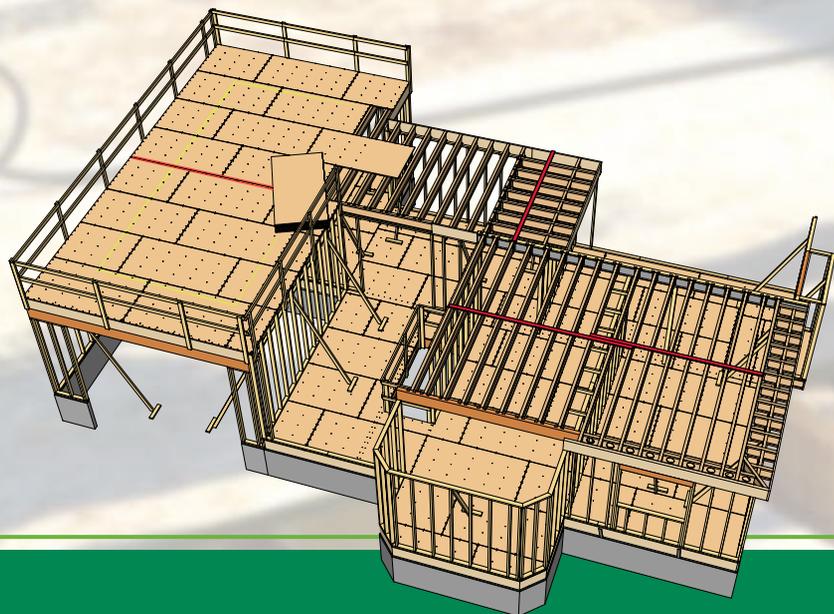




# FLOOR FRAMING STANDARDS

A Framer's Guide to the INSTALLATION PROCESS



# WEYERHAEUSER FLOOR FRAMING STANDARDS

## A Framers's Guide to the INSTALLATION PROCESS

Safety and Site Preparation	Step 1
Stage Materials	Step 2
Precut Accessories	Step 3
Square and Snap Line for Sill Plate	Step 4
Joist, Blocking, and Rim Board Layout	Step 5
Install Hangers and Flush Beams	Step 6
Install Starter- and End-Wall Rim Board	Step 7
Install Joists, Accessories, and Safety Bracing	Steps 8-9
Install Subfloor	Steps 10-11
Frame Second Floor	Step 12
Sheath Second Floor	Step 13
Nail Chart	Appendix

1.888.453.8358 | [weyerhaeuser.com/woodproducts](http://weyerhaeuser.com/woodproducts)

**TJI® 110**  
**TJI® 210**  
**TJI® 230**  
**TJI® 360**  
**TJI® 560**  
**Joists**

September 2018 • Reorder TJ-9001

### INSTALLATION GUIDE

#### FOR FLOOR AND ROOF FRAMING

**WARNING:**  
DO NOT walk on joists until braced. **INJURY MAY RESULT.**

**WARNING:**  
DO NOT walk on joists that are lying flat.

**WARNING:**  
DO NOT stack building materials on unsheathed joists. Stack only over beams or walls.

**IMPORTANT: PLEASE READ CAREFULLY!**

Refer to the Trus Joist® Installation Guide for all construction details.

### Weyerhaeuser Layout Drawing – For Product Reference Only.

software by Weyerhaeuser

Framing Connector Summary											
Plan Label	Qty	Manuf. Product	Face/Supporter Nails	Top Nails	Member/Supported Nails	Skew	Slope	Supporting Material Type	Backer Blks.	Supported Product	Web Stiffeners
H1	1	SST HGU5412	56- 16d common	-	20- 16d double shear	-	-	LSL	No	3 1/2" x 11 7/8" TimberStrand® LSL Beam (1.55E)	No
H2	8	SST ITS2.06/11.88	2- 10d x 1-1/2	4- 10d x 1-1/2	-	-	-	LSL	No	11 7/8" TJI 210	No
H3	18	SST IUS2.06/11.88	10- 10d x 1-1/2	-	-	-	-	LSL	No	11 7/8" TJI 210	No
H4	1	SST IUS2.06/11.88	10- 10d common	-	1- Simpson SD&X1.25 screw installed thru the seat of the hanger	-	-	LSL	No	11 7/8" TJI 210	No
H5	3	SST IUS2.06/11.88	10- 10d common	-	-	-	-	LSL	2	11 7/8" TJI 210	No
H6	1	SST MIU1.81/11	20- 10d x 1-1/2	-	2- 10d x 1-1/2	-	-	LSL	No	1 3/4" x 11 7/8" TimberStrand® LSL Beam (1.55E)	No
H7	1	SST MIU1.81/11	20- 10d common	-	2- 10d x 1-1/2	-	-	LSL	1	1 3/4" x 11 7/8" TimberStrand® LSL Beam (1.55E)	No

Products			
PlotID	Length	Product	Plies Net Qty
F24	24' 0"	11 7/8" TJI 210	1 13
F22	22' 0"	11 7/8" TJI 210	1 9
F14	14' 0"	11 7/8" TJI 210	1 9
F14-2	14' 0"	11 7/8" TJI 210	2 4
F11	11' 0"	11 7/8" TJI 210	1 10
F6	6' 0"	11 7/8" TJI 210	1 14
F5	5' 0"	11 7/8" TJI 210	1 2
F4	4' 0"	11 7/8" TJI 210	1 3
R11	11' 0"	11 7/8" TJI 360	1 2
TSCa1	16' 0"	1 1/4" x 11 7/8" 1.3E TimberStrand LSL	1 12
TS1	4' 0"	1 3/4" x 11 7/8" TimberStrand® LSL Beam (1.55E)	1 1
TS2	16' 0"	3 1/2" x 11 7/8" TimberStrand® LSL Beam (1.55E)	1 1
TS3	14' 0"	3 1/2" x 11 7/8" TimberStrand® LSL Beam (1.55E)	1 1
TS4	13' 0"	3 1/2" x 11 7/8" TimberStrand® LSL Beam (1.55E)	1 1
TS5	11' 0"	3 1/2" x 11 7/8" TimberStrand® LSL Beam (1.55E)	1 1
PPT1	4' 0"	3 1/2" x 3 1/2" 1.8E Parallam PSL	1 1
P1	11' 0"	5 1/4" x 11 7/8" 2.0E Parallam PSL	1 1

Accessories			
PlotID	Length	Product	Plies Net Qty
	1' 8 15/16"	23/32" Backer Blocks	1 2
	1' 0"	23/32" Backer Blocks	1 3
	2' 0"	1 7/8" net Filler Blocks	1 1
		23/32"x48"x96" OSB Weyerhaeuser Edge (Q/24) T&G FF	1 41

Blocking			
PlotID	Length	Product	Plies Net Qty
FBk1	2' 0"	11 7/8" TJI 210	1 33
FBk1	1' 0"	11 7/8" TJI 210	1 6
FBk2	1' 0"	11 7/8" TJI 210	1 1
SSBk1	2' 0"	2 X 4 DF Stud	1 5

**Sample Residence**

**Job # 658-426**

**Good Builders, Inc.**

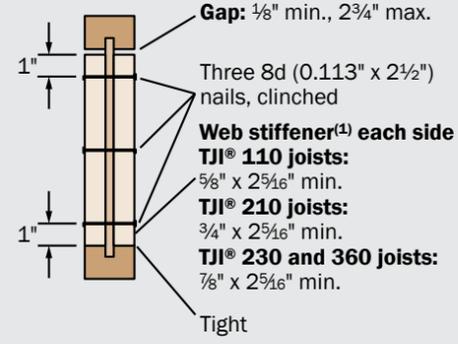
**ABC Lumber**

**(800) 555-0000**

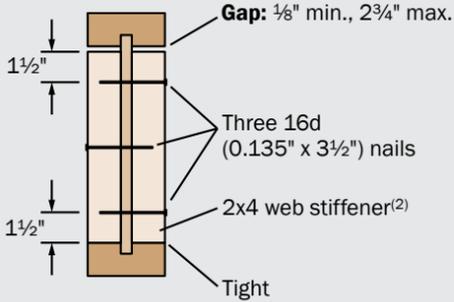


Web Stiffeners

TJI® 110, 210, 230, 360 Joists

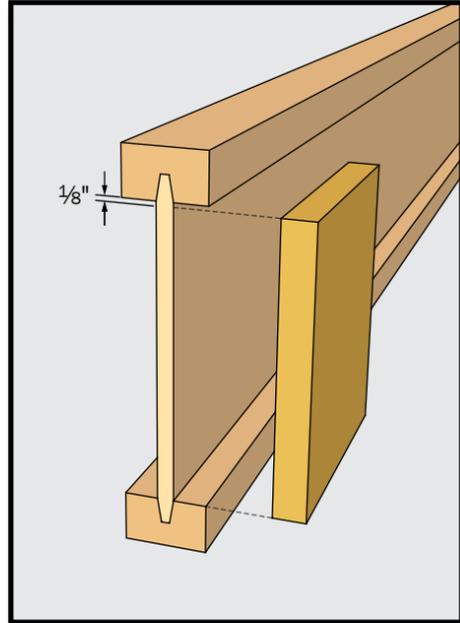


TJI® 560 Joists

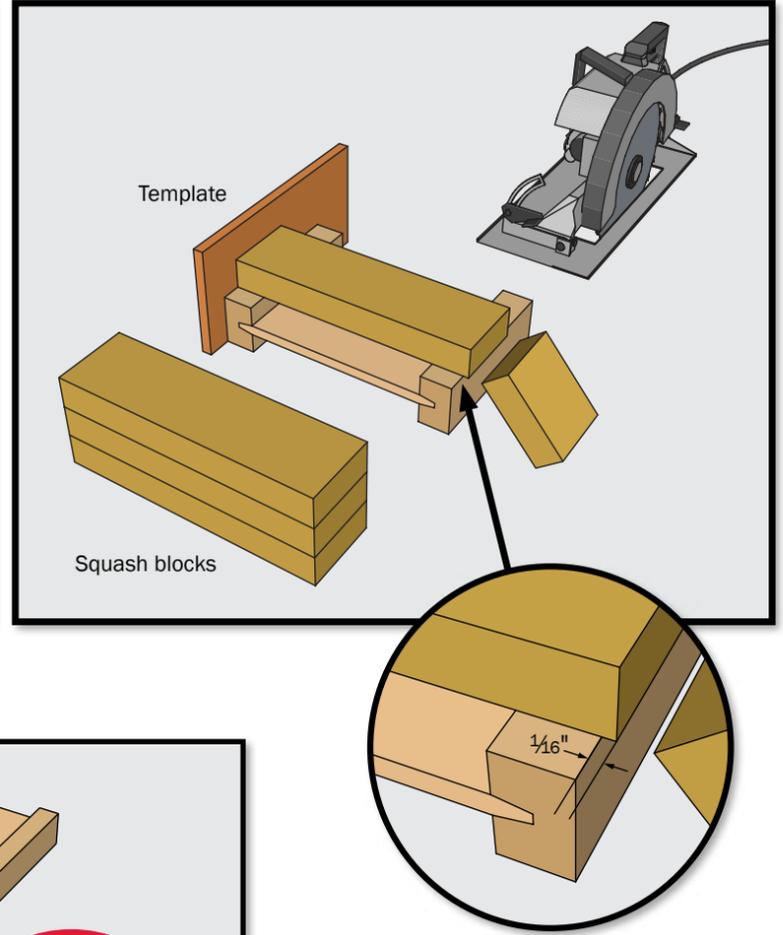


(1) PS1 or PS2 sheathing, face grain vertical  
(2) Construction grade or better

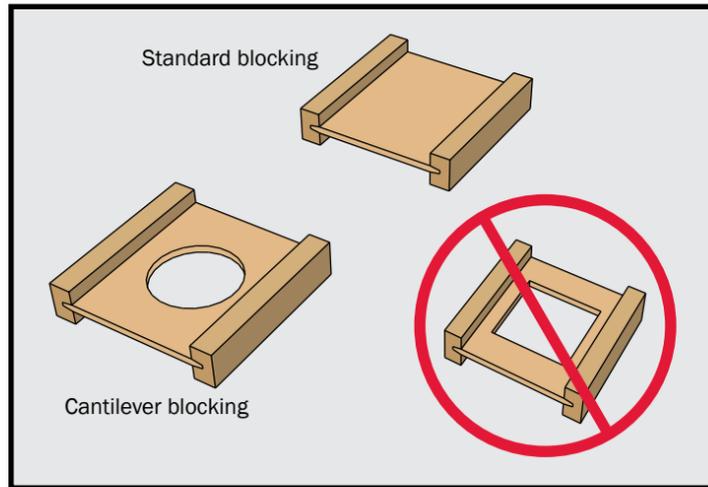
Cutting Web Stiffeners



Cutting Squash Blocks



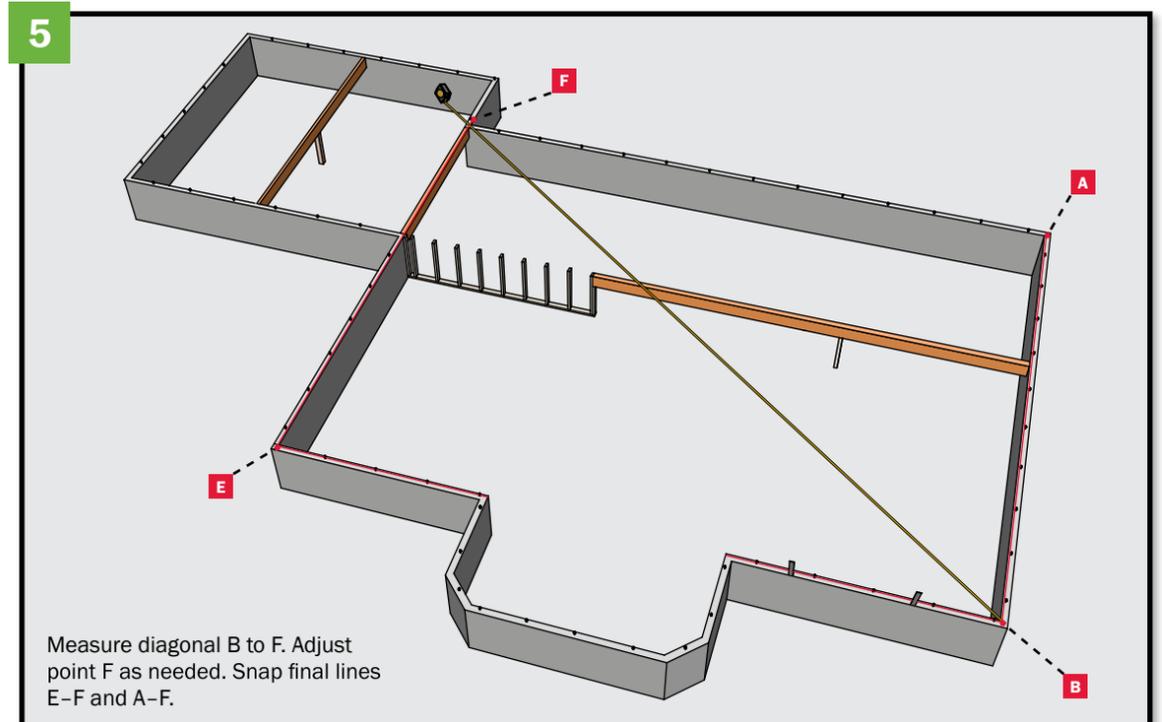
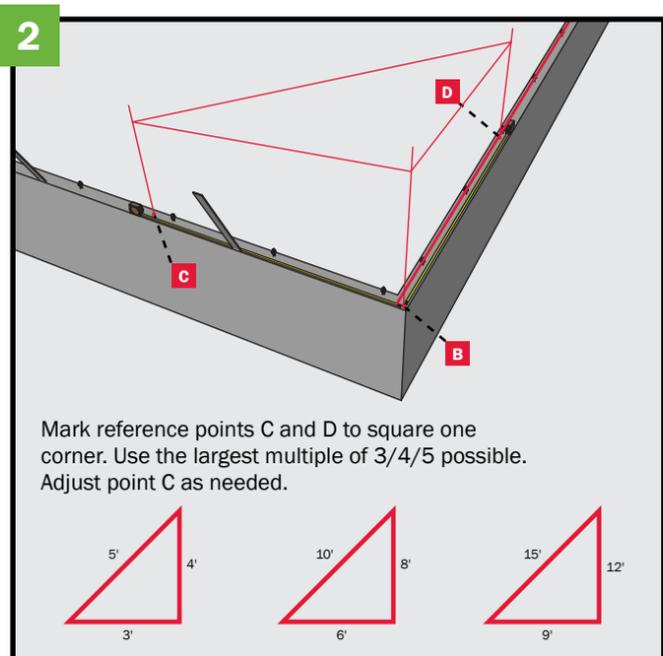
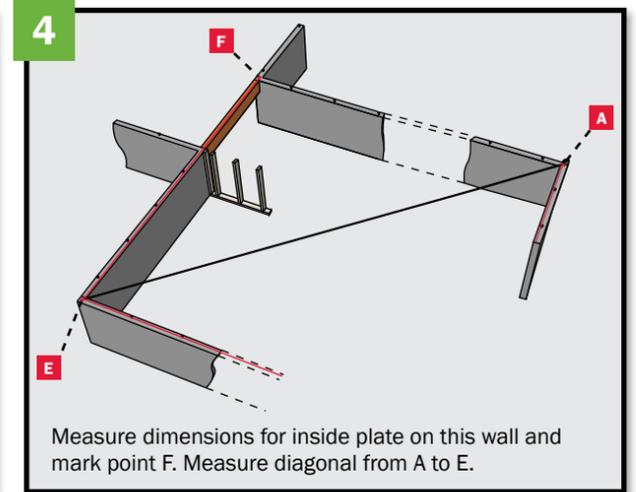
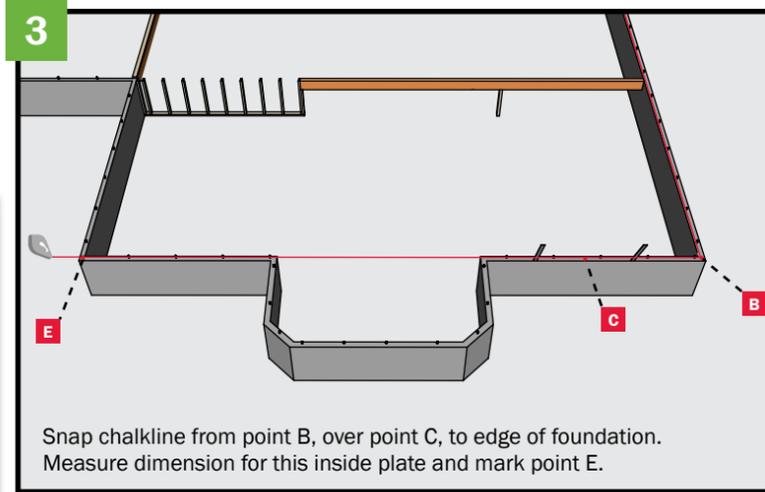
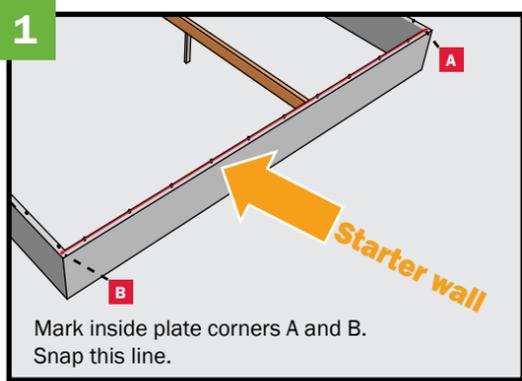
Cutting Blocking Panels



SQUARE AND SNAP LINE FOR SILL PLATE

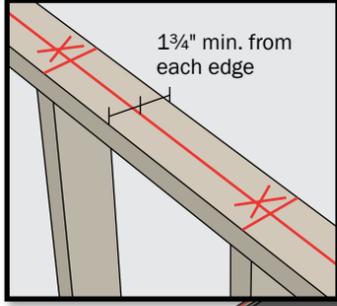


Architect/Engineer Plan

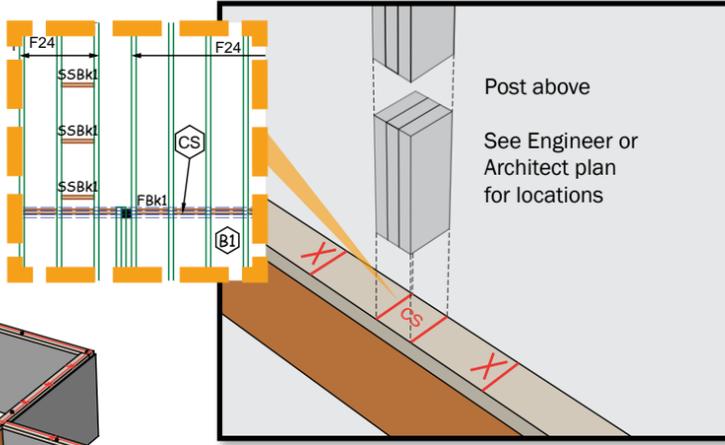


See architect or engineer plans for dimensions and special details

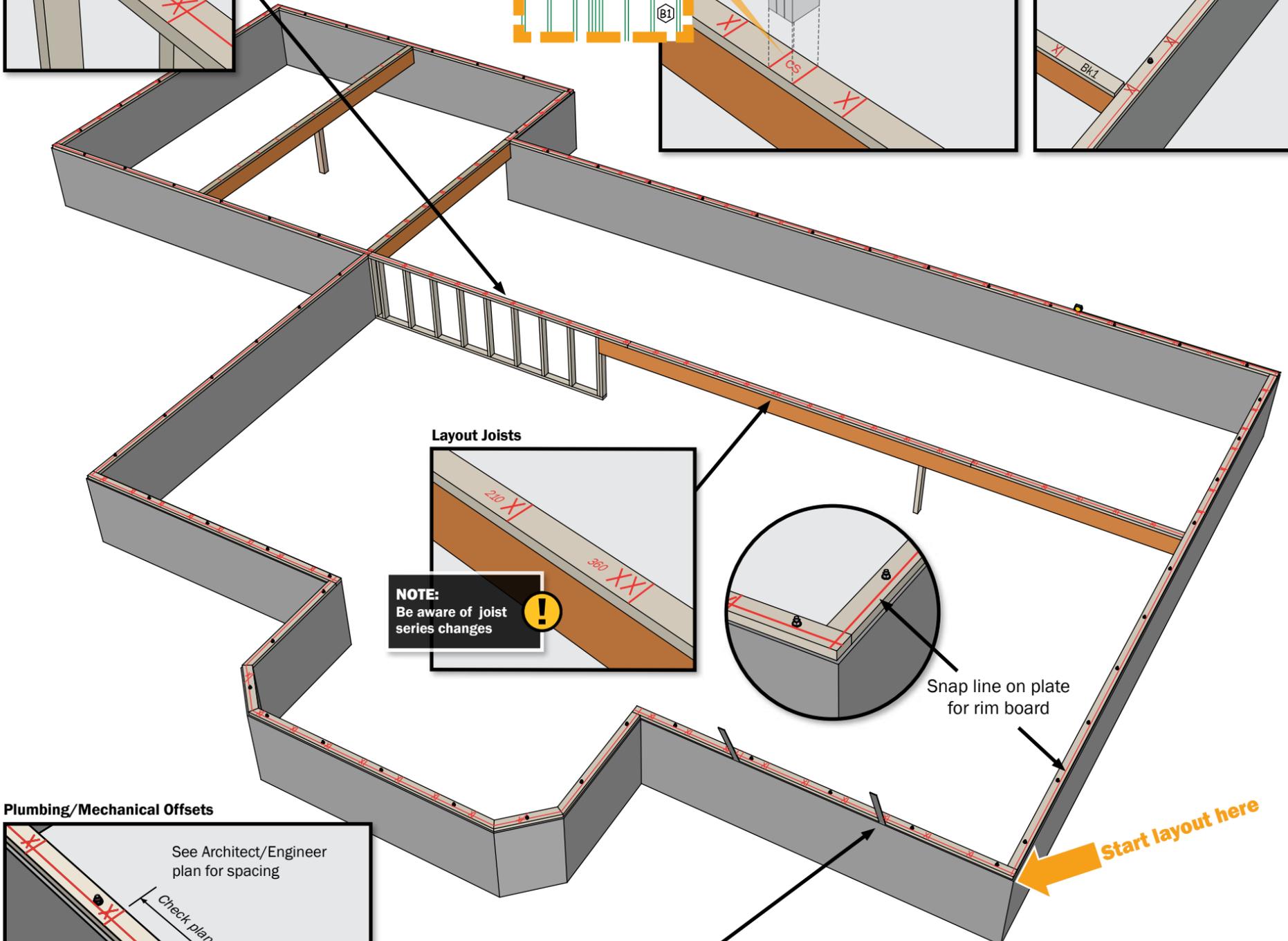
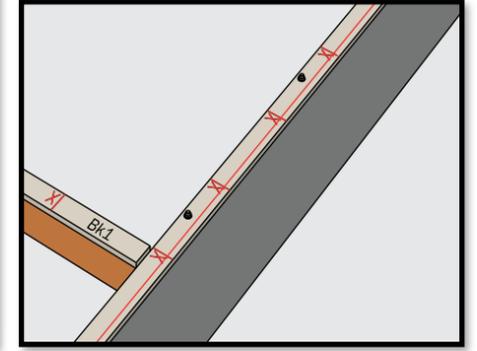
**Snap Line at Butted Joist**



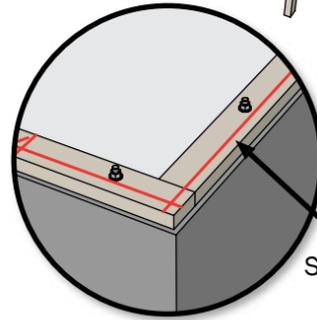
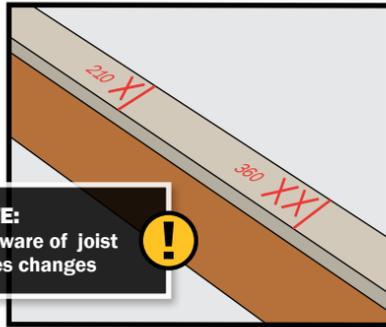
**Layout Squash Blocks**



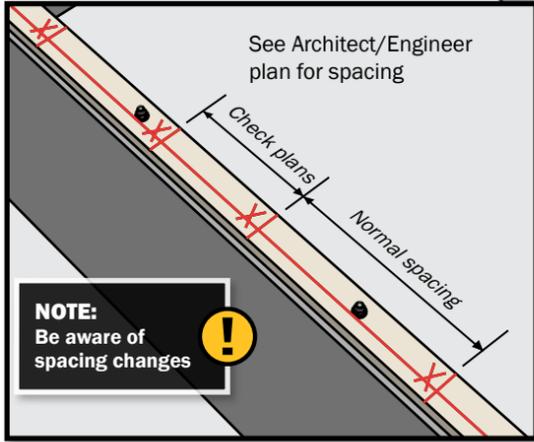
**Layout Blocking Panels**



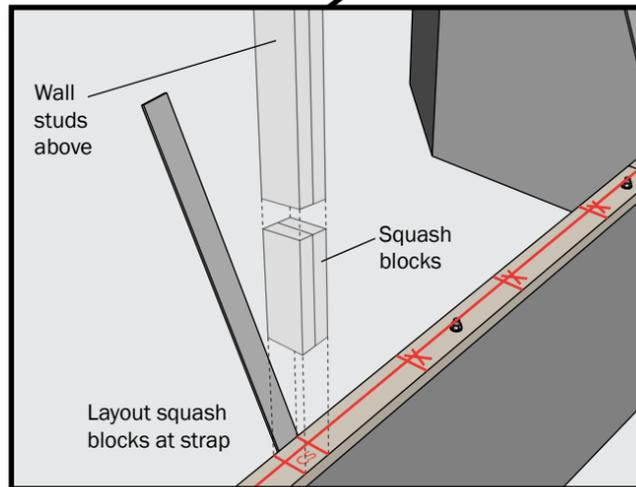
**Layout Joists**



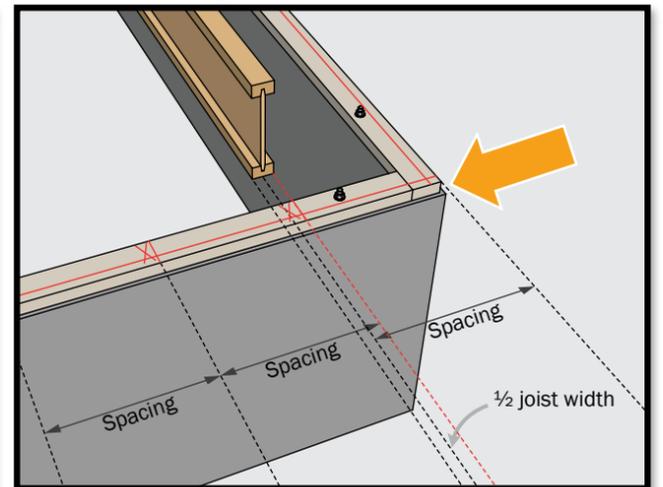
**Plumbing/Mechanical Offsets**



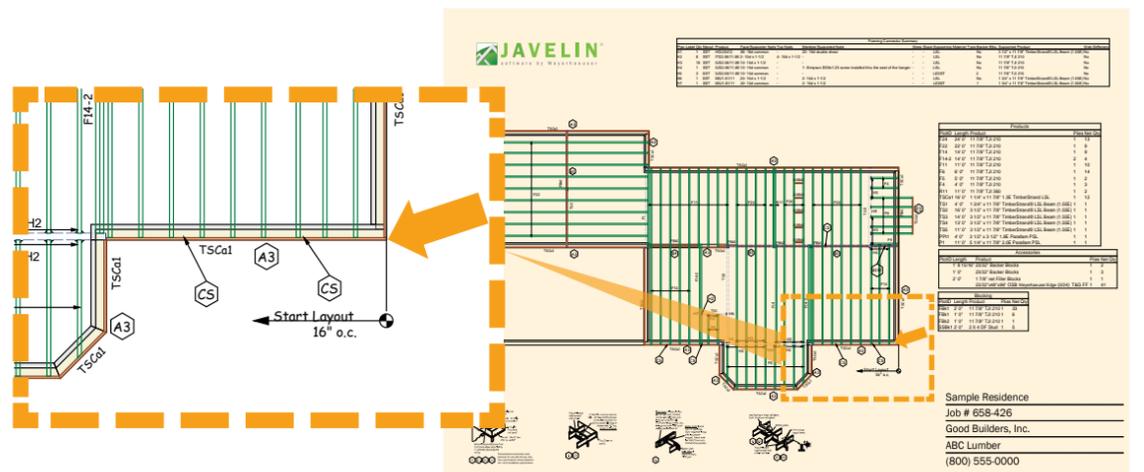
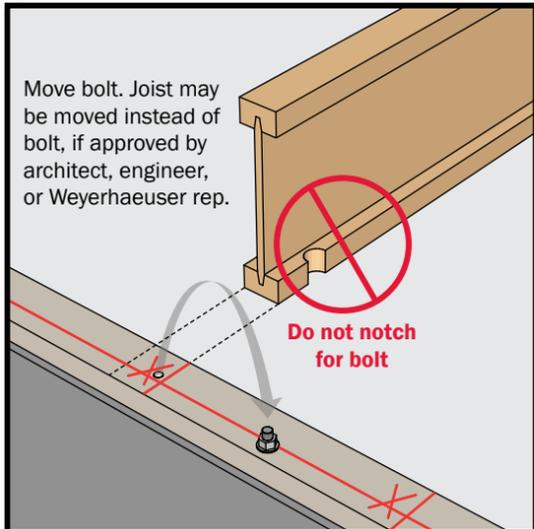
**Squash Blocks at Strap**



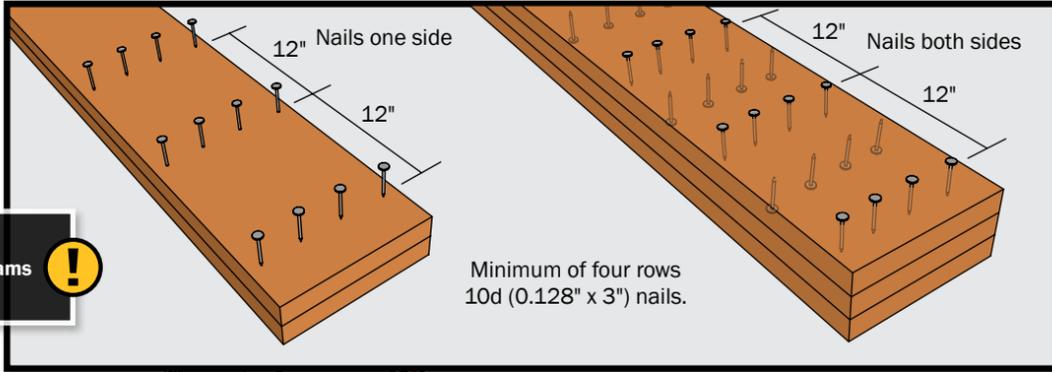
**Normal Joist Spacing**



**Bolt at Joist Location**



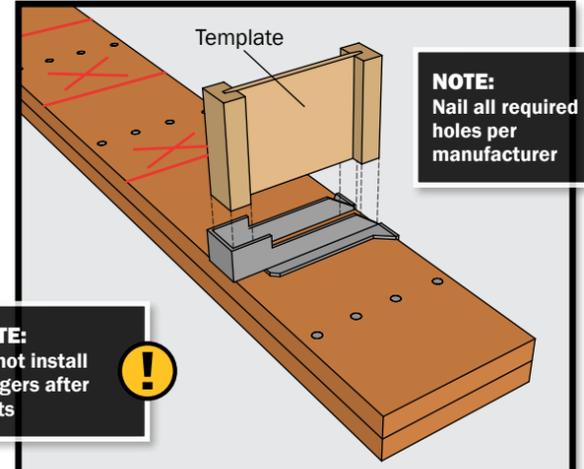
### Fastening Per Engineer's Specifications (Top Loaded Beams ONLY)



**NOTE:**  
Assemble beams on ground

Minimum of four rows  
10d (0.128" x 3") nails.

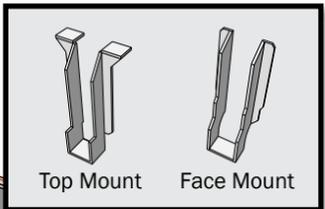
### Hanger Installation



**NOTE:**  
Nail all required holes per manufacturer

**NOTE:**  
Do not install hangers after joists

Plan Label	Qty	Manuf.	Product	Face/Supporter Nails	Top Nails
H2	27	SST	HU2.1/9	14- 10d common	-
H3	2	SST	HU2.1/9	14- 10d common	-



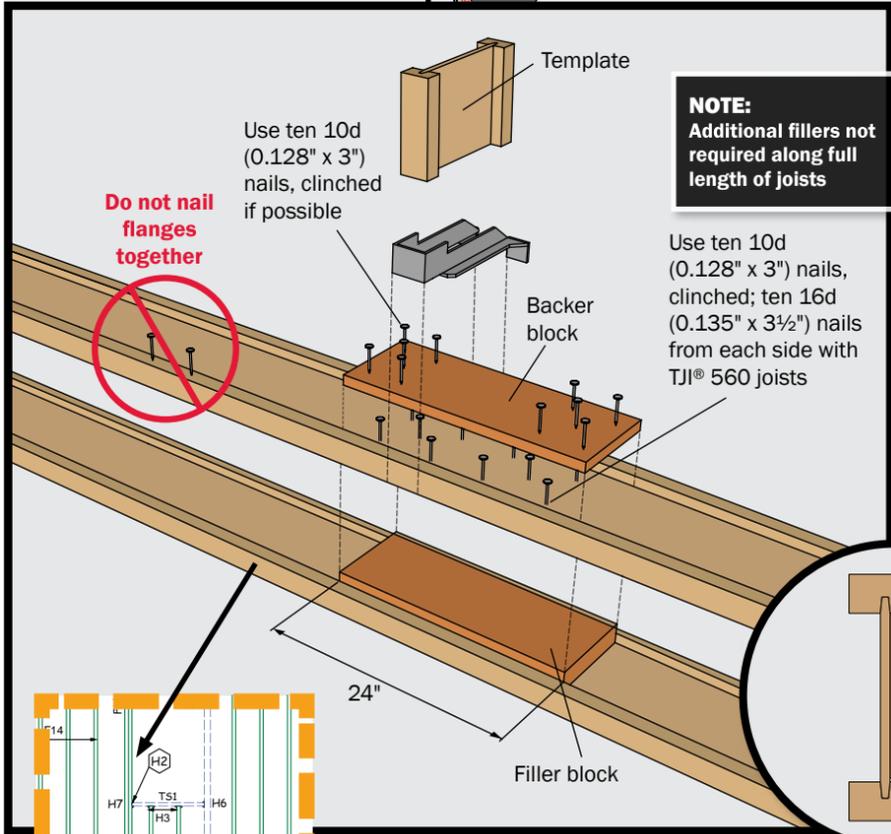
**NOTE:**  
Use galvanized nails to connect products to treated lumber sill plates. Not required with StrandGuard<sup>®</sup> TimberStrand<sup>®</sup> LSL sill plates.

**NOTE:**  
See Engineer's plans or layout plans for special fastening of side-loaded beams!

**CAUTION:**  
Beams are heavy. Use appropriate equipment when lifting/placing beams to avoid injury.

See plan for stair opening dimension

### Building Double TJI<sup>®</sup> Joist to Support Header (Detail H2)

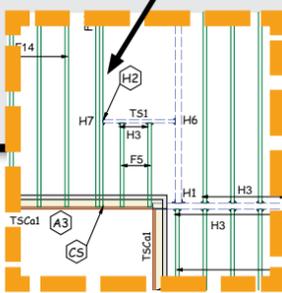


**NOTE:**  
Additional fillers not required along full length of joists

Use ten 10d (0.128" x 3") nails, clinched if possible

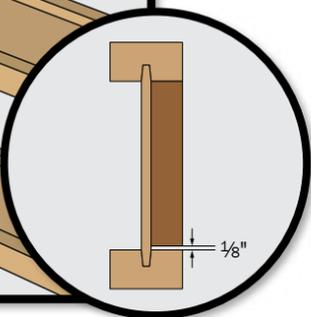
Use ten 10d (0.128" x 3") nails, clinched; ten 16d (0.135" x 3 1/2") nails from each side with TJI<sup>®</sup> 560 joists

Do not nail flanges together

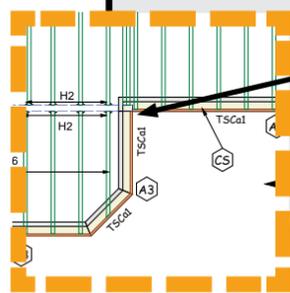


24"

Filler block



Install backer blocks tight to top flange (tight to bottom flange with face mount hangers) with 1/8" min. gap



Minimum beam bearing length (per plan)

Plan Label	Qty	Manuf.	Product	Face/Supporter Nails	Top Nails	Member/Supported Nails	Skew Slope Supporting Material Type	Backer Blks.	Supported Product	Web Stiffeners	
H1	1	SST	HGUS412	56- 16d common	-	20- 16d double shear	-	LSL	No	3 1/2" x 11 7/8" TimberStrand <sup>®</sup> LSL Beam (1.55E)	No
H2	8	SST	ITS2.06/11.88	2- 10d x 1-1/2	4- 10d x 1-1/2	-	-	LSL	No	11 7/8" TJI 210	No
H3	18	SST	IUS2.06/11.88	10- 10d x 1-1/2	-	-	-	LSL	No	11 7/8" TJI 210	No
H4	1	SST	IUS2.06/11.88	10- 10d common	-	1- Simpson SD&x1.25 screw installed thru the seat of the hanger	-	LSL	No	11 7/8" TJI 210	No
H5	3	SST	IUS2.06/11.88	10- 10d common	-	-	-	JOIST	2	11 7/8" TJI 210	No
H6	1	SST	MIU1.81/11	20- 10d x 1-1/2	-	2- 10d x 1-1/2	-	LSL	No	1 3/4" x 11 7/8" TimberStrand <sup>®</sup> LSL Beam (1.55E)	No
H7	1	SST	MIU1.81/11	20- 10d common	-	2- 10d x 1-1/2	-	JOIST	1	1 3/4" x 11 7/8" TimberStrand <sup>®</sup> LSL Beam (1.55E)	No

**NOTE:** Use galvanized nails to connect products to treated lumber sill plates. Not required with StrandGuard® TimberStrand® LSL sill plates.

**NOTE:** Follow engineer's plan for rim attachment. If not specified, nail with 10d (0.131" x 3") nails at 6" o.c.

**NOTE:** Cut notches if rim board goes over bolts

# INSTALL JOISTS, ACCESSORIES, AND SAFETY BRACING

**NOTE:** Install joists and accessories as you go

**NOTE:** Use galvanized nails to connect products to treated lumber sill plates. Not required with StrandGuard® TimberStrand® LSL sill plates.

**NOTE:** Add safety bracing as you go

**NOTE:** Do not toenail at ends

**CAUTION:** Do not walk on unbraced joists.

**TJI® Joist Nailing at Bearing**

10d (0.131" x 3") nails

1½" min.; use 8d (0.113" x 2½") nails

¼" space between joist end and supporting member

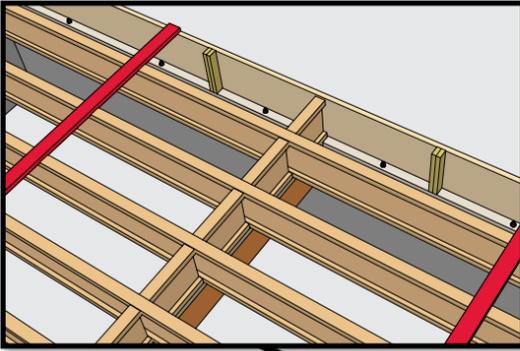
¼" space

GLUE

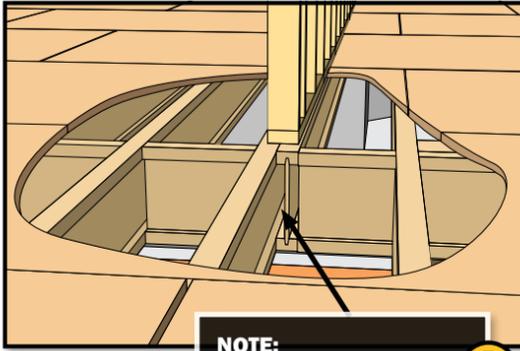
Add web stiffener if hanger is short or if sides do not support at least ⅜" of joist top flange.

Safety bracing: Fasten 1x4 boards at 6' on-center, using two nails into each joist.

Squash Blocks at Multiple Studs from Above

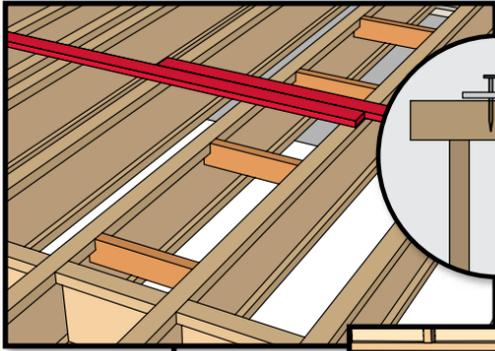


Double Joist Under Shear or Braced Wall

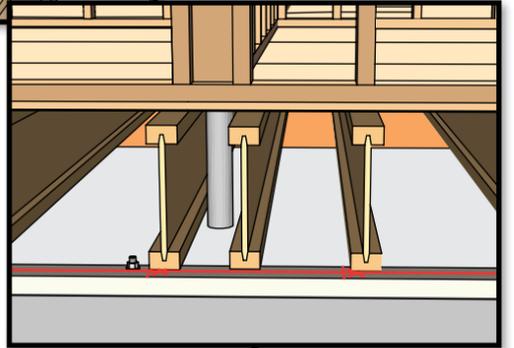


**NOTE:**  
No filler unless specified  
by engineer or architect

Joists Under Non-Bearing Wall



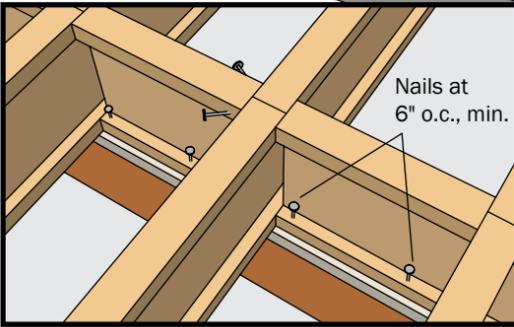
Alternative attachment  
of block between joists  
at non-bearing walls



Blocking at End of Beam

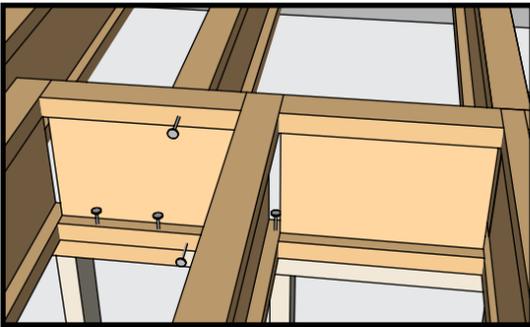


Blocking at Ends of Joists



Nails at  
6" o.c., min.

Blocking for Same Joist Series, Different Spacing

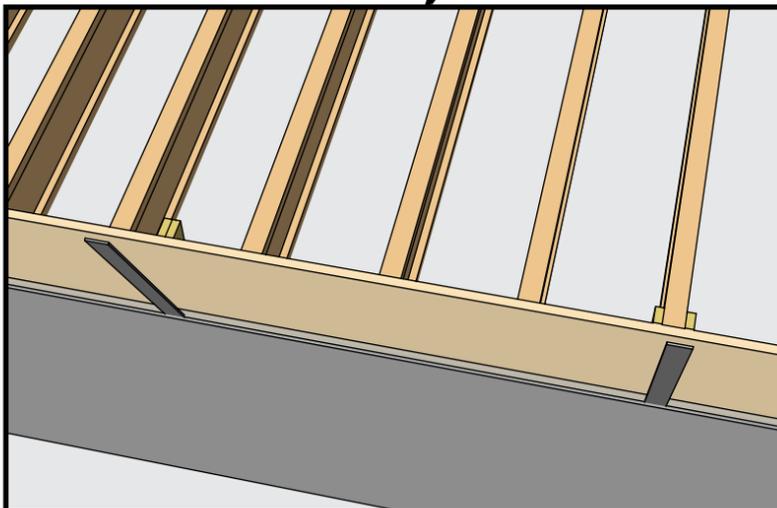


**NOTE:**  
Check nailing criteria  
(see Appendix)

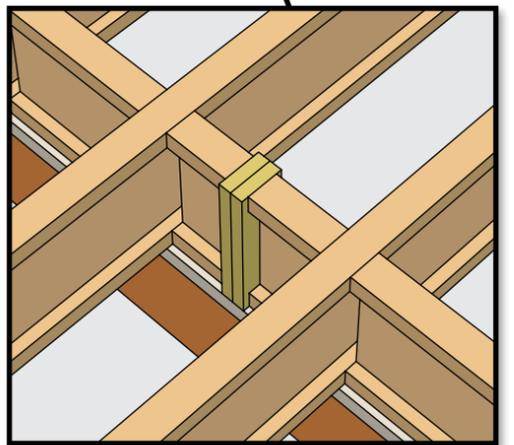
Blocking for Different Joist Series, Same Spacing



Squash Blocks at Foundation Straps

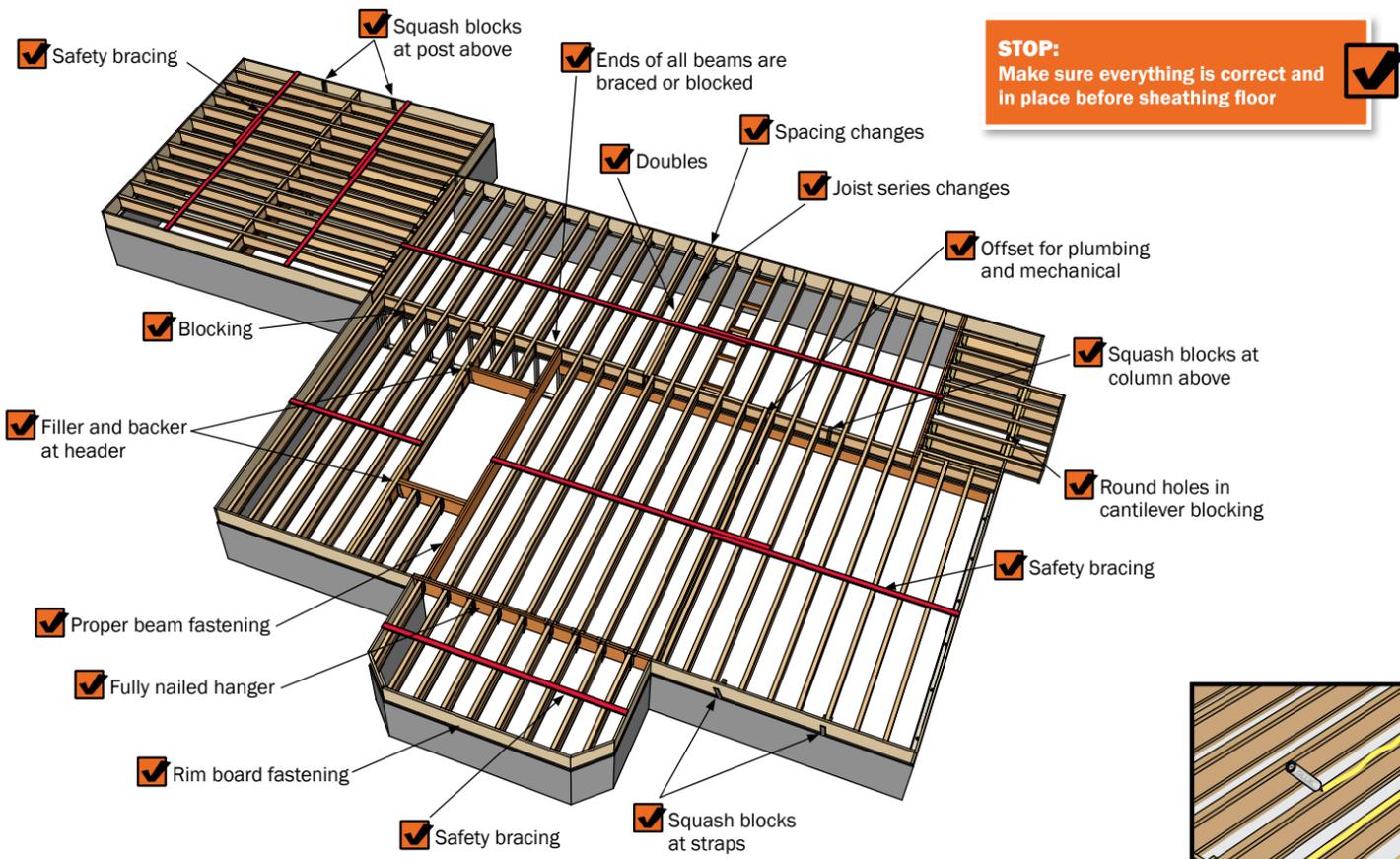


Squash Block at Column



**NOTE:**  
Use galvanized nails to  
connect products to treated  
lumber sill plates. Not  
required with StrandGuard®  
TimberStrand® LSL sill plates.

## Final Check Before Subfloor

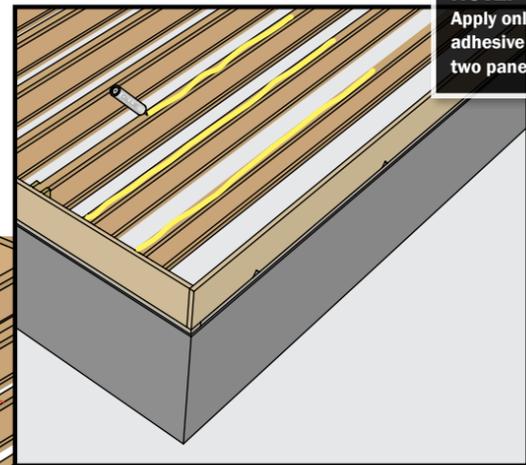


**STOP:**  
Make sure everything is correct and in place before sheathing floor

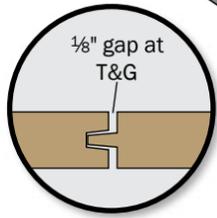
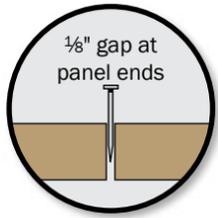
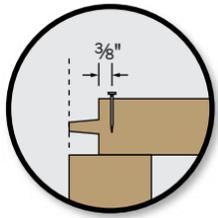
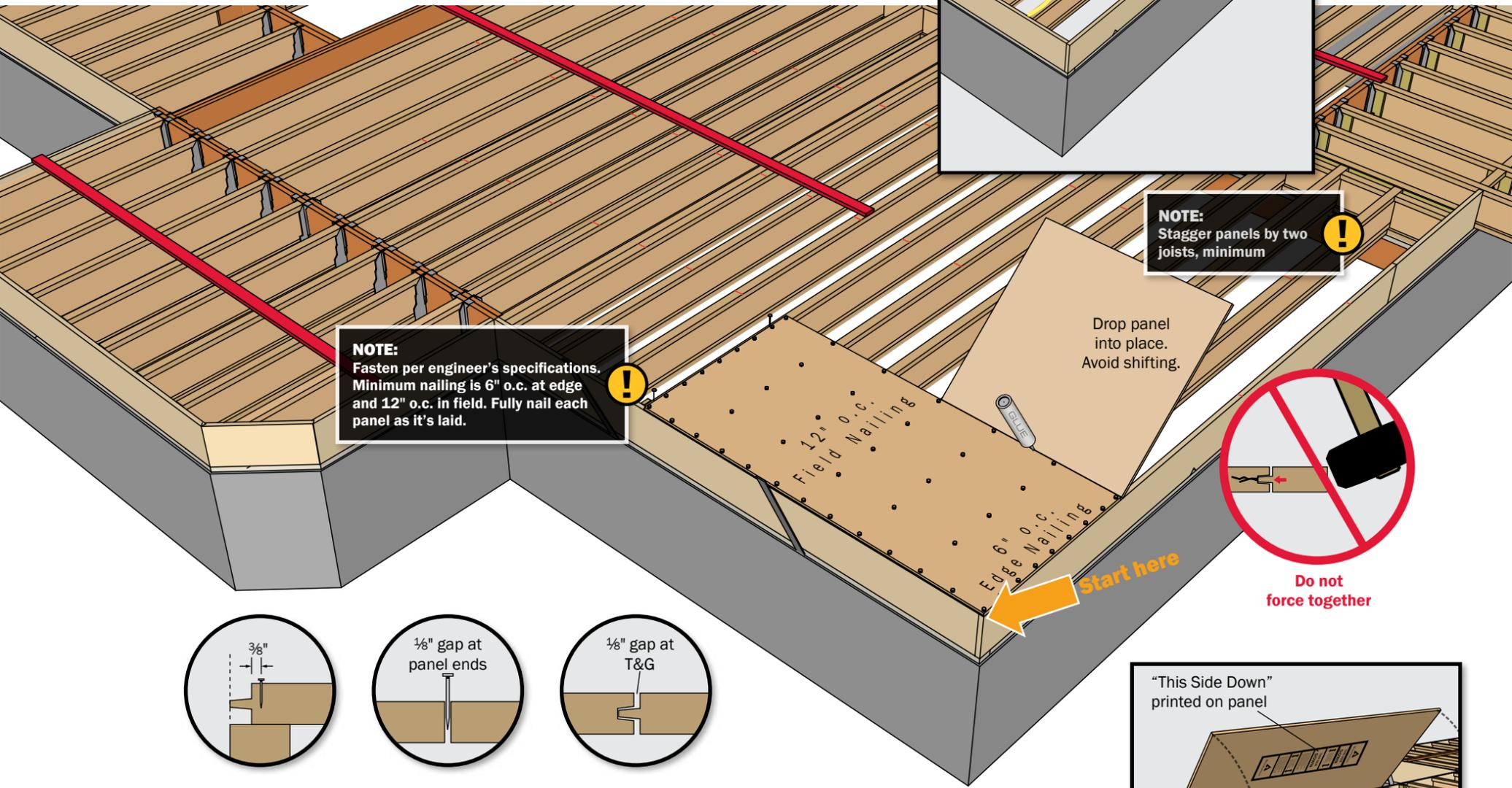


**CAUTION:**  
Do not walk on unbraced joists.

**NOTE:**  
Apply only enough adhesive to set one or two panels at a time

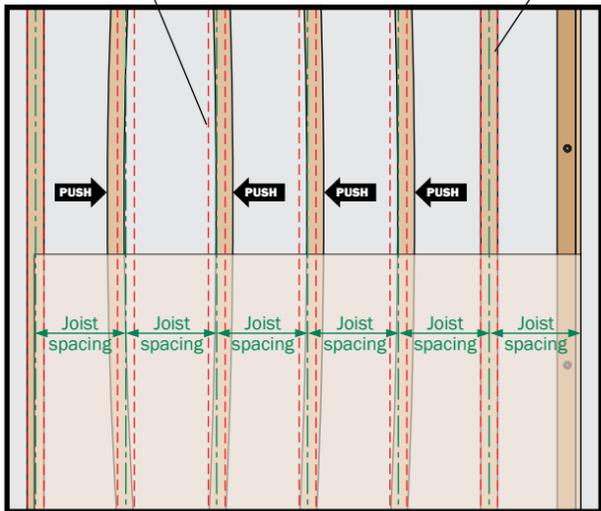


**NOTE:**  
Stagger panels by two joists, minimum



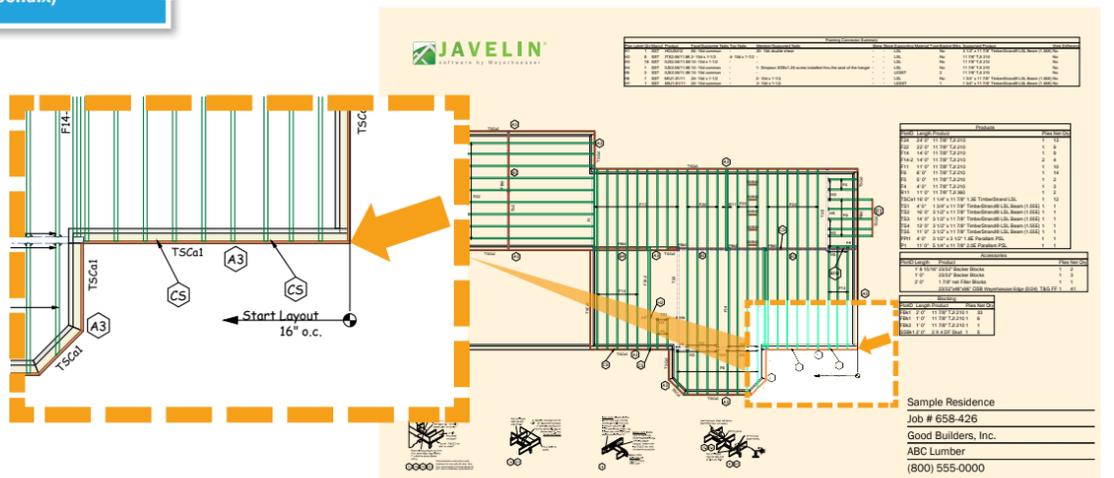
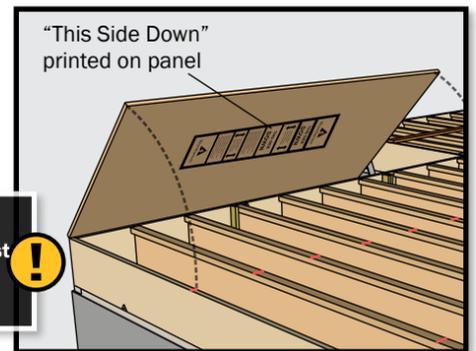
Push or pull joists into line before nailing off

Good alignment



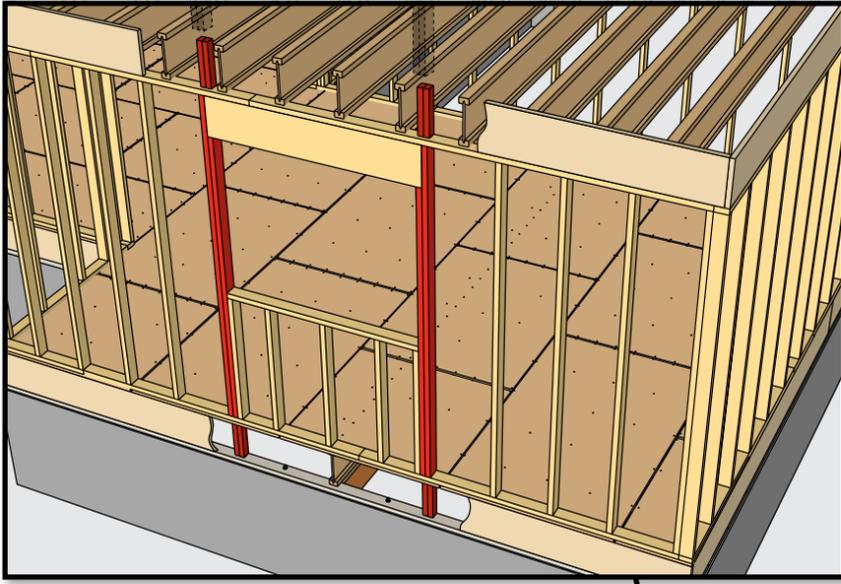
**NOTE:**  
Check nailing criteria (see Appendix)

**NOTE:**  
Make sure the first sheet is perfectly square at edges

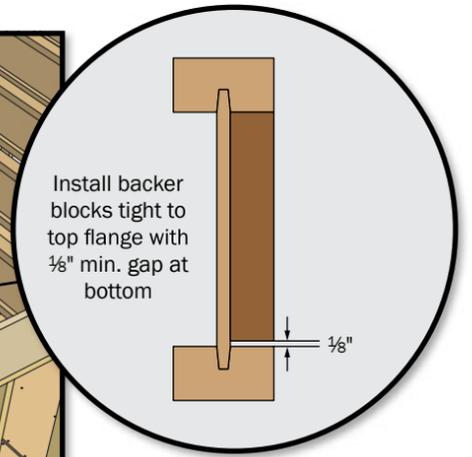
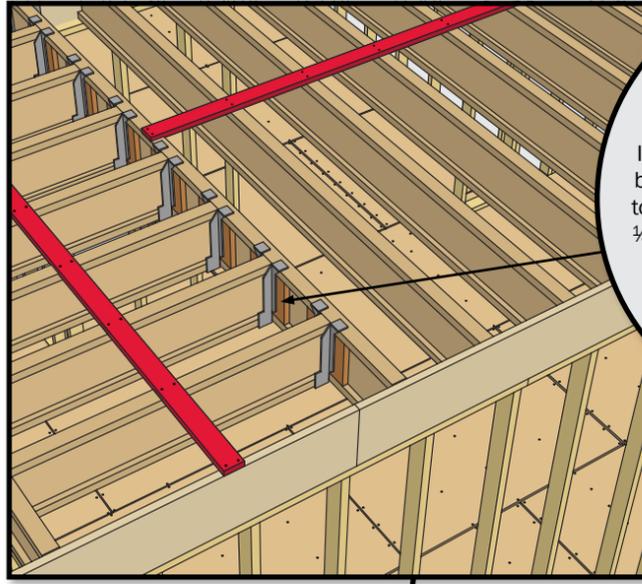




Transfer Continuous Loads to Foundation



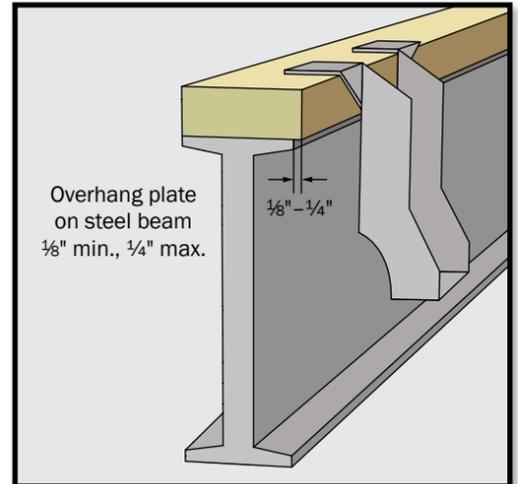
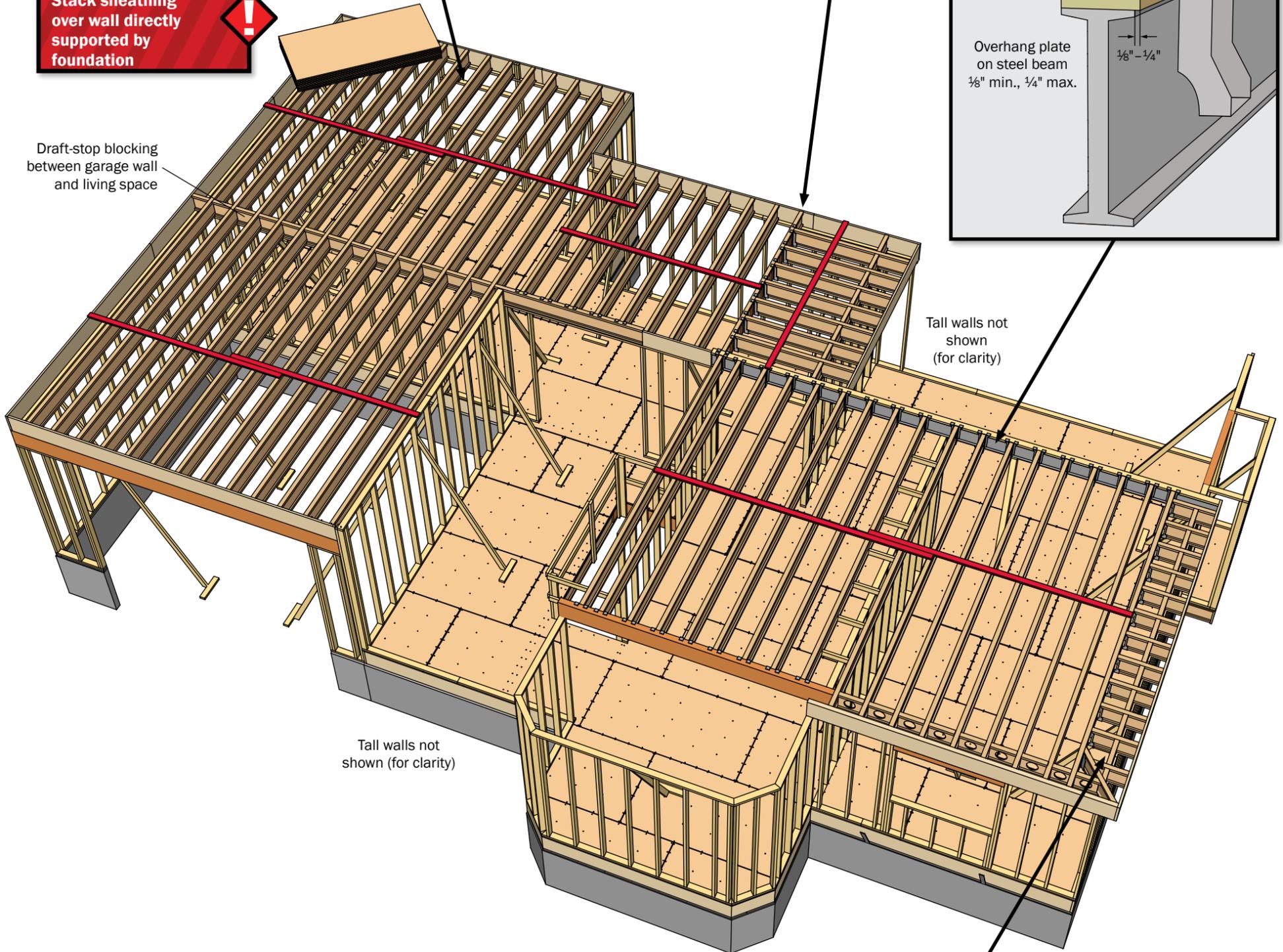
Top Flange Hangers



**CAUTION:**  
Stack sheathing  
over wall directly  
supported by  
foundation



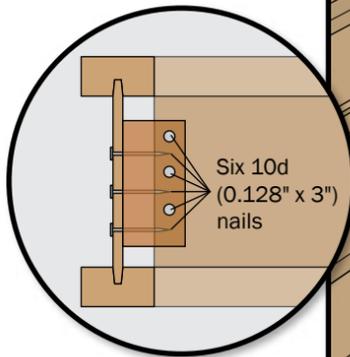
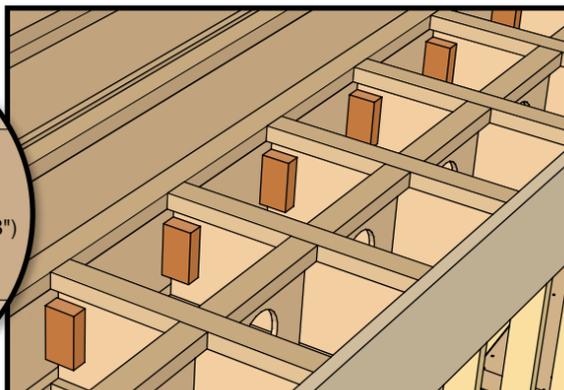
Draft-stop blocking  
between garage wall  
and living space



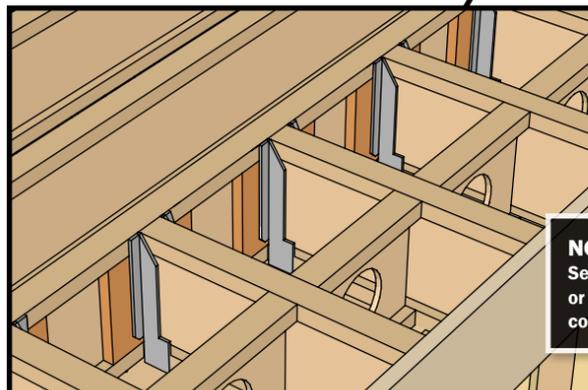
Tall walls not  
shown  
(for clarity)

Tall walls not  
shown  
(for clarity)

Brick Ledge Cantilever with Blocks  
(when specified on plans)



Brick Ledge Cantilever  
with Face Mount Hangers



**NOTE:**  
See engineer's plans  
or layout plans for  
connection type



See architect or engineer plans for dimensions and special details

**CAUTION:**  
Spray paint line,  
6' from edge

**NOTE:**  
Have monitor  
present



Tall walls not shown  
(for clarity)

**CAUTION:**  
Build safety rails around  
all edges and openings

Tall walls not shown  
(for clarity)

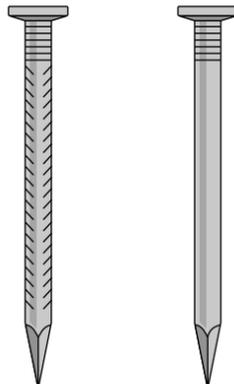
## APPENDIX: NAIL CHART

Please refer to the following chart for all nail sizes and applications in this guide

Application	Nail Direction	Nail Quantity and Specifications
Joist to plate	Face nail	(1) 8d (0.113" x 2½") each side
1½" to 1¾" rim to TJI® joist	Face/end nail	(1) 10d (0.131" x 3") per flange
Backer blocks	Face nail	(10) 10d (0.128" x 3")
Filler blocks for TJI® 110–360 joists	Face nail	(10) 10d (0.128" x 3")
Filler blocks for TJI® 560 joist	Face nail	(10) 16d (0.135" x 3½") each side
Rim to plate (minimum)	Toe nail	(1) 10d (0.131" x 3") at 6" o.c.
Weyerhaeuser Edge Gold™ panels 23/32"	Face nail	8d (0.131" x 2½") nail
Weyerhaeuser Edge Gold™ panels 7/8"	Face nail	8d (0.131" x 2½") nail or 8d (0.120" x 2½") deformed nail

**N10**  
(0.148" x 1½")

**N8**  
(0.131" x 1½")



Common Hanger Nail Sizes

See architect or engineer plans for dimensions and special details



**Have a damaged joist or beam?**

File a damage report online for prompt service from your regional technical office. Scan the QR code with your smartphone or go to **[weyerhaeuser.com/woodproducts/support](http://weyerhaeuser.com/woodproducts/support)**.

