

**TABLE S601.7 - HEADER SPANS FOR INTERIOR LOAD-BEARING WALLS**

HEADERS SUPPORTING	SIZE	DROPPED HEADER			RAISED HEADER		
		BUILDING WIDTH (ft.)			BUILDING WIDTH (ft.)		
		12	24	36	12	24	36
ONE FLOOR ONLY (SINGLE CENTER BEARING WALL)	(2) 2x4	4'-0"	2'-10"	2'-4"	4'-1"	2'-10"	2'-4"
	(2) 2x6	5'-11"	4'-3"	3'-5"	6'-1"	4'-4"	3'-6"
	(2) 2x8	7'-1"	5'-2"	4'-4"	7'-4"	5'-5"	4'-5"
	(2) 2x10	7'-11"	6'-0"	5'-0"	9'-2"	6'-6"	5'-3"
	(2) 2x12	8'-6"	6'-7"	5'-7"	10'-4"	7'-7"	6'-3"
	(3) 2x8	8'-5"	6'-4"	5'-3"	9'-8"	6'-10"	5'-7"
	(3) 2x10	9'-3"	7'-9"-10"	6'-0"	11'-5"	8'-1"	6'-7"
	(3) 2x12	9'-11"	7'-8"	6'-7"	13'-6"	9'-6"	7'-4"
	(4) 2x8	9'-5"	7'-2"	6'-0"	11'-2"	7'-11"	6'-5"
	(4) 2x10	10'-3"	7'-11"	6'-9"	13'-3"	9'-4"	7'-8"
(4) 2x12	11'-0"	8'-7"	7'-4"	15'-7"	11'-0"	9'-0"	

**TABLE S601.8 - HEADER SPANS FOR EXTERIOR LOAD-BEARING WALLS RESISTING WIND LOADS EXP "C"**

SIZE	120 MPH	130 MPH	140 MPH	150 MPH	160 MPH	170 MPH	180 MPH	195 MPH
(2) 2x4	5'-1"	4'-8"	4'-4"	4'-1"	3'-10"	3'-7"	3'-5"	3'-2"
(2) 2x6	6'-3"	5'-4"	5'-4"	5'-0"	4'-8"	4'-5"	4'-2"	3'-10"
(2) 2x8	6'-10"	6'-4"	5'-11"	5'-8"	5'-2"	4'-10"	4'-7"	4'-3"
(2) 2x10	7'-4"	6'-10"	6'-4"	5'-11"	5'-6"	5'-2"	4'-11"	4'-6"
(2) 2x12	7'-10"	7'-5"	6'-9"	6'-3"	5'-11"	5'-7"	5'-3"	4'-10"
(3) 2x8	8'-5"	7'-4"	7'-2"	6'-4"	6'-4"	5'-11"	5'-7"	5'-2"
(3) 2x10	9'-0"	8'-4"	7'-9"	7'-3"	6'-4"	6'-0"	5'-7"	5'-1"
(3) 2x12	9'-7"	8'-11"	8'-3"	7'-8"	7'-3"	6'-10"	6'-5"	5'-11"
(4) 2x8	9'-8"	9'-0"	8'-4"	7'-9"	7'-3"	6'-10"	6'-6"	6'-0"
(4) 2x10	10'-3"	9'-7"	8'-11"	8'-4"	7'-10"	7'-4"	6'-11"	6'-5"
(4) 2x12	11'-7"	11'-1"	10'-5"	9'-6"	8'-11"	8'-4"	7'-10"	6'-10"

**TABLE S601.9 - SILL OR BOTTOM PLATE TO FOUNDATION CONNECTIONS RESISTING UPLIFT LOADS - 110 MPH WIND EXP "C"**

BOTTOM PLATE TO FOUNDATION ANCHOR BOLT CONNECTION RESISTING UPLIFT LOADS	FOUNDATION SUPPORTING	MAXIMUM ANCHOR BOLT SPACING (INCHES)	
		8' END ZONES	INTERIOR ZONES
UPLIFT LOADS	1 - 3 STORIES	50 INCHES ON CENTER	58 INCHES ON CENTER

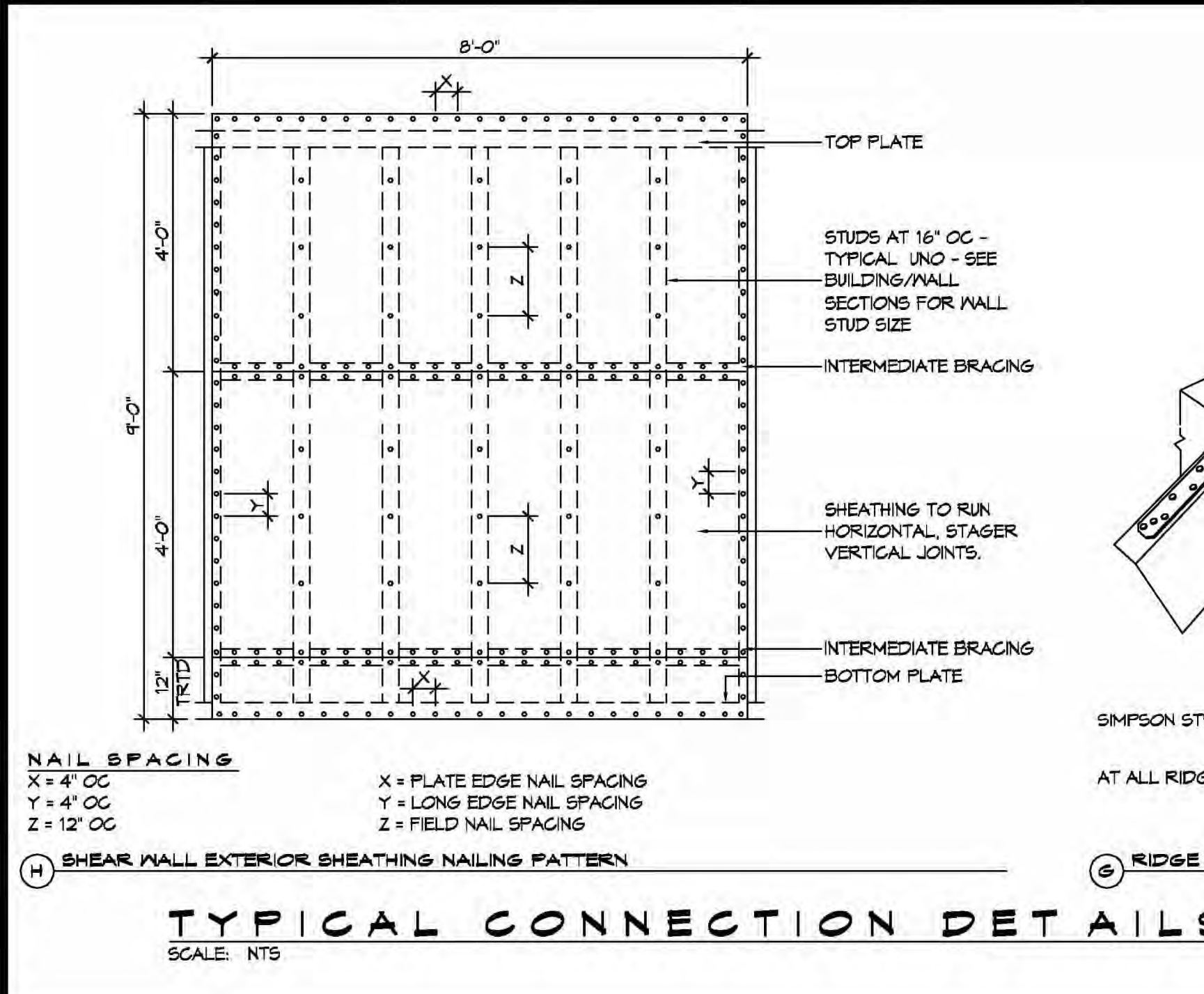
NOTE: A MINIMUM OF ONE ANCHOR BOLT SHALL BE PROVIDED WITHIN 6 TO 12 INCHES OF EACH END OF EACH PLATE

**TABLE S601.10 - BOTTOM PLATE TO FOUNDATION CONNECTIONS (ANCHOR BOLTS) RESISTING LATERAL & SHEAR LOADS - EXP "C"**

BOTTOM PLATE TO FOUNDATION ANCHOR BOLT CONNECTION RESISTING UPLIFT LOADS	FOUNDATION SUPPORTING	MAXIMUM ANCHOR BOLT SPACING (INCHES)	
		1/2" Ø ANCHOR BOLTS	5/8" Ø ANCHOR BOLTS
UPLIFT LOADS	1 STORY	31 INCHES ON CENTER	48 INCHES ON CENTER

**TABLE S601.11 - FULL HEIGHT STUD REQUIREMENT FOR HEADERS OR WINDOW SILL PLATES IN EXTERIOR WALLS EXP "C"**

HEADER SPAN (FEET)	WALL STUD SPACING (INCHES)		
	12' O.C.	16' O.C.	24' O.C.
2	1	1	1
4	2	2	1
6	3	3	2
8	4	3	2
10	5	4	3
12	6	5	3
14	7	6	4
16	8	6	4



**TABLE S601.5 - JACK STUD REQ - INT LOADBEARING WALLS**

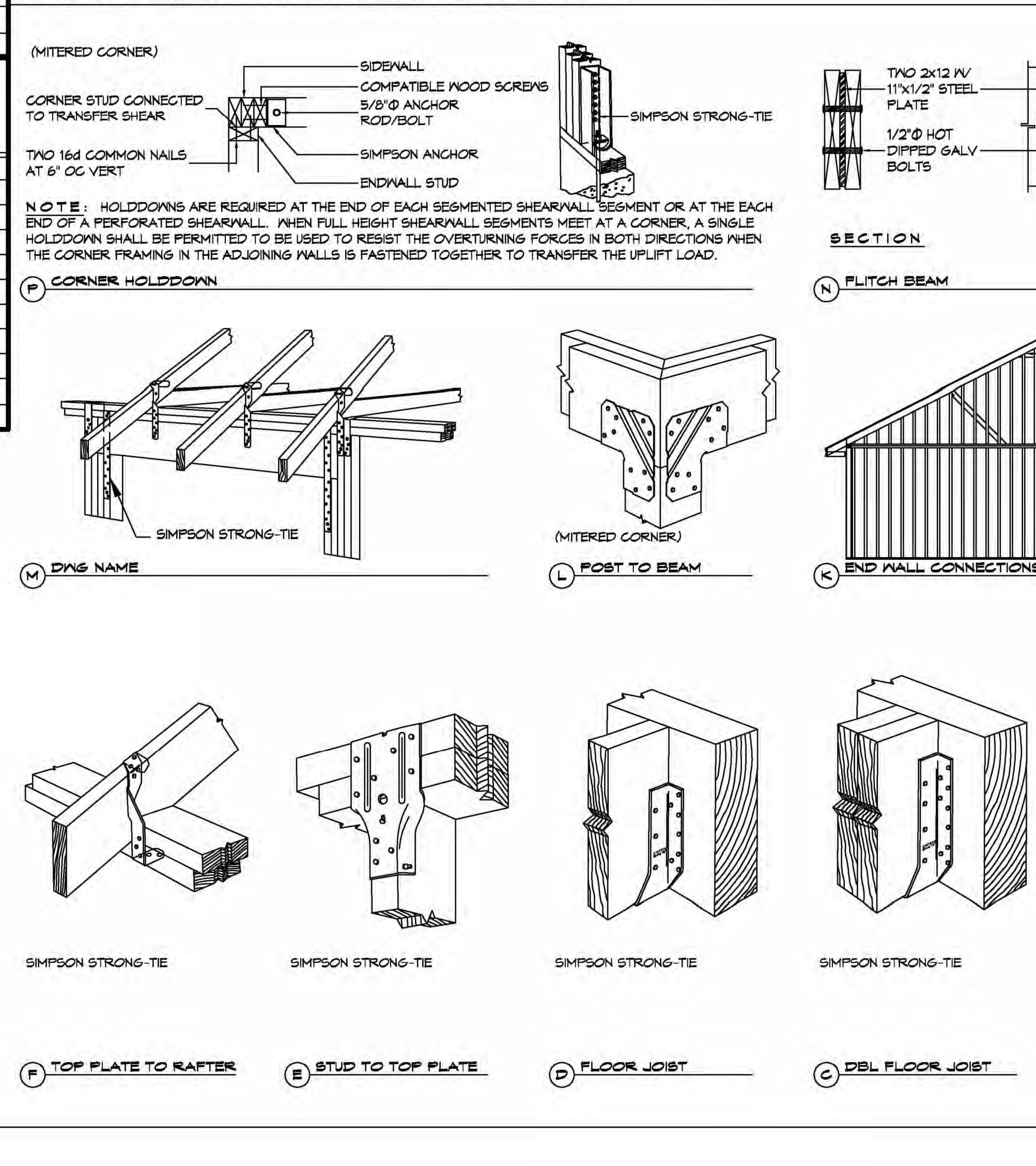
HEADER SUPPORTING	HEADER SPAN (FT)	ROOF SPAN (FEET)																	
		12 FEET						24 FEET						36 FEET					
		HEADER WIDTH																	
		3'	4.5'	5'	6'	3'	4.5'	5'	6'	3'	4.5'	5'	6'						
ONE FLOOR ONLY (CENTER BEARING)	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	6	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1		
	8	1	1	1	1	1	2	1	1	1	1	2	2	2	1	1	1		
	10	1	1	1	1	1	2	2	1	1	3	2	2	2	2	2	2		
	12	1	1	1	1	1	2	2	2	1	3	2	2	2	2	2	2		
	14	2	1	1	1	1	3	2	2	2	4	3	3	2	2	2	2		
	16	2	1	1	1	1	3	2	2	2	4	3	3	2	2	2	2		
	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	4	1	1	1	1	1	1	1	1	1	3	2	2	2	2	2	2		
6	2	1	1	1	1	3	2	2	2	4	3	2	2	2	2	2			
8	2	2	1	1	1	3	2	2	2	5	3	3	3	3	3	3			
10	2	2	2	1	1	4	3	3	2	6	4	4	3	3	3	3			
12	3	2	2	2	2	5	3	3	3	7	5	4	4	4	4	4			
14	3	2	2	2	2	6	4	4	4	8	5	5	4	4	4	4			
16	4	3	2	2	2	6	4	4	4	9	6	6	5	5	5	5			

HEADER WIDTH - 3" (2-2x), 4.5" (3-2x), 5", 6" (4-2x) EACH W/ 1/2" PLYWOOD SPACER BETWEEN

**TABLE S601.6 - JACK STUD REQ - EXTERIOR LOADBEARING WALLS**

HEADER SUPPORTING	HEADER SPAN (FT)	ROOF LIVE LOAD 20 PSF				GROUND SNOW LOAD 30 PSF					
		3'	4.5'	5'	6'	3'	4.5'	5'	6'		
		NUMBER OF JACK STUDS REQUIRED									
ROOF AND CEILING	2	1	1	1	1	1	1	1	1	1	1
	4	1	1	1	1	1	1	1	1	1	1
	6	2	1	1	1	1	2	1	1	1	1
	8	2	2	2	2	1	2	2	2	1	1
	10	3	2	2	2	2	3	2	2	2	2
	12	3	2	2	2	2	3	2	2	2	2
	14	4	3	2	2	2	4	3	2	2	2
	16	4	3	3	2	2	4	3	3	2	2
	8	3	2	2	2	2	3	2	2	2	2
	10	4	3	2	2	2	4	3	3	2	2
12	4	3	3	2	2	5	3	3	3	3	
14	5	4	3	3	3	5	4	3	3	3	
16	6	4	4	3	3	6	4	4	3	3	

HEADER WIDTH - 3" (2-2x), 4.5" (3-2x), 5", 6" (4-2x) EACH W/ 1/2" PLYWOOD SPACER BETWEEN



**TABLE S601.3 - NAILING SCHEDULE**

DESCRIPTION	NUMBER OF COMMON NAILS	NUMBER OF BOX NAILS	SPACING
<b>WALL FRAMING</b>			
TOP PLATE TO TOP PLATE (FACE NAILED)	2-16d	2-16d	PER FOOT
TOP PLATE AT INTERSECTION (FACE)	4-16d	3-16d	JOINTS - EACH SIDE
STUD TO STUD (FACE-NAILED)	2-16d	2-16d	24" O.C.
HEADER TO HEADER (FACE NAILED)	16d	16d	16" O.C. EDGES
TOP OR BOTTOM PLATE TO STUD (END)	SEE TABLE	SEE TABLE	PER STUD
BOTTOM PLATE TO FLOOR JOIST, BAND JOIST, END JOIST OR BLOCKING	2-16d	2-16d	PER FOOT
<b>ROOF SHEATHING</b>			
WOOD STRUCTURAL PANELS	8d	10d	SEE TABLE S601.1
DIAGONAL BOARD SHEATHING			
1x6' OR 1x8'	2-8d	2-10d	PER SUPPORT
1x10' OR WIDER	3-8d	3-10d	PER SUPPORT

**TABLE S601.4 - BUILDING ENVELOPE REQUIREMENTS**

OPaque ELEMENTS	ASSEMBLY MAXIMUM	INSULATION MIN. R-VALUE
<b>ROOFS</b>		
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-38
<b>WALLS, ABOVE GRADE</b>		
MASS	U-0.151	R-5.7 c.i.
METAL BUILDING	U-0.119	R-19.0
STEEL-FRAMED	U-0.124	R-19.0
WOOD-FRAMED AND OTHER	U-0.084	R-19.0
<b>FLOORS</b>		
MASS	U-0.107	R6-3 c.i.
STEEL JOIST	U-0.052	R-19.0
WOOD FRAMED AND OTHER	U-0.051	R-19.0
<b>SLAB-ON-GRADE</b>		
UN-HEATED	F-0.730	NR
<b>OPaque DOORS</b>		
SPRINGING	U-0.100	NR
NON-SPRINGING	U-1.480	NR

c.i. = CONTINUOUS INSULATION; NR = NO INSULATION REQUIREMENT  
@ = EXCEPTION APPLIES

**ROOF UNDERLAYMENT NOTES**

- FOR ROOF SLOPES FROM TWO UNITS VERTICAL IN 12 UNITS HORIZONTAL (17-PERCENT SLOPE), UP TO FOUR UNITS VERTICAL IN 12 UNITS HORIZONTAL (33-PERCENT SLOPE), UNDERLAYMENT SHALL BE TWO LAYERS APPLIED IN THE FOLLOWING MANNER:
  - APPLY A 1/4 INCH STRIP OF UNDERLAYMENT FELT PARALLEL WITH AND STARTING AT THE EAVE, 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 SINGLE 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 NOTES**

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

**GENERAL UPLIFT CONNECTION NOTES**

**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 S601.10.

**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 S601.11.

**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 59 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 G105 OR Z450 GALV. STL. CONNECTIONS SHALL BE IN ACCORDANCE WITH TABLE S601.12.

**TABLE S601.1 - ROOF SHEATHING OR CLADDING REQUIREMENT - 110 MPH WIND LOAD EXP "C"**

SHEATHING LOCATION	RAFTER / TRUSS SPACING	E F	
		MAX NAIL SPACING FOR 8d COMMON NAILS OR 10d BOX NAILS (INCHES OC)	
INTERIOR ZONE	12' OC	6	12
	16' OC	6	12
	24' OC	6	12
PERIMETER EDGE ZONE	12' OC	6	12
	24' OC	6	6

110 MPH WIND - EXPOSURE "C" TYPICAL  
E = NAIL SPACING AT PANEL EDGES, INCHES.  
F = NAIL SPACING AT INTERMEDIATE SUPPORTS IN THE PANEL FIELD, INCHES.

**TABLE S601.2 - WALL SHEATHING OR CLADDING REQUIREMENT - 110 MPH WIND LOAD EXP "C"**

SHEATHING LOCATION	STUD SPACING	E F	
		MAX NAIL SPACING FOR 8d COMMON NAILS OR 10d BOX NAILS (INCHES OC)	
INTERIOR ZONE	12' OC	6	12
	16' OC	6	12
	24' OC	6	12
PERIMETER EDGE ZONE	12' OC	6	12
	24' OC	6	12

110 MPH WIND - EXPOSURE "C" TYPICAL  
E = NAIL SPACING AT PANEL EDGES, INCHES.  
F = NAIL SPACING AT INTERMEDIATE SUPPORTS IN THE PANEL FIELD, INCHES.

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DATE: \_\_\_\_\_  
REVISIONS: \_\_\_\_\_  
DESCRIPTION: \_\_\_\_\_  
SEAL: \_\_\_\_\_

STATE OF LOUISIANA  
BRIAN A. METCHER  
Professional Engineer  
License No. 30187

STRUCTURAL DWGS  
DENARD  
LOT 20  
ISLAND DRIVE  
LACOMBE, LA  
JOB NO: \_\_\_\_\_  
DATE: 06-26-2019  
DRAWN BY: DD  
CHECKED BY: GCD

SHEET TITLE:  
TYPICAL CONNECTION  
DETAILS, SCHEDULES, AND  
NOTES

DRAWING NUMBER:  
**S104**

SHEET NO: 5 of 5