

UPLIFT CONNECTIONS - 130 MPH WINDS EXP "C" WFCM 2015						
CONNECTION	FRAMING SPACING (INCHES)	ROOF SPAN (FEET)	UPLIFT	LATERAL	SHEAR	NUMBER OF 8d COMMON NAILS OR 10d BOX NAILS IN EACH END OF 1-1/4"x20" GAGE STRAP
RAFTER/TRUSS FRAMING TO WALL ASSEMBLY (TBL 3.4)	16" OC	16	147	148	TTR	4
SILL PLATE TO FOUNDATION (TBL 3.2)	16" OC	16	122	154	261R	4

MINIMUM RESIDENTIAL BUILDING ENVELOPE REQUIREMENTS			
	OPAQUE ELEMENTS	ASSEMBLY MAXIMUM	INSULATION MIN. R-VALUE
ROOFS	INSULATION ENTIRELY ABOVE DECK	U-0.048	R-20.0 c.i.
	METAL BUILDING	U-0.065	R-19
	ATTIC AND OTHER	U-0.027	R-36
WALLS, ABOVE GRADE	MASS	U-0.123	R-7.6 c.i.
	METAL BUILDING	U-0.113	R-13.0
	STEEL-FRAMED	U-0.064	R-13.0
FLOORS	WOOD-FRAMED AND OTHER	U-0.089	R-13.0
	MASS	U-0.087	R8-3 c.i.
	STEEL JOIST	U-0.052	R-19.0
SLAB-ON-GRADE	WOOD FRAMED AND OTHER	U-0.033	R-30.0
	UN-HEATED	F-0.730	NR
OPAQUE DOORS	SWINGING	U-0.700	NR
	NON-SWINGING	0.500	NR

WALL SHEATH OR CLAD REQ FOR WIND LOAD-EXPOSURE "C"			
SHEATHING LOCATION	STUD SPACING	MAX NAIL SPACING FOR 8d COMMON NAILS OR 10d BOX NAILS (INCHES, O.C.)	
		E	F
INTERIOR ZONE	12" O.C.	6	12
	16" O.C.	6	12
	24" O.C.	6	6
PERIMETER EDGE ZONE	12" O.C.	6	12
	16" O.C.	6	6
	24" O.C.	6	6

130 MPH WINDS-EXPOSURE "C" (TYP.)  
 E = NAIL SPACING AT PANEL EDGES, INCHES.  
 F = NAIL SPACING AT INTERMEDIATE SUPPORTS IN THE PANEL FIELD, INCHES.

### ROOF UNDERLAYMENT APPLICATION

-FOR ROOF SLOPES FROM TWO UNITS VERTICAL IN 12 UNITS HORIZONTAL (17-PERCENT SLOPE), UP TO FOUR UNITS VERTICAL IN 12 UNITS HORIZ. (33-PERCENT SLOPE), UNDERLAYMENT SHALL BE TWO LAYERS APPLIED IN THE FOLLOWING MANNER:  
 -APPLY A 14 INCH STRIP OF UNDERLAYMENT FELT PARALLEL WITH AND STARTING AT THE EAVES, FASTENED SUFFICIENTLY TO HOLD IN PLACE. STARTING AT THE EAVE, APPLY 36 INCH WIDE SHEETS OF UNDERLAYMENT, OVERLAPPING SUCCESSIVE SHEETS 14 INCHES, AND FASTENED SUFFICIENTLY TO HOLD IN PLACE.  
 -FOR ROOF SLOPES OF FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (33-PERCENT SLOPE) OR GREATER, UNDERLAYMENT SHALL BE ONE LAYER APPLIED IN THE FOLLOWING MANNER:  
 -UNDERLAYMENT SHALL BE APPLIED SHINGLE FASHION, PARALLEL TO AND STARTING FROM THE EAVE AND LAPPED 2 INCHES, FASTENED SUFFICIENTLY TO HOLD IN PLACE. END LAPS SHALL BE OFFSET BY 6 FEET.

### SHINGLE APPLICATION/FASTENING

ASPHALT STRIP SHINGLES SHALL HAVE A MINIMUM OF SIX FASTENERS PER SHINGLE WHERE THE ROOF IS IN ONE OF THE FOLLOWING CATEGORIES:  
 1. THE BASIC WIND SPEED IS 110 MPH OR GREATER AND THE EAVE IS 20 FEET OR HIGHER ABOVE GRADE.  
 2. THE BASIC WIND SPEED IS 120 MPH OR GREATER.  
 3. SPECIAL WIND ZONES.

### UPLIFT CONNECTIONS

**ROOF ASSEMBLY TO WALL ASSEMBLY:**  
 UPLIFT CONNECTIONS SHALL BE FROM RAFTER OR TRUSS TO WALL STUD. WHEN RAFTERS OR TRUSSES ARE NOT LOCATED DIRECTLY ABOVE STUDS, RAFTERS SHALL BE ATTACHED TO THE WALL PLATE AND THE WALL TOP PLATE SHALL BE ATTACHED TO THE WALL STUD WITH UPLIFT CONNECTIONS. UPLIFT CONNECTIONS SHALL BE IN ACCORDANCE WITH TABLE.

**WALL ASSEMBLY TO WALL ASSEMBLY:**  
 STORY TO STORY UPLIFT CONNECTIONS FROM UPPER STORY WALL STUD TO LOWER STORY WALL STUD. WHEN UPPER STORY WALL STUDS ARE NOT LOCATED DIRECTLY ABOVE LOWER WALL STUDS, THE STUDS SHALL BE ATTACHED TO A COMMON MEMBER IN THE FLOOR ASSEMBLY BY UPLIFT CONNECTIONS. UPLIFT CONNECTIONS SHALL BE IN ACCORDANCE WITH TABLE.

**WALL ASSEMBLY TO FOUNDATION:**  
 FIRST FLOOR WALL STUDS SHALL BE CONNECTED TO THE FOUNDATION, SILL PLATE, OR BOTTOM PLATE. A MINIMUM OF A 1-1/4" x 20 GA. ASTM A653 GRADE 33 STEEL STRAP SHALL BE NAILED TO THE WALL STUDS AND HAVE A MINIMUM EMBEDMENT OF 7 INCHES IN CONCRETE FOUNDATIONS AND SLABS-ON-GRADE, 15 INCHES IN MASONRY BLOCK FOUNDATIONS, OR BE LAPPED UNDER THE BOTTOM PLATE. 3 INCH SQUARE WASHERS SHALL BE USED ON THE ANCHOR BOLTS AND ANCHOR BOLT SPACINGS SHALL NOT EXCEED THE REQUIREMENTS. STEEL STRAPS EMBEDDED IN OR IN CONTACT WITH SLAB-ON-GRADE OR MASONRY BLOCK FOUNDATIONS SHALL BE HOT-DIPPED GALV. AFTER FABRICATION, OR MANUF. FROM G185 OR 2480 GALV. STL. CONNECTIONS SHALL BE IN ACCORDANCE WITH TABLE.

### WINDBORNE DEBRIS PROTECTION FASTENING SCHEDULE FOR WOOD STRUCTURAL PANELS

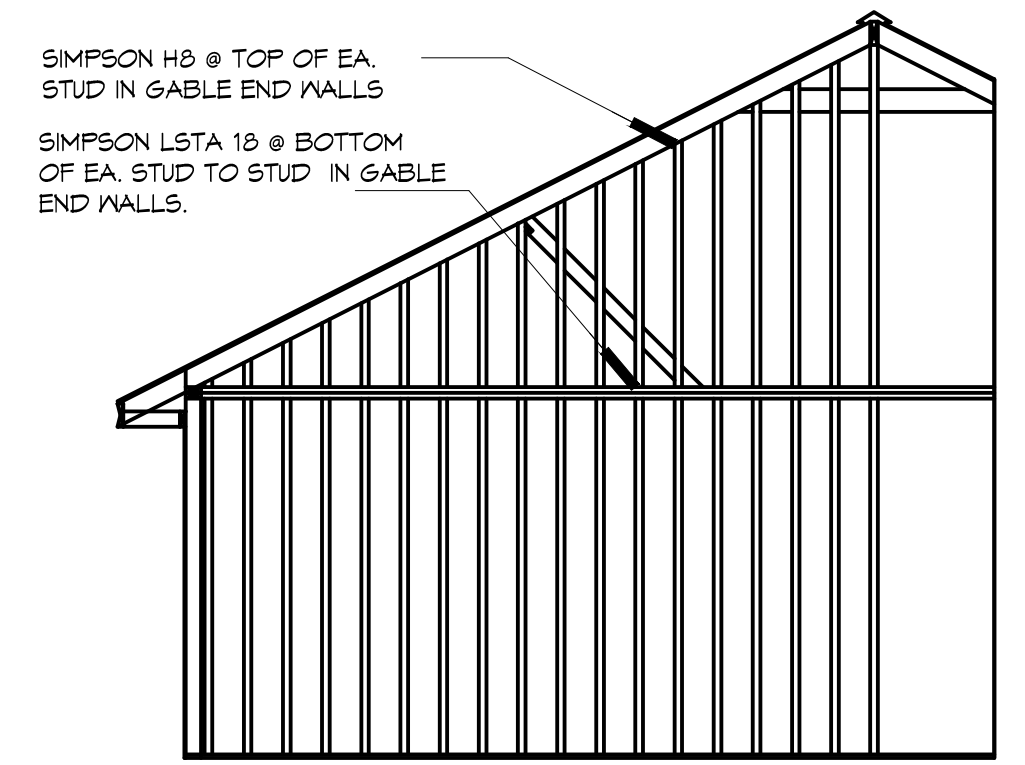
FASTENER TYPE	FASTENER SPACING		
	PANEL SPAN ≤ 4 FOOT	4 FOOT PANEL SPAN ≤ 6 FOOT	6 FOOT PANEL SPAN ≤ 8 FOOT
2-1/2" #6 WOOD SCREWS	16"	12"	9"
2-1/2" #8 WOOD SCREWS	16"	16"	12"

WINDOWS IN RESIDENTIAL BUILDINGS LOCATED IN WIND BORNE DEBRIS REGIONS SHALL HAVE GLAZED OPENINGS PROTECTED FROM WINDBORNE DEBRIS. WOOD STRUCTURAL PANELS WITH A MIN. THICKNESS OF 7/16" AND A MAX. SPAN OF 8 FEET SHALL BE PERMITTED FOR OPENING PROTECTION IN ONE AND TWO STORY BUILDINGS. PANELS SHALL BE PRECUT TO COVER THE GLAZED OPENINGS WITH ATTACHMENT HARDWARE PROVIDED.

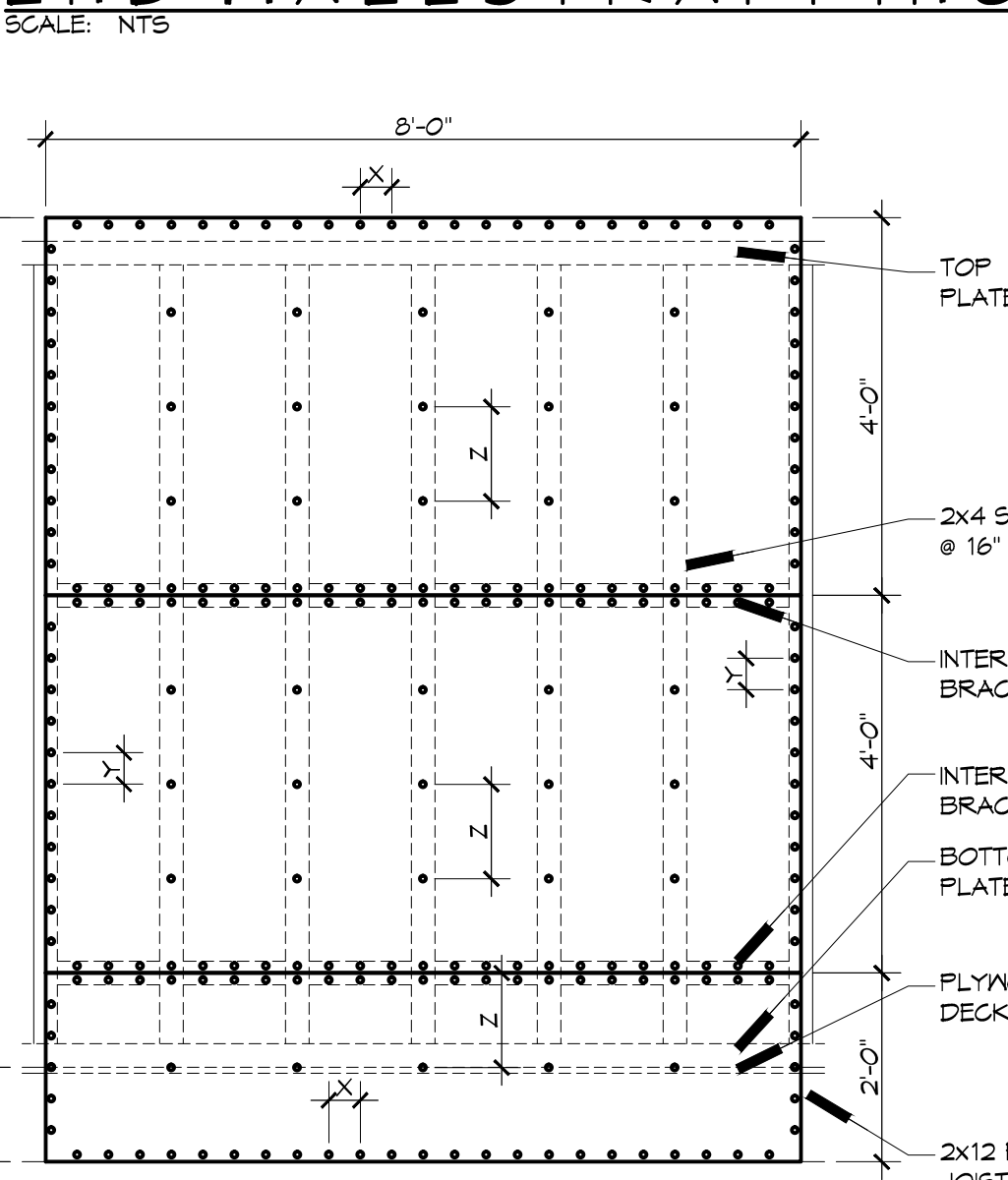
### NAILING SCHEDULE WFCM 2015 TABLE 3.1

DESCRIPTION	NUM. OF COM. NAILS	NUM. OF BOX NAILS	SPACING
HEADER TO HEADER (FACE-NAILED)	16d	16d	16" O.C. EDG6ES

NOTE: ALL HEADERS SHALL HAVE SOLID BLOCKING



### END WALL STRAPPING



DETAIL SCALE: NTS NON-SHEAR WALL EXTERIOR SHEATHING NAILING PATTERN

JACK STUD REQ - INT LOADBEARING WALLS WFCM 2015 TBL 3.24C											
HEADER SUPPORTING	HEADER SPAN (FT)	ROOF SPAN (FEET)									
		12 FEET					36 FEET				
		3'	4.5'	5'	6.5'	8'	4.5'	5'	6.5'	8'	4.5'
ONE FLOOR ONLY (CENTER BEARING)	2	1	1	1	1	1	1	1	1	1	1
	4	1	1	1	1	1	1	1	1	1	1
	6	1	1	1	1	1	1	1	1	2	1
	8	1	1	1	1	2	1	1	1	2	2
	10	1	1	1	1	2	2	1	1	3	2
	12	1	1	1	1	2	2	2	1	3	2
TWO FLOORS ONLY (CENTER BEARING)	2	1	1	1	1	1	1	1	1	1	1
	4	1	1	1	1	1	1	1	1	3	2
	6	2	1	1	1	3	2	2	2	4	3
	8	2	2	1	1	3	2	2	2	4	3
	10	2	2	2	2	4	3	3	2	6	4
	12	3	2	2	2	5	3	3	3	7	5

NOTE: \* MAX. SPAN EXCEEDS 16' (SPANS LIM. TO 16')

### SILL OR BOTTOM PLATE TO FOUNDATION CONNECTIONS RESISTING SHEAR LOADS WIND EXP "B" & "C" WFCM 2015 TABLE 3.2B

FOUNDATION SUPPORTING	MAXIMUM ANCHOR BOLT SPACING (INCHES)	
	1/2" Ø ANCHOR BOLTS	5/8" Ø ANCHOR BOLTS
1 STORY	31 INCHES ON CENTER	48 INCHES ON CENTER

### SILL OR BOTTOM PLATE TO FOUNDATION CONNECTIONS RESISTING UPLIFT LOADS - 130 MPH WIND EXP "C" WFCM 2015 TABLE 3.2C

FOUNDATION SUPPORTING	MAXIMUM ANCHOR BOLT SPACING (INCHES)	
	8' END ZONES	INTERIOR ZONES
1 - 3 STORIES	34 INCHES ON CENTER	40 INCHES ON CENTER

NOTE: A MINIMUM OF ONE ANCHOR BOLT SHALL BE PROVIDED WITHIN 6 TO 12 INCHES OF EACH END OF EACH PLATE

HEADER SUPPORTING	SIZE	BLDG. WIDTH (FT.)		
		12	24	36
		SPANS (ft.-in.)		
ONE FLOOR (CENTER BEARING)	(2)2x4S	4'-4"	3'-11"	2'-6"
	(2)2x6S	6'-5"	4'-6"	3'-8"
	(2)2x8S	8'-1"	5'-4"	4'-8"
	(2)2x10S	9'-11"	7'-0"	5'-4"
	(3)2x12S	11'-6"	8'-11"	6'-7"
	(3)2x8S	10'-2"	7'-2"	5'-10"
	(3)2x10S	12'-5"	8'-4"	7'-2"
	(3)2x12S	14'-4"	10'-2"	8'-3"
	(4)2x8S	11'-6"	8'-3"	6'-4"
	(4)2x10S	14'-4"	10'-1"	8'-3"
	(4)2x12S	* 11'-4"	9'-7"	8'-7"
	2 FLOORS ONLY (CENTER BEARING)	(2)2x4S	2'-10"	2'-1"
(2)2x6S		4'-2"	3'-1"	2'-6"
(2)2x8S		5'-4"	3'-11"	3'-3"
(2)2x10S		6'-6"	4'-4"	3'-11"
(2)2x12S		7'-6"	5'-6"	4'-7"
(3)2x8S		6'-8"	4'-10"	4'-0"
(3)2x10S		8'-1"	6'-0"	4'-11"
(3)2x12S		9'-5"	6'-11"	5'-4"
(4)2x8S		7'-8"	5'-3"	4'-8"
(4)2x10S		9'-4"	6'-10"	5'-8"
(4)2x12S		10'-10"	8'-0"	6'-7"

NOTE: ALL HEADERS SHALL HAVE SOLID BLOCKING

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### ROOF SHEATH OR CLAD REQ - WIND LOAD EXP "C"

SHEATHING LOCATION	RAFTER/TRUSS SPAC.	MAX. NAIL SPAC. FOR 8d COM. NAILS OR 10d BOX NAILS (INCHES, O.C.)	
		E	F
INTERIOR ZONE	12" O.C.	6	12
	16" O.C.	6	12
	24" O.C.	6	6
PERIMETER EDGE ZONE	12" O.C.	6	12
	16" O.C.	4	4
	24" O.C.	3	3

130 MPH WINDS-EXPOSURE "C" (TYP.)  
 E = NAIL SPACING AT PANEL EDGES, INCHES.  
 F = NAIL SPACING AT INTERMEDIATE SUPPORTS IN THE PANEL FIELD, INCHES.

HEADER SPANS-EXPOSURE C FOR EXTERIOR LOADBEARING WALLS		
HEADER SIZE	SPAN	NUMBER FULL HEIGHT STUDS REQ AT EA END
(2)2x4S	4'-7"	2
(2)2x6S	5'-6"	2
(2)2x8S	6'-1"	3
(2)2x10S	6'-8"	3
(2)2x12S	7'-5"	3
(3)2x8S	7'-5"	3
(3)2x10S	8'-3"	3
(3)2x12S	8'-3"	3
(4)2x8S	9'-7"	3
(4)2x10S	9'-6"	3
(4)2x12S	10'-0"	4

130 MPH WINDS-EXPOSURE "C" (TYP.) EACH 1/4" 1/2" PLYWD. SPACER BETWEEN

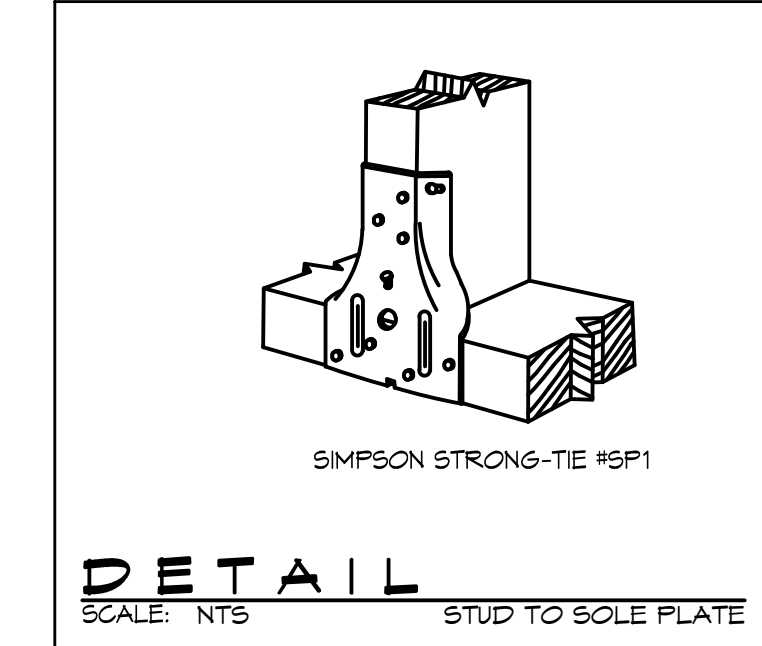
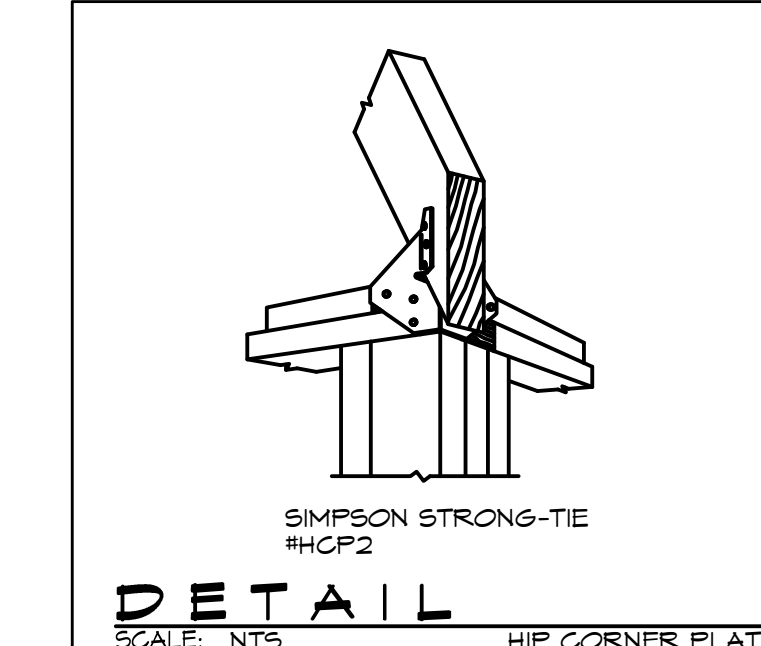
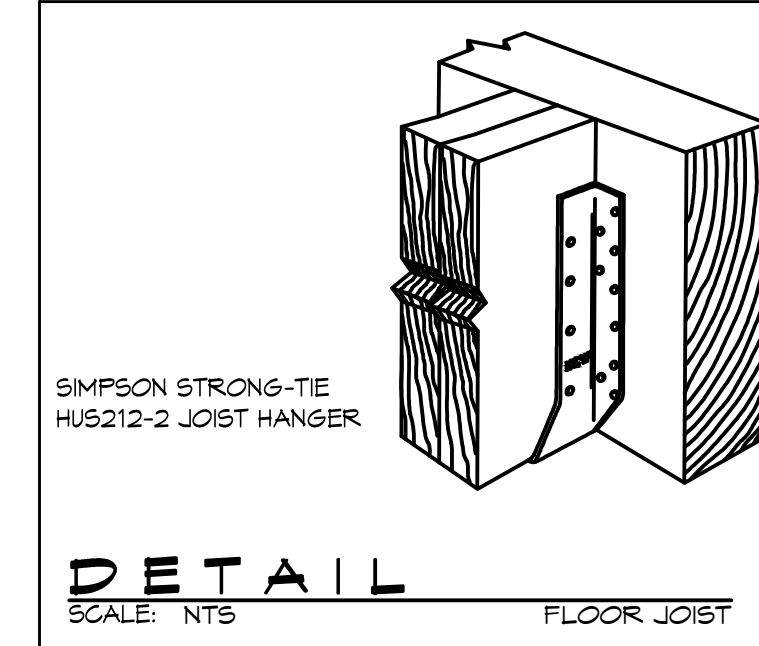
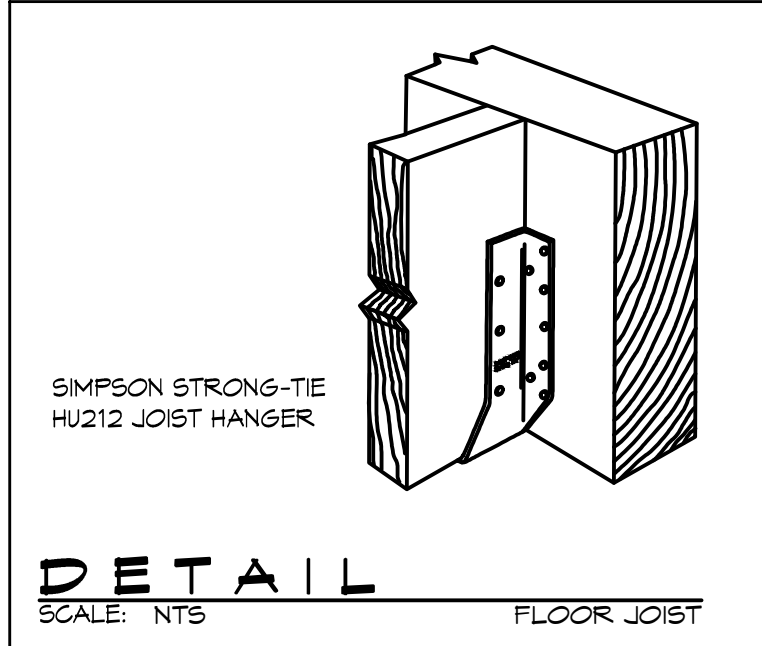
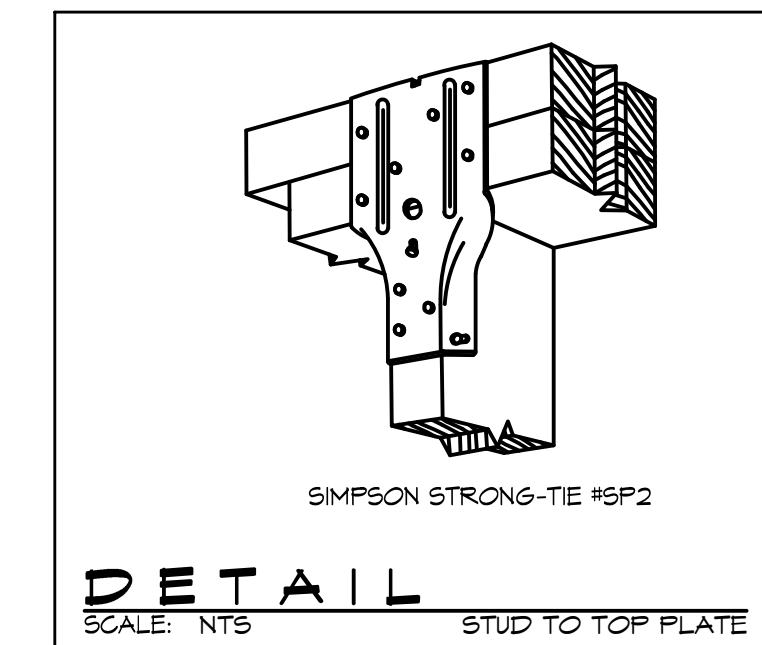
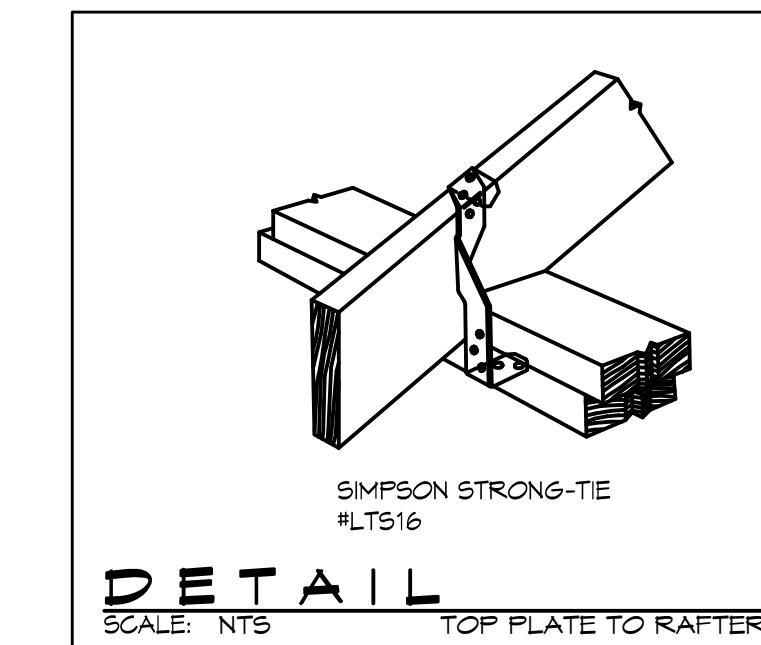
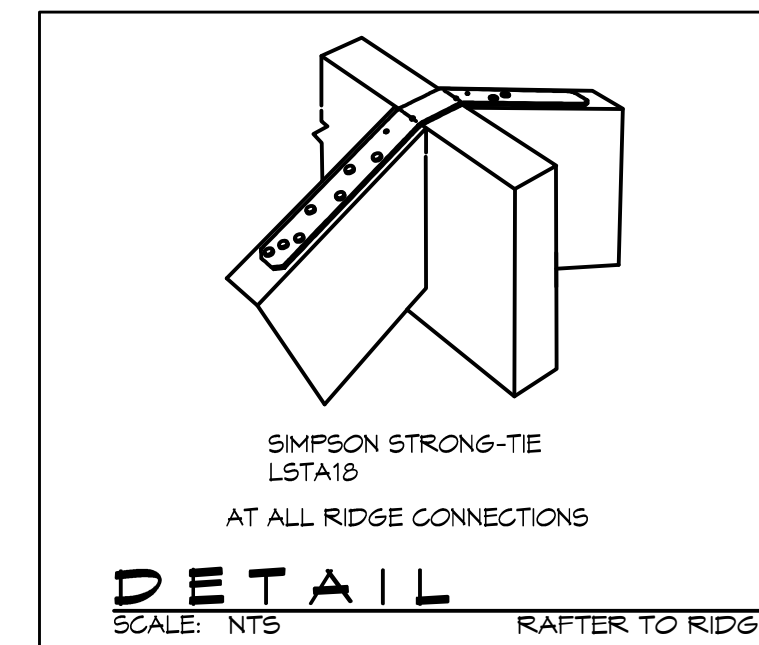
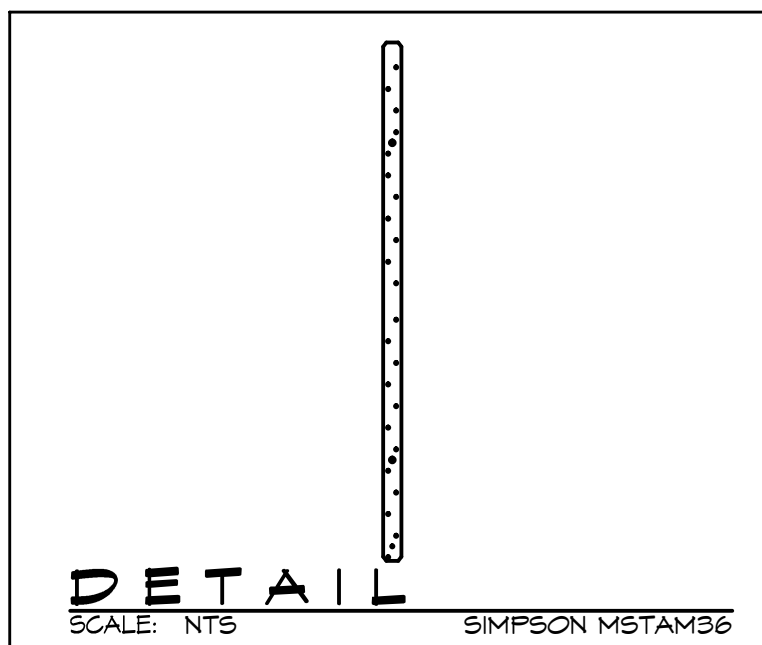
NOTE:  
 1. BLDG. WIDTH IS MEASURED PERPENDICULAR TO THE RIDGE. FOR WIDTHS BETWEEN THOSE SHOWN, SPANS ARE PERMITTED TO BE INTERPOLATED.  
 2. ALL HEADERS SHALL HAVE SOLID BLOCKING.

### JACK STUD REQ - EXP "C" FOR EXT LOADBEARING WALLS

HEADER SUPPORTING	HEADER SPAN (FT.)	HEADER WIDTH			
		3'	4.5'	5'	6.5'
ROOF AND CEILING	2	1	1	1	1
	4	1	1	1	1
	6	2	2	2	2
	8	2	2	2	2
	10	3	2	2	2
	12	3	2	2	2
	14	4	3	2	2
	16	4	3	3	2
	2	1	1	1	1
	4	2	1	1	1
	6	2	2	2	1
	8	3	2	2	3
ROOF, CEILING, AND 1 CENTER BEARING FLOOR	10	4	3	2	2
	12	4	3	3	2
	14	5	3	3	3
	16	5	4	3	3

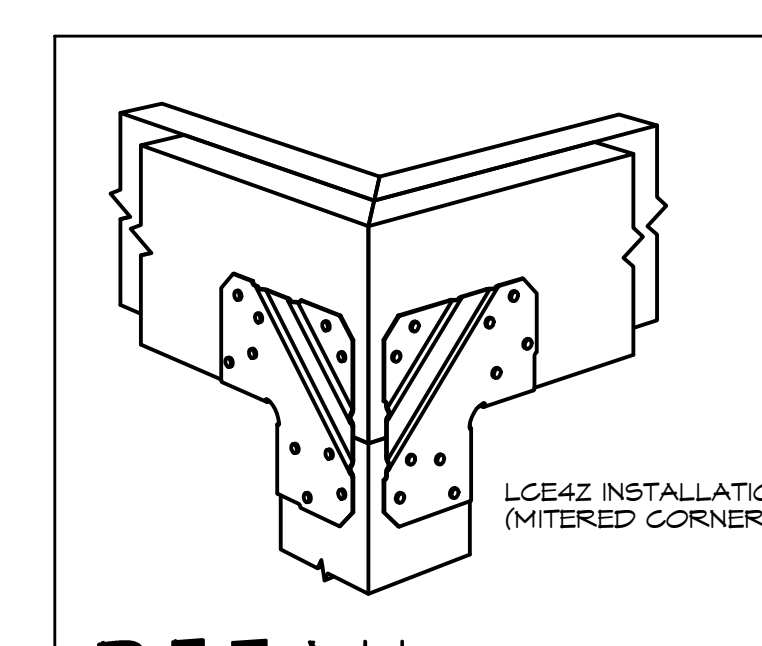
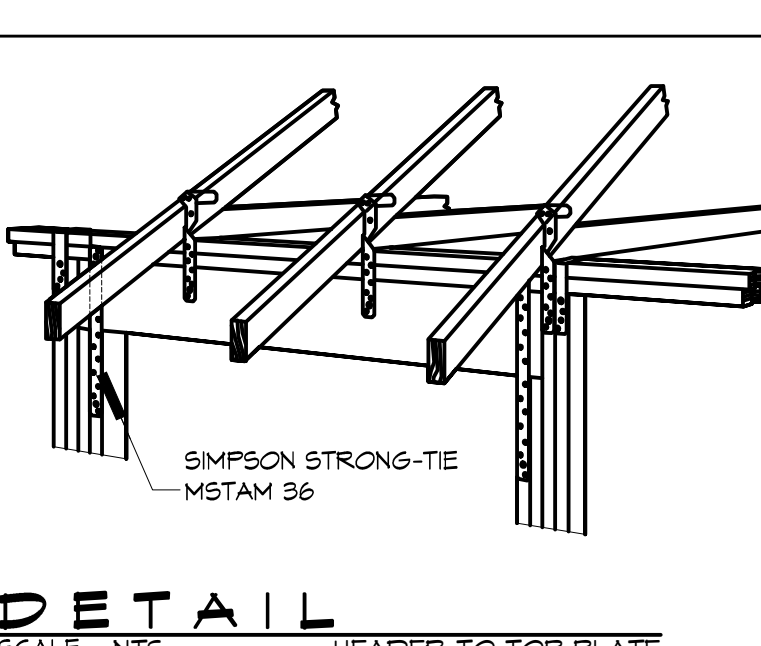
HEADER WIDTH-3" (2-2x), 4.5" (3-2x), 5", 6.5" (4-2x) EACH 1/4" 1/2" PLYWD. SPACER BETWEEN

NOTE: ALL HEADERS SHALL HAVE SOLID BLOCKING



NAIL SPACING  
 X = 4" O.C.  
 Y = 4" O.C.  
 Z = 12" O.C.  
 X = PLATE EDGE NAIL SPACING  
 Y = LONG EDGE NAIL SPACING  
 Z = FIELD NAIL SPACING

DESIGN CRITERIA:  
 THE CONSTRUCTION FOR SAID RESIDENCE, WHERE BASIC WIND SPEED IS 130 MILES PER HOUR, WIND EXPOSURE ZONE C, IS DESIGNED IN ACCORDANCE WITH: AMERICAN FOREST AND PAPER ASSOCIATION (AF&PA) WOOD FRAME CONSTRUCTION MANUAL FOR ONE AND TWO FAMILY DWELLINGS (WFCM) 2001 EDITION AS WELL AS THE INTERNATIONAL RESIDENTIAL CODE (IRC) 2012 EDITION



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#	DESCRIPTION	DATE

REVISIONS

SEAL:

PRELIMINARY NOT FOR CONSTRUCTION

STRUCTURAL DRAWINGS

STERS IDENC

JOB No: 000 DATE: APRIL 16-2015 CHECKED BY: GKD  
 DRAWN BY: DD/KJK  
 28100 CHEF MENTEUR WAY  
 NEW ORLEANS, LOUISIANA

SHEET TITLE: STRAPPING AND CONNECTION DETAILS

DRAWING NUMBER:

S4

SHEET No: 4 of 4