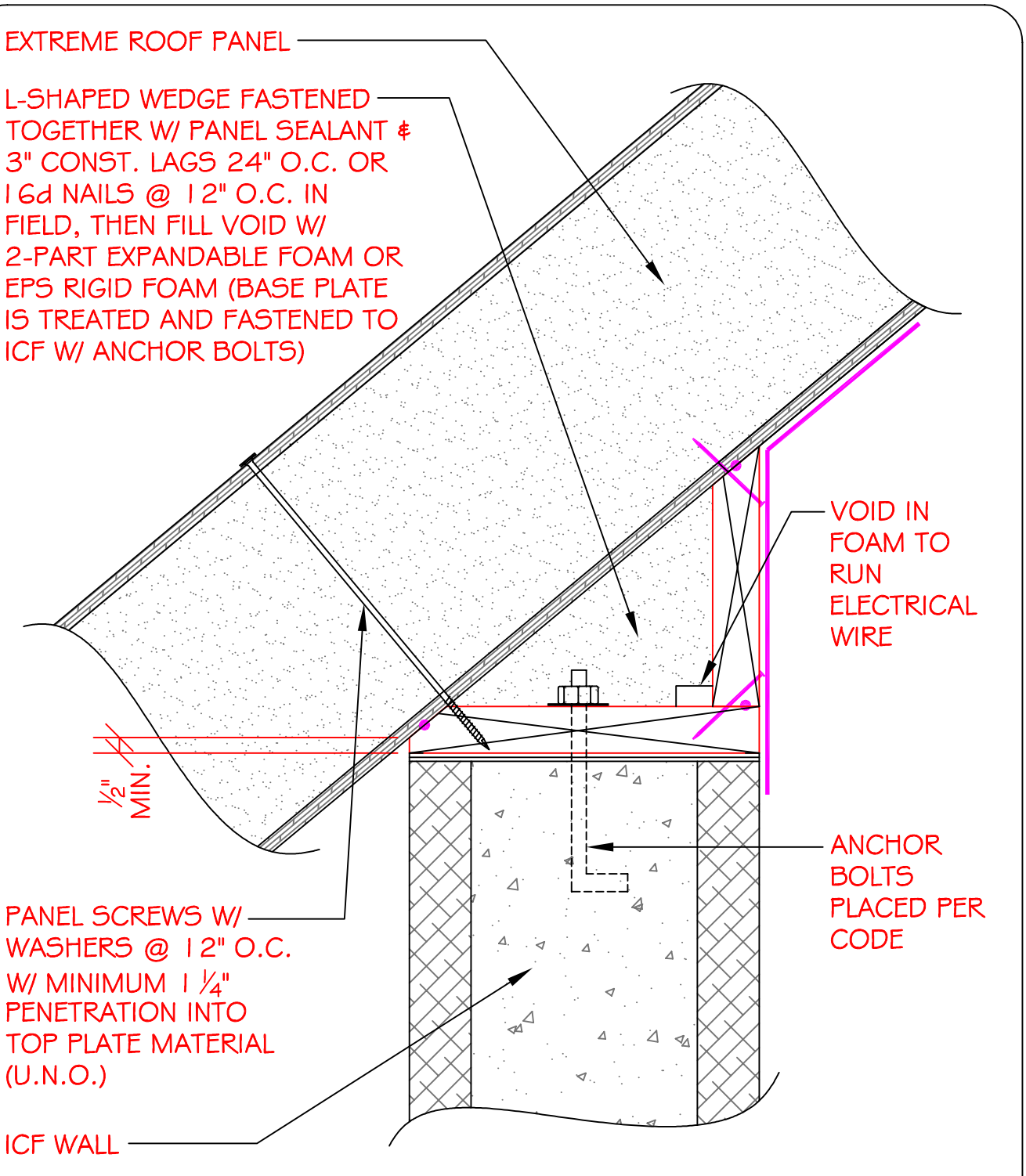

SECTION
NOT TO SCALE

DETAIL TITLE :	ROOF TO ICF CONNECTION
DETAIL NO. :	EP-404
PAGE NO. :	4 - 4
UPDATED :	MARCH 2017

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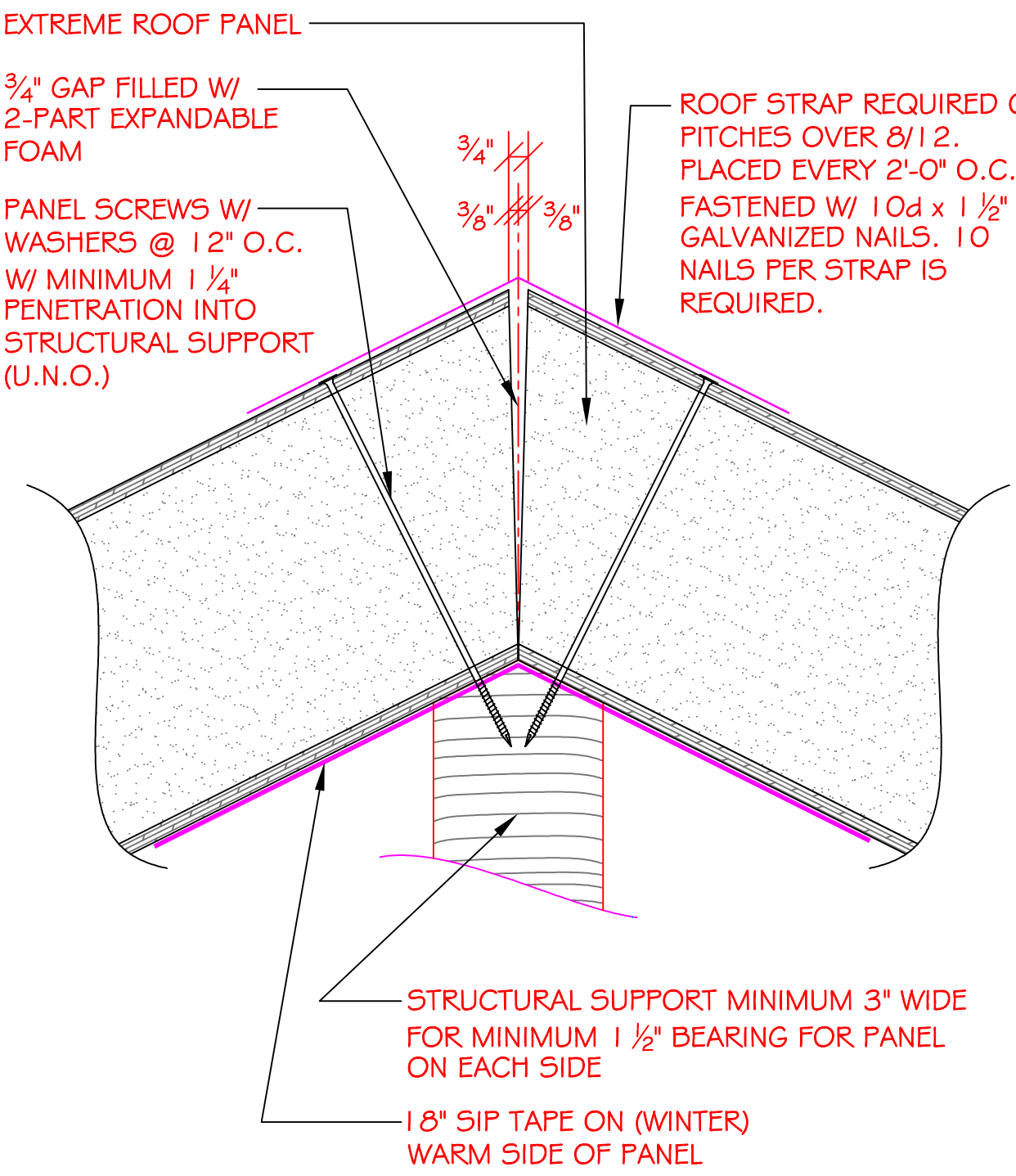

SECTION
NOT TO SCALE

DETAIL TITLE :	FLUSH FOAM RIDGE (STANDARD)
DETAIL NO. :	EP-405
PAGE NO. :	4 - 5
UPDATED :	MARCH 2017

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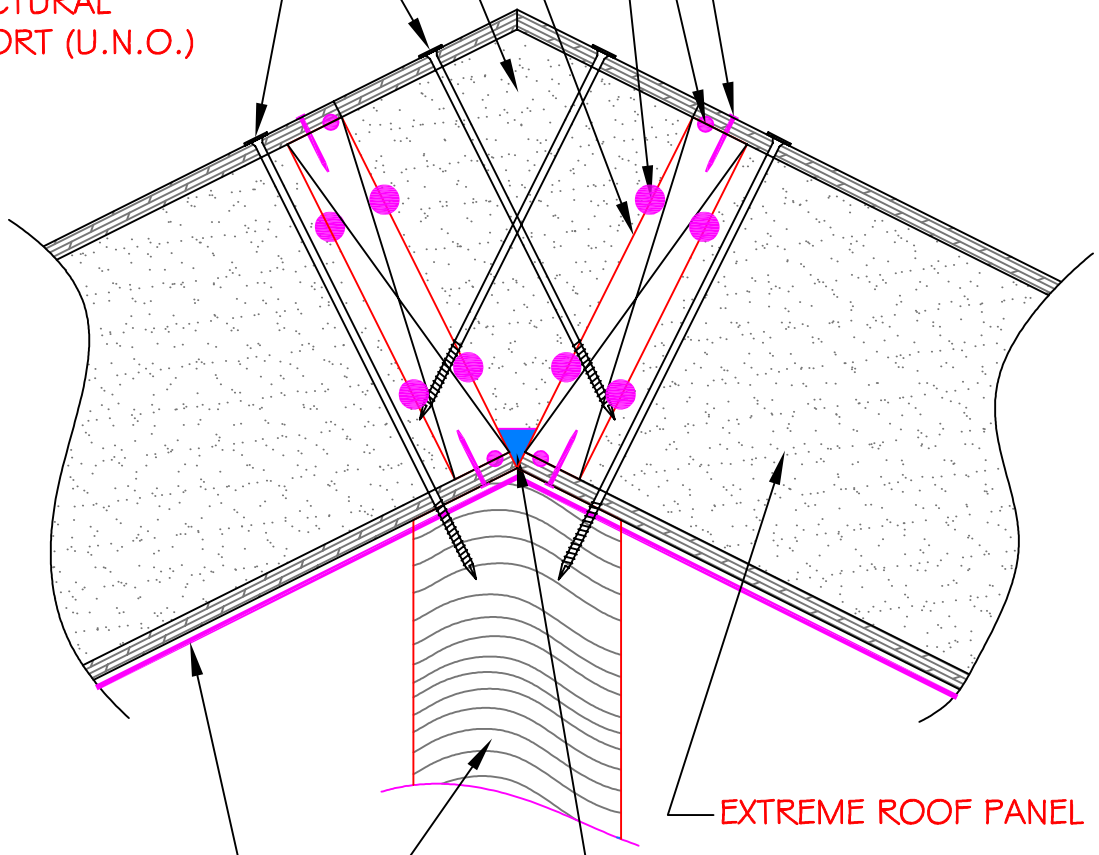

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF WEDGE DETAIL
DETAIL NO. : EP-406
PAGE NO. : 4 - 6
UPDATED : MARCH 2017

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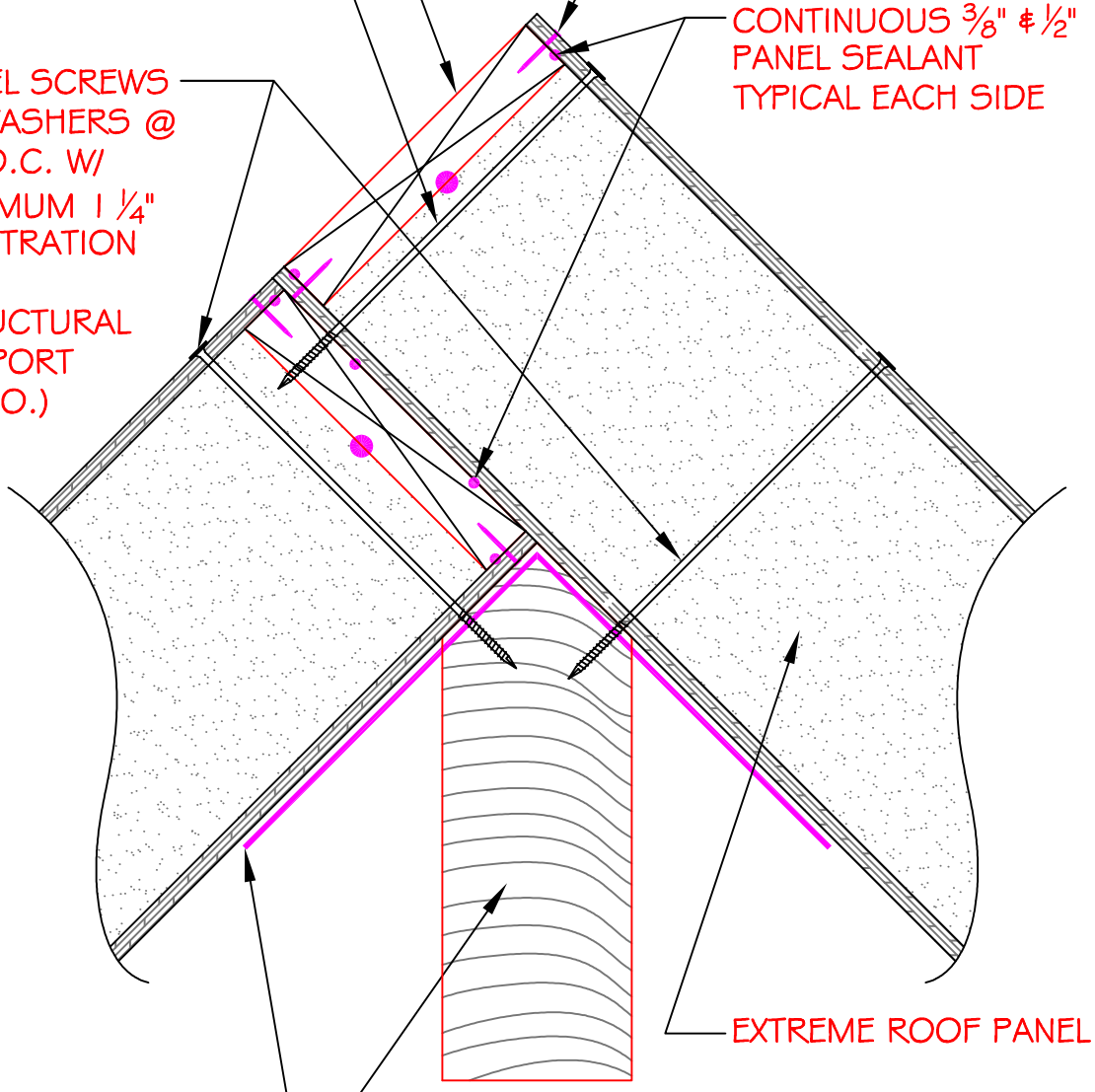

SECTION
NOT TO SCALE

DETAIL TITLE : 12:12 PITCH RIDGE
DETAIL NO. : EP-407
PAGE NO. : 4 - 7
UPDATED : MARCH 2017

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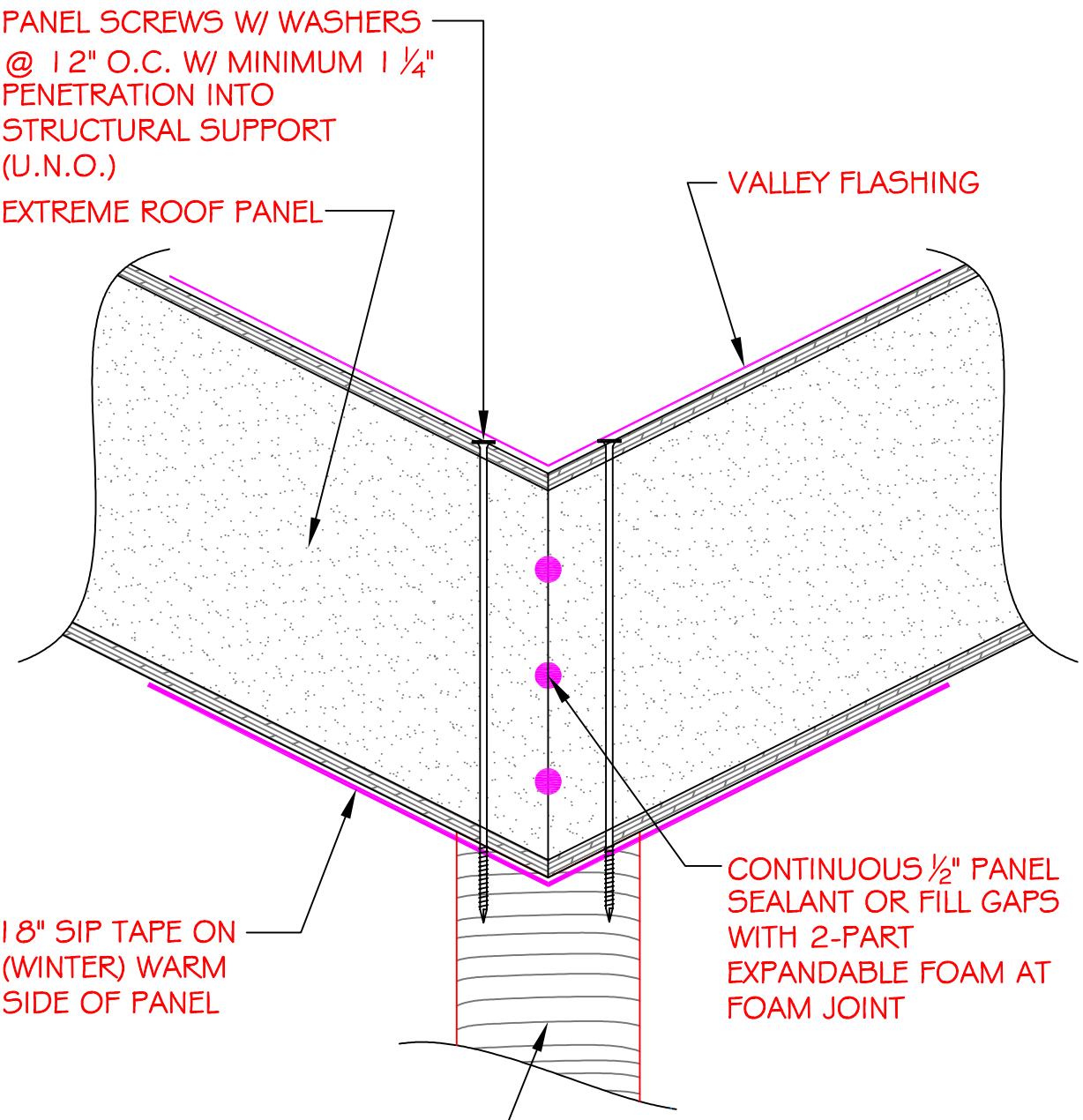

SECTION
NOT TO SCALE

DETAIL TITLE :	ROOF VALLEY (FLUSH FOAM)
DETAIL NO. :	EP-408
PAGE NO. :	4 - 8
UPDATED :	MARCH 2017

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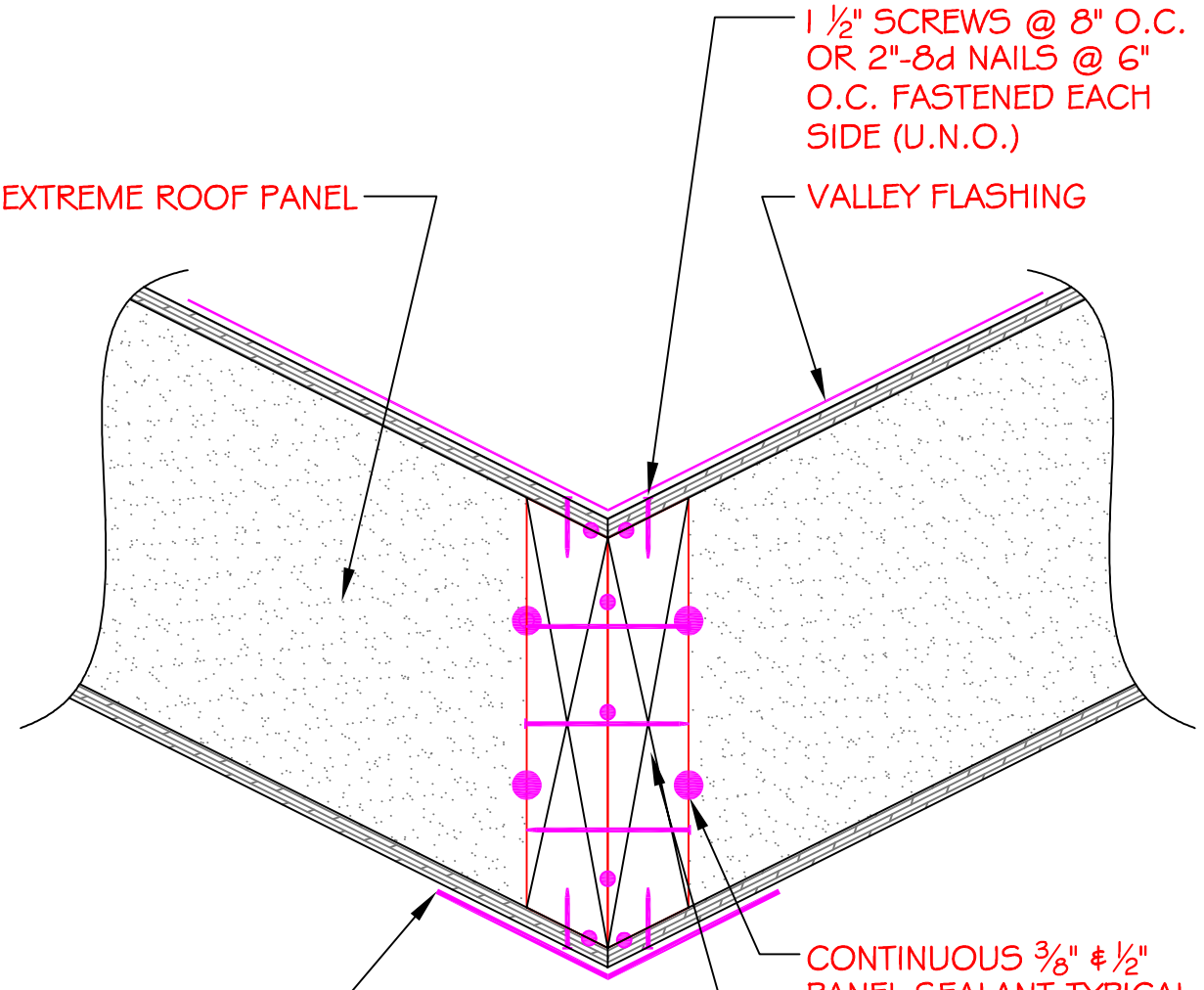

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF VALLEY (LUMBER CONNECTION)
DETAIL NO. : EP-409
PAGE NO. : 4 - 9
UPDATED : MARCH 2017

Extreme Panel
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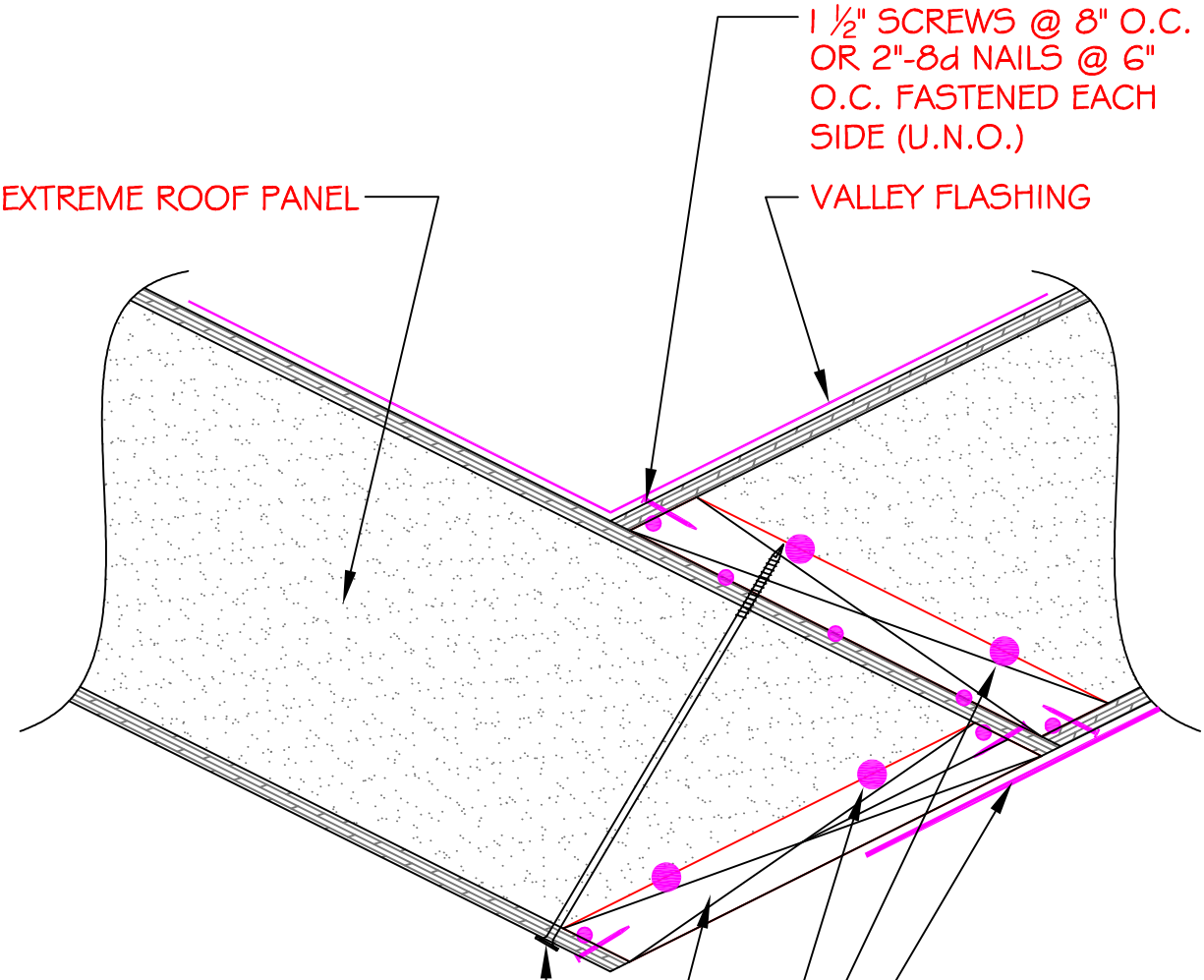

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF VALLEY (OVERLAY)
DETAIL NO. : EP-410
PAGE NO. : 4 - 10
UPDATED : MARCH 2017

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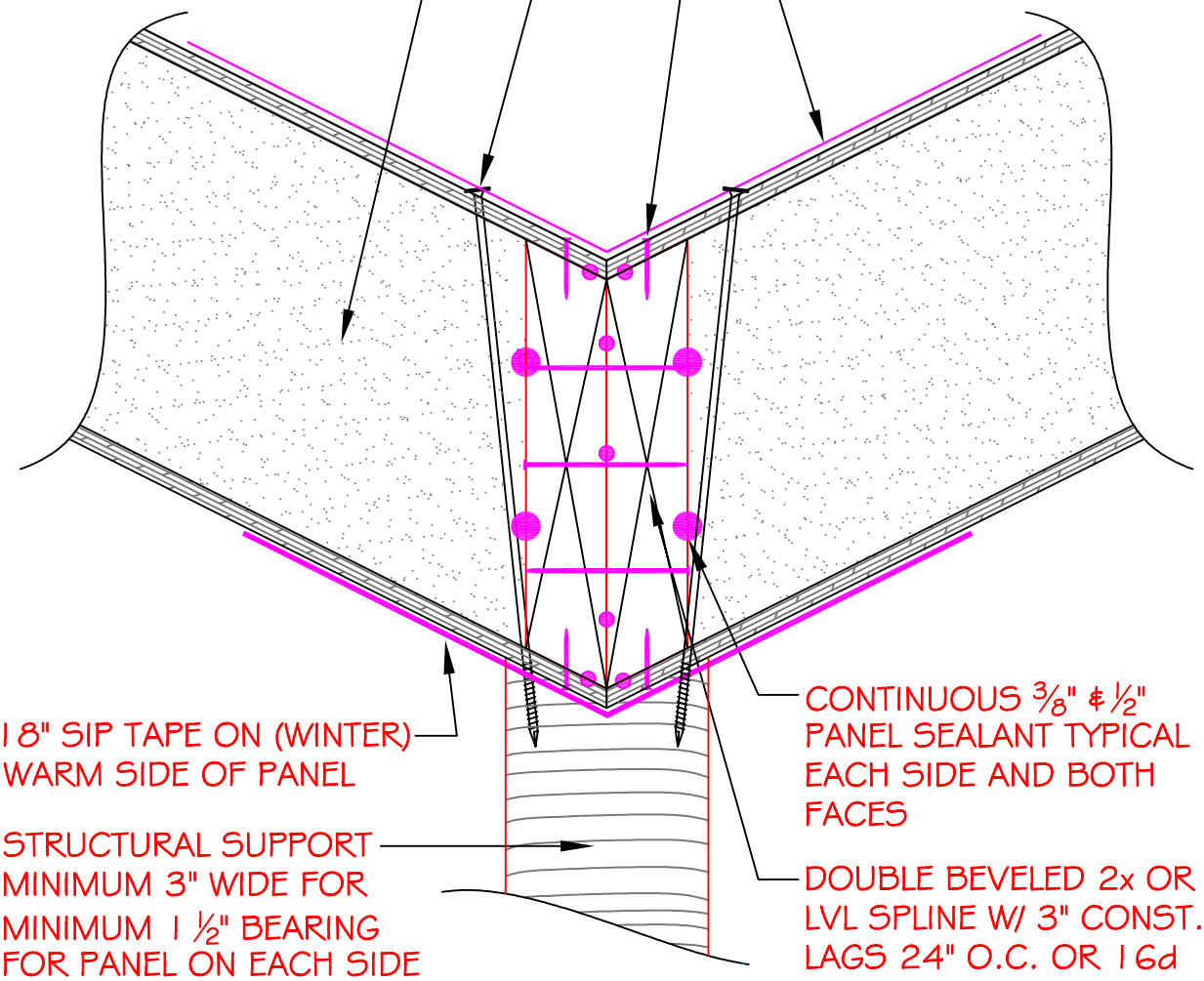

NOTE:
VALLEY CONNECTION USED IN LARGER DORMER SITUATIONS AND SEISMIC AREAS

SECTION
NOT TO SCALE

DETAIL TITLE :	ROOF VALLEY (LUMBER CONNECTION)
DETAIL NO. :	EP-411
PAGE NO. :	4 - 11
UPDATED :	MARCH 2017

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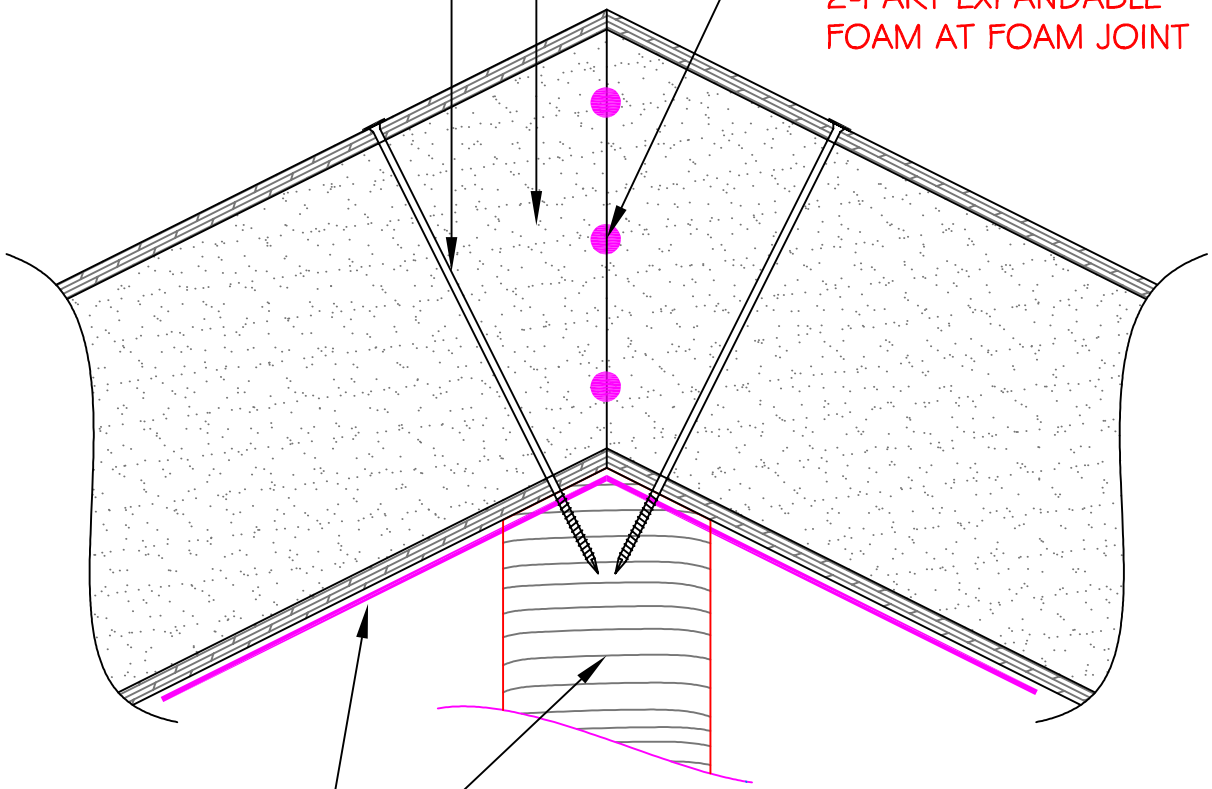

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF HIP (FLUSH FOAM)
DETAIL NO. : EP-412
PAGE NO. : 4 - 12
UPDATED : MARCH 2017

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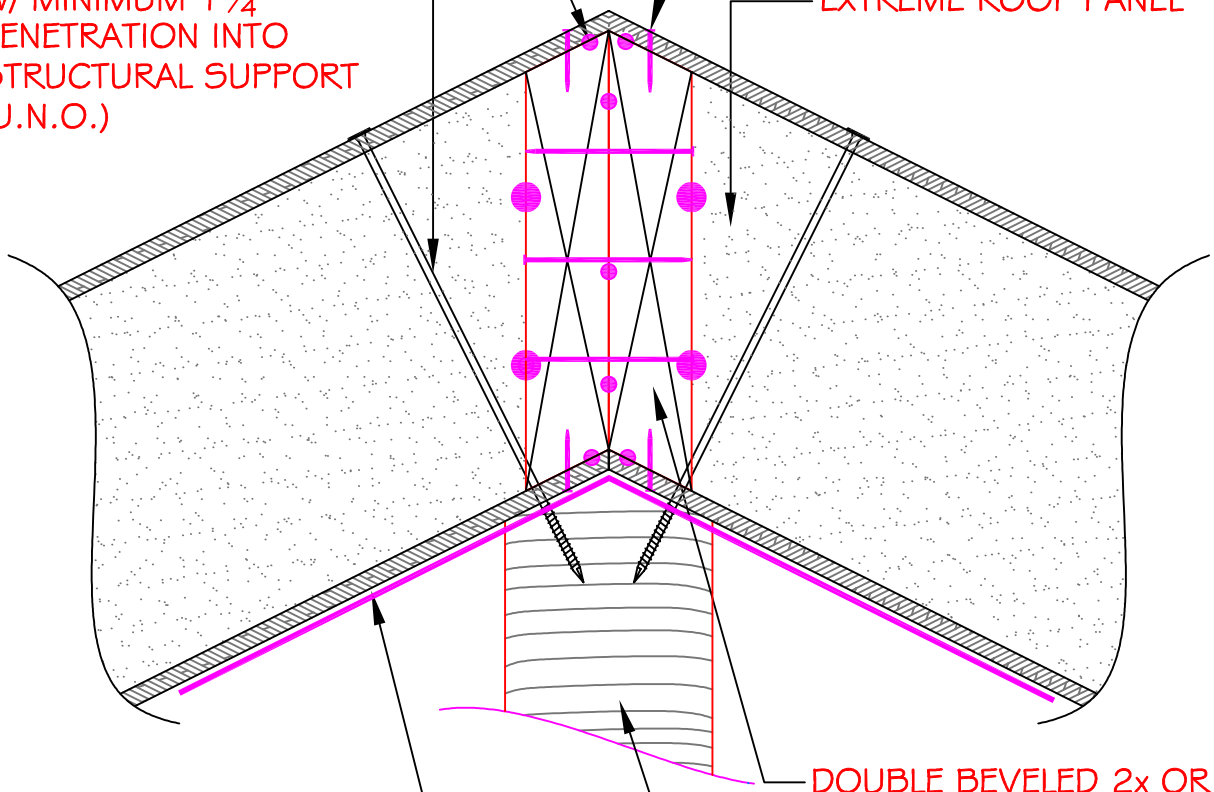

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF HIP (LUMBER CONNECTION)
DETAIL NO. : EP-413
PAGE NO. : 4 - 13
UPDATED : MARCH 2017

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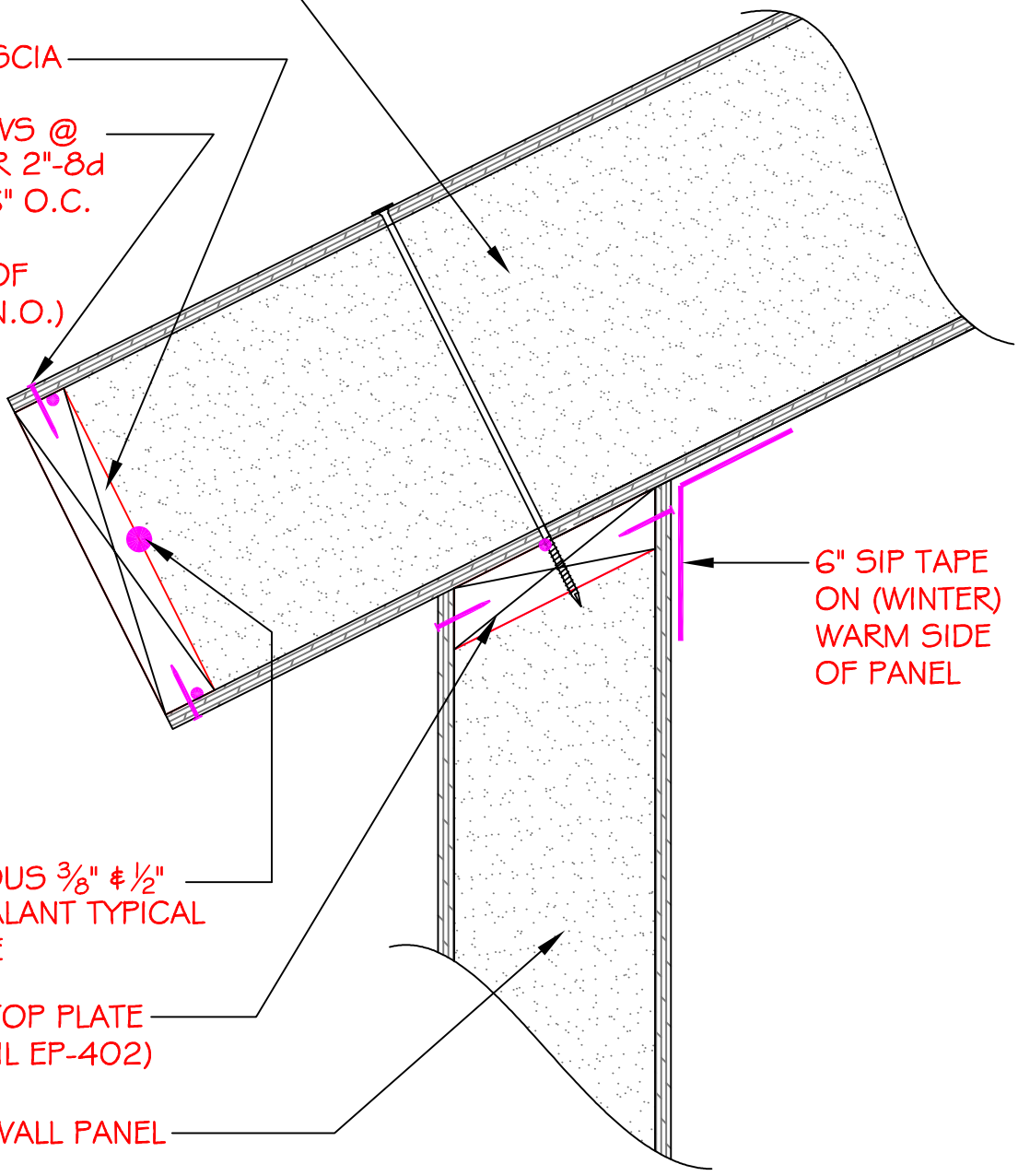

NOTE: CONSULT LOAD DESIGN CHARTS FOR MAXIMUM OVERHANG

SECTION
NOT TO SCALE

DETAIL TITLE : FULL PANEL OVERHANG (SQUARE CUT)
DETAIL NO. : EP-414
PAGE NO. : 4 - 14
UPDATED : MARCH 2017

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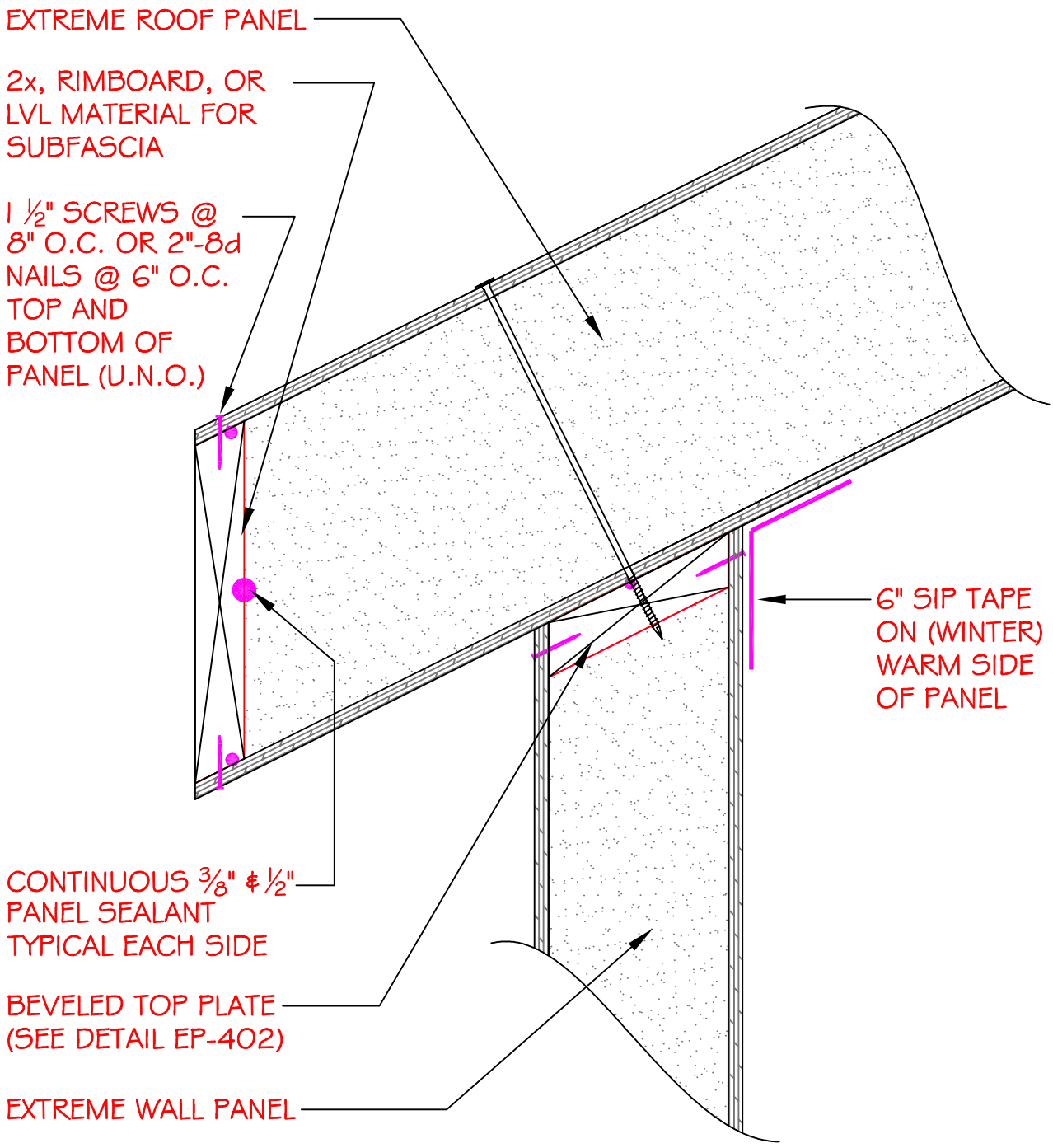

NOTE: CONSULT LOAD DESIGN CHARTS FOR MAXIMUM OVERHANG

SECTION
NOT TO SCALE

DETAIL TITLE :	FULL PANEL OVERHANG (PLUMB CUT)
DETAIL NO. :	EP-415
PAGE NO. :	4 - 15
UPDATED :	MARCH 2017

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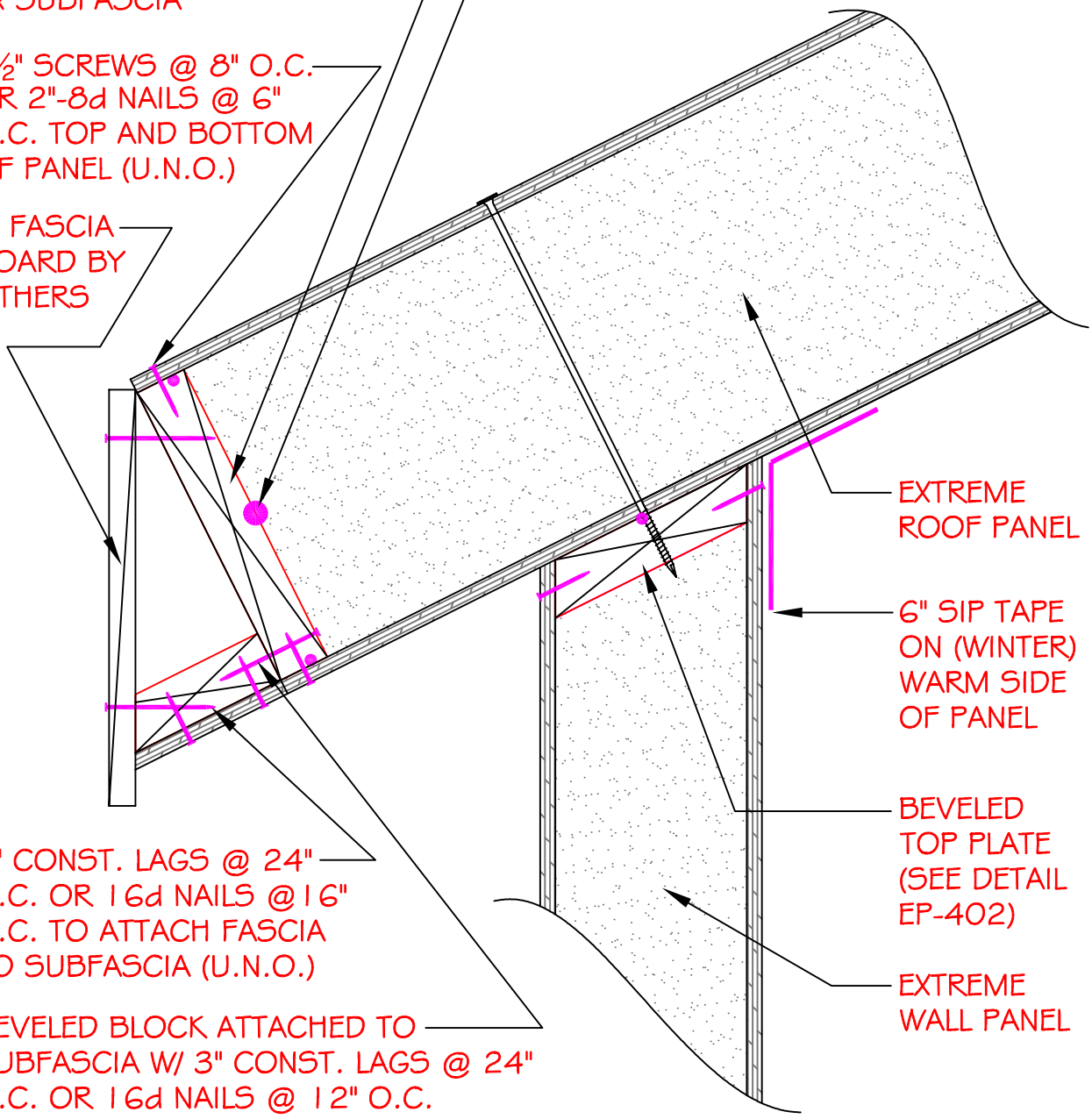

NOTE: CONSULT LOAD DESIGN CHARTS FOR MAXIMUM OVERHANG

SECTION
NOT TO SCALE

DETAIL TITLE : FULL PANEL OVERHANG (OPTIONAL)
DETAIL NO. : EP-416
PAGE NO. : 4 - 16
UPDATED : MARCH 2017

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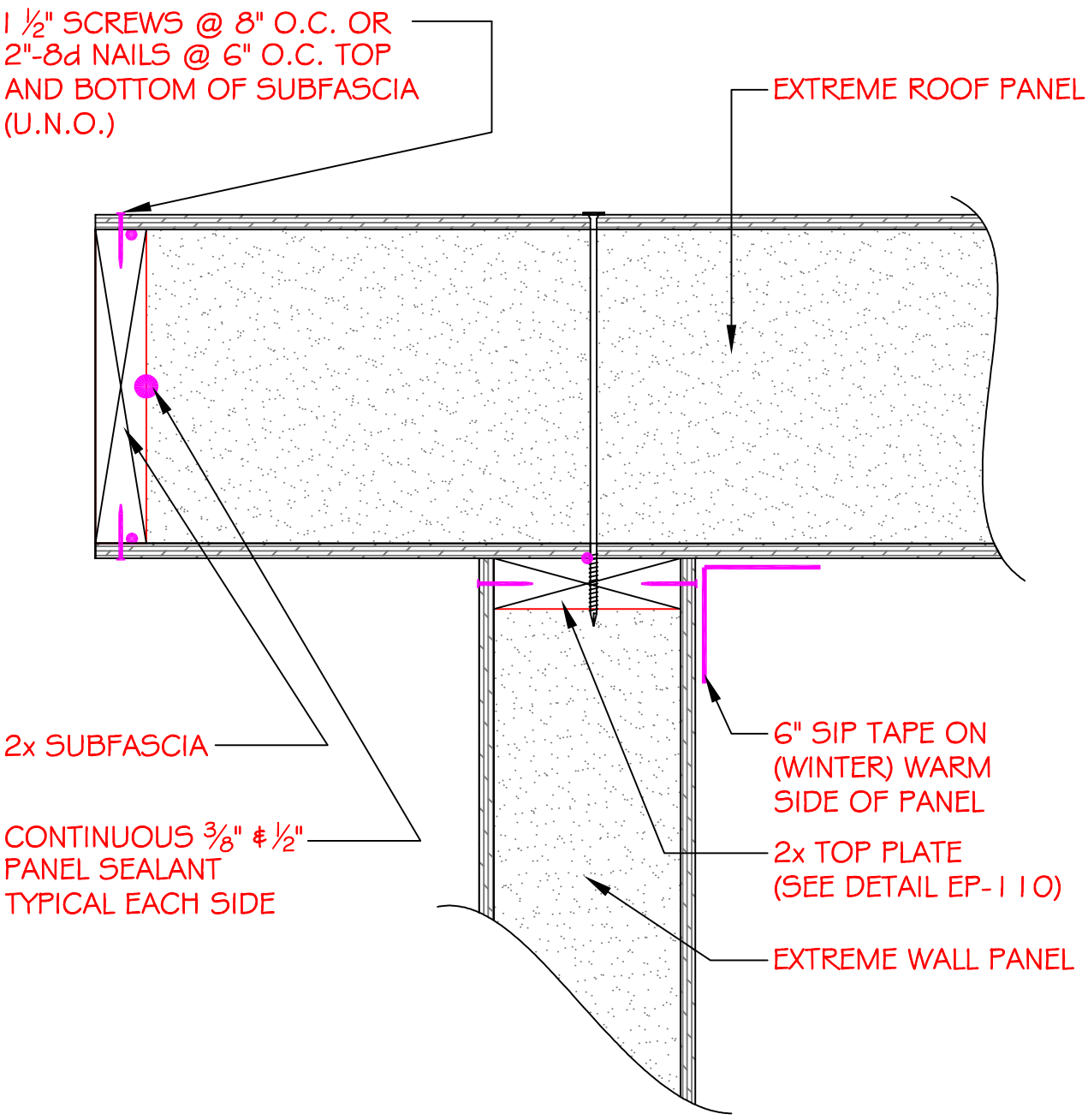

NOTE: CONSULT LOAD DESIGN CHARTS FOR MAXIMUM OVERHANG

SECTION
NOT TO SCALE

DETAIL TITLE : FULL PANEL RAKE OVERHANG
DETAIL NO. : EP-417
PAGE NO. : 4 - 17
UPDATED : MARCH 2017

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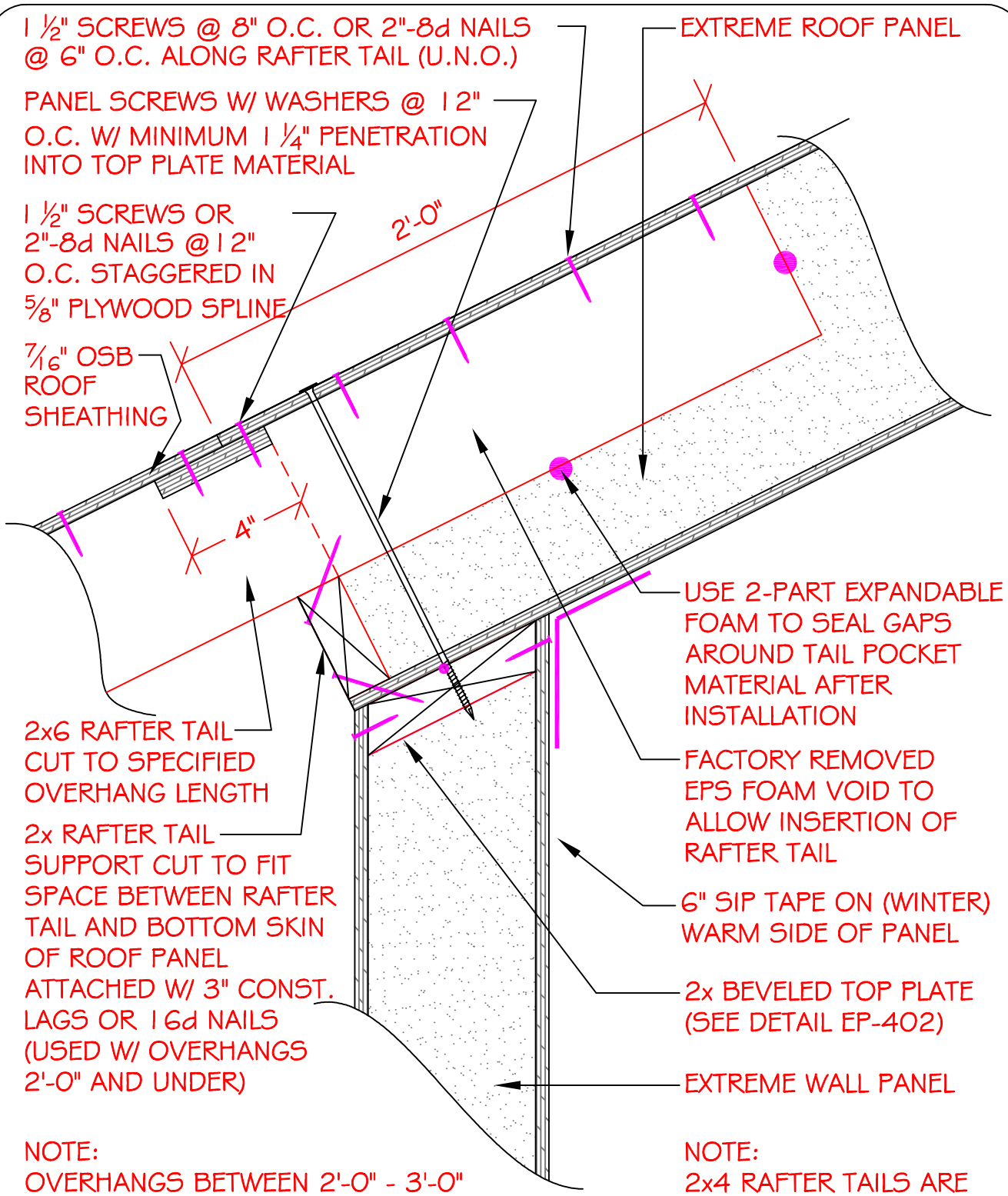

NOTE:
OVERHANGS BETWEEN 2'-0" - 3'-0" MUST HAVE ADDITIONAL SUPPORT W/ 2x LOOKOUTS. OVER 3'-0" REQUIRES HEADER SUPPORT.

NOTE:
2x4 RAFTER TAILS ARE USED W/ 8 ¼" ROOF PANELS

SECTION
NOT TO SCALE

NOTE: MAXIMUM 42# LIVE LOAD

DETAIL TITLE : RAFTER TAIL EAVE
DETAIL NO. : EP-418
PAGE NO. : 4 - 18
UPDATED : MARCH 2017

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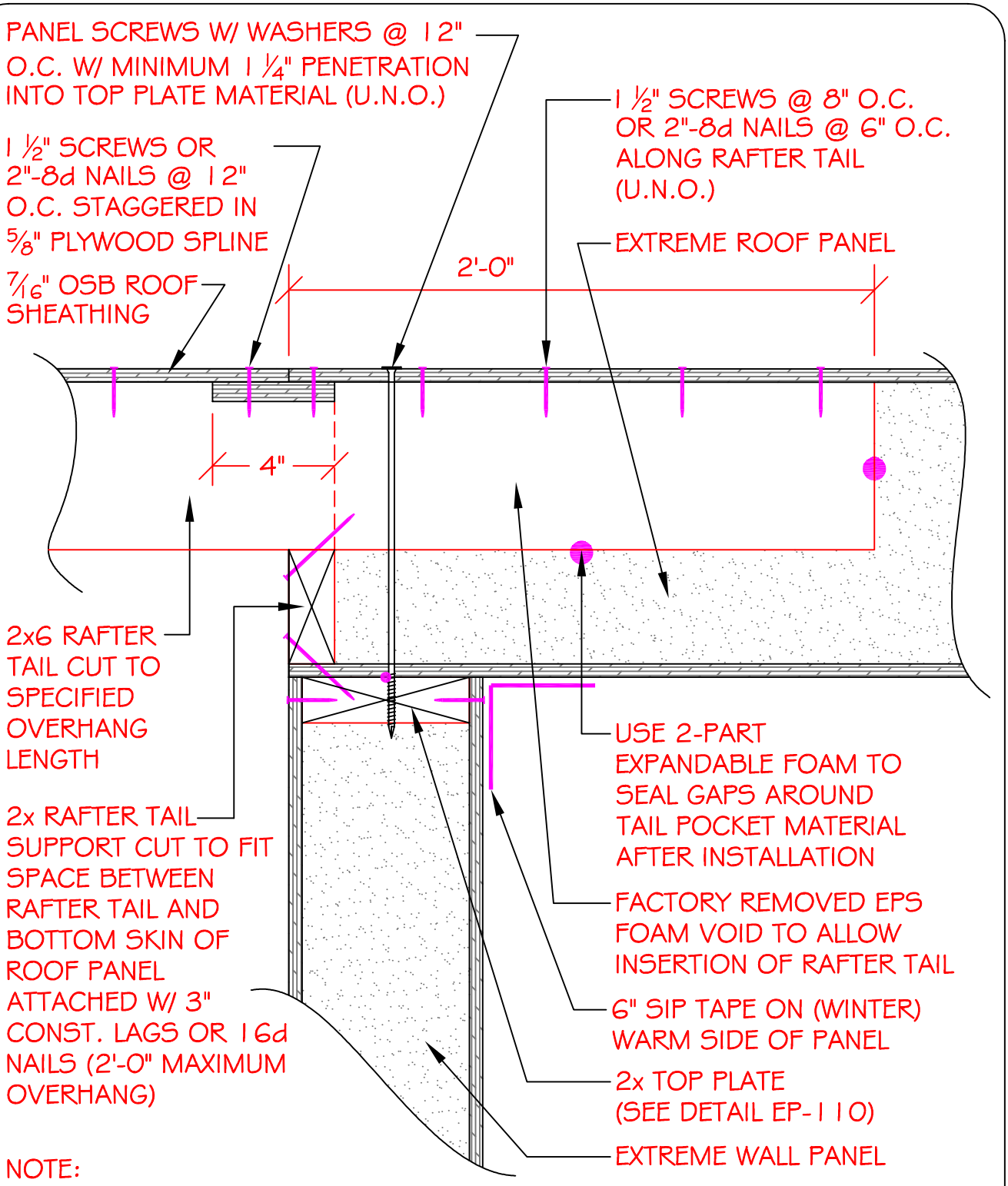

NOTE:
2x4 RAFTER TAILS ARE USED W/ 8 ¼" ROOF PANELS

SECTION
NOT TO SCALE

NOTE: MAXIMUM 42# LIVE LOAD

DETAIL TITLE : RAFTER TAIL RAKE
DETAIL NO. : EP-419
PAGE NO. : 4 - 19
UPDATED : MARCH 2017

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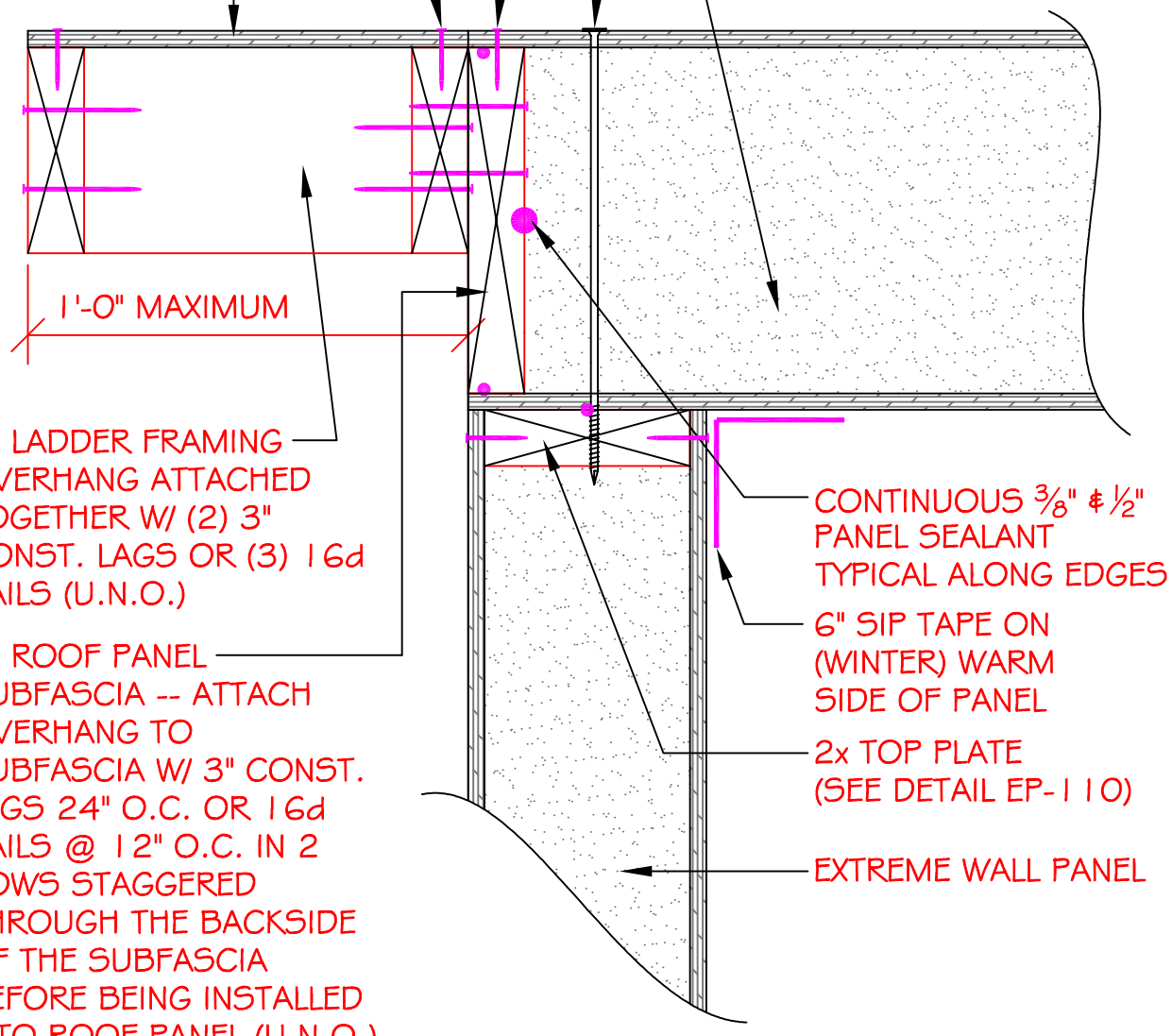

SECTION
NOT TO SCALE

NOTE: MAXIMUM 42# LIVE LOAD

DETAIL TITLE : RAFTER TAIL RAKE (OPTIONAL)
DETAIL NO. : EP-420
PAGE NO. : 4 - 20
UPDATED : MARCH 2017

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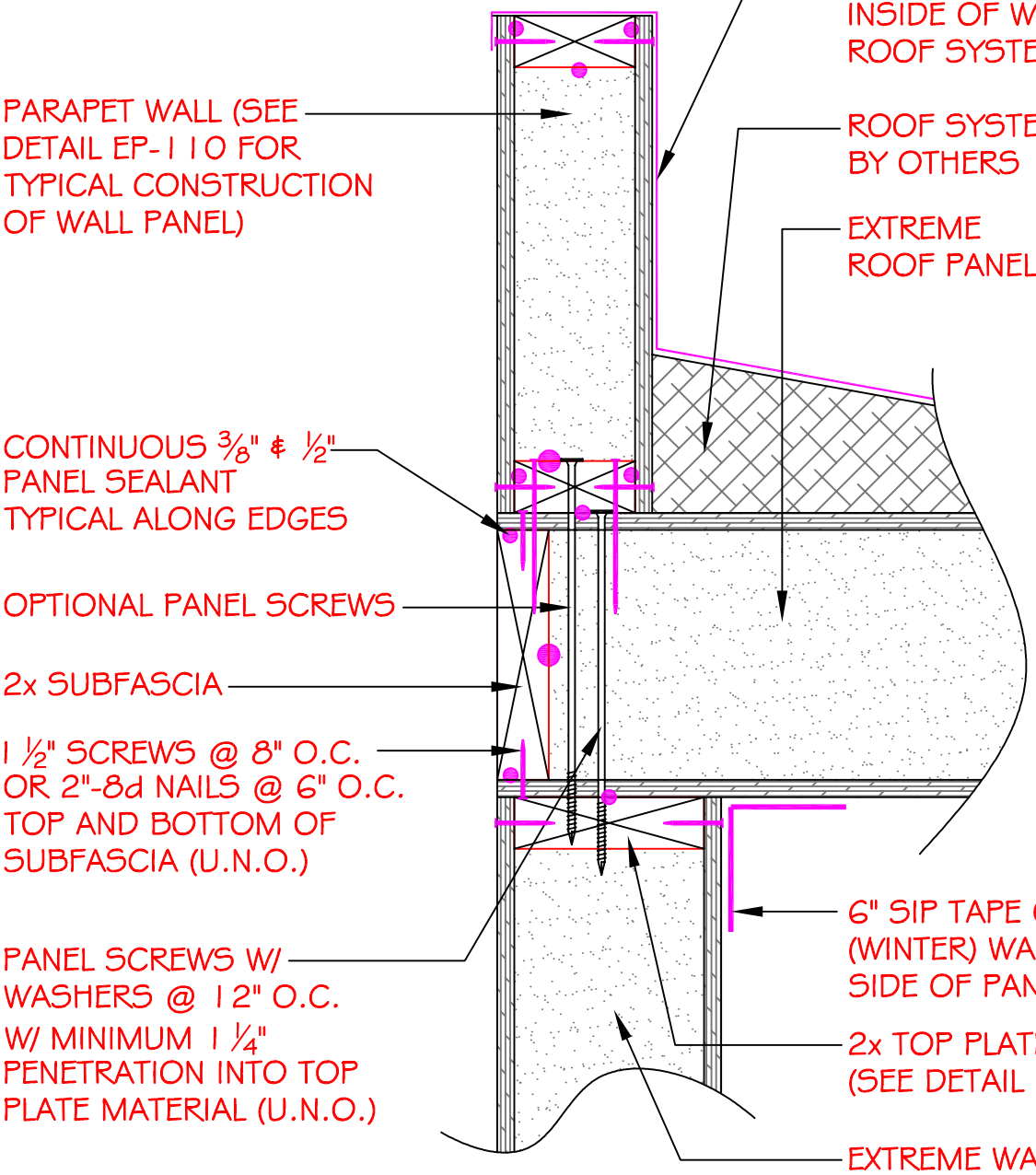

SECTION
NOT TO SCALE

DETAIL TITLE : PARAPET WALL
DETAIL NO. : EP-421
PAGE NO. : 4 - 21
UPDATED : MARCH 2017

Extreme Panel
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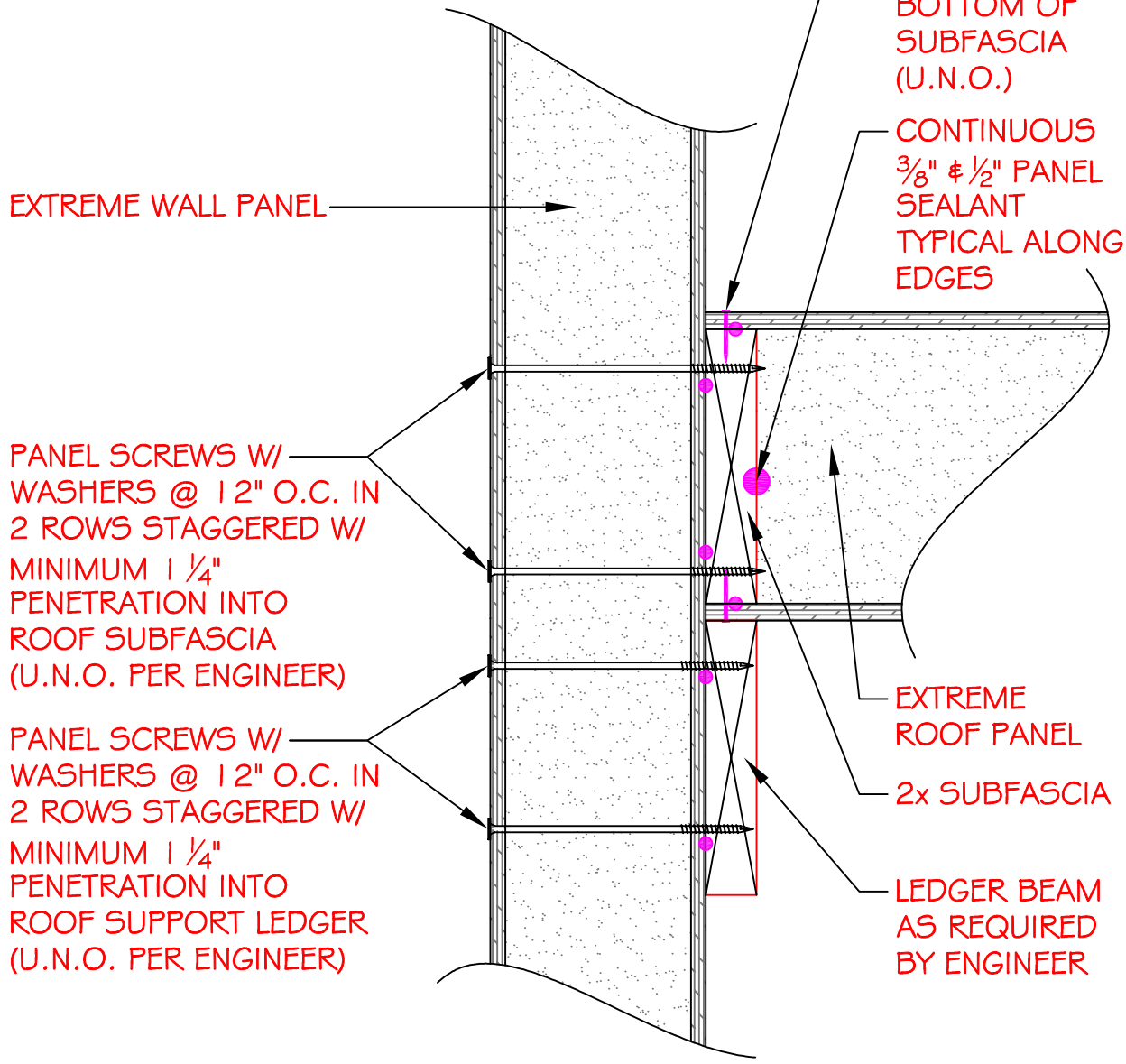

NOTE:
MAXIMUM 10'-0" SPAN @ 42# LIVE LOAD.

NOTE: THIS DETAIL IS ONLY PERMITTED WHEN DESIGNED BY A LICENSED STRUCTURAL ENGINEER

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF LEDGER
DETAIL NO. : EP-422
PAGE NO. : 4 - 22
UPDATED : MARCH 2017

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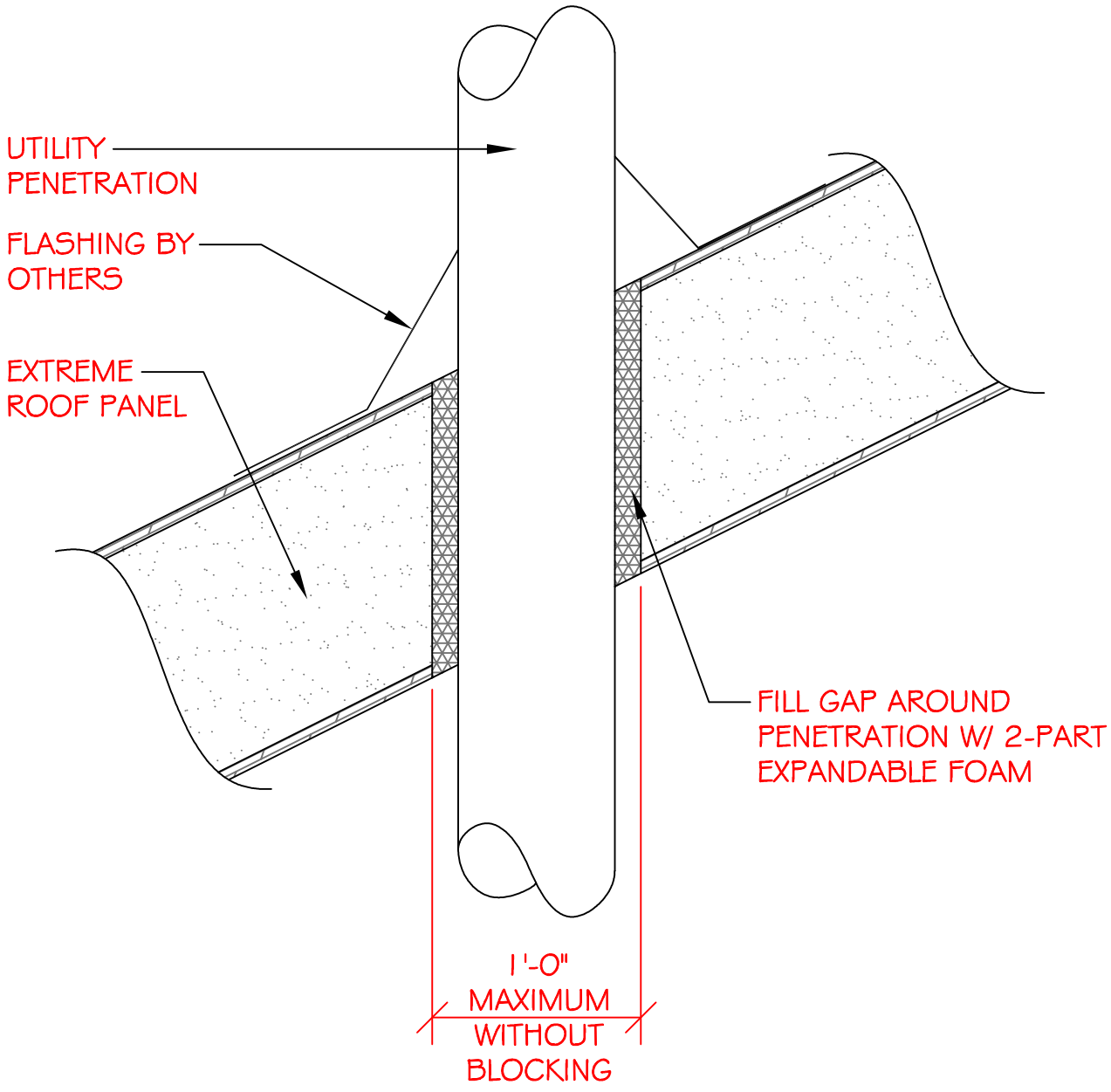
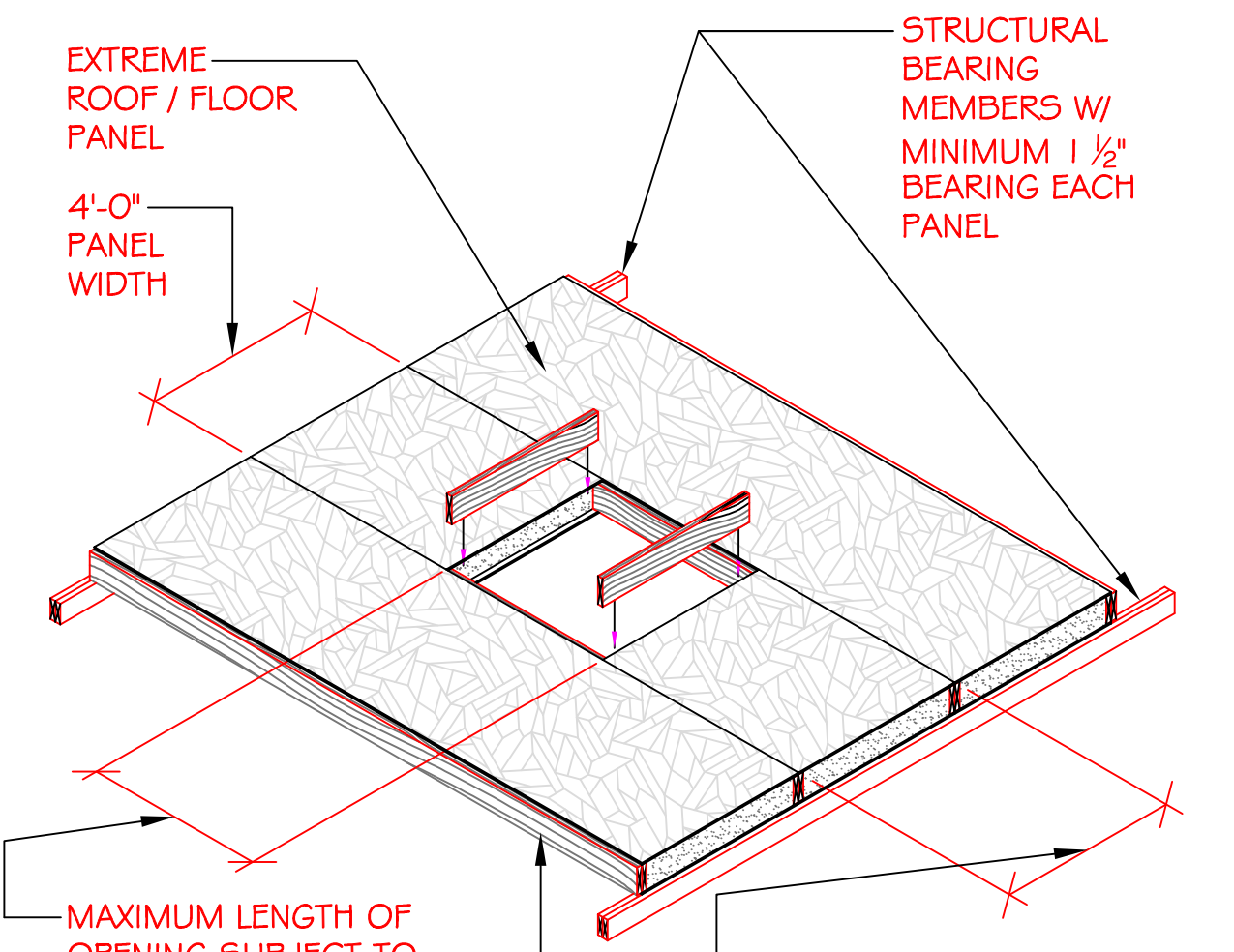


NOTE:
PROTECT EPS CORE FROM TEMPERATURES OF 160 DEGREES FAHRENHEIT OR ABOVE. USE ZERO CLEARANCE INSULATING MATERIAL DESIGNED FOR HIGH TEMPERATURES AS REQUIRED

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF PENETRATIONS
DETAIL NO. : EP-423
PAGE NO. : 4 - 23
UPDATED : MARCH 2017

Extreme Panel
TECHNOLOGIES, INC.
STRUCTURAL INSULATED PANELS



NOTE:
ALL FLOOR / ROOF OPENINGS MUST BE APPROVED BY A LICENSED ENGINEER. FOR OPENINGS LARGER IN SIZE THAN SHOWN ABOVE OR FOR OPENINGS THAT CUT THROUGH SPLINES, ADDITIONAL FRAMING TO SUPPORT PANEL EDGES MAY BE NEEDED PER ENGINEERING REQUIREMENTS.

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF / FLOOR OPENINGS
DETAIL NO. : EP-424
PAGE NO. : 4 - 24
UPDATED : MARCH 2017

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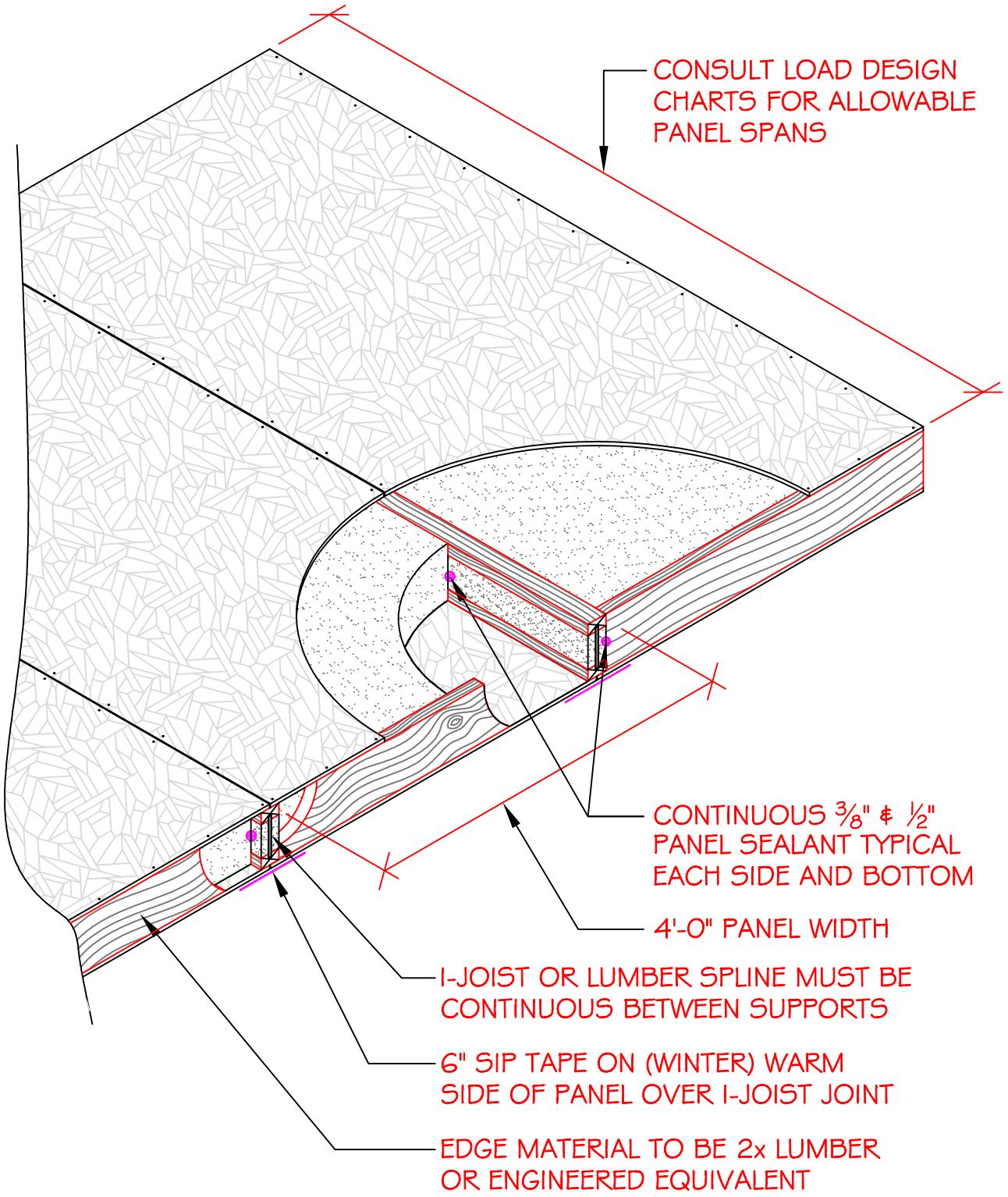

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF PANEL CONNECTION
DETAIL NO. : EP-425
PAGE NO. : 4 - 25
UPDATED : MARCH 2017

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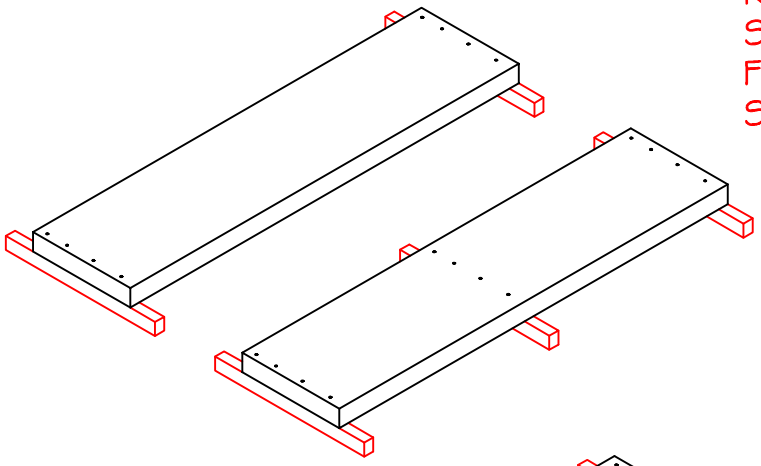
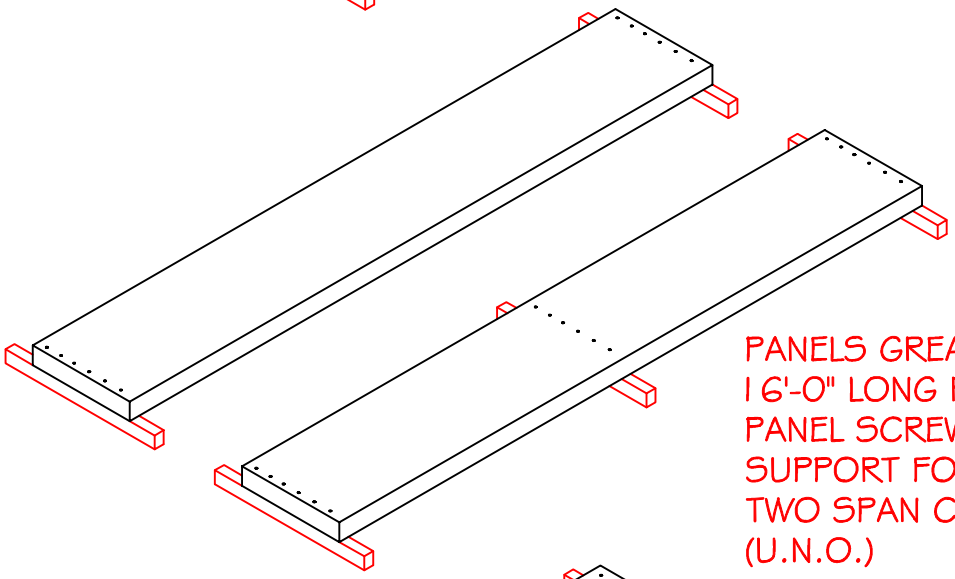
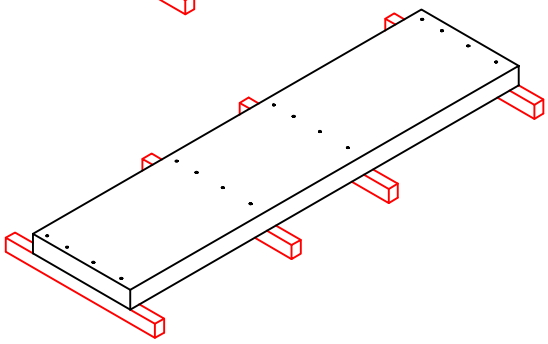


PANELS UP TO 16'-0" LONG REQUIRE (4) PANEL SCREWS PER SUPPORT FOR SINGLE AND TWO SPAN CONDITIONS (U.N.O.)



PANELS GREATER THAN 16'-0" LONG REQUIRE (6) PANEL SCREWS PER SUPPORT FOR SINGLE AND TWO SPAN CONDITIONS (U.N.O.)



PANELS ANY LENGTH W/ MULTIPLE SPAN CONDITIONS REQUIRE (4) PANEL SCREWS PER SUPPORT (U.N.O.)

NOTE: ILLUSTRATED PANELS ARE 4'-0" WIDE (FOR 8'-0" WIDE PANELS DOUBLE QUANTITIES OF FASTENERS)

SECTION
NOT TO SCALE

DETAIL TITLE : ROOF / FLOOR FASTENING PATTERNS
DETAIL NO. : EP-426
PAGE NO. : 4 - 26
UPDATED : MARCH 2017

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STRUCTURAL INSULATED PANELS

SECTION 5

SUPPLEMENTAL INSERTS

Extreme Panel
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STRUCTURAL INSULATED PANELS

Instructions for Applying Two-Part Expanding Foam Sealant

Our foam sealant is a two-part expanding polyurethane foam with high expansion and quick curing. A typical curing time for expanding foam sealant is between 3 and 4 minutes, depending on the temperature. The units are self-contained in the sense that no other components are required for the foam to expand and cure. The chemistry of the foam formation is sensitive to temperature and the ratio in which the two parts are combined. When the foam expands and sets properly, it is a high density and high R-value foam which will adequately prevent the flow of air through any voids in the panels insulation or connections of panels together to minimize the chance for air & moisture to be transported through these areas. Examples of these areas are ridge, valley, & eave connections.
The following is a list of hints and suggestions that supplement the manufacturer's instructions for successful use of this product.

1) A vinyl tube can be added to the end of the tip to assist in reaching hard-to-reach places such as the bottom of ridge cuts. Suitable hose can be purchased at any reasonable hardware store. Hoses are reusable and transferable from one kit to the next, even after several months provided that the hose either remains attached to a tank or is suitably plugged to prevent air from contacting the chemicals in the hose.

2) Use of foam sealant in cold weather requires special care. Watch for the following:
    1) Cold tanks (the temperature indicator on the side of the tank shows the temperature of the contents of the tank, not ambient air temperature.) For best results, the tank contents should be at 75 F or warmer.
    2) Holes in the seams will need to be placed closer together.
    3) Foam often tends to be dry and crumbly which signifies a slightly "A" rich foam. (This is not a problem – the foam will pick up moisture from the atmosphere and soften in time.)

3) Apply the foam in dry conditions and to dry materials. ***DO NOT apply the foam in wet conditions or to wet materials***. Water will cause the propellant to disintegrate and prevent proper expansion and curing.

4) When foaming in a ridge or valley connection, make sure to get foam applied all the way through the panels to the inside skin to make sure all voids are filled adequately.

5) To foam in an eave detail like the L-Shaped Wedge, after the panels are installed drill holes every 12”-18” through the 2x material making sure to take special care if any electrical wiring was run in the void behind the wedge. Then fill every other hole with foam sealant for 4-10 seconds depending on the temperature and how much foam remains in the tank. Make sure that foam comes out of the holes which had no foam placed in them. If no foam comes up the middle holes, you will need to increase the length of time that you spray the foam sealant into the holes. (Note: Make sure you do a test shot on the next tank before spraying in the seam.)

6) If it is required to foam seams in the panels, first drill holes to the foam chase 12-18”apart over the whole roof prior to starting to foam. Then fill every other hole with foam sealant for 4-10 seconds depending on the temperature and how much foam remains in the tank. Make sure that foam comes out of the holes which had no foam placed in them. If no foam comes up the middle holes, you will need to increase the length of time that you spray the foam sealant into the holes. After the foam has cured, go back and drill new holes in the locations where no foam came up the middle holes and drill new holes to determine the extent of the foam sealant and then re-foam to fill any voids. If you think the foam has not set up in the seam, drill test holes along the seam to determine if it has or not. If the foam has completely collapsed, new foam can be put in the existing holes. (Note: Make sure you do a test shot on the next tank before spraying in the seam.) Methodically foam each seam so every seam on both sides of the spline and every open seam is adequately foamed.

OPERATING INSTRUCTIONS English

FROTH-PAK™ Polyurethane Foam System

WARNING

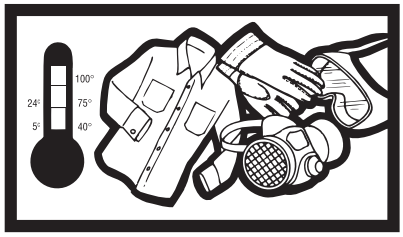
Before using *Froth-Pak™* polyurethane foam, please read and follow the instructions on this sheet.

CONTENTS

HCFC Complete Kit of ***Froth-Pak*** *polyurethane foam*

2 Steel tanks of *Froth-Pak foam* (1 iso,1 polyol)
1 *Insta-Flo*™ dispenser and hose assembly
1 assortment Anti-Crossover Nozzles
1 Petroleum jelly packet (5g)
1 Operating instruction sheet
1 Wrench 5/8" (***Froth-Pak*** 600 kit only)

PERSONAL PROTECTION



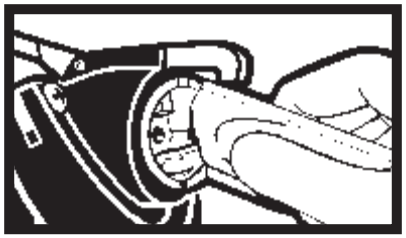
ALWAYS WEAR PROTECTIVE EYEWEAR, GLOVES, AND CLOTHING WHEN OPERATING.

USE ONLY WITH ADEQUATE VENTILATION OR APPROPRIATE RESPIRATORY EQUIPMENT.

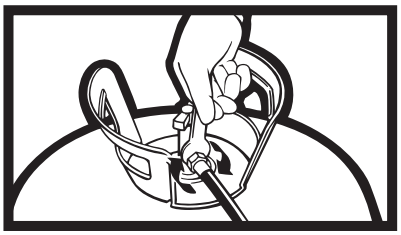
GETTING THE KIT READY

1) This instruction sheet is packed in a reusable bag with an assortment of Anti-Crossover Nozzles, and a petroleum jelly packet (5g). The *Insta-Flo* dispenser and hose assembly is connected to the chemical tanks. Lift the *Insta-Flo* dispenser and hose assembly from the box and fully uncoil hose.

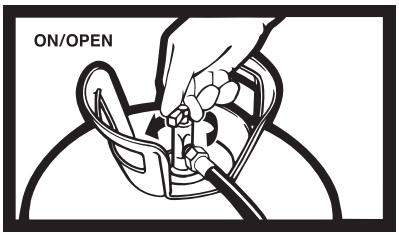
2) Free the perforated section in upper section of the box (near the locking tab that retained the lid), and bend it down to allow the hoses to enter into the two cutouts provided.



3) Apply a coating of petroleum jelly to the inside face of the *Insta-Flo* dispenser. This makes cleaning of the dispenser face much easier and extends the effective life of the *Insta-Flo* dispenser.

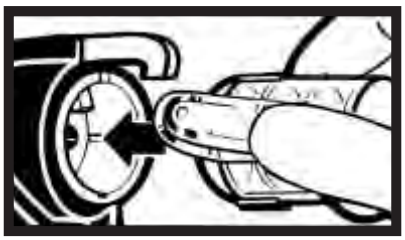


4) ***For users of Froth-Pak 600 polyurethane foam.*** Using the wrench provided, tighten the hose assemblies for both "A" and "B" valves until both are tight. The enclosed wrench is intentionally designed to warp or bend if excessive pressure is applied.



5) Turn the tank valves on fully, noting the initial movement of chemical through the clear hoses as a confirmation of flow.

6) Purge the system into a waste container by activating the trigger of the *Insta-Flo* dispenser. When streams are equal, release the trigger, clean the chemical from the dispenser face with a clean rag, and reapply petroleum jelly.



7) Select either a clear (caulking) or blue (spray) Anti-Crossover Nozzle. Insert it firmly into the front of the *Insta-Flo* dispenser. Be sure the dispenser clips the nozzle firmly in place.

USING THE KIT

Like all foam kits, replace nozzle when nozzle has not been used for more than 30 seconds. Nozzle is removed by firmly depressing the yellow ejector located on the top of the *Insta-Flo* dispenser.

Before applying foam, make a small test shot into waste container to verify foam quality.

1) Hold the *Insta-Flo* dispenser about 6" – 24" (15 cm – 60 cm) away from the area you intend to spray. Apply foam by squeezing trigger. Note yellow safety on the trigger must be depressed first, unlocking trigger. Move the *Insta-Flo* dispenser with a steady back and forth motion when dispensing foam.
2) Foam will expand and will be tack free within 60 seconds (3 –4 minutes for slow rise formulas), and is fully cured in five minutes. It is recommended that foam be applied in layers of 2" or less in any single application layer.

Note: If the foam is to be injected into a hidden cavity, a test shot is recommended prior to each injection.

TEMPERATURE

The temperature indicator on the side of the tank shows the temperature of the contents of the tank, not ambient air temperature. For best results the tank contents should be at 75° F (24° C) or warmer. *Froth-Pak* polyurethane foam can be applied effectively in cold air temperatures or on cool work surfaces (above freezing) provided the kit contents are at least 75° F (24° C).

DISPOSAL

The cylinders should have all pressure vented and all the material removed to be considered empty cylinders. DO NOT PUNCTURE THE CYLINDERS TO RELIEVE THE PRESSURE.

The cured foam and the empty cylinders may be disposed of as a non-hazardous waste in accordance with state and local regulations. Landfilling may have special requirements depending on local regulations. These regulations should be reviewed to insure compliance. Do not dispose of pressurized tanks.

OPERATING INSTRUCTIONS English

TROUBLESHOOTING

If your spray pattern becomes noticeably different (i.e. cone spray changes to stream), this may be caused by dispensing foam with a used nozzle. Always inspect a nozzle prior to dispensing to make sure you have an unused nozzle mounted in the *Insta-Flo* dispenser.

If the foam or spray pattern does not react properly, replacing the nozzle will usually correct the problem. If the problem persists, remove the nozzle and carefully activate the dispenser into a waste container. Two chemical streams of approximately equal volume should flow. If streams are unequal a blockage has occurred. Shut off the tank valve on the side that is flowing properly and activate the trigger full force for 15 seconds. Once the blockage is freed turn off all tank valves. Clean any chemical from the face of the *Insta-Flo* dispenser with a clean rag and reapply petroleum jelly. Insert an unused nozzle, open all valves and dispense a test shot into a waste container. After curing check the foam quality.

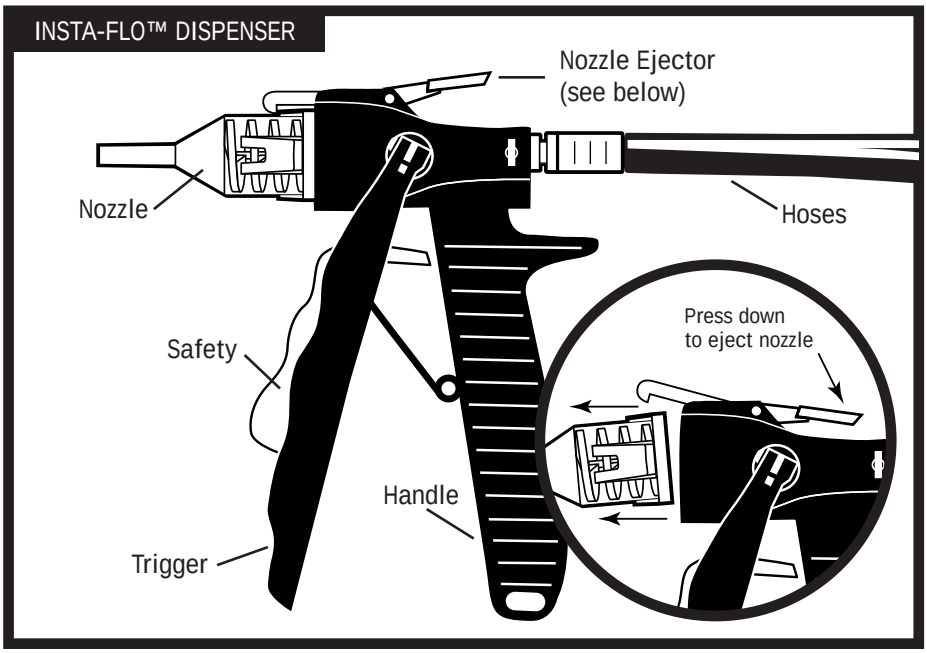
If problems still occur, stop foaming. Turn off chemical tank valves, eject the used nozzle, and release chemical line pressure by activating the dispenser into a waste container. Slowly loosen the hose connections at the tank valves. Clean chemical from the threads and replace with a new *Insta-Flo* dispenser/hose assembly. If the replacement of the *Insta-Flo* Dispenser/Hose Assembly does not solve the problem, please contact our technical staff at 800-868-1183. Note: A variety of foam dispensing nozzles are available with alternative spray patterns and various dispensing rates.

To prevent hoses from clogging, if your dispenser has not been used for one week or longer, activate the system for a few seconds by turning on the tank valves and squeezing the trigger fully without nozzle to dispense twin streams into a waste container. This will clear and repressurize the hoses and should be done every week when the system is idle. Reapply petroleum jelly and reinsert used nozzle for storage.

STORAGE

Store the *Froth-Pak* polyurethane foam system at 75° F (24° C), in a clean dry area. DO NOT STORE AT TEMPERATURES ABOVE 120° F (49° C). Avoid prolonged storage in direct sunlight or near heat sources. Store a partially used kit with the safety ON (do not tie trigger down) and valves CLOSED. Remove used nozzle, reapply petroleum jelly to face of *Insta-Flo* dispenser, and reinsert the used nozzle. Do not bleed pressure off hoses during storage. See Troubleshooting above.

INSTA-FLO™ DISPENSER



FOAM QUALITY

If friable or brittle, the foam is iso rich, and a partial blockage of the polyol side exists. Clear the blockage from the polyol side. (See Troubleshooting.)

If foam remains soft or mushy, the foam is polyol rich and a partial blockage of the iso side exists. Clear the blockage from the iso side. (See Troubleshooting.)

FIRST AID

Irritating to eyes, skin, and respiratory tract. May cause sensitization by skin contact and/or inhalation. Use in a well-ventilated area or wear a self-contained breathing apparatus. Call for Material Safety Data Sheet for additional information.

EYE: Flush with water for 15 minutes.
SKIN: Remove contaminated clothing; wash skin with soap and water.
INHALATION: Remove to fresh air.
INGESTION: Give large quantities of liquids. **DO NOT INDUCE VOMITING.**

In ALL FIRST AID cases, CONSULT A PHYSICIAN.

KEEP OUT OF THE REACH OF CHILDREN.

WEAR PROTECTIVE EYEWEAR, GLOVES AND PROTECTIVE CLOTHING.

24 HOUR EMERGENCY PHONE (989) 636-4400.

THE DOW CHEMICAL COMPANY
1881 West Oak Parkway
Marietta, Ga 30062

Order/Inquiries: 800.366.4740
Fax: 800.326.1054
Technical Support: 888.868.1183

www.polyurethanesystems.com

Made in U.S.A. Rev. 11/02 170458

Engineering & Technical Services Inc.

Duane Boice P.E.
President

November 13, 2007

Extreme Panel Technologies, Inc.
475 E. 4th Street N.
PO Box 435
Cottonwood, MN 56229

Attention: Terry Dieken

Reference: 5/16"x 3 1/8" GRK RSS fasteners vs. #9 x 3" GRABBER fasteners

Terry,

Based on the pullout data provided by each company, the 5/16"x 3 1/8" GRK RSS fasteners may be spaced at 12" O.C. to replace the #9 x 3" GRABBER fasteners at 6" O.C.

Our engineers are available for further consultation as may be required.

With regards,

Curtis Smith, E.I.
Staff Engineer
Engineering & Technical Services

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Duane D. Boice
Signature:
Date 11-13-07 License # 19015

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