



Modern Fortress

BASIC CONNECTION DETAILS



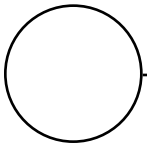
BASIC CONNECTION DETAILS FOR SIPS

Fig.1	Wall-to-Wall Panel Connections: Corner Wall Connection	2
Fig.2	Foundation Connections: SIP-Wrapped Floor System	3
Fig.3	Foundation Connections: SIP Rim Panel	4
Fig.4	Foundation Connections: SIP Wall on Foundation	5
Fig.5	Foundation Connections: Platform-Framed Floor System (Wall Perpendicular to Joists)	6
Fig.6	Foundation Connections: Platform-Framed Floor System (Wall Parallel to Joists)	7
Fig.7	Surface Spline Connection	8
Fig.8	Box/Block Spline Connection	9
Fig.9	Lumber Spline Connection	10
Fig.10	Window Header and Knee Wall Detail	11
Fig. 11	Door and Window Framing for Cut-Outs	12
Fig.12	Rough Opening and Insulated Header	13
Fig.13	2nd Floor Connection Details: Hanging Floor Joist System (Wall Perpendicular to Joists)	14
Fig.14	2nd Floor Connection Details: Hanging Floor Joist System (Wall Parallel to Joists)	15
Fig.15	2nd Floor Connection Details: Platform Framing with Rim Board (Wall Perpendicular to Joists)	16
Fig.16	2nd Floor Connection Details: Platform Framing with Rim Board (Wall Parallel to Joists)	17
Fig.17	Upper Wall to Roof Connection	18
Fig.18	Roof-to-Roof Panel Connections: Beveled SIP Ridge	19
Fig.18a	Roof-to-Roof Panel Connections: SIP with Ridge Vent	20
Fig.19	Structural Hip Panel Connection	21
Fig.20	Roof Valley Connection with Valley Support: Valley Detail	22
Fig.21	Roof-to-Wall Panel Connections: Beveled SIP Wall	23
Fig.22	Roof-to-Wall Panel Connections: Beveled Blocking	24
Fig.23	Eave Detailing: Sloped Overhang with Square Fascia	25
Fig.24	Eave Detailing: Framed Level Soffit with Square Cut Roof SIP	26
Fig.25	Eave Detailing: Framed Level Soffit with Plumb Cut Roof SIP	27
Fig.26	Eave Detailing: Fully Framed Overhang	28
Fig.27	Vented Cold Roof Generic Detail	29

Introductory Note

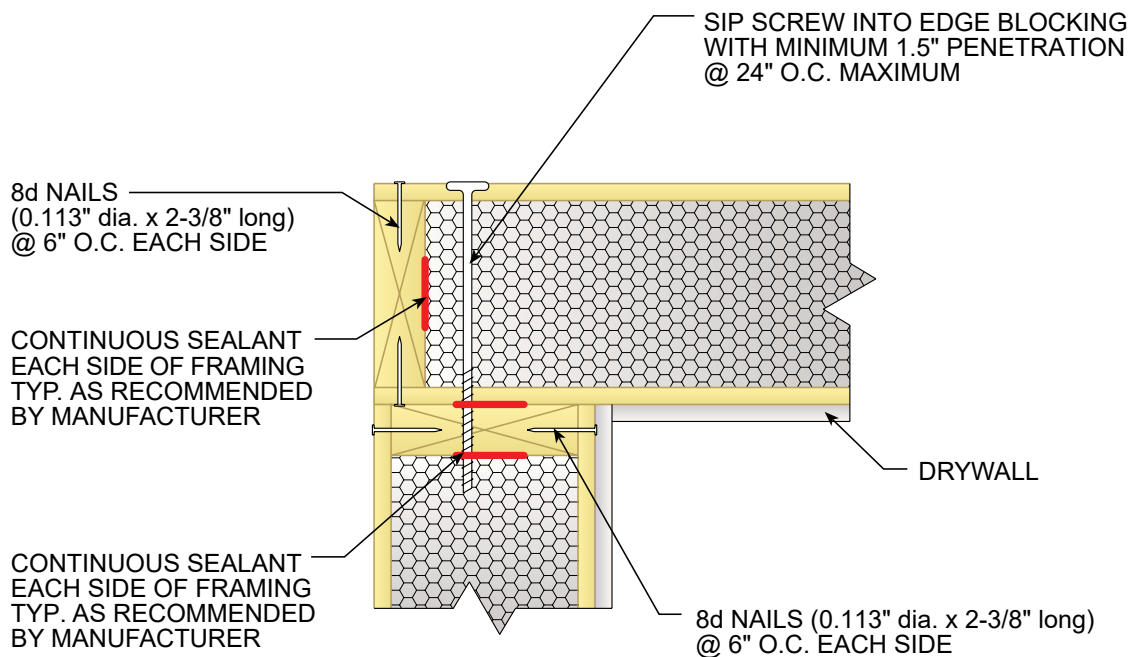
1. The connection details shown in this guide are industry minimums. Consult manufacturer for specific recommendations (e.g., CAD .dwg files).
2. Projects may require larger and/or more closely spaced fasteners than shown in these details. Please refer to the project drawings and the SIP manufacturer's code listing for specific recommendations.
3. Structurally, surface splines and block/box splines have the same capacity, can be used interchangeably, and are fastened using 8d nails (see manufacturer specifications).
4. Air sealing SIP connections is critical and varies by climate zone. Follow the SIP manufacturer's recommendations for the project's individual climate carefully. Not all air sealing specifications are listed in each of the following details for clarity. Additional information may be found in SIP DESIGN BP-8: ROOF AND WALL ASSEMBLIES (available for free download at sips.org.)
5. Consult the SIP manufacturer for roofing underlayment, water resistive barrier (WRB), and capillary break recommendations.
6. Failure to adhere to the SIP manufacturer's recommendations may void your warranty.

FIG.1



WALL-TO-WALL PANEL CONNECTIONS

CORNER WALL CONNECTION

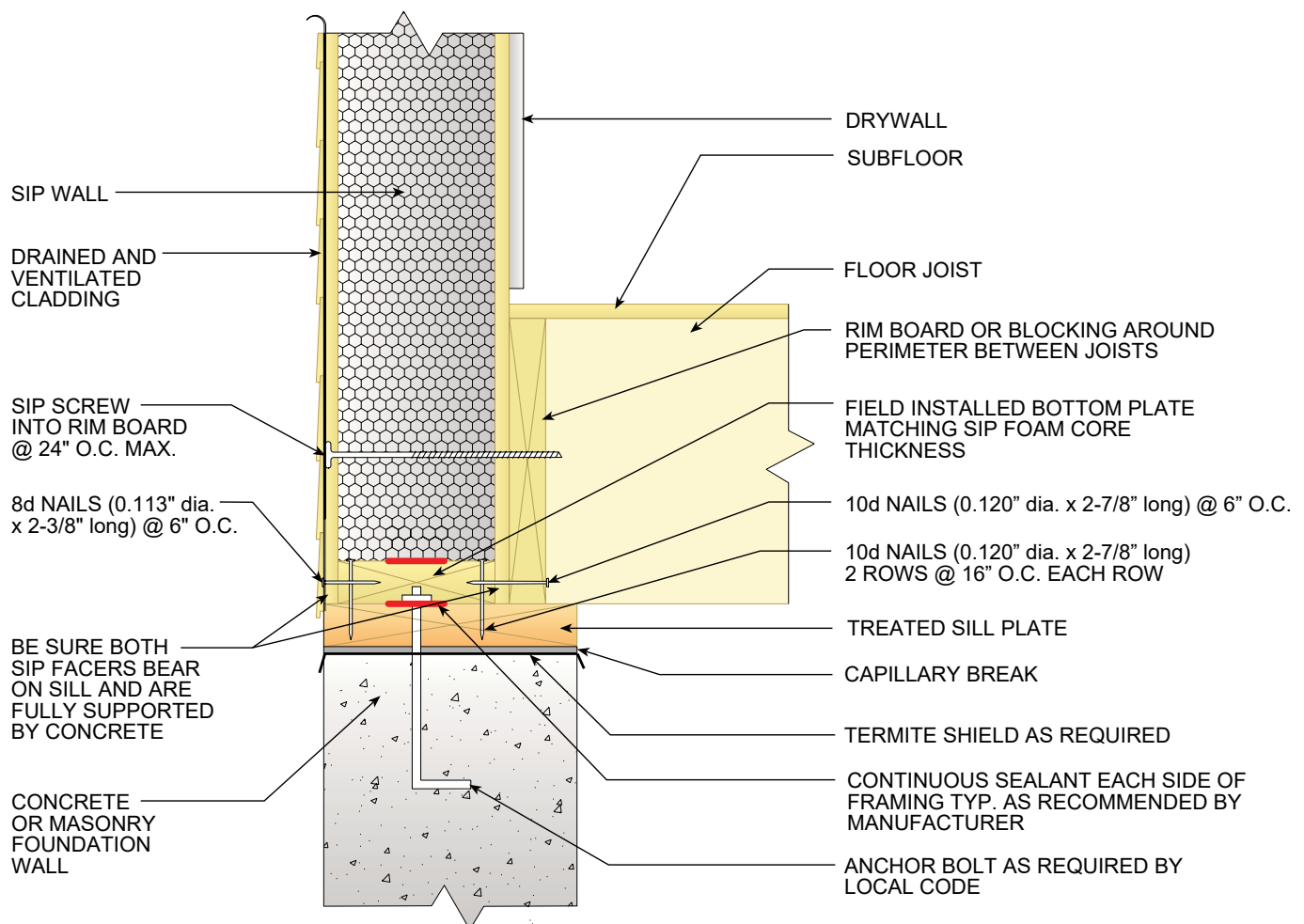


ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.2

FOUNDATION CONNECTIONS SIP-WRAPPED FLOOR SYSTEM



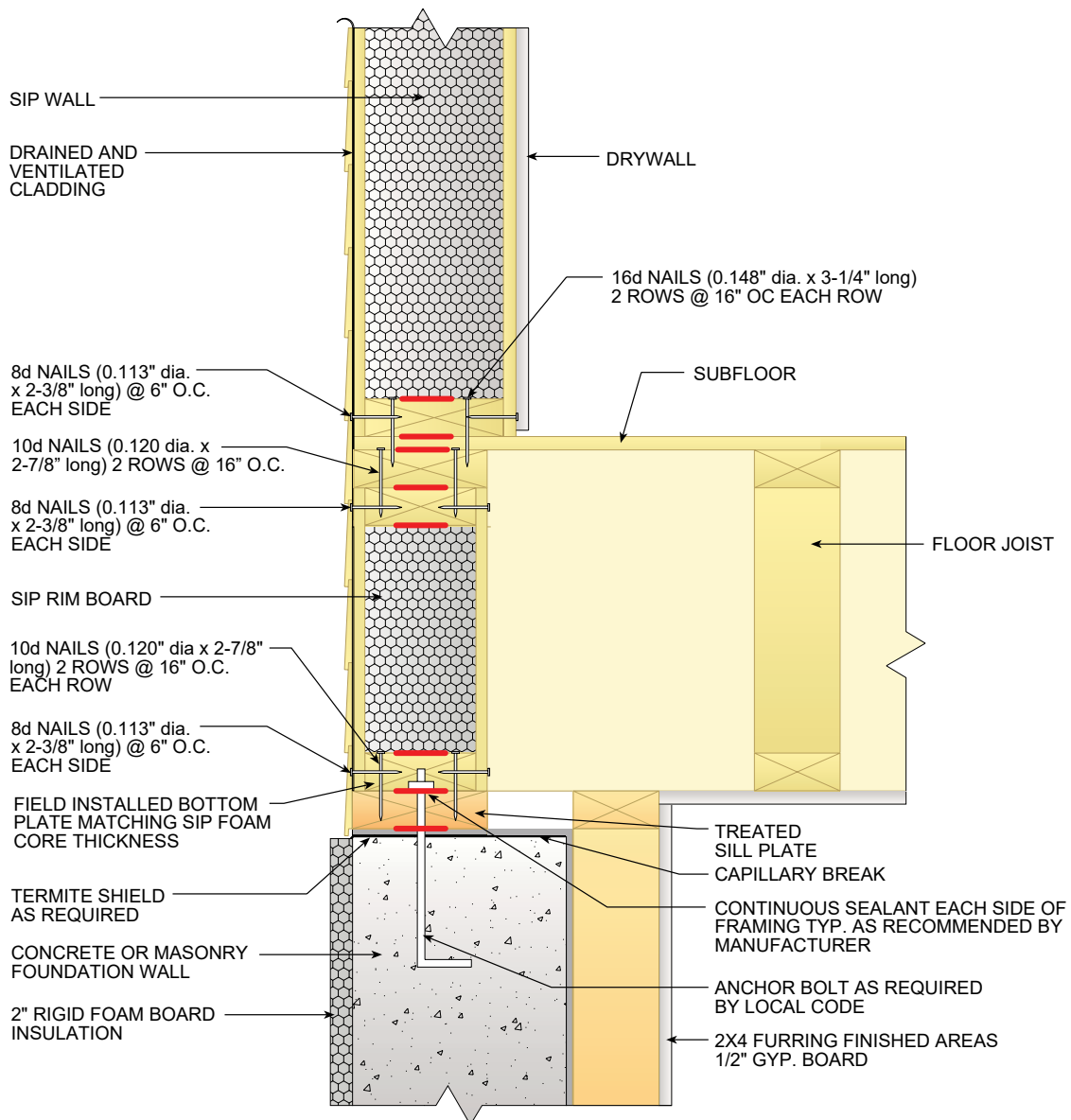
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.3

WALL-TO-WALL PANEL CONNECTIONS

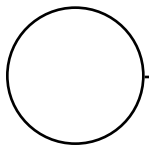
SIP RIM PANEL



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

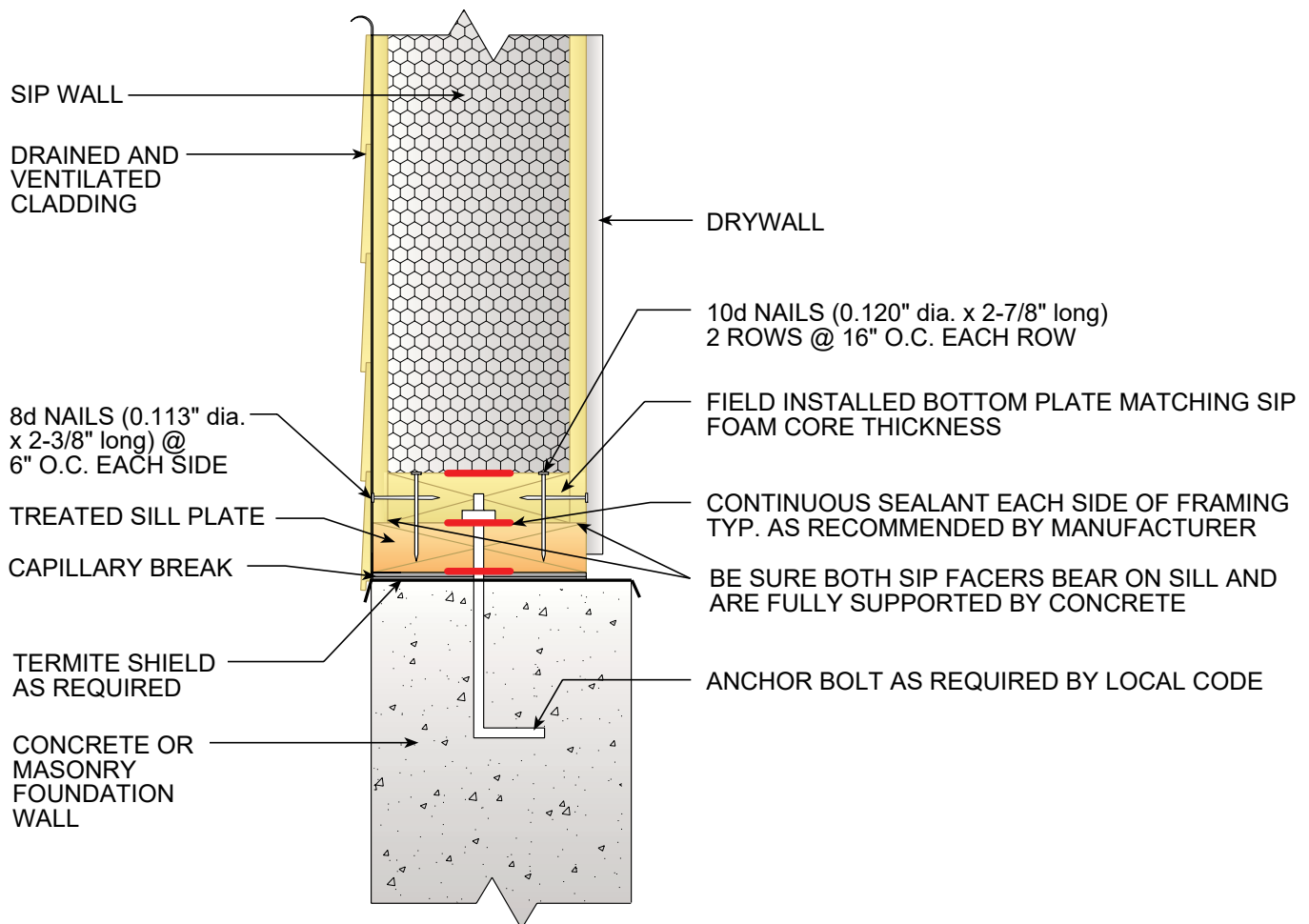
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.4



FOUNDATION CONNECTIONS

SIP WALL ON FOUNDATION



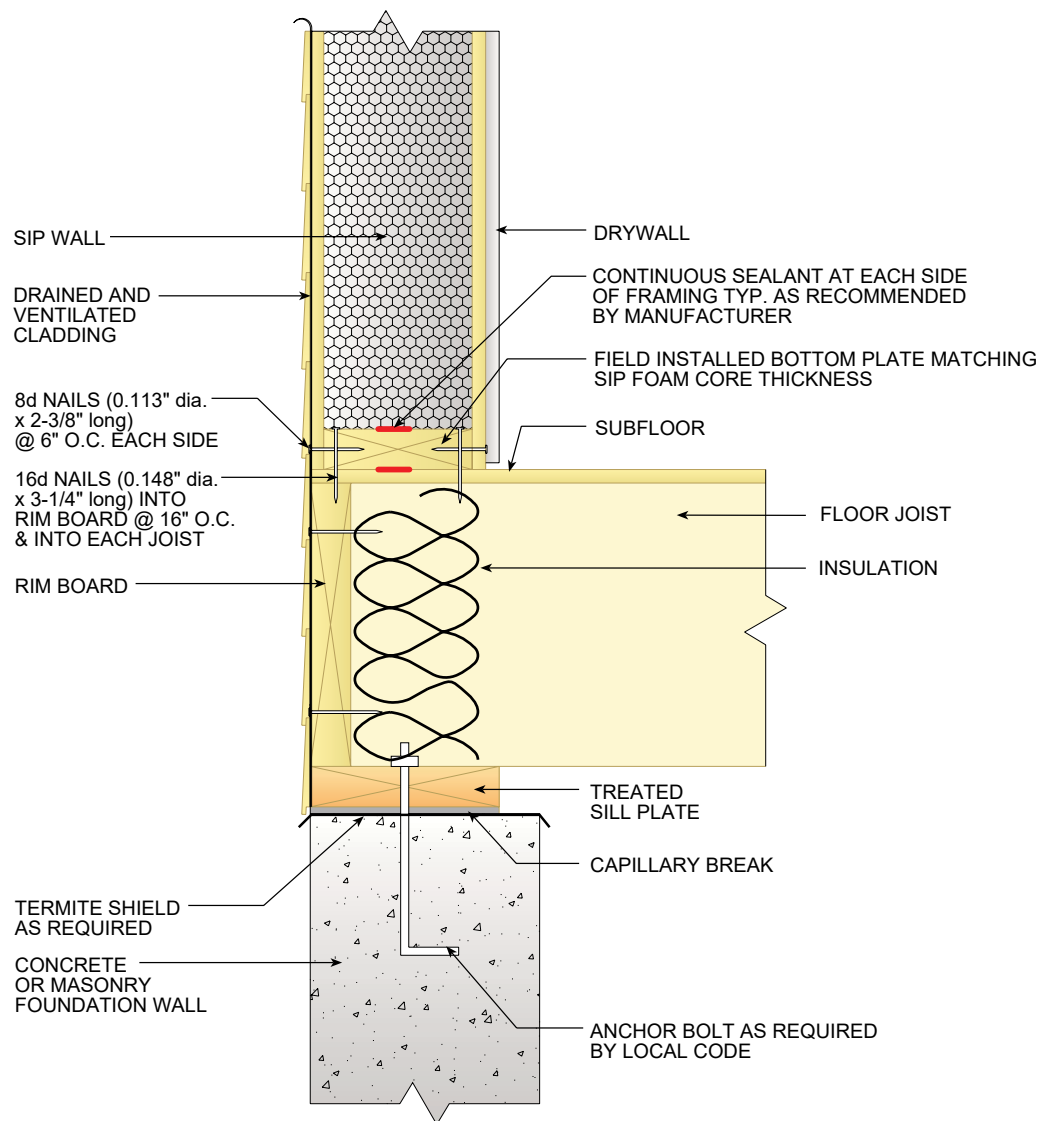
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.5

FOUNDATION CONNECTIONS

PLATFORM-FRAMED FLOOR SYSTEM (WALL PERPENDICULAR TO JOISTS)



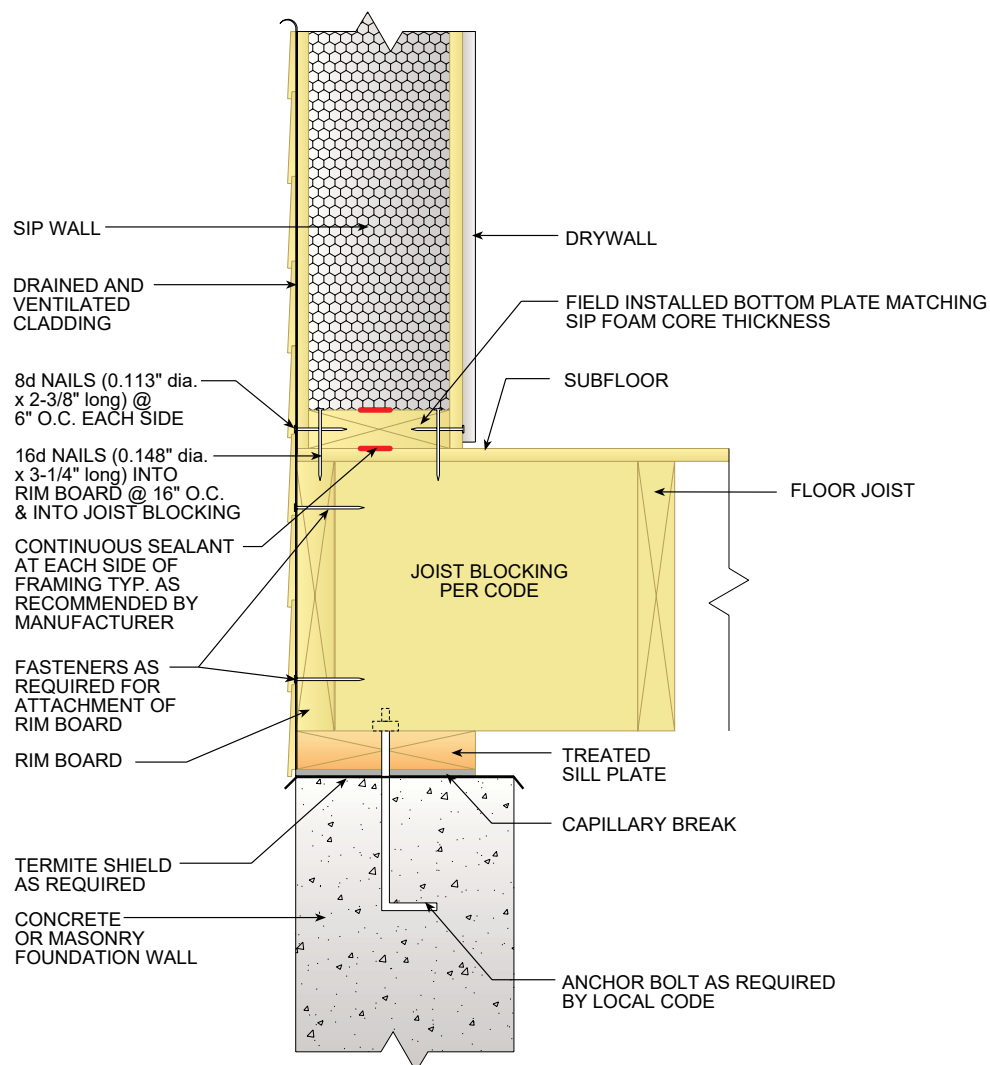
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.6

FOUNDATION CONNECTIONS

PLATFORM-FRAMED FLOOR SYSTEM (WALL PERPENDICULAR TO JOISTS)

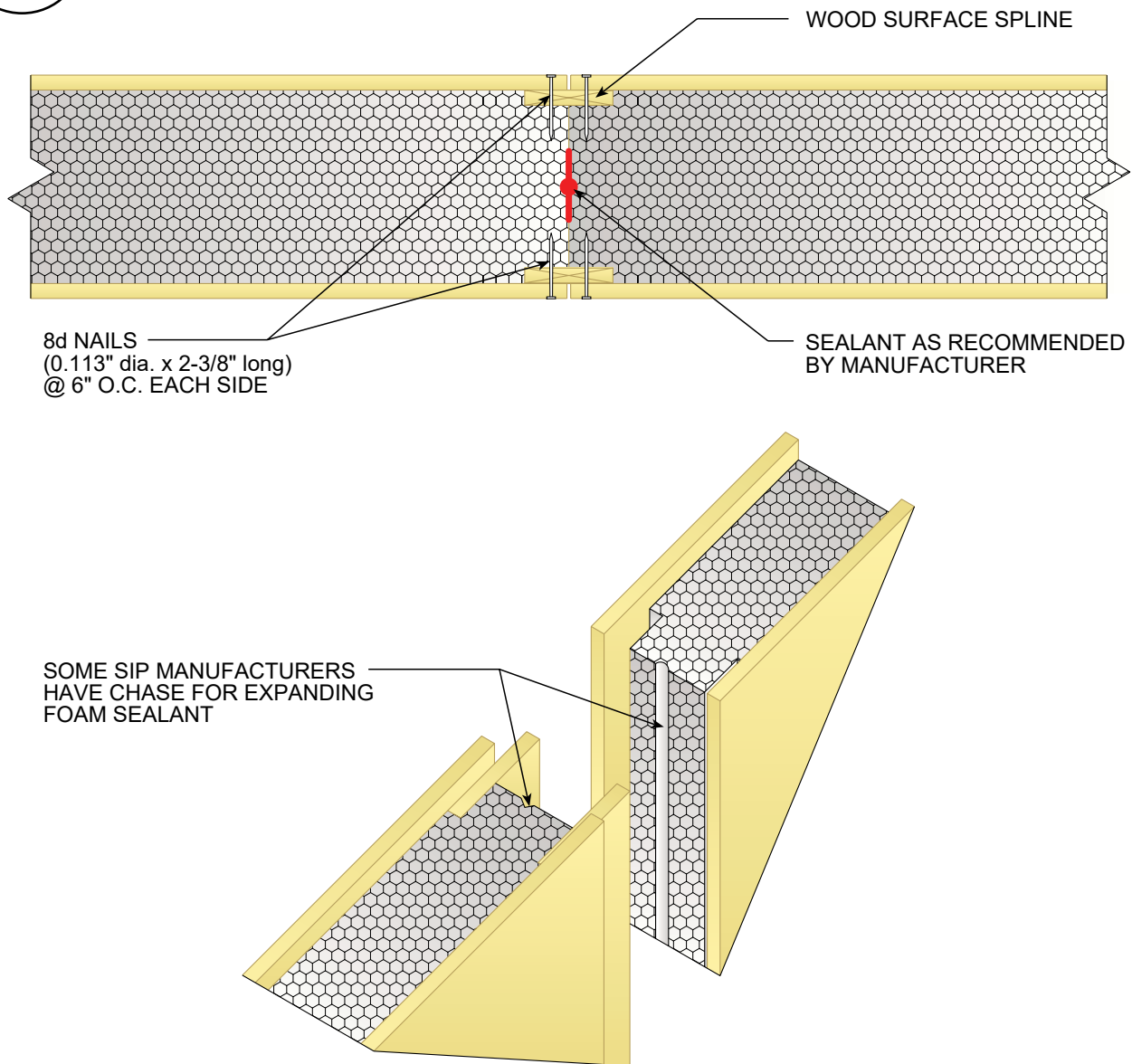


ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.7

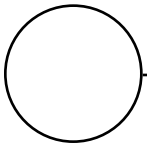
SURFACE SPLINE CONNECTION



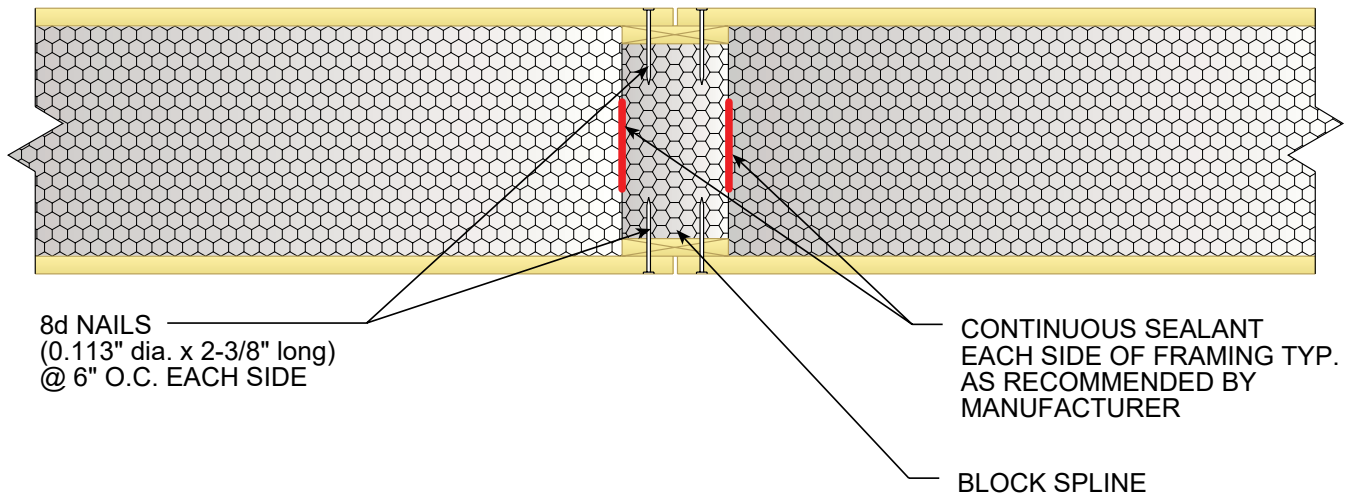
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.8



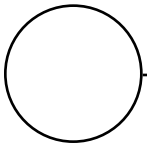
BOX/BLOCK SPLINE CONNECTION



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

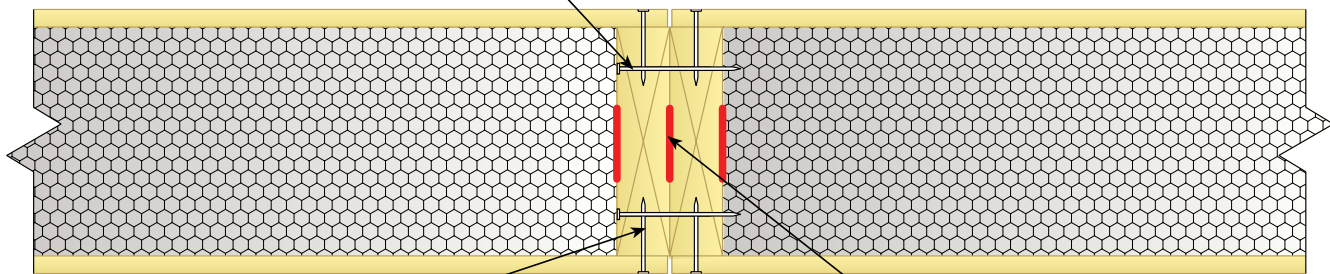
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.9



LUMBER SPLINE CONNECTION

2 ROWS 16D NAILS
(0.148" DIA. X 3-1/4" LONG)
@ 16" O.C. MINIMUM EACH ROW



8d NAILS
(0.113" dia. x 2-3/8" long)
@ 6" O.C. EACH SIDE

CONTINUOUS SEALANT EACH
SIDE OF FRAMING TYP. AS
RECOMMENDED BY
MANUFACTURER

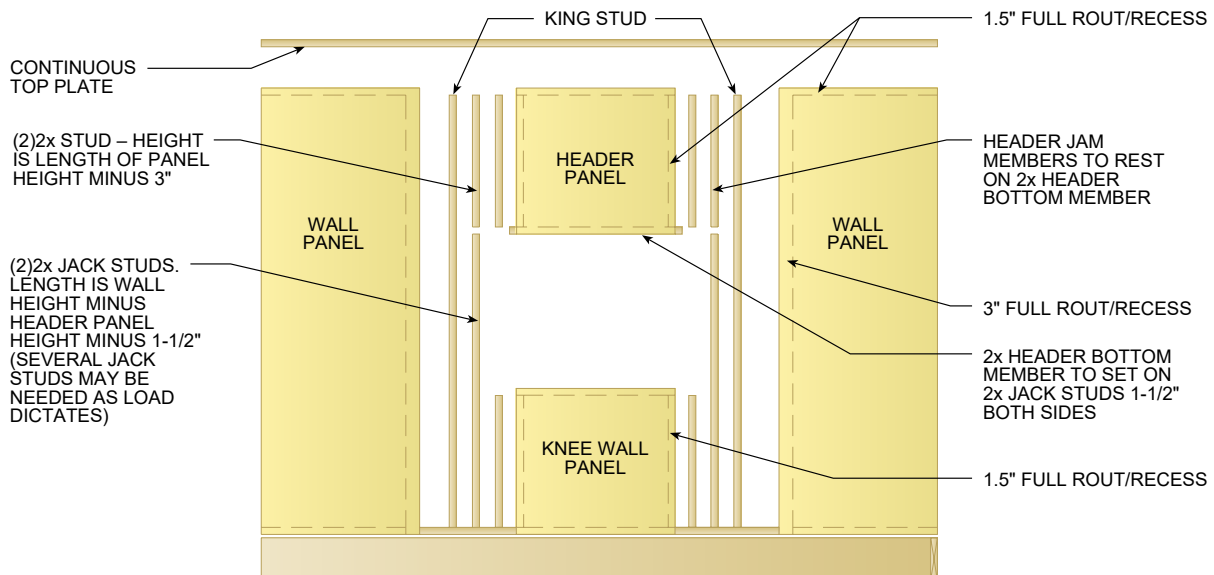
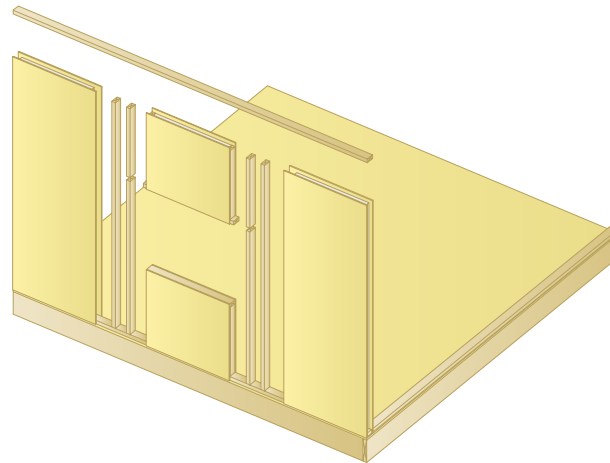
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.10

WINDOW HEADER AND KNEE WALL DETAIL

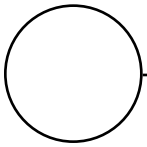
- 1) NAIL STUD, JACK STUD AND JAMB STUD TOGETHER W/ 16d NAILS @ 6" O.C. STAGGERED
- 2) NAIL PANEL SKIN TO ALL 2x WOOD MEMBER W/ 16d NAILS @ 6" O.C. BOTH SIDES.



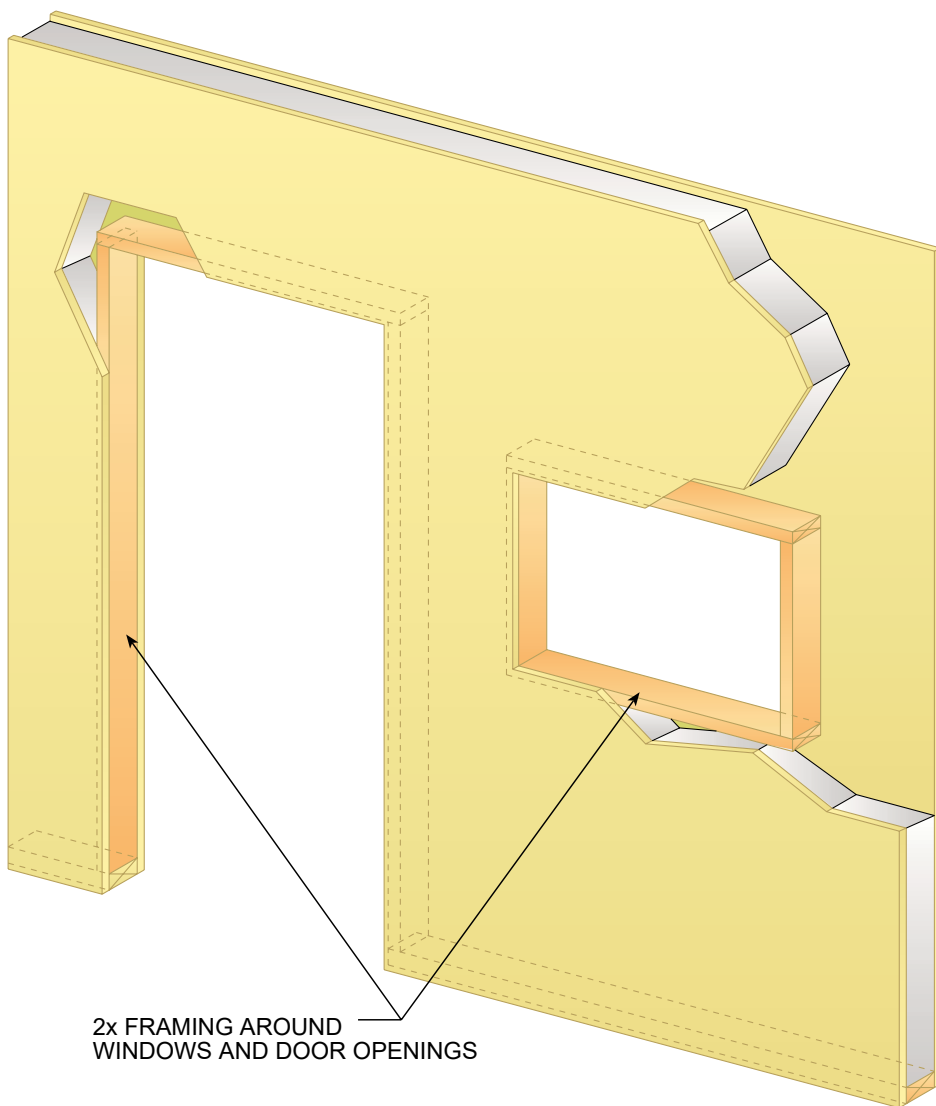
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.11



DOOR AND WINDOW FRAMING FOR CUT-OUTS

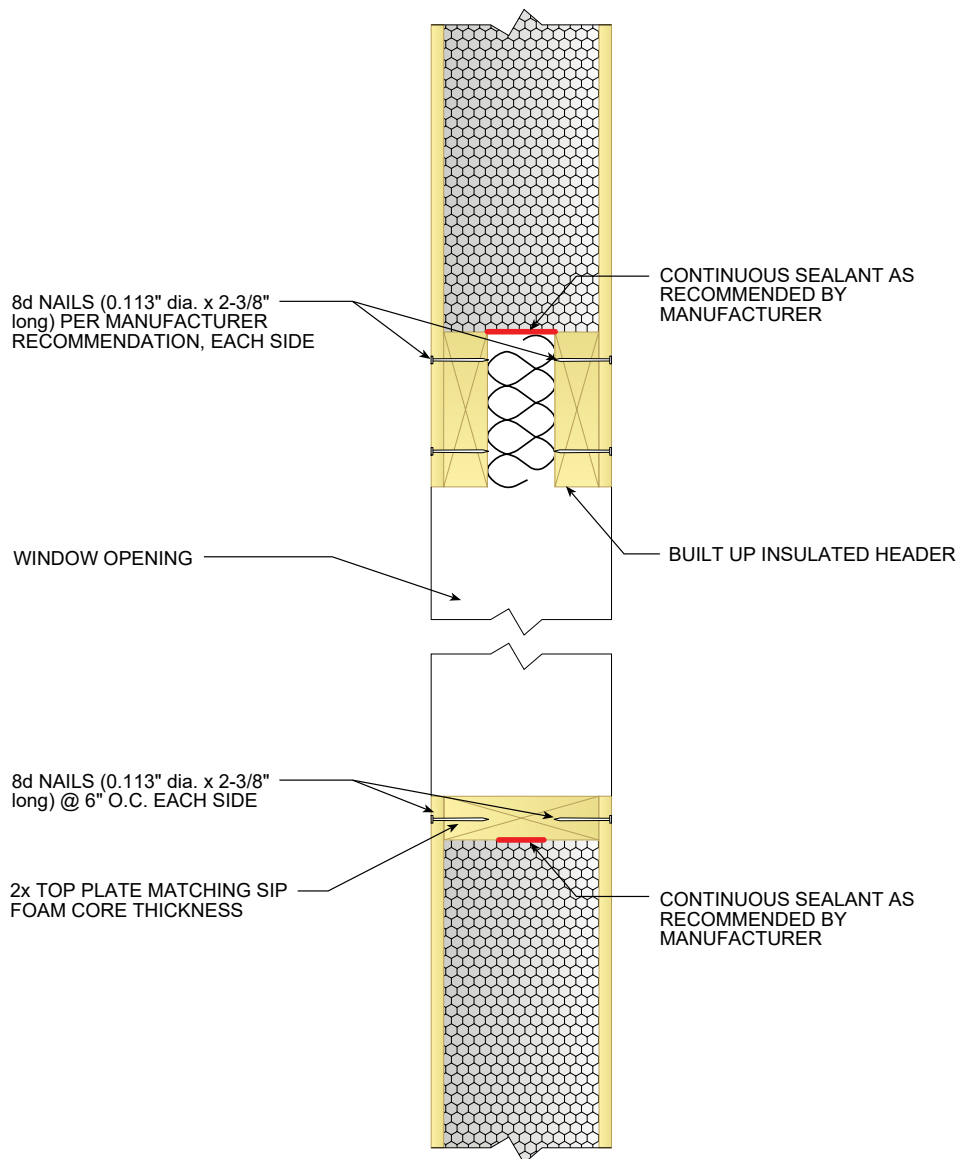


ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.12

ROUGH OPENING AND INSULATED HEADER



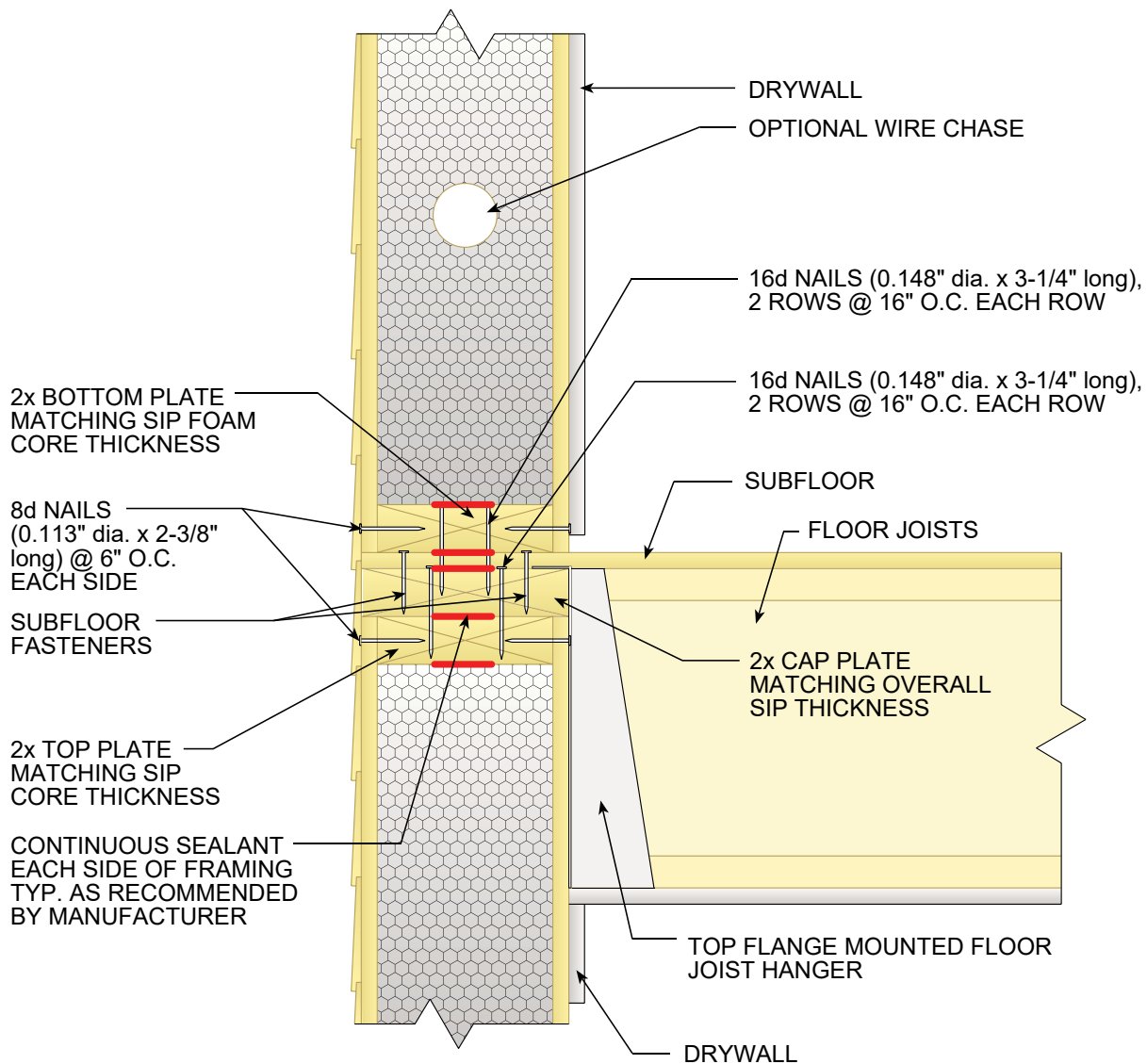
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.13

2ND FLOOR CONNECTION DETAILS

HANGING FLOOR JOIST SYSTEM



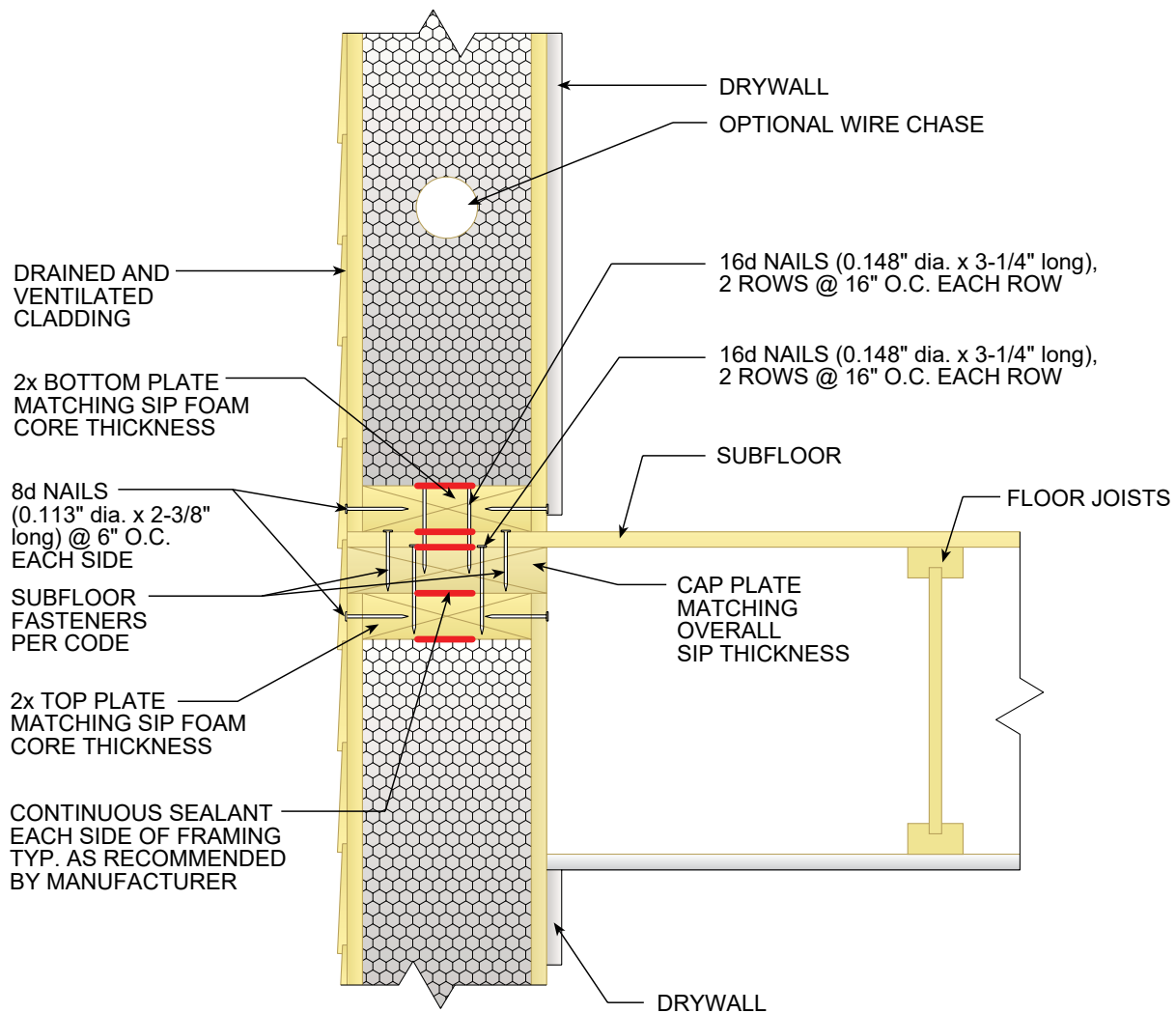
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.14

2ND FLOOR CONNECTION DETAILS

HANGING FLOOR JOIST SYSTEM (WALL PARALLEL TO JOISTS)



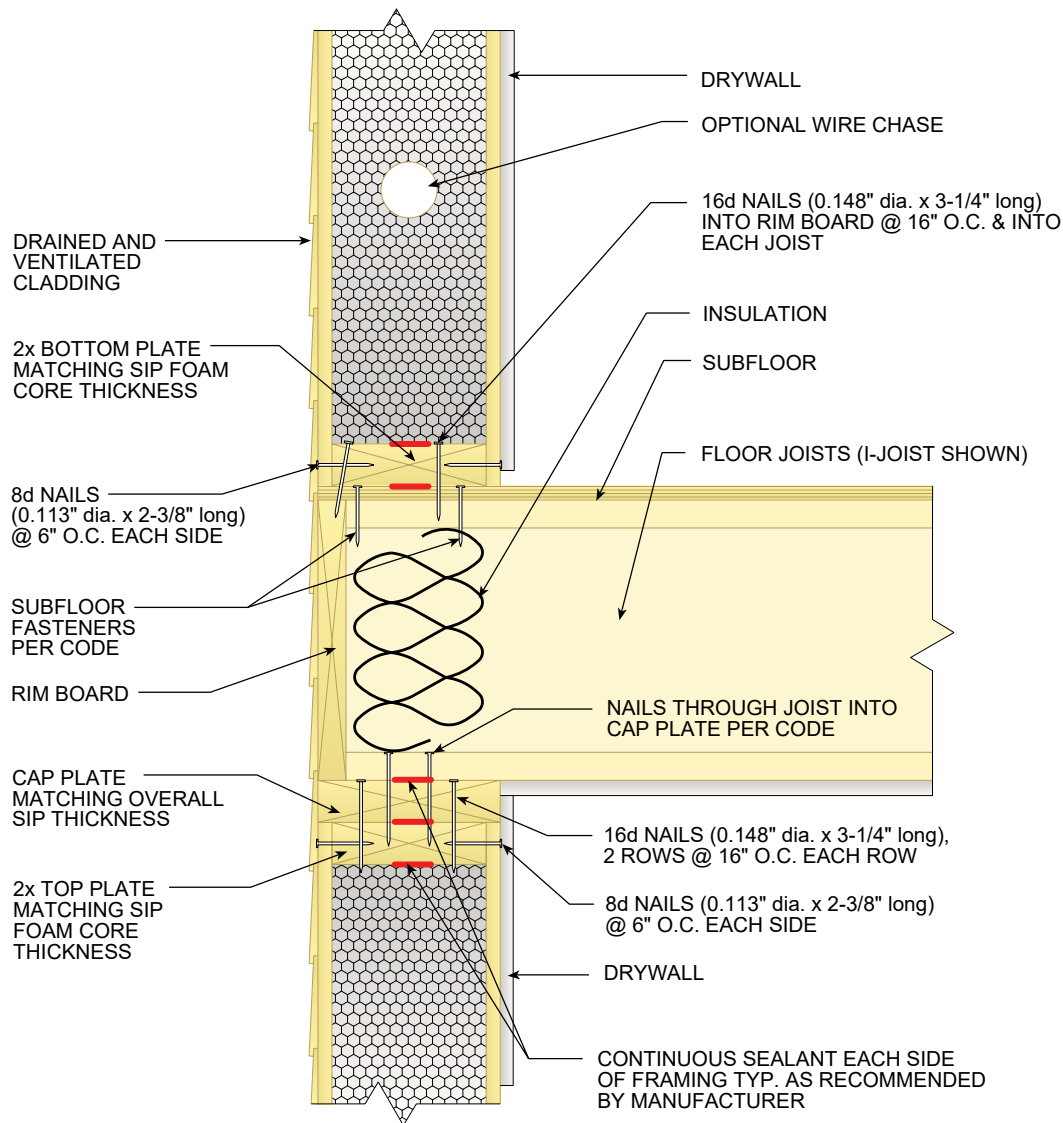
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.15

2ND FLOOR CONNECTION DETAILS

PLATFORM FRAMING WITH RIM BOARD (WALL PERPENDICULAR TO JOISTS)



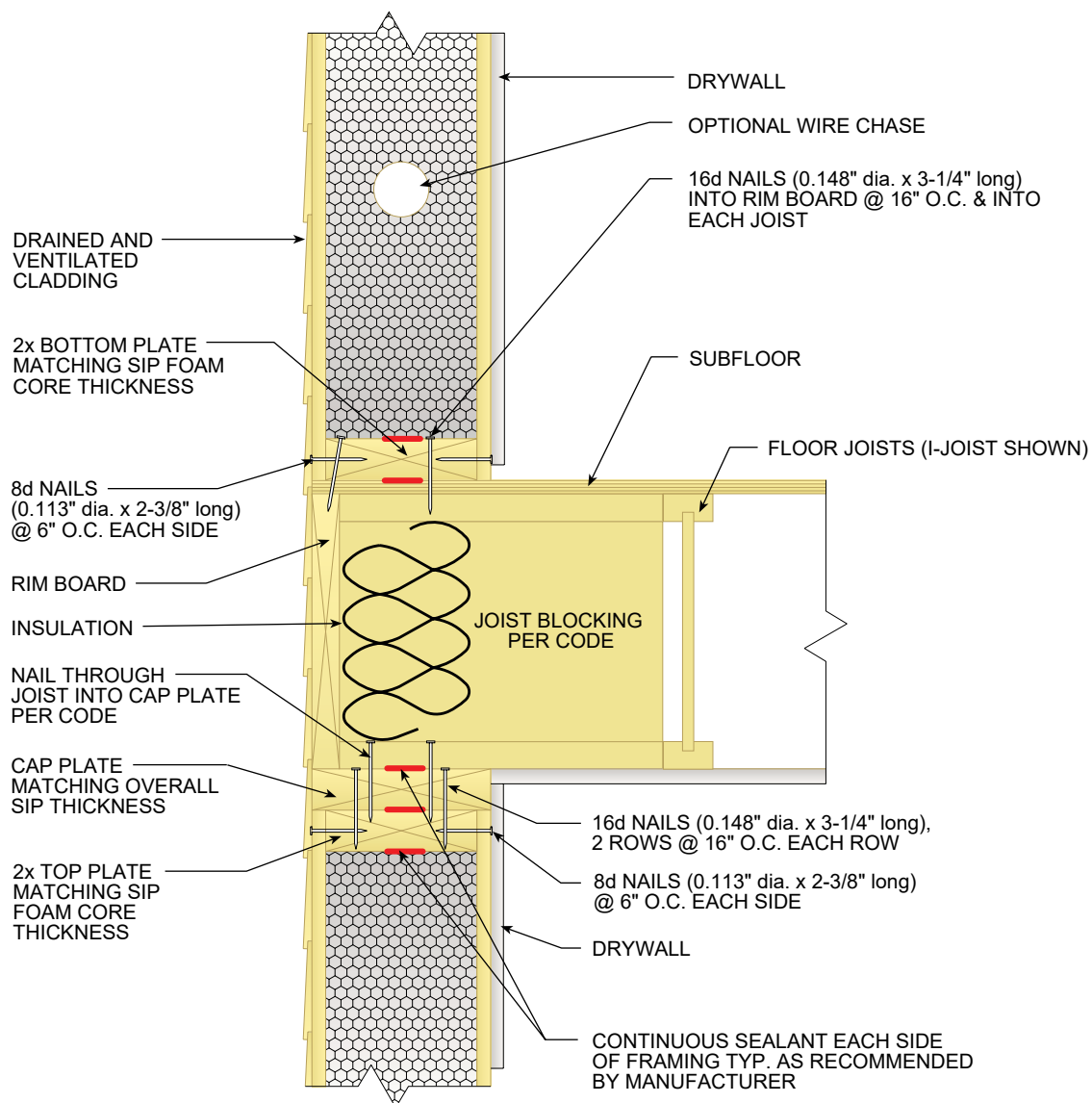
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.16

2ND FLOOR CONNECTION DETAILS

PLATFORM FRAMING (WALL PARALLEL TO JOISTS)



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.17

UPPER WALL TO ROOF CONNECTION

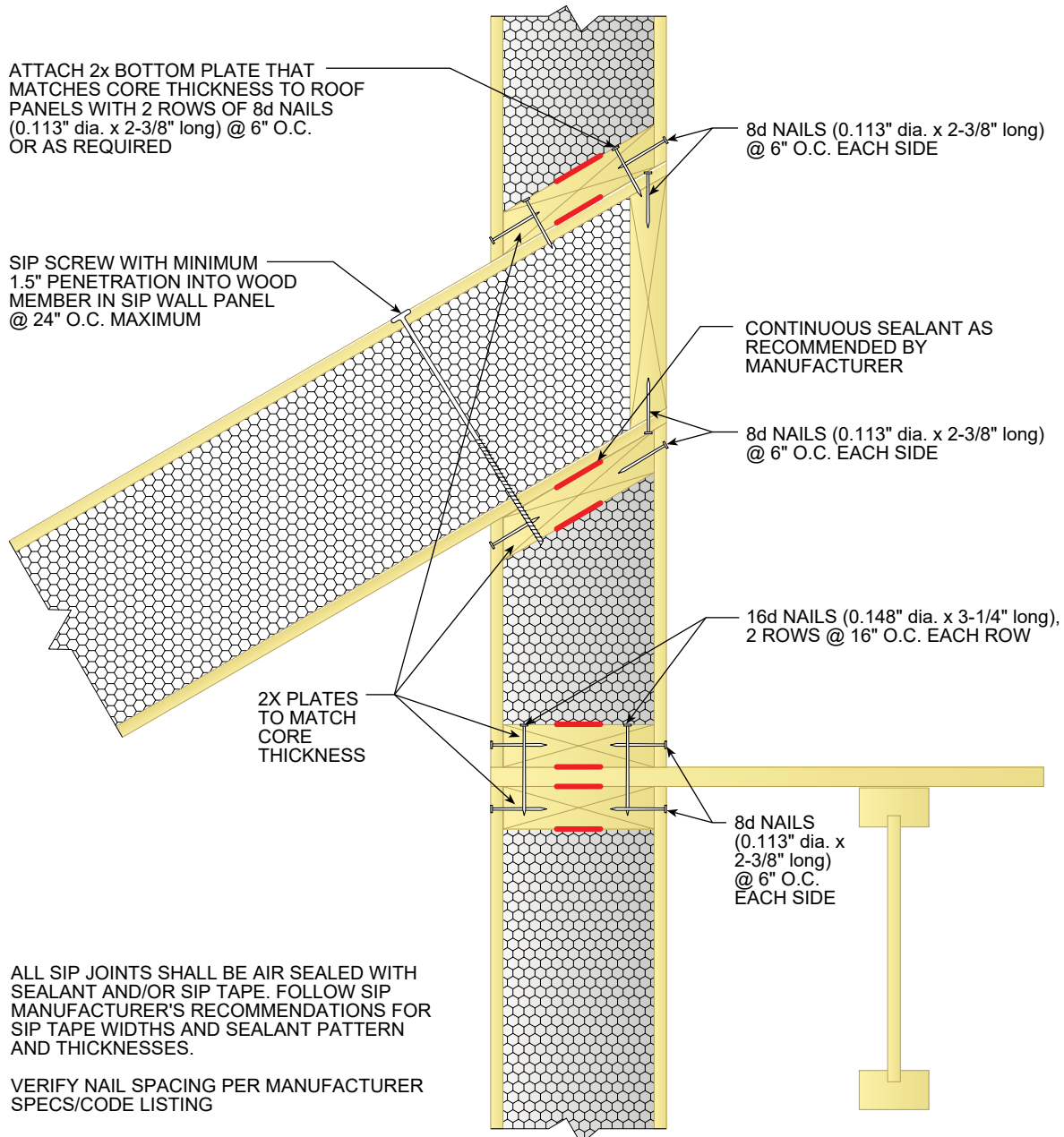
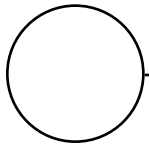
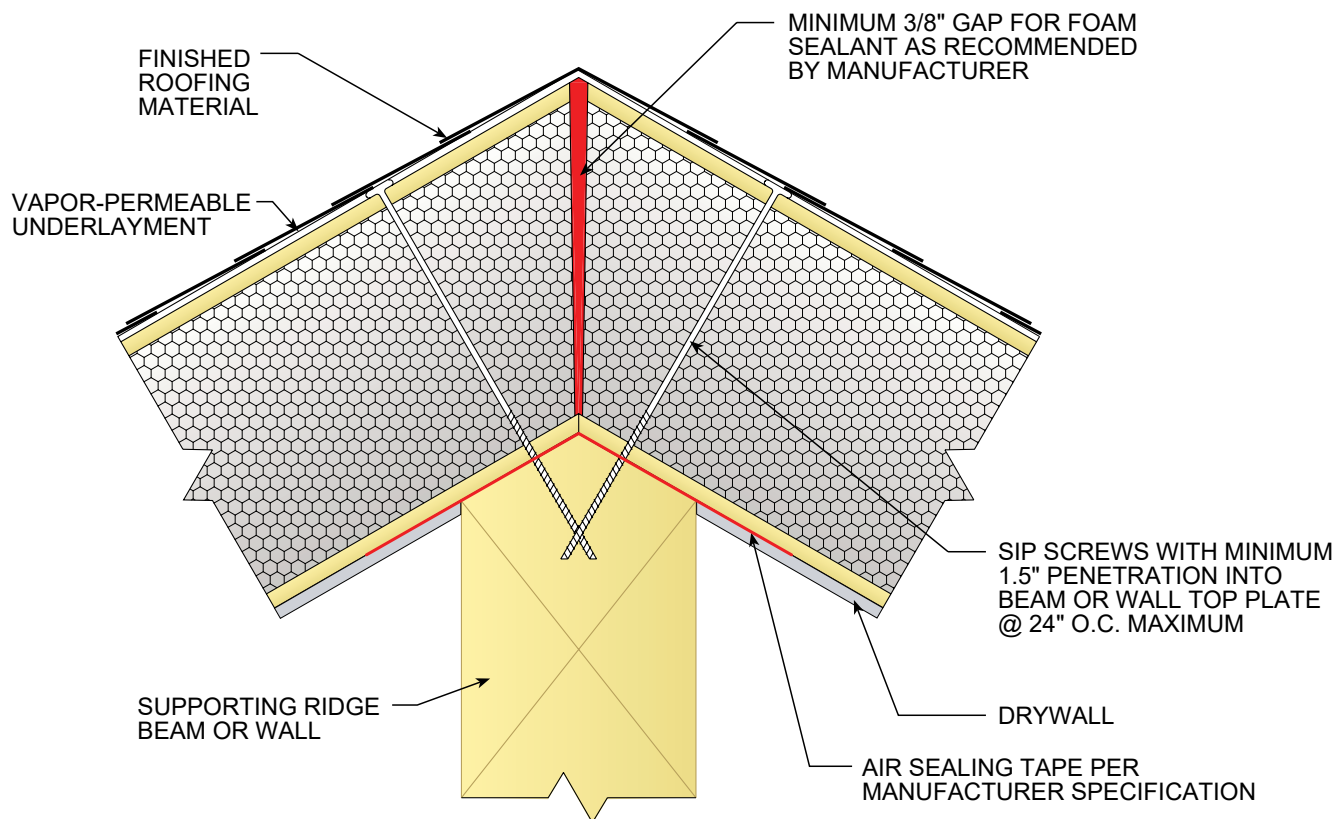


FIG.18



ROOF-TO-ROOF PANEL CONNECTIONS

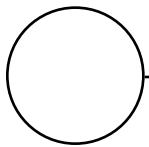
BEVELED SIP RIDGE



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

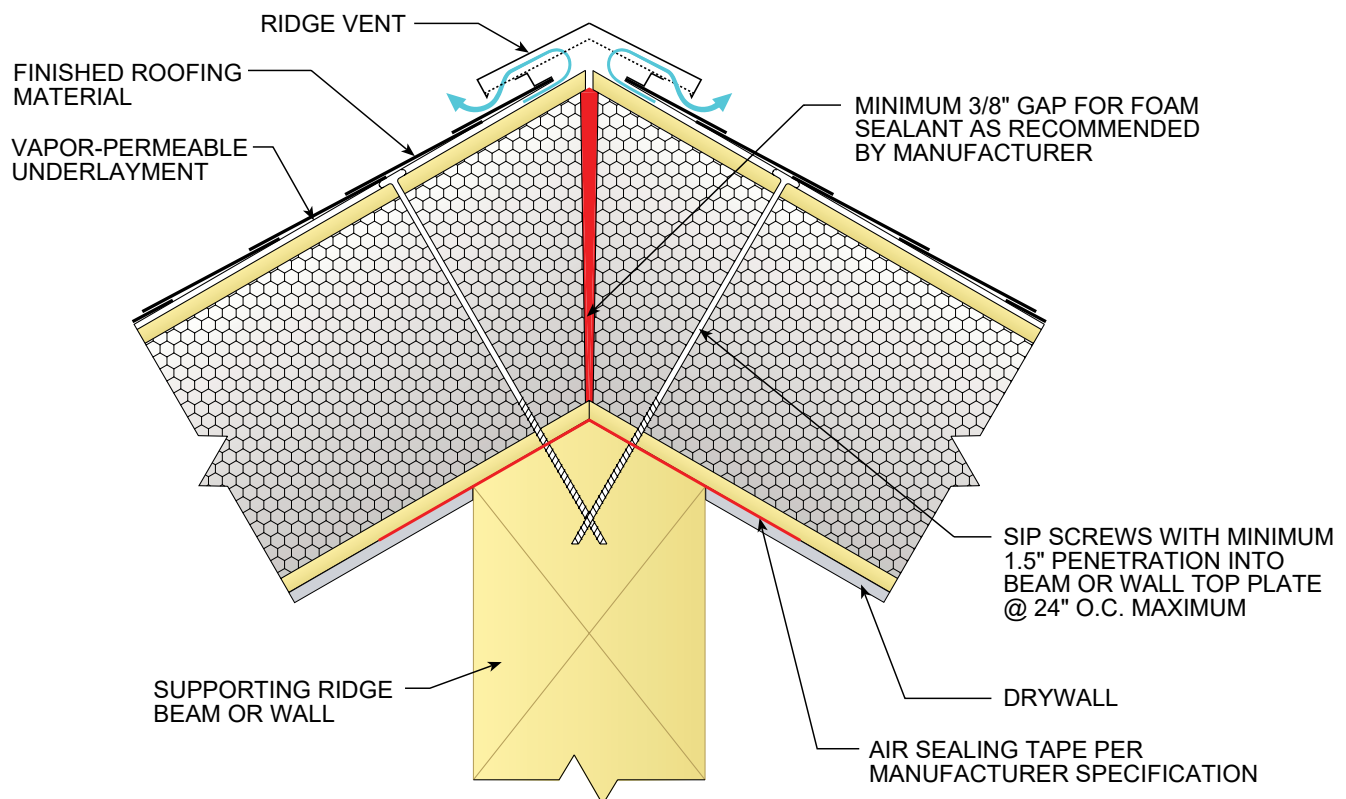
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.18A



ROOF-TO-ROOF PANEL CONNECTIONS

SIP WITH RIDGE VENT

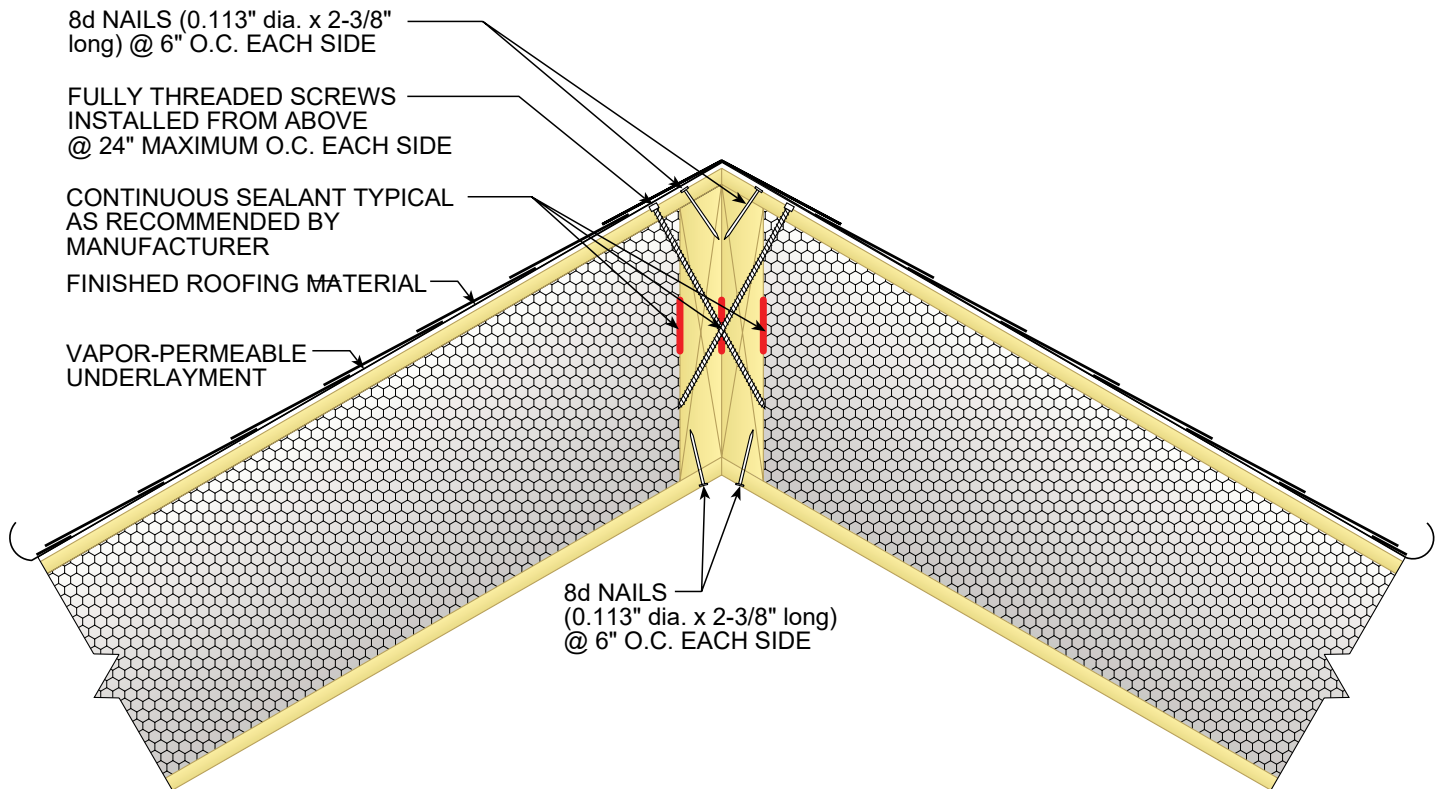


ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.19

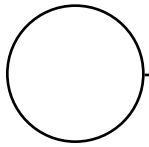
STRUCTURAL HIP PANEL CONNECTION



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

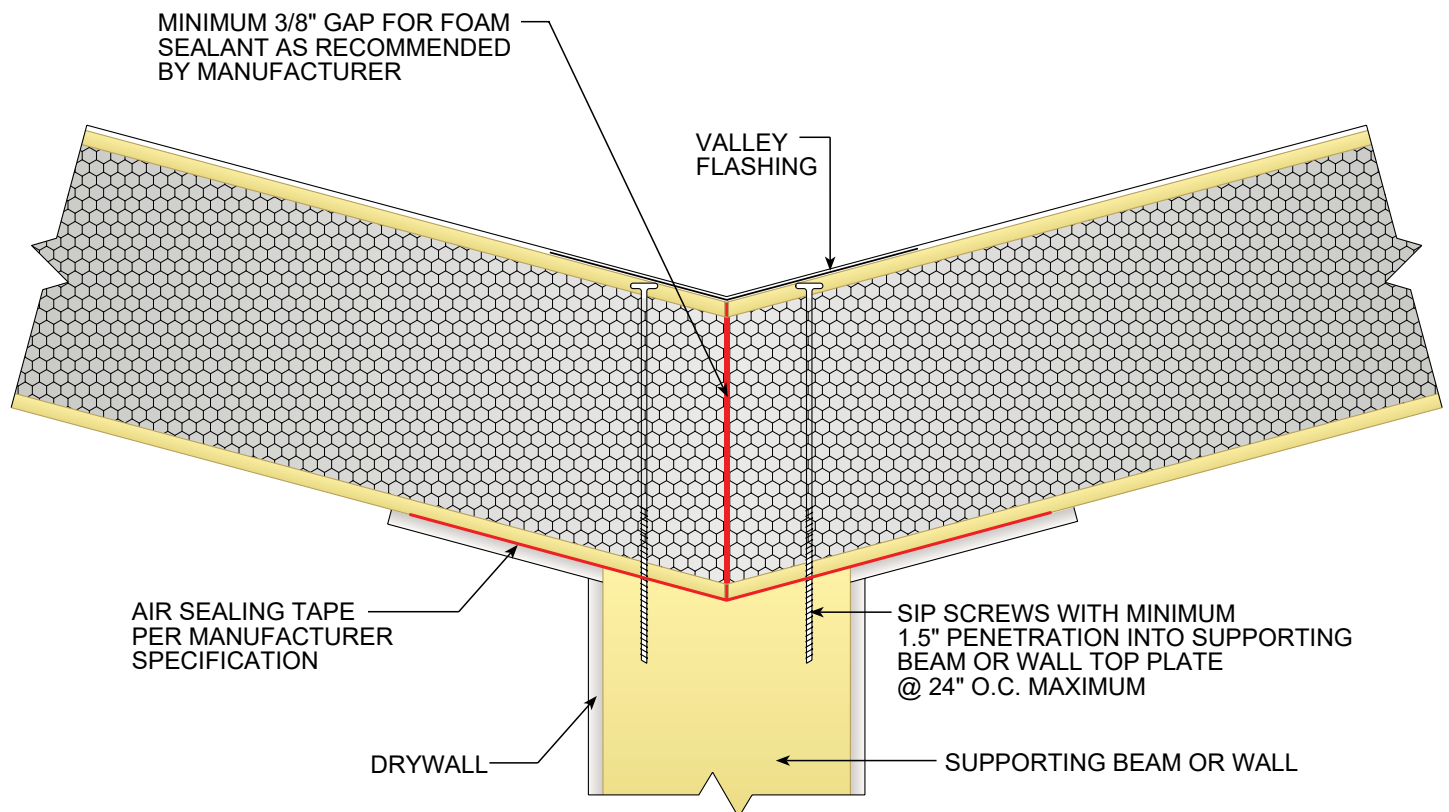
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.20



ROOF VALLEY CONNECTION WITH VALLEY SUPPORT

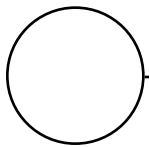
VALLEY DETAIL



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

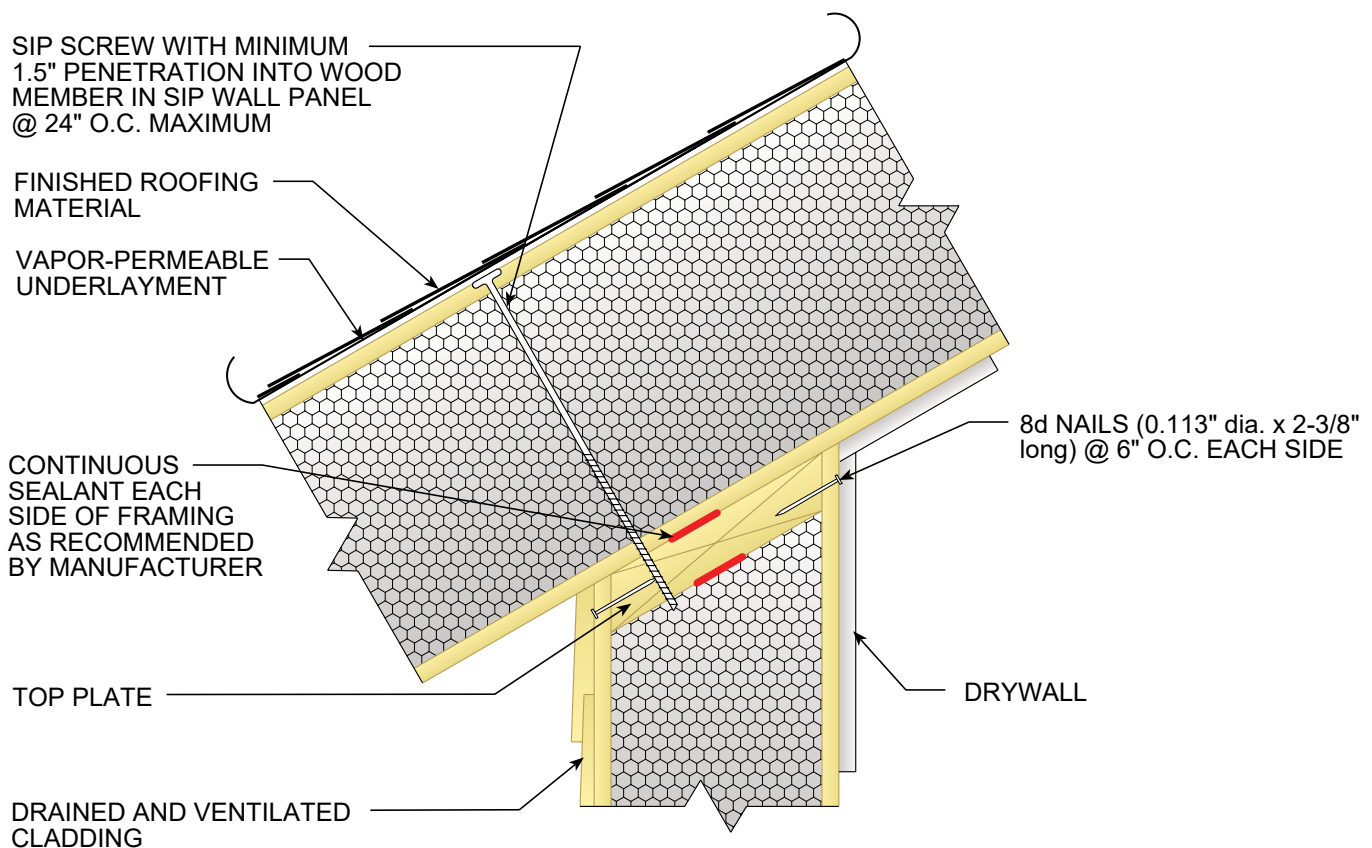
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.21



ROOF-TO-WALL PANEL CONNECTIONS

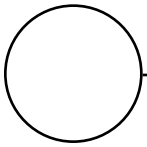
BEVELED SIP WALL



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

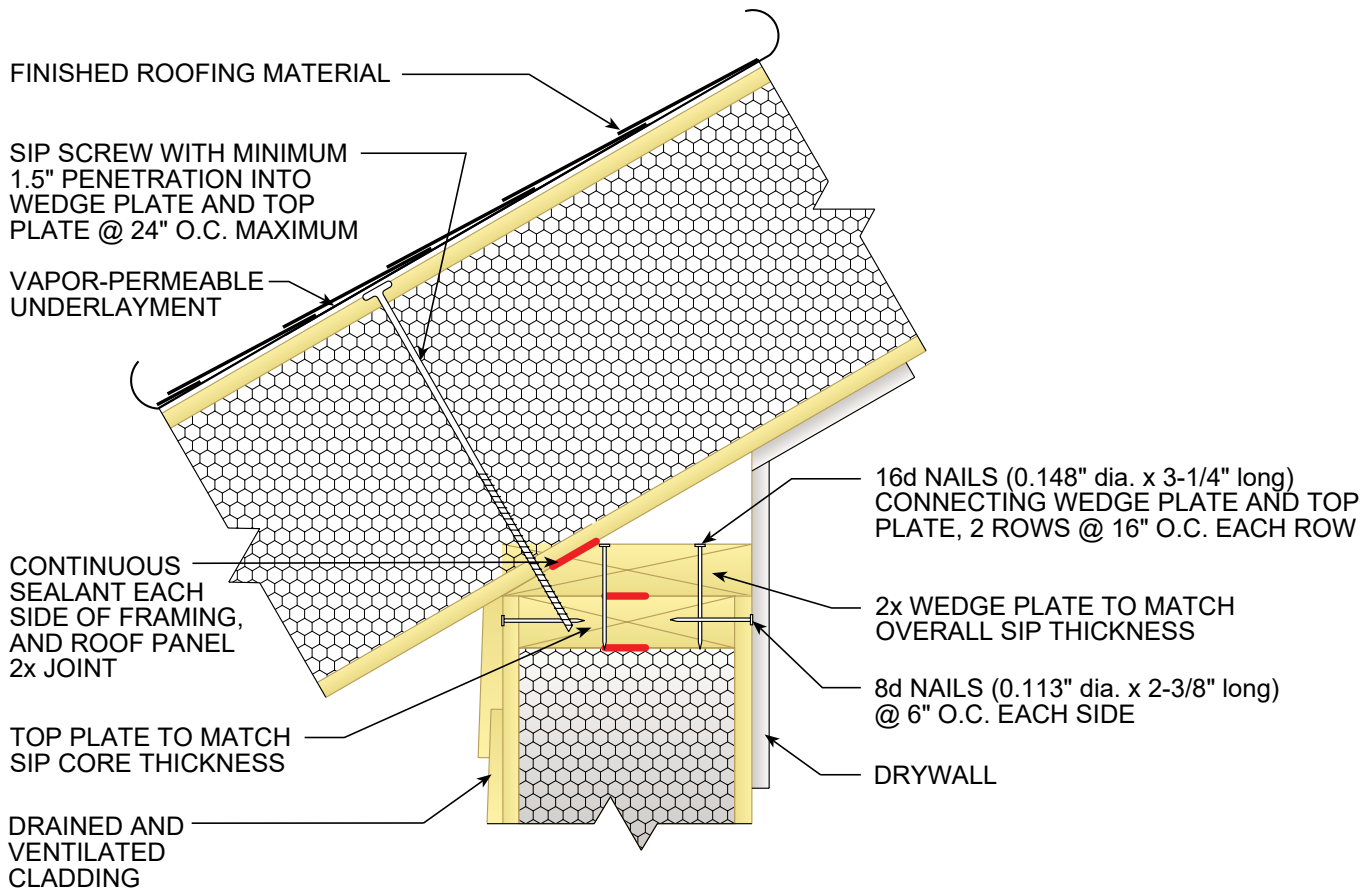
VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.22



ROOF-TO-WALL PANEL CONNECTIONS

BEVELED SIP WALL



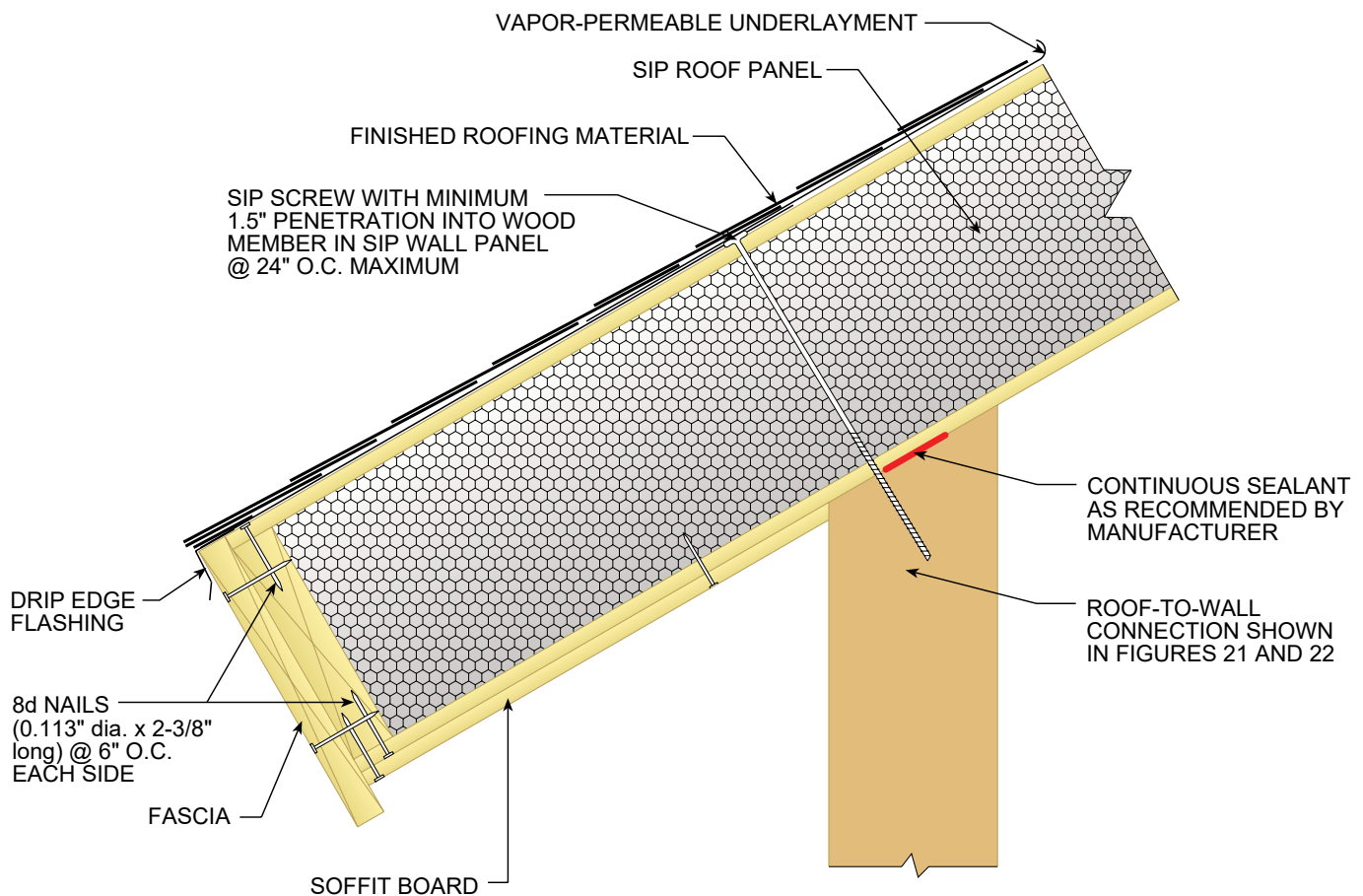
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.23

EAVE DETAILING

SLOPED OVERHANG WITH SQUARE FASCIA



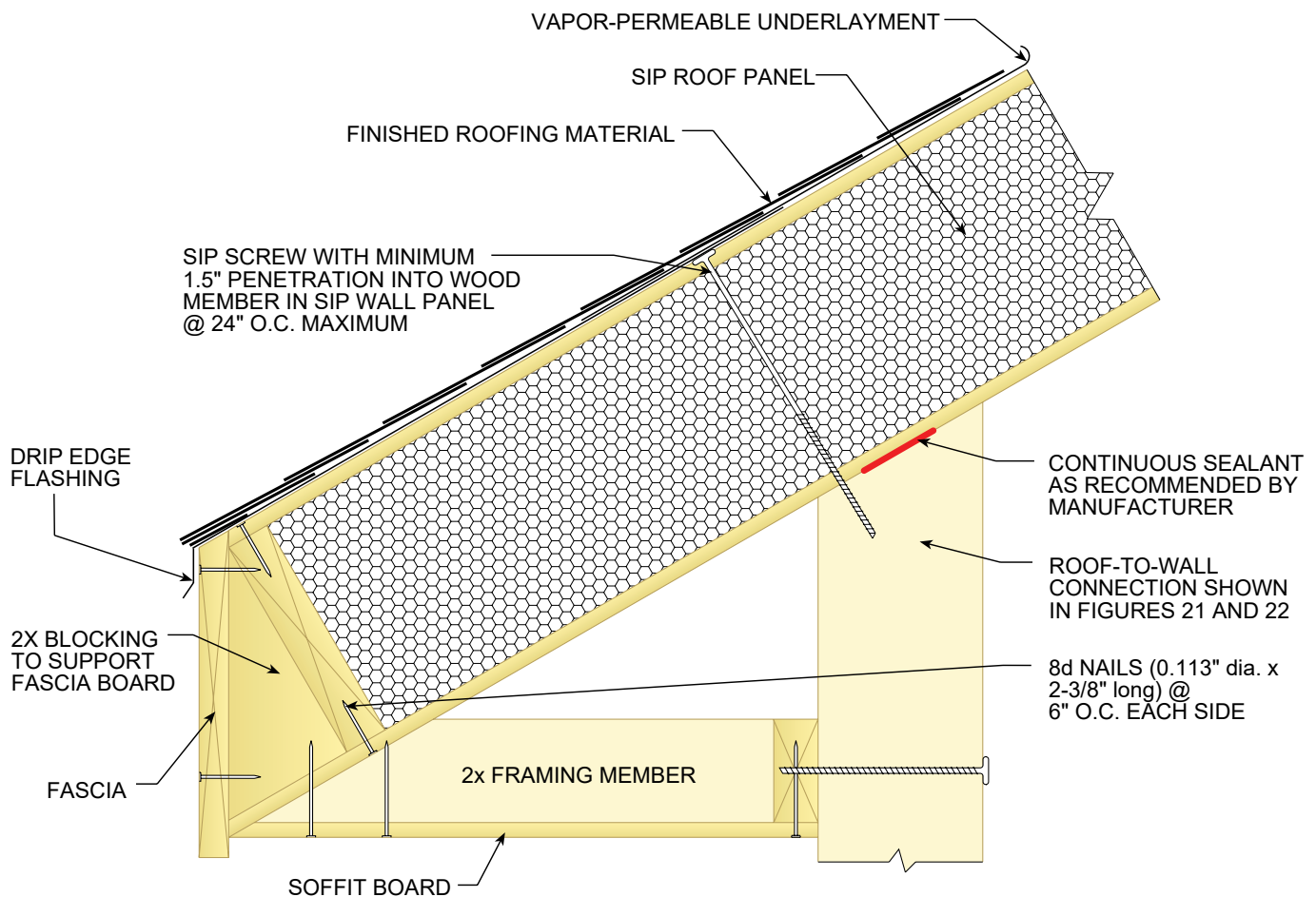
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.24

EAVE DETAILING

FRAMED LEVEL SOFFIT WITH SQUARE CUT ROOF SIP



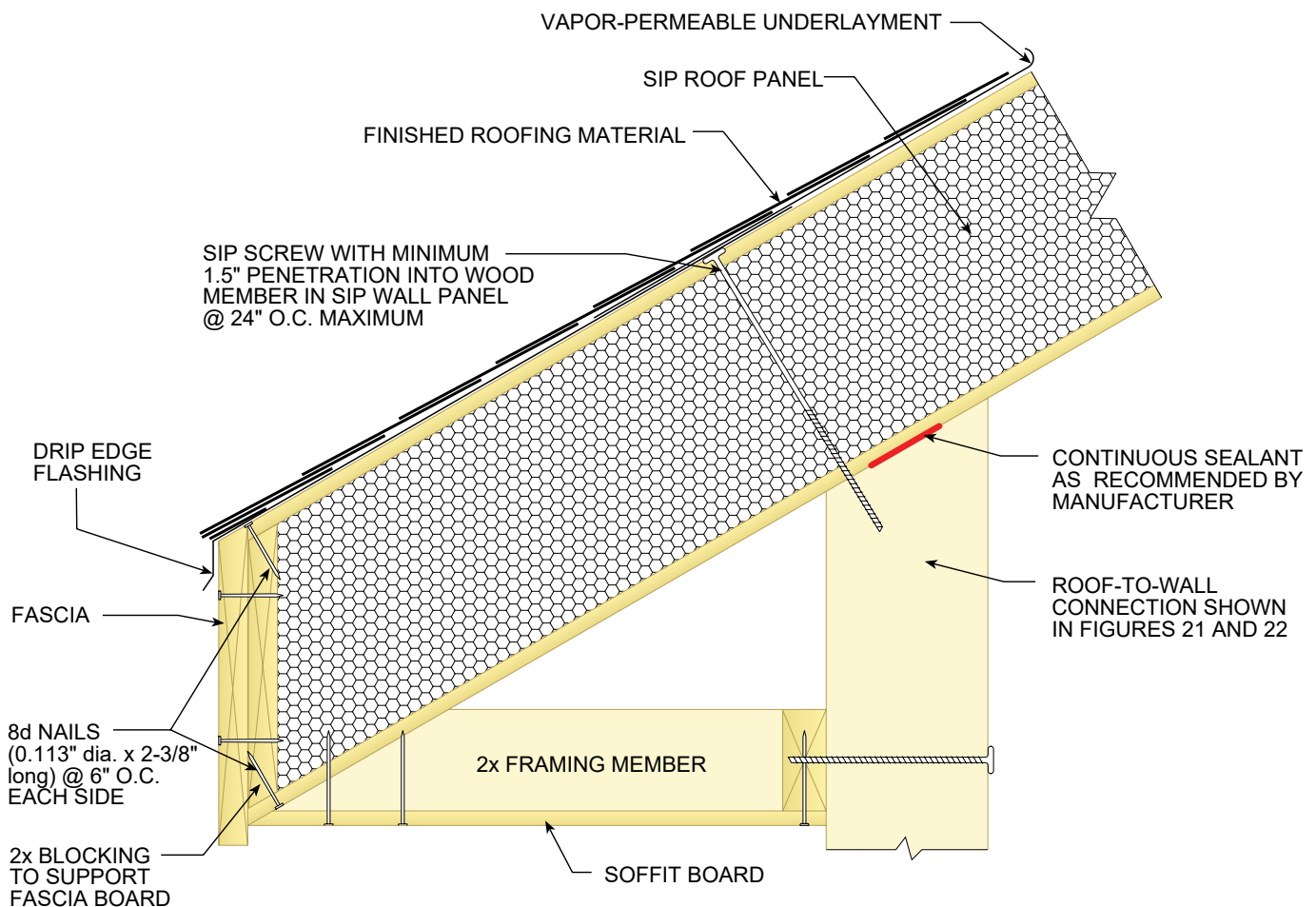
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.25

EAVE DETAILING

FRAMED LEVEL SOFFIT WITH PLUMB CUT ROOF SIP



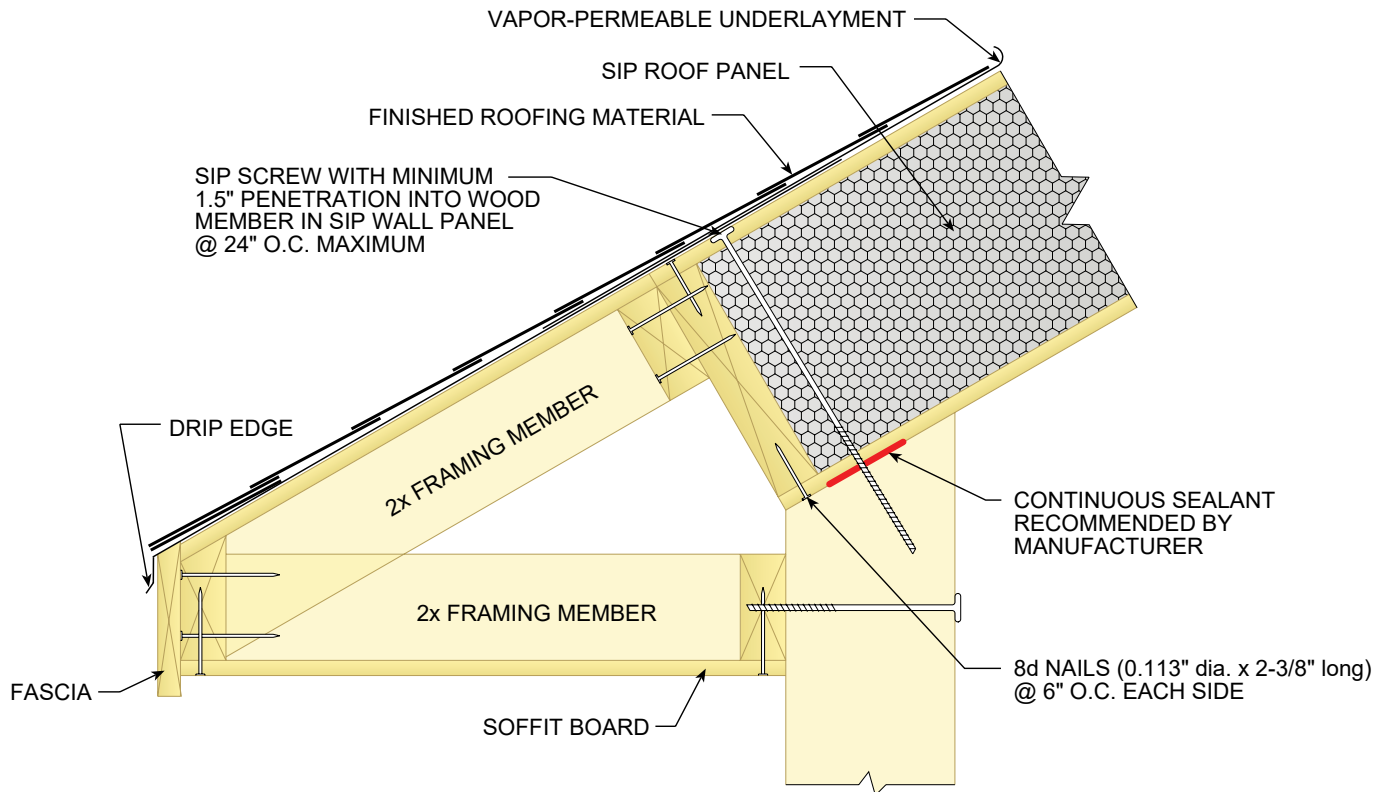
ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.26

EAVE DETAILING

FULLY FRAMED OVERHANG

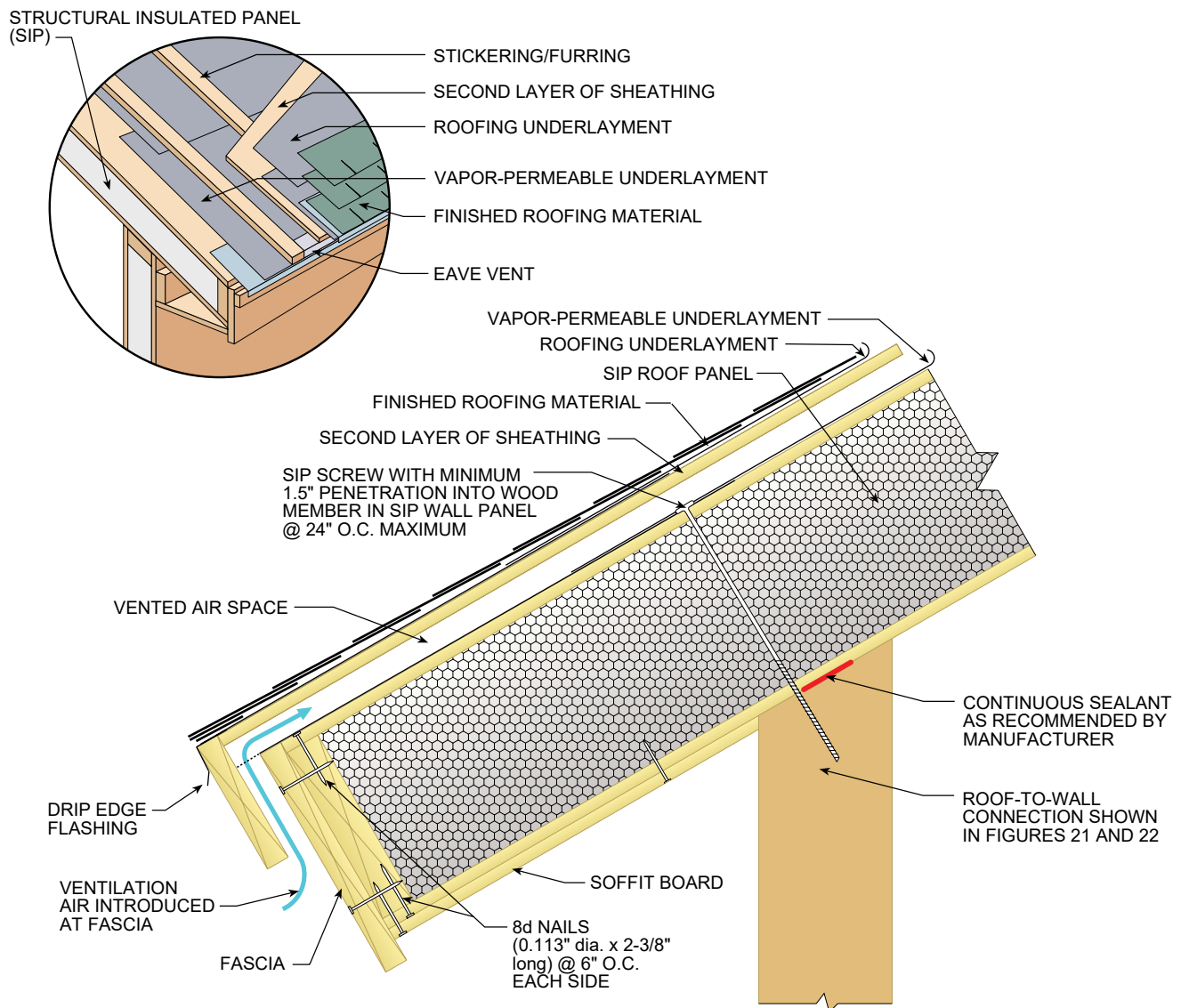


ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING

FIG.27

VENTED COLD ROOF GENERIC DETAIL



ALL SIP JOINTS SHALL BE AIR SEALED WITH SEALANT AND/OR SIP TAPE. FOLLOW SIP MANUFACTURER'S RECOMMENDATIONS FOR SIP TAPE WIDTHS AND SEALANT PATTERN AND THICKNESSES.

VERIFY NAIL SPACING PER MANUFACTURER SPECS/CODE LISTING