

STRUCTURAL ENGINEERING
UNLIMITED, LLC

541 N. PATRICK STREET
FREDERICK, MD, 21701
240-938-6160
301-748-2164

THE OVERLOOK CABANA
15125 DEVLIN DR.
GLENELG, MD 21731

LEVINBROWN & ASSOCIATES, INC.
ARCHITECT

J PAUL BUILDERS
CONTRACTOR

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 24818
EXPIRATION DATE: 01-21-2021



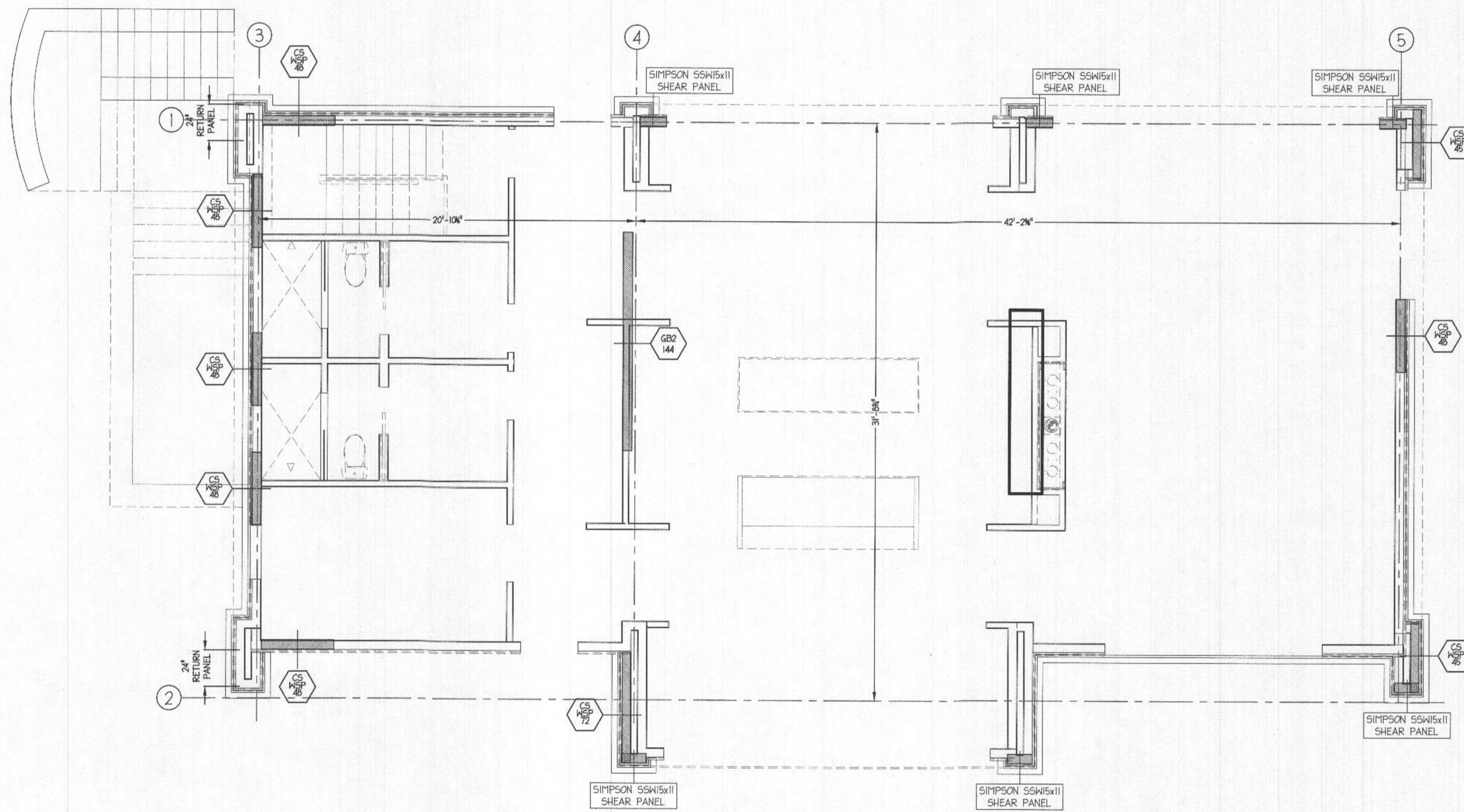
SCALE: AS NOTED
DRAWN BY: SL CHECKED BY: JH

ISSUE: DATE:
ISSUED FOR PERMITS 03-10-2021

REVISION:	
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WALL BRACING PLAN

S007



1 WALL BRACING PLAN

SCALE: 1/4"=1'-0"

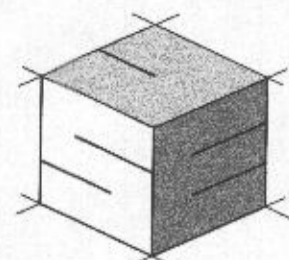
TYPE	DESCRIPTION*
GB	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.4 GYPSUM BOARD NAILED w/11 ga NAILS OR SCREENS @ 7"oc ALONG EDGES NAILED @ 8"oc IN THE FIELD, SCREEN @ 12"oc IN THE FIELD. GB2 DESIGNATES SHEATHING BOTH SIDES.
CS-WSP	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.4 OSB OR PLYWOOD SHEATHING, w/8d COMMON EDGE NAILS @ 6"oc, 12"oc IN FIELD, OR 16ga, 2" CROWN, 1 1/2" LEG EDGE STAPLES @ 3"oc, 6"oc IN FIELD.
WSP	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.4 OSB OR PLYWOOD SHEATHING, w/8d COMMON EDGE NAILS @ 6"oc, 12"oc IN FIELD, OR 16ga, 2" CROWN, 1 1/2" LEG EDGE STAPLES @ 3"oc, 6"oc IN FIELD.
CS-PF	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.4 OSB OR PLYWOOD SHEATHING, NAILED & STRAPPED, PER IRC CS-PF METHOD DENOTES: ACTUAL PANEL WIDTHS, IN INCHES.
LIB	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.4 DIAGONAL METAL BRACING w/8 (SIMPSON STRONG-TIE) OR EQUAL, NAILED w/ (2) 16d NAILS INTO PLATES AND (1) NAIL INTO STUDS 45° TO 60° MAX. STUD SPACING 16' O.C.

*NOTE: ALL ASSEMBLIES REQ. MIN. 2x4 STUDS @ 16"oc AND ALL EXTERIOR WALLS SHALL BE CONTINUOUSLY SHEATHED PER IRC 2015, SECTION R602.10. WSP METHOD, PER WSP ABOVE, U.N.O. BRACED WALL SEGMENTS SHALL BE SPACED MAXIMUM 20'-0", END TO END, AND SHALL START WITHIN 10'-0" OF EACH END OF BRACED WALL LINES.

ROOF & FLOOR FRAMING NOTES:
1. ZZZZZZZZ DENOTES BEARING WALL w/MIN 2x4 STUDS @ 16"oc.
2. FLOOR LAYOUT IS SCHEMATIC. SEE MANUFACTURER'S PLAN FOR EXACT LAYOUT, CONSTRUCTION AND MECHANICAL CONNECTIONS. FLOOR MEMBERS ARE SINGLE JOISTS, U.N.O.
3. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS NOT SHOWN.
4. SECURE BRACED WALL SEGMENT SOLE PLATES TO FLOOR JOIST OR BLOCKS w/3-16d NAILS @ 16"oc, PER IRC 2015 TABLE 602.3(1).
5. ALL RAFTERS & TRUSSES SHALL BE SECURED w/MIN USP RTT HURRICANE ANCHOR, OR EQUAL. USE 2 ANCHORS FOR 2-PLY MEMBERS AND 2 USP RTT OR EQUAL FOR 3-PLY MEMBERS.
6. SECURE ROOF SHEATHING, TO FRAMING, w/8d NAILS @ 6"oc ALONG PANEL EDGES & 12"oc IN THE FIELD.

WALL BRACING - CALCULATIONS - WIND SPEED 115 MPH - EXPOSURE B														
BWL	METHOD	LEVL	ADJUSTMENT FACTORS								REQ'D LENGTH	ACTUAL LENGTH		
			EAVE-RIDGE HT.	WALL HEIGHT	# BWL'S	OMIT INT. GB.	ADD HOLD-DOWNS	GB FASTEN @ 4" O.C.						
1	CS-WSP	1ST	13.00'	1.15	11.00'	1.10	2	1.00	NO	1.00	NO	1.00	11.76'	16.00'
2	CS-WSP	1ST	13.00'	1.15	11.00'	1.10	2	1.00	NO	1.00	NO	1.00	11.76'	14.00'
3	CS-WSP	1ST	13.00'	1.15	11.00'	1.10	3	1.30	NO	1.00	NO	1.00	14.51'	15.42'
4	CS-WSP / GB2	1ST	13.00'	1.15	11.00'	1.10	3	1.30	NO	1.00	NO	1.00	15.02'	16.00'
5	CS-WSP	1ST	13.00'	1.15	11.00'	1.10	3	1.30	NO	1.00	NO	1.00	15.02'	16.00'

INFORMATION BASED ON DATA FROM TABLE R602.10.1.2(1), BRACED REQ. BASED ON WIND SPEED, IRC 2015



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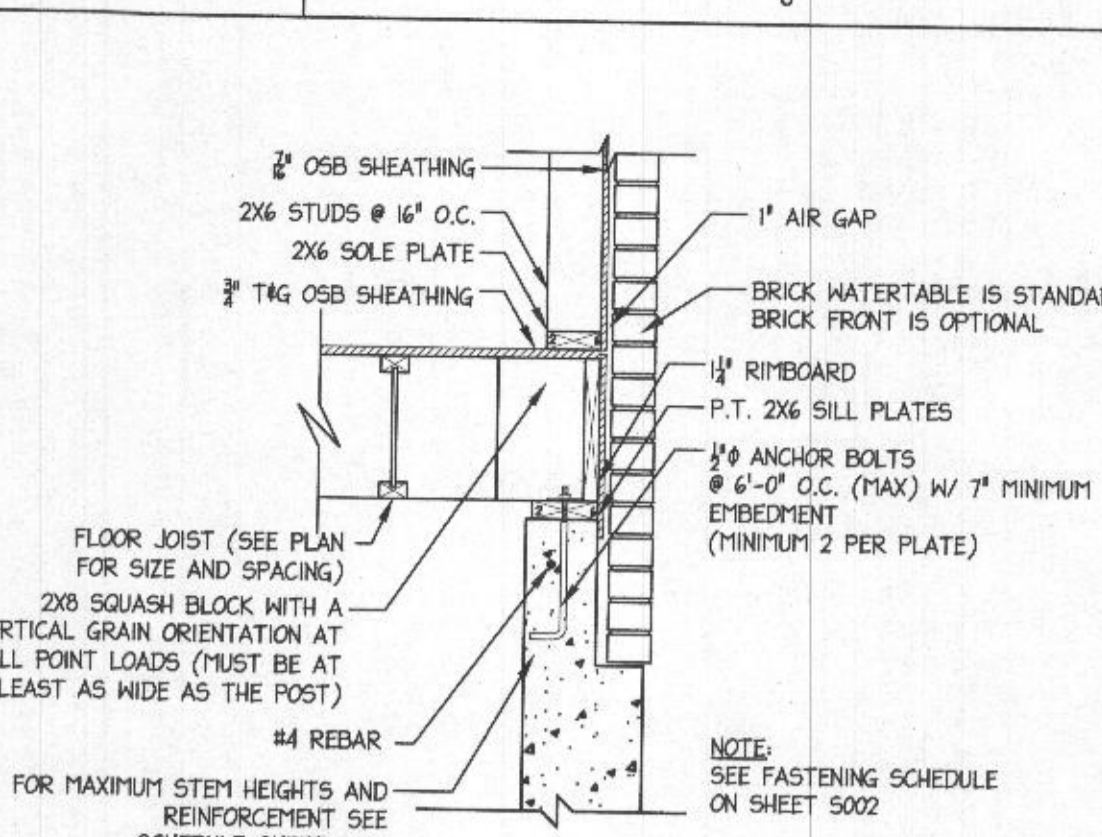
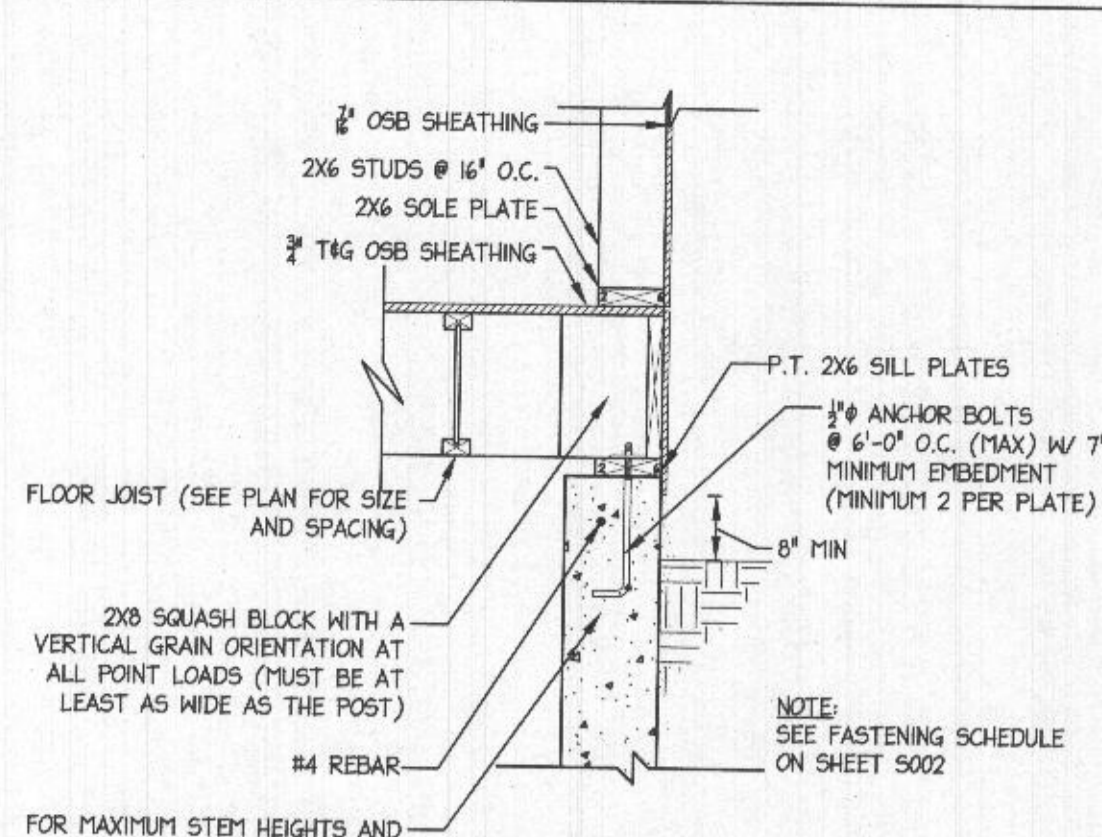
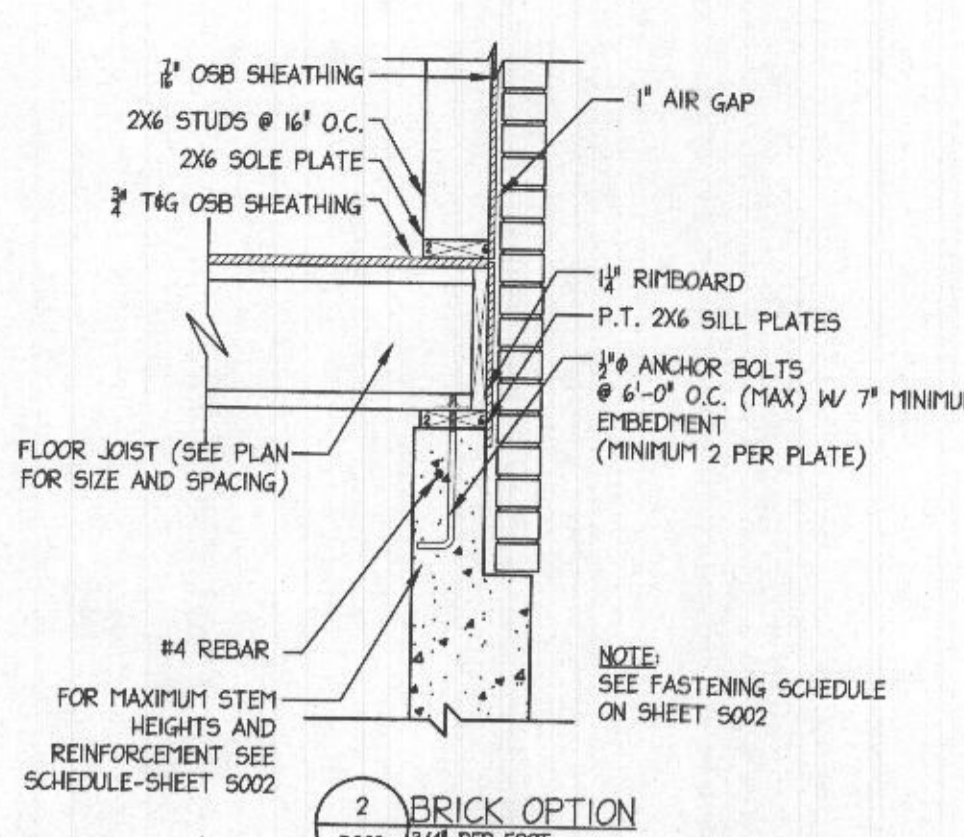
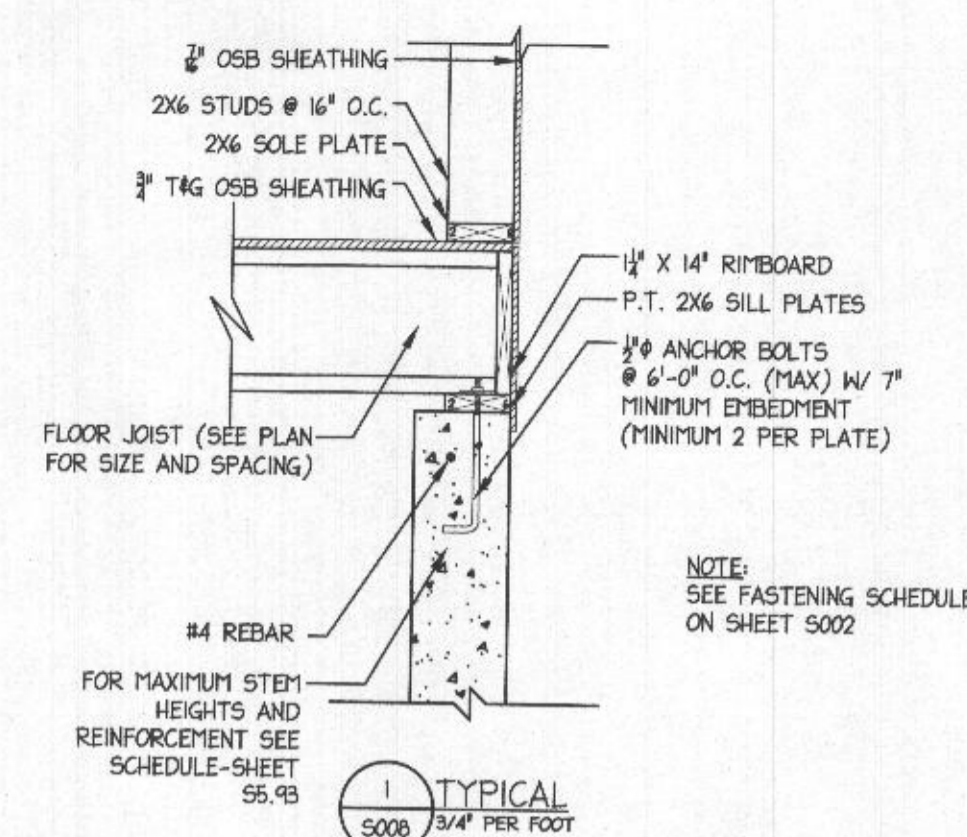
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STRUCTURAL DETAILS
& NOTES

S008

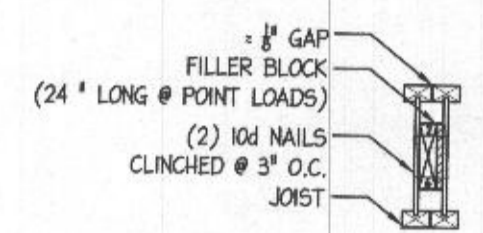


1 TYPICAL
5008 3/4\"/>

2 BRICK OPTION
5008 3/4\"/>

3 TYPICAL
5008 3/4\"/>

4 BRICK OPTION
5008 3/4\"/>



DOUBLE JOIST DETAIL (TYP)
5/4\"/>

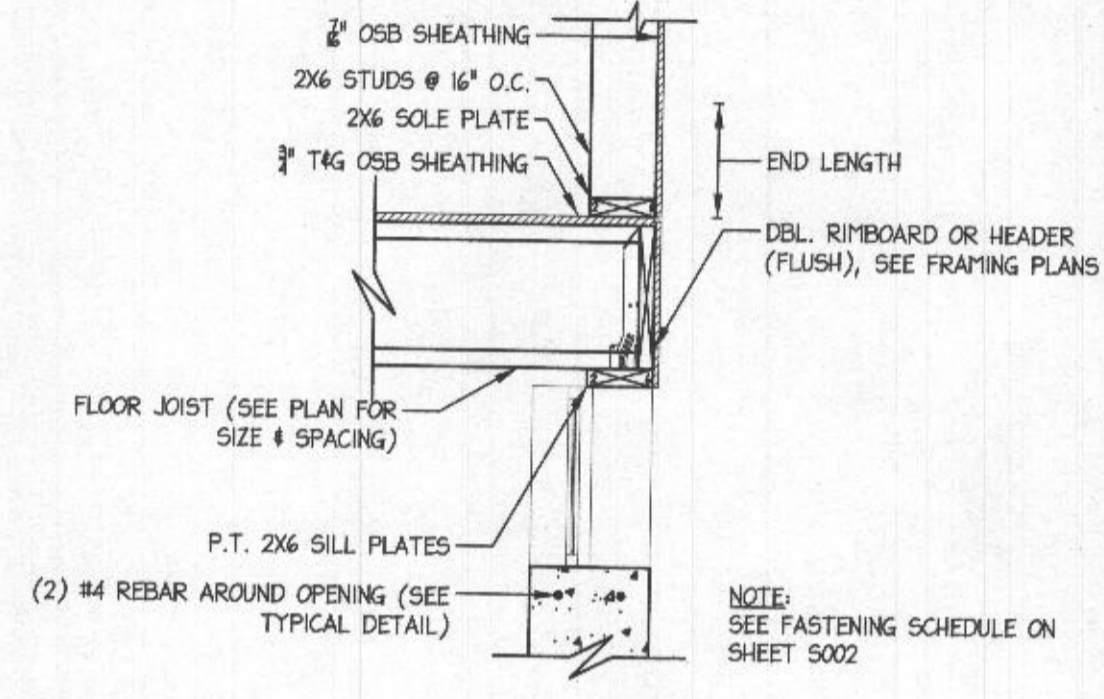
FILLER AND BACKER BLOCK SCHEDULE

BOISE	5000s	6000s AND 6500s	60s	90s
DEPTH	9-1/2\" OR 11-1/2\"	14\" OR 11-3/4\"	14\" OR 16\"	11-3/4\" 14\" OR 16\"
FILLER BLOCK*	2x6	2x6	2x6 + 2\" SHEATHING	2x6 + 2\" SHEATHING
BACKER BLOCK*	2x6	2x6 + 2\" SHEATHING	2x6 + 2\" SHEATHING	2x6 + 2\" SHEATHING

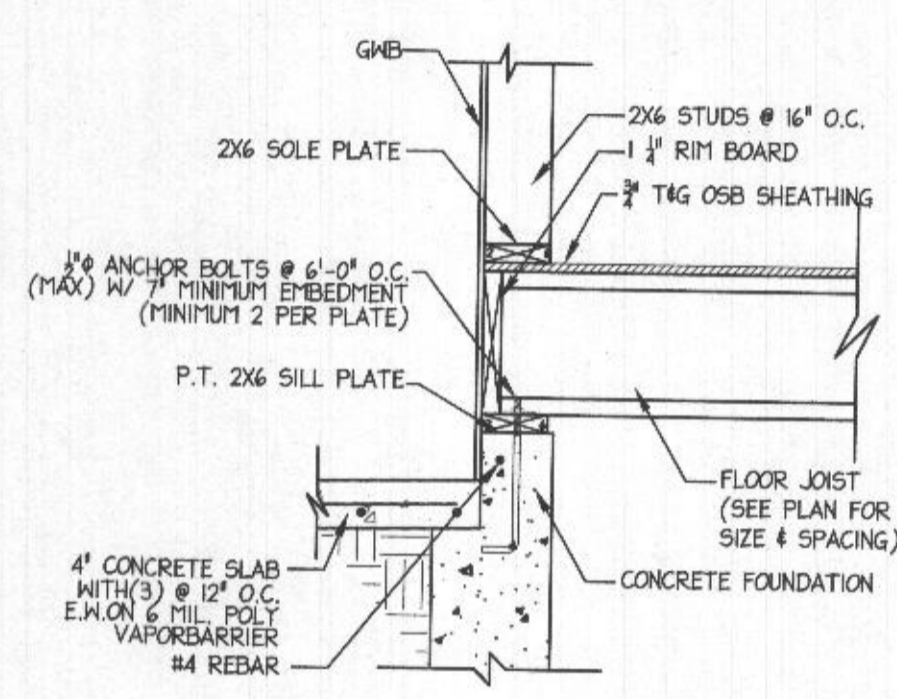
* IF NECESSARY, INCREASE FILLER AND BACKER BLOCK HEIGHT FOR FACE POINT HANGERS AND MAINTAIN 1/2\" GAP AT TOP OF JOIST.

RIM/FLOOR JOIST CONNECTION SCHEDULE

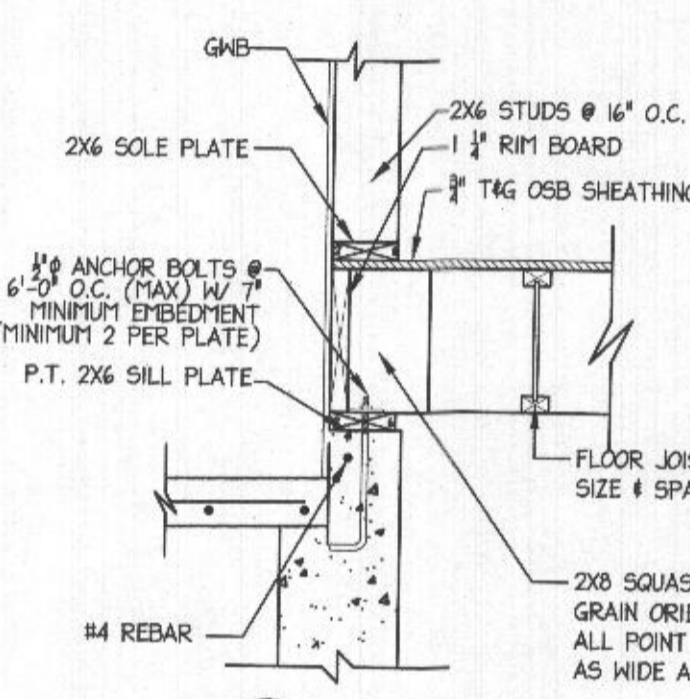
DECK JOIST SPACE	16\"	19.2\"	24\"
≤ 8'-0\"	MP34	MP34	MPAI
10'-0\"	MP34	MPAI	(2)MP34
12'-0\"	MPAI	MPAI	(2)MP34
14'-0\"	MPAI	(2)MP34	(2)MPAI
16'-0\"	(2)MP34	(2)MP34	(2)MPAI
18'-0\"	(2)MP34	(2)MPAI	(2)MPAI
20'-0\"	(2)MPAI	(2)MPAI	(2)MPAI



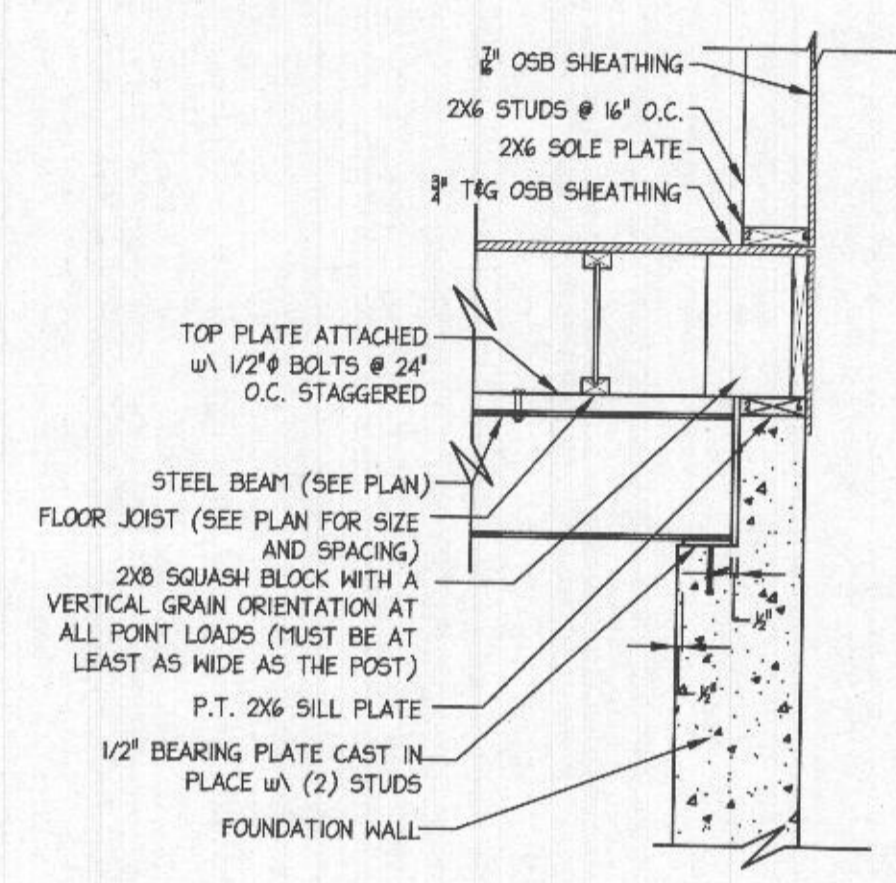
5 SECTION
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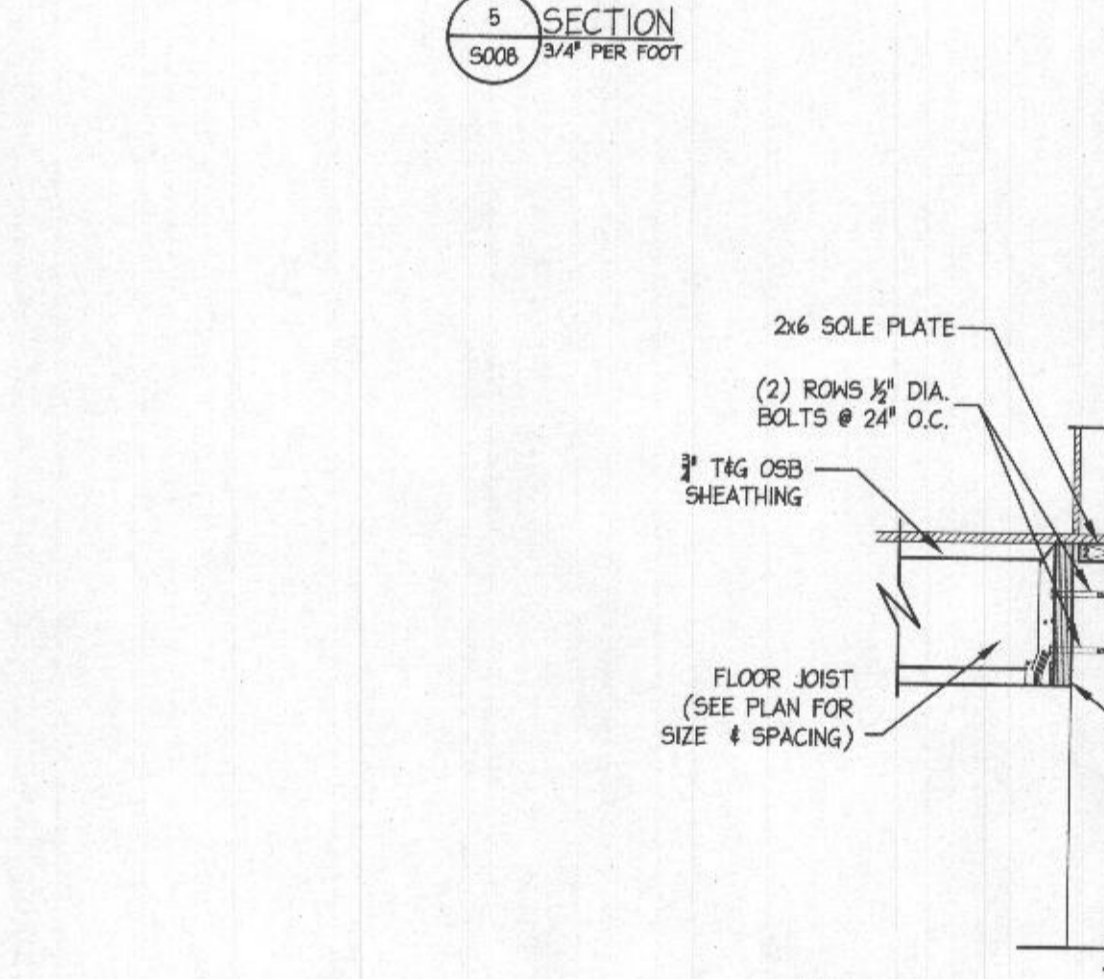
6 SECTION - GARAGE
5008 3/4\"/>



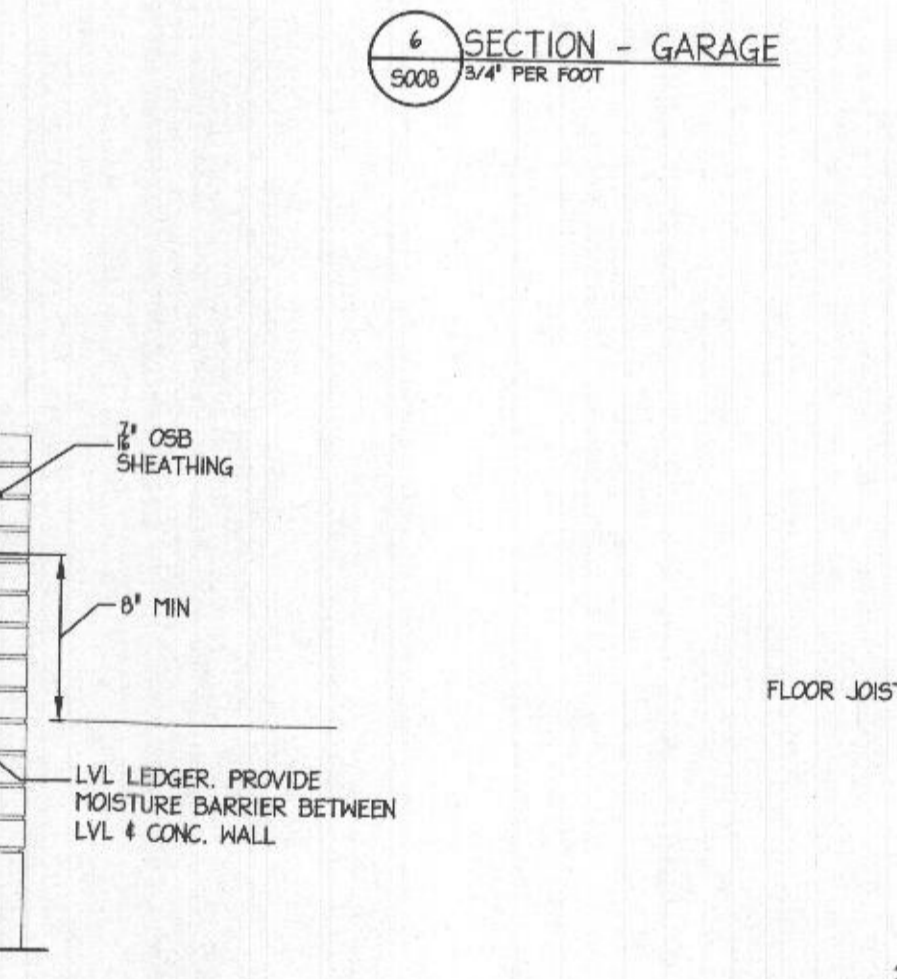
7 SECTION - GARAGE
5008 3/4\"/>



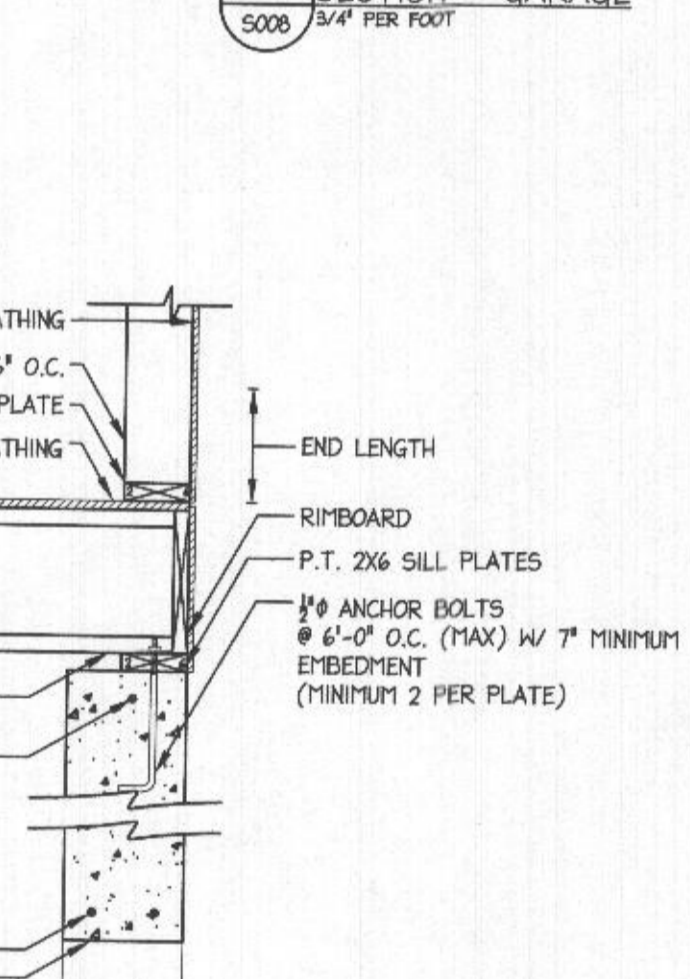
8 SECTION - BEAM POCKET
5008 3/4\"/>



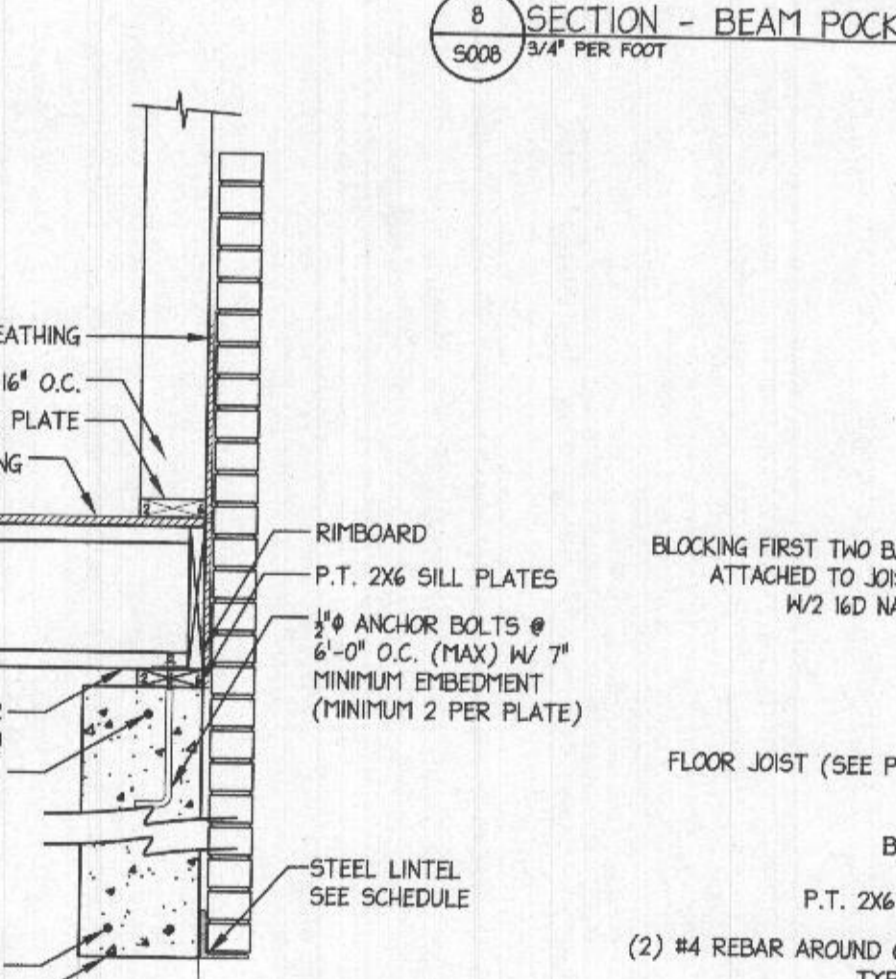
9 SECTION
5008 3/4\"/>



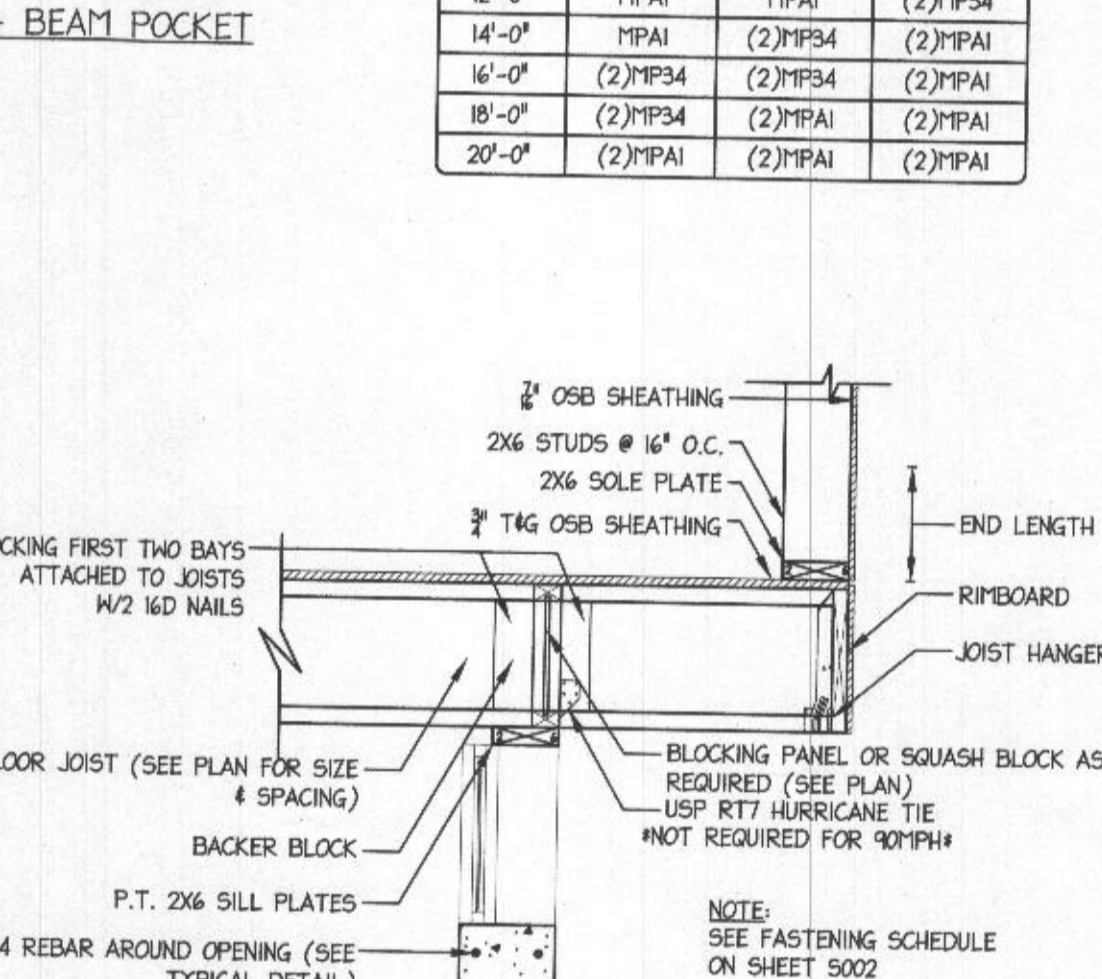
10 SECTION @ REVERED LEDGE W/ BRICK
5008 3/4\"/>



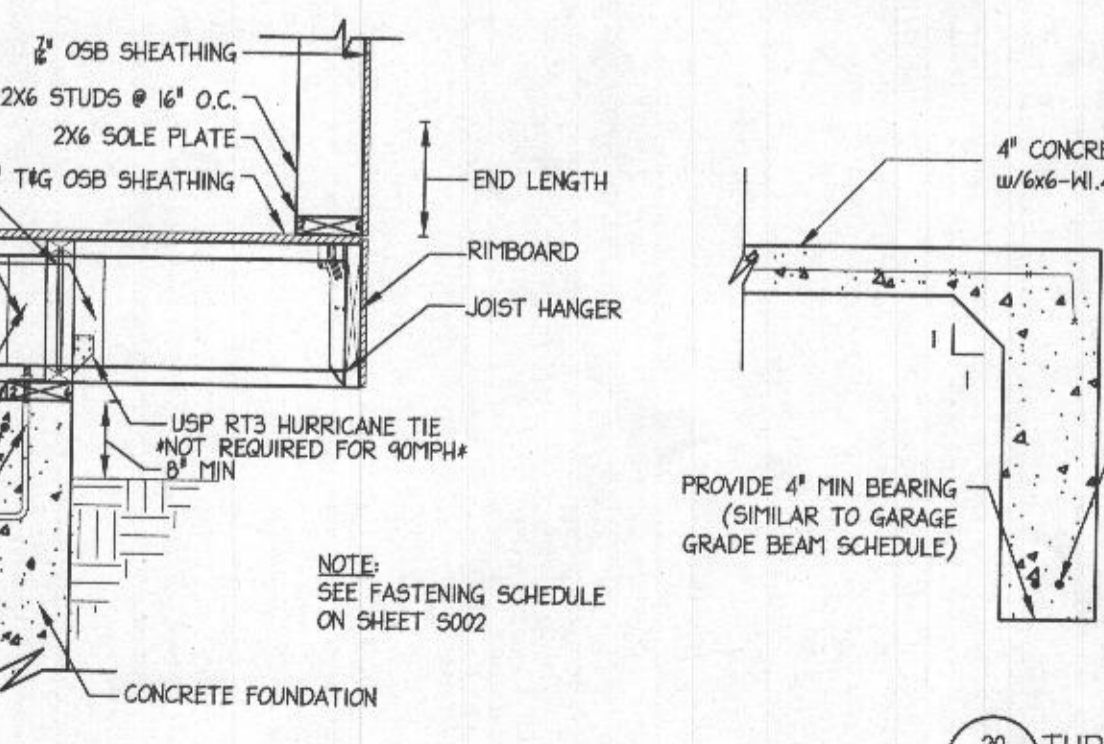
11 SECTION @ CONC. HEADER
5008 3/4\"/>



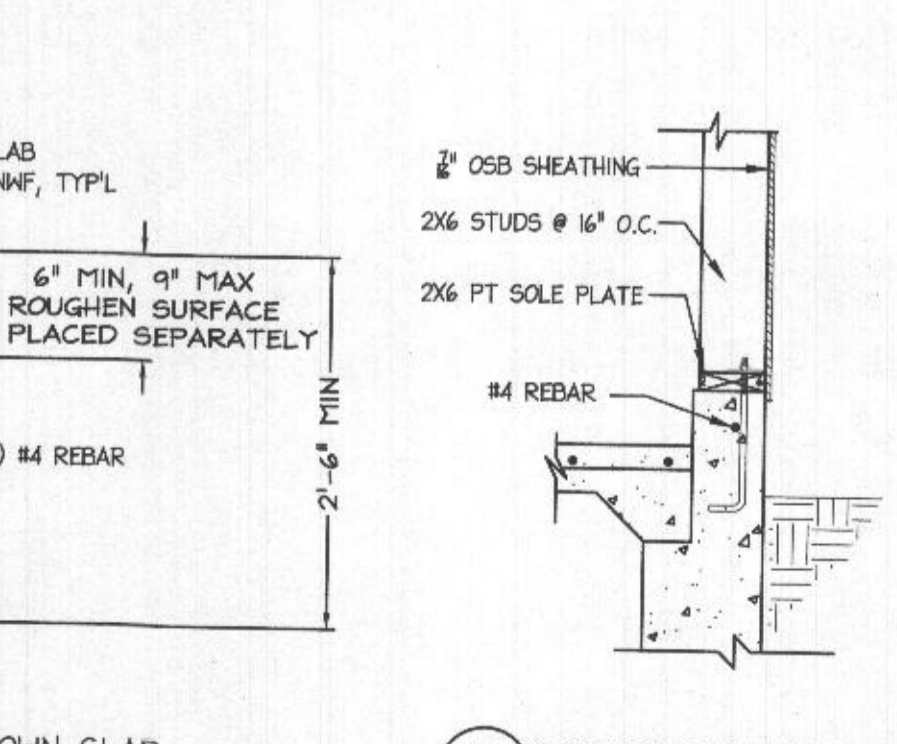
12 SECTION @ CONC. HEADER W/ BRICK
5008 3/4\"/>



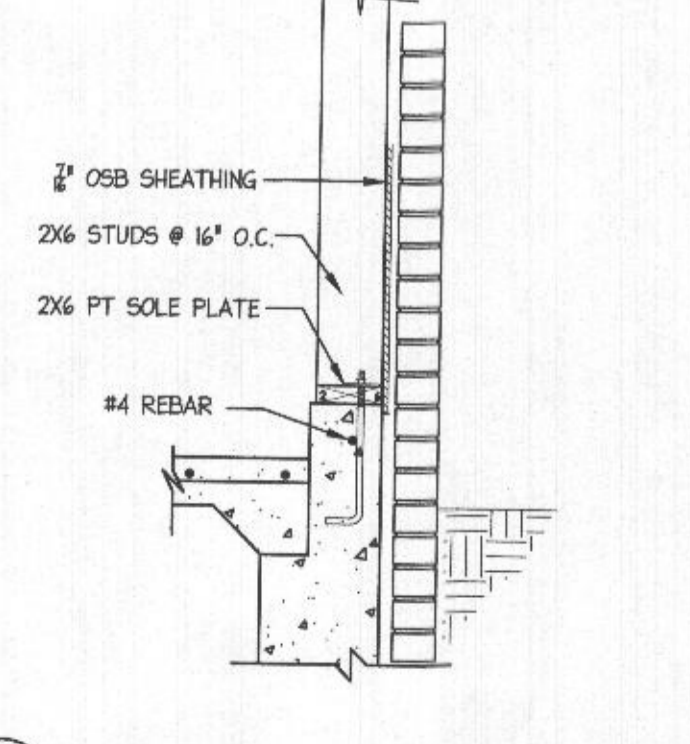
13 SECTION @ CANT. JOIST OVER WINDOW
5008 3/4\"/>



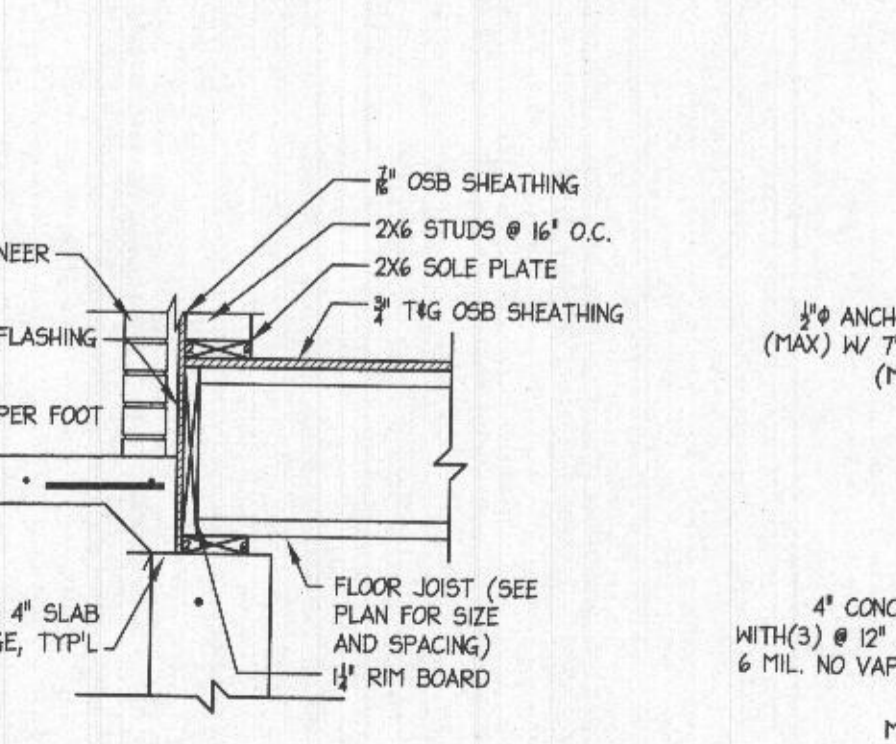
14 SECTION @ CANT. JOIST W/ SUPPORTING RIM BOARD
5008 3/4\"/>



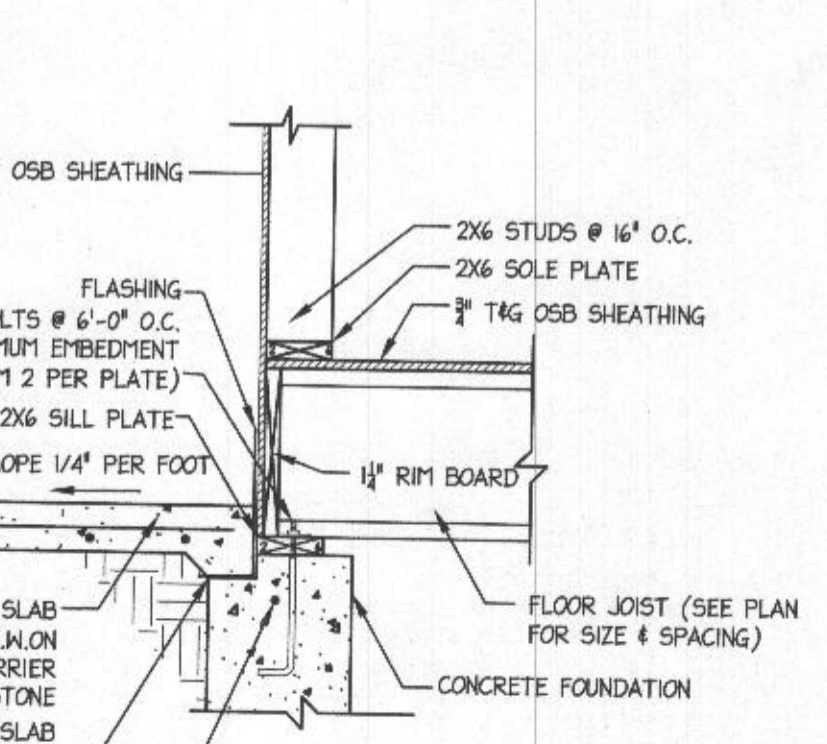
15 SECTION @ GARAGE EXTERIOR
5008 3/4\"/>



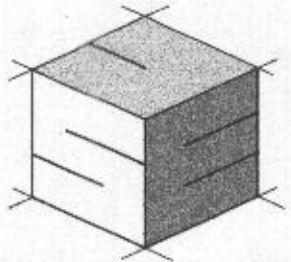
16 SECTION @ GARAGE EXTERIOR W/ BRICK
5008 3/4\"/>



17 PORCH SLAB DETAIL W/ BRICK
5008 3/4\"/>



18 PORCH SLAB DETAIL
5008 3/4\"/>



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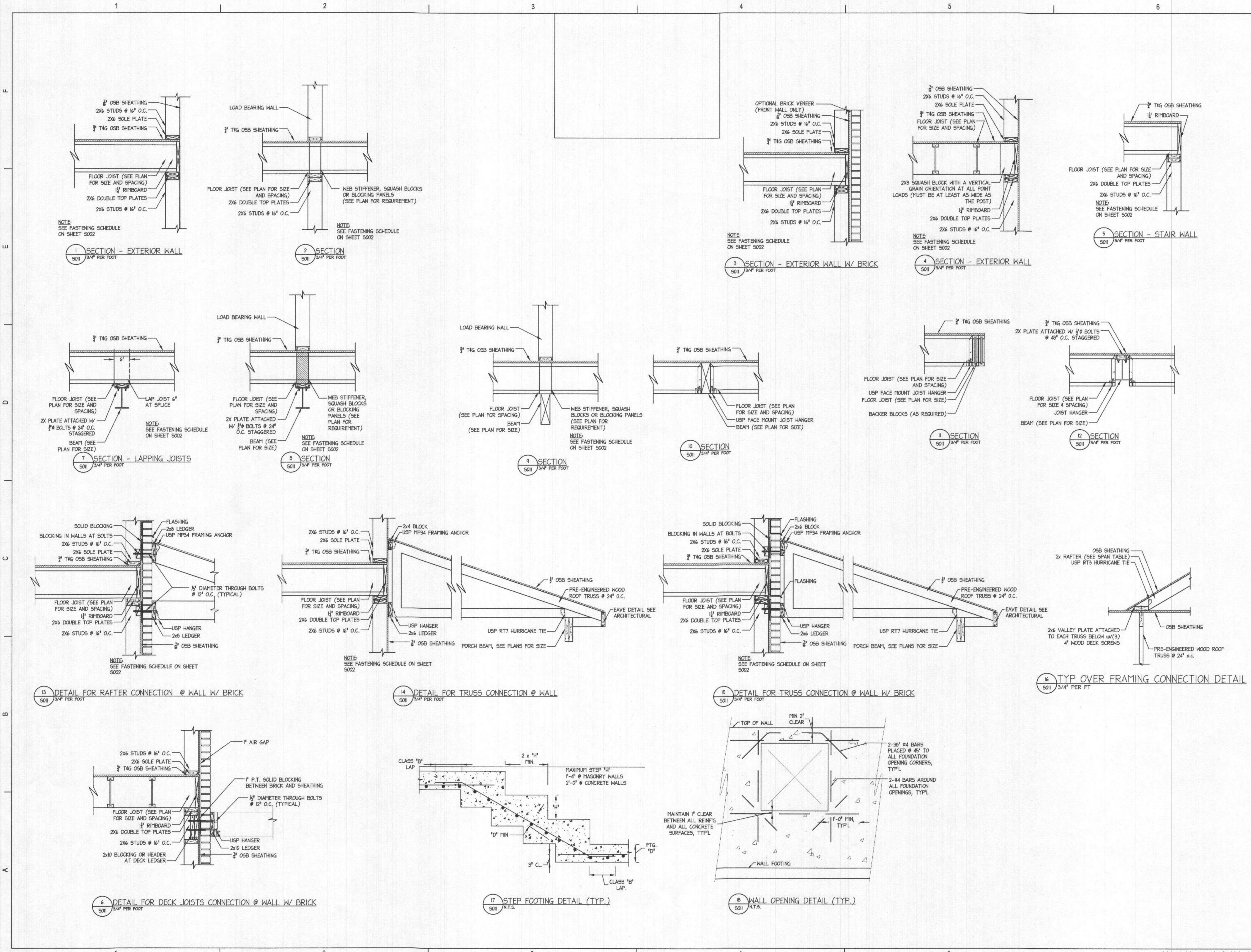
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DRAWN BY: JL CHECKED BY: JH

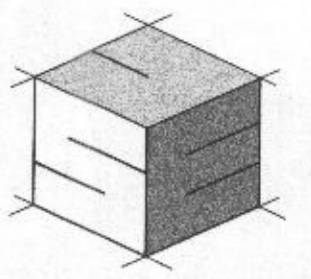
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STRUCTURAL DETAILS
& NOTES

S011





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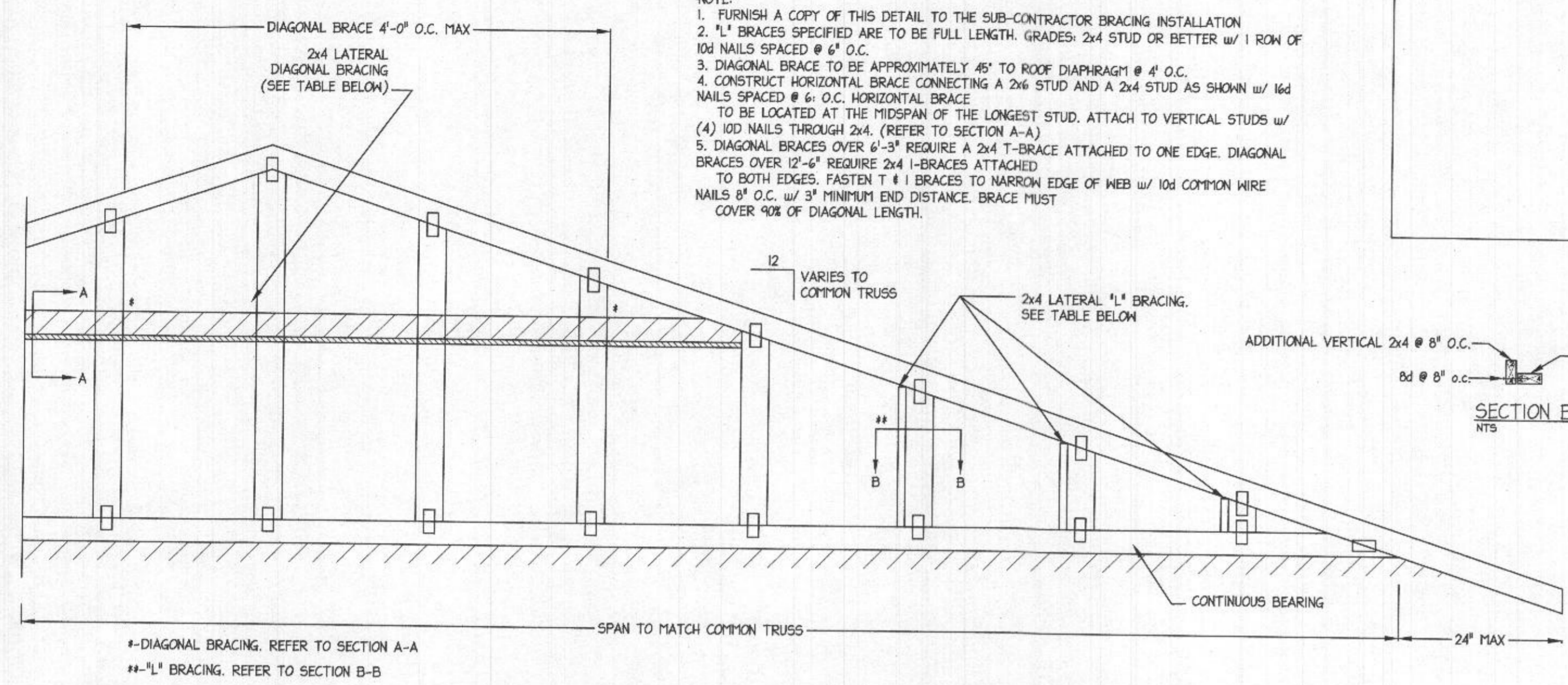
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STRUCTURAL DETAILS
& NOTES

S012

NOTE:
 1. FURNISH A COPY OF THIS DETAIL TO THE SUB-CONTRACTOR BRACING INSTALLATION
 2. L¹ BRACES SPECIFIED ARE TO BE FULL LENGTH. GRADES: 2x4 STUD OR BETTER w/ 1 ROW OF 10d NAILS SPACED @ 6" O.C.
 3. DIAGONAL BRACE TO BE APPROXIMATELY 45° TO ROOF DIAPHRAGM @ 4" O.C.
 4. CONSTRUCT HORIZONTAL BRACE CONNECTING A 2x6 STUD AND A 2x4 STUD AS SHOWN w/ 16d NAILS SPACED @ 6" O.C. HORIZONTAL BRACE TO BE LOCATED AT THE MIDSPAN OF THE LONGEST STUD. ATTACH TO VERTICAL STUDS w/ 10d NAILS THROUGH 2x4. (REFER TO SECTION A-A)
 5. DIAGONAL BRACES OVER 12'-6" REQUIRE 2x4 L-BRACES ATTACHED TO BOTH EDGES. FASTEN T & I BRACES TO NARROW EDGE OF WEB w/ 10d COMMON WIRE NAILS @ 8" O.C. w/ 3" MINIMUM END DISTANCE. BRACE MUST COVER 100% OF DIAGONAL LENGTH.



LATERAL BRACING NAILING SCHEDULE

VERTICAL HEIGHT	NUMBER OF NAILS
UP-TO 6'-11"	2-16d
7'-0" & 8'-5"	3-16d
8'-6" & OVER	4-16d

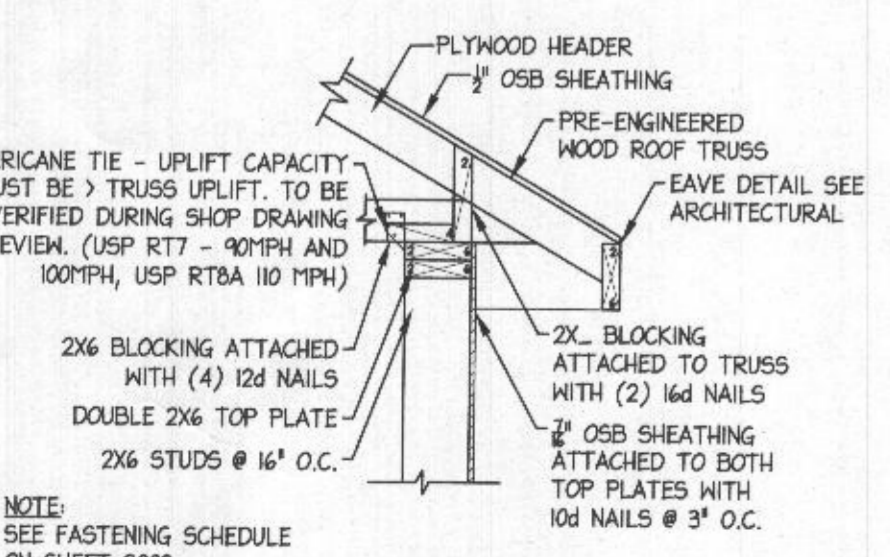
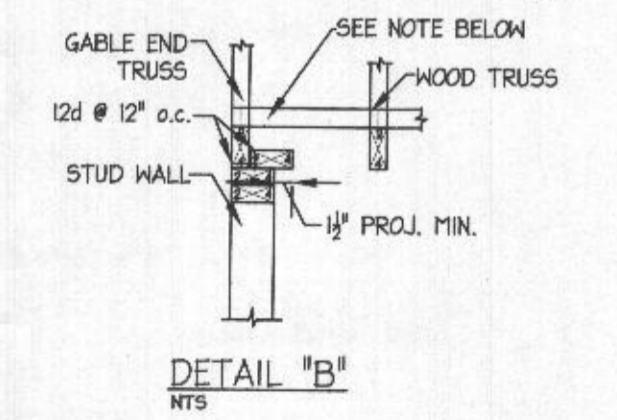
MAXIMUM VERTICAL STUD HEIGHT

SPACING OF VERTICALS	W/O LATERAL BRACE	WITH L ¹ BRACE	WITH DIAGONAL BRACE	WITH 2 DIAGONAL BRACES AT 4 POINTS
12" o.c.	4'-9-3/4"	7'-10"	9'-7-1/2"	14'-5-1/4"
16" o.c.	4'-4-1/2"	6'-9-3/4"	8'-8-3/4"	13'-1-1/4"
24" o.c.	3'-4-1/2"	5'-6-1/2"	7'-7-1/4"	11'-4-3/4"

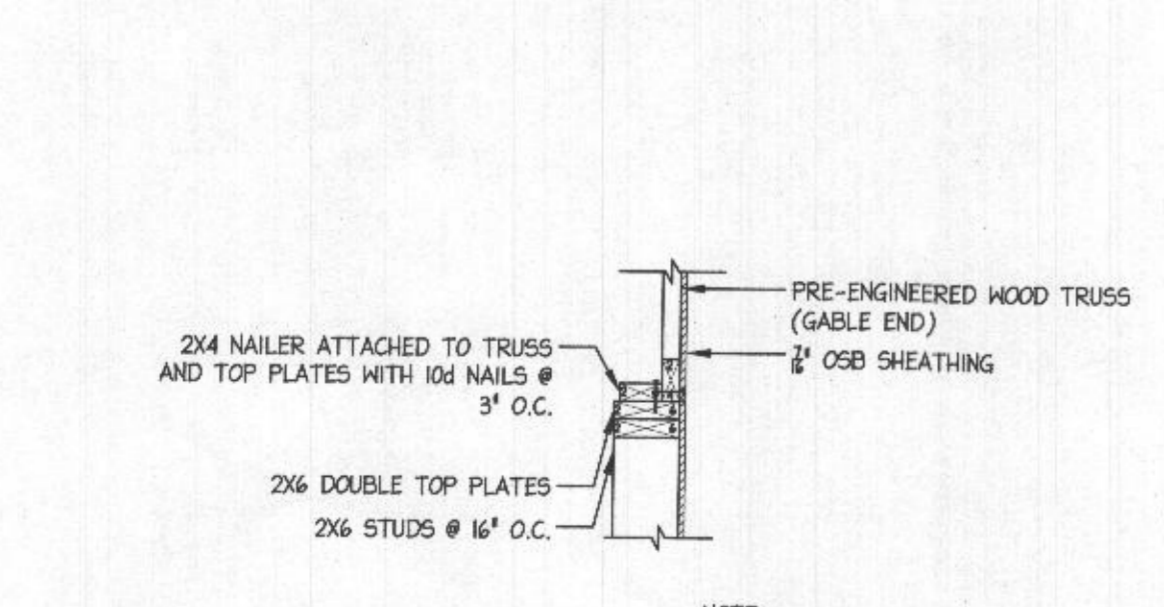
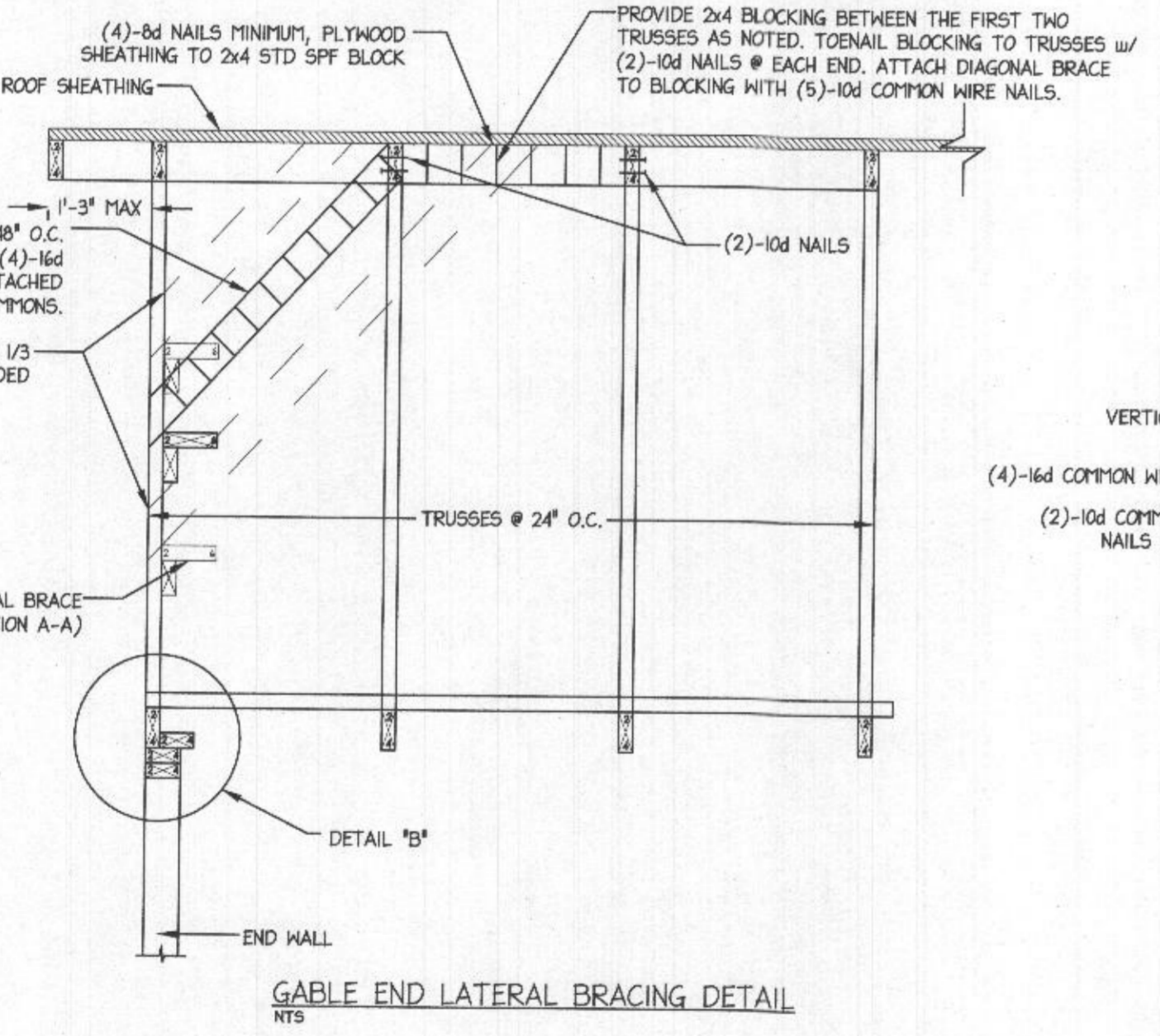
THIS TABLE CANNOT BE USED WITH BRICK VENEER

MAXIMUM WIND SPEED = 100 MPH
 MAX MEAN ROOF HEIGHT = 30'-0"
 CATEGORY II BUILDING
 EXPOSURE B or C
 ASCE 7-98
 DURATION OF LOAD INCREASE: 1.60

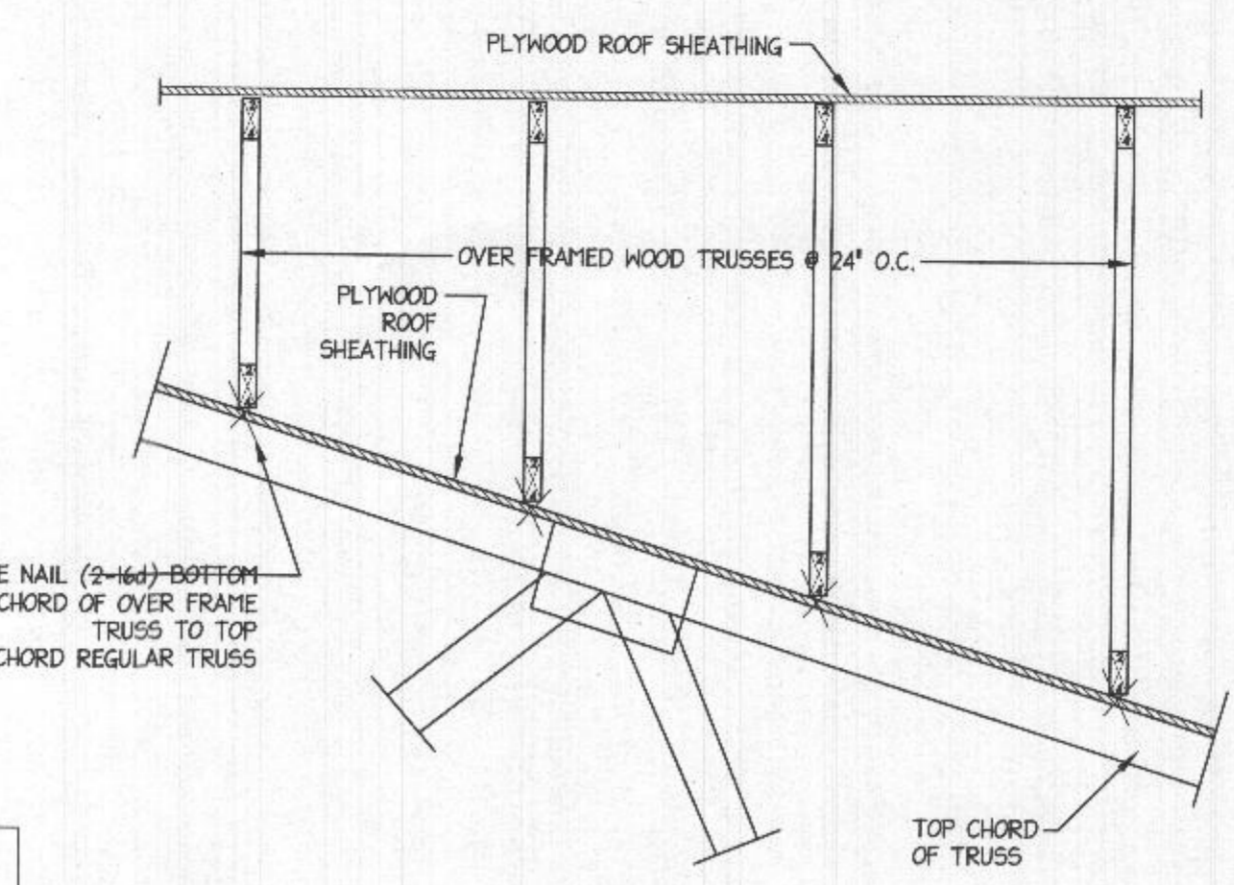
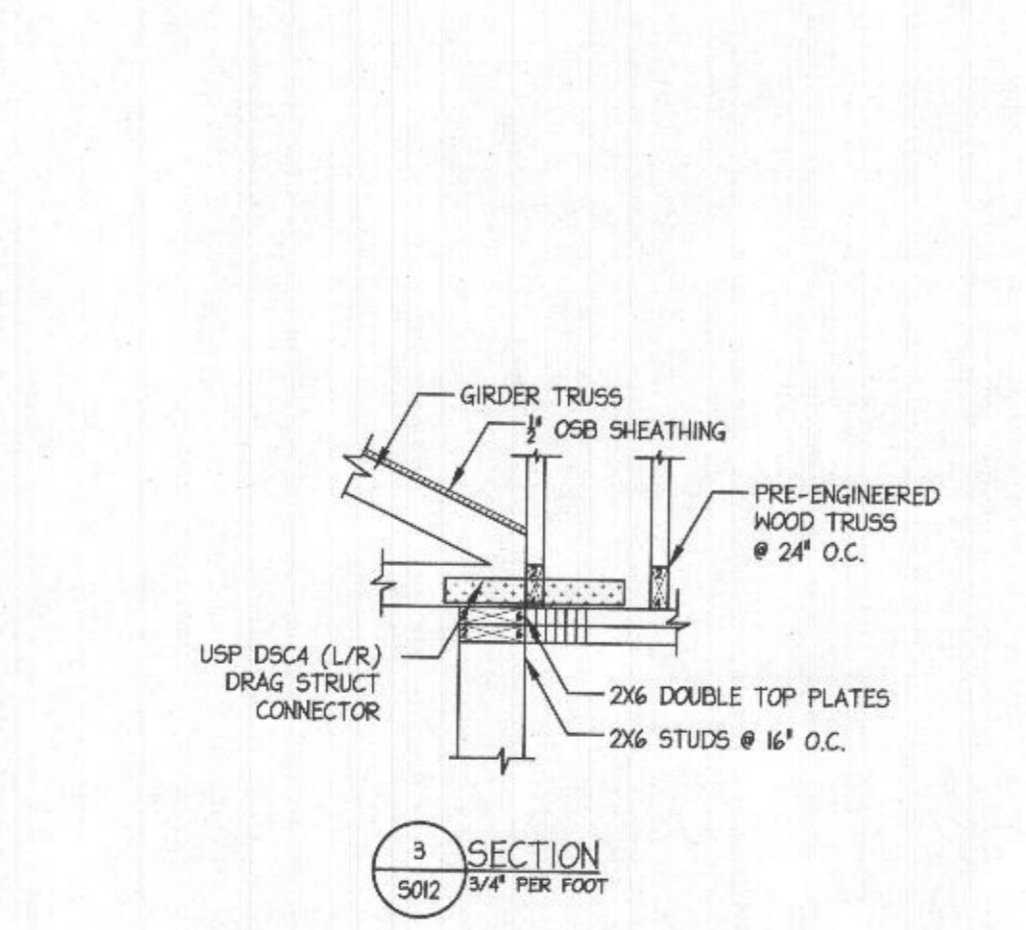
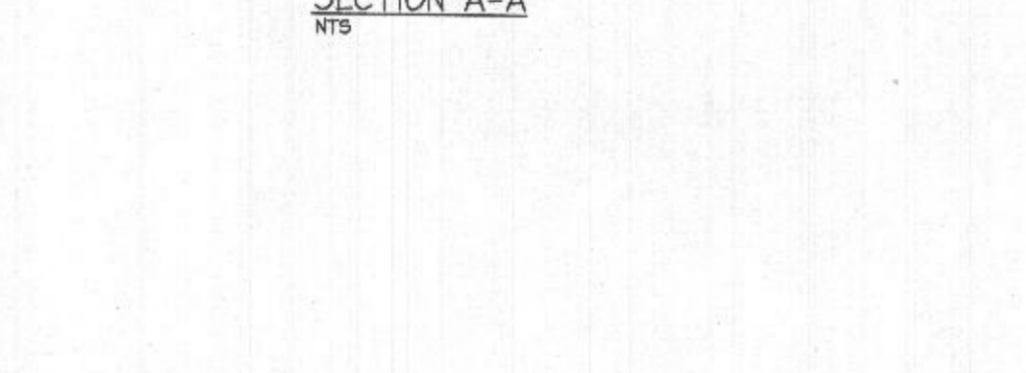
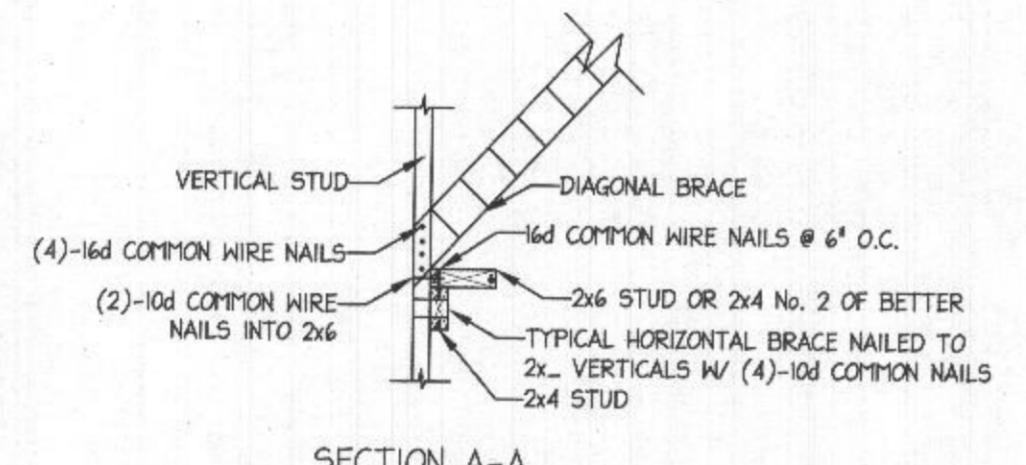
NOTE:
 BOTTOM CHORD HORIZONTAL BRACING, 2x4 (FLAT) ATTACHED TO 4 TRUSSES @ 3'-0" o.c. NAIL TO TOP OF EACH BOTTOM CHORD WITH 2-16d NAILS.



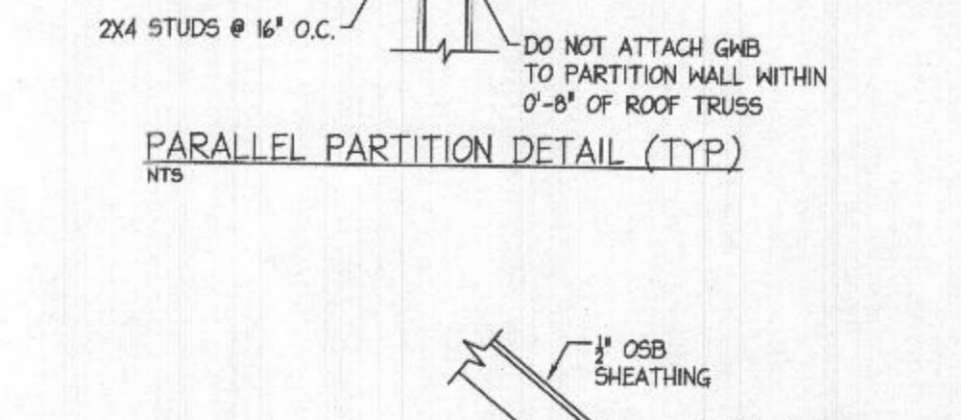
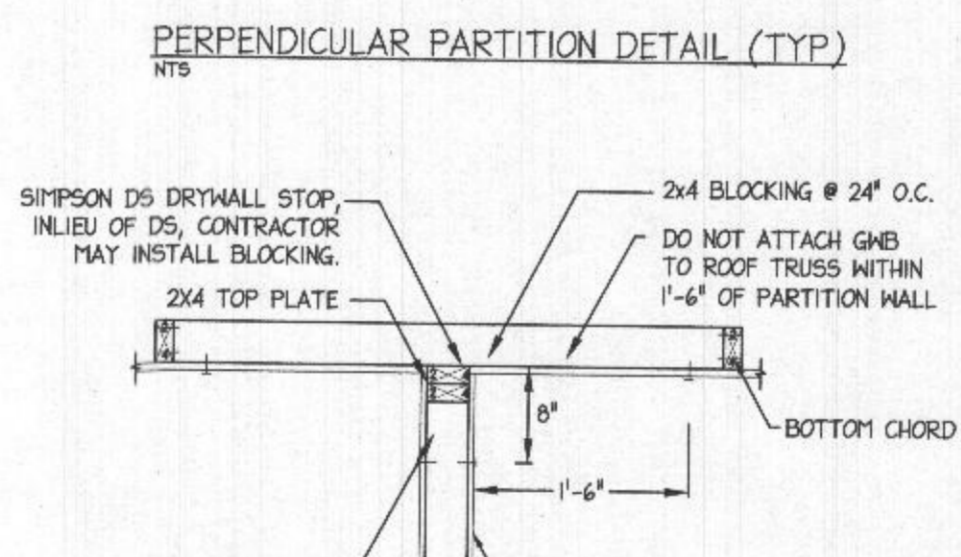
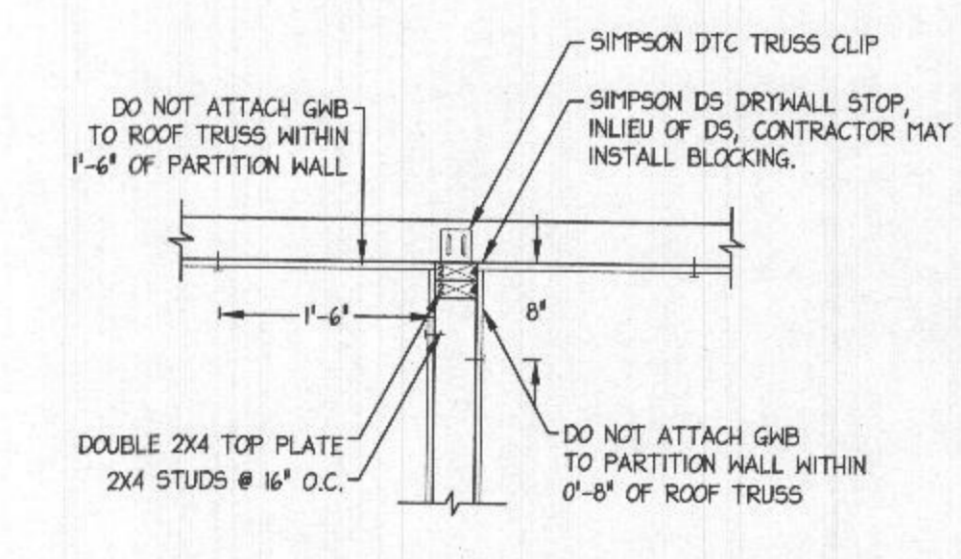
1 SECTION
 3/4" PER FOOT



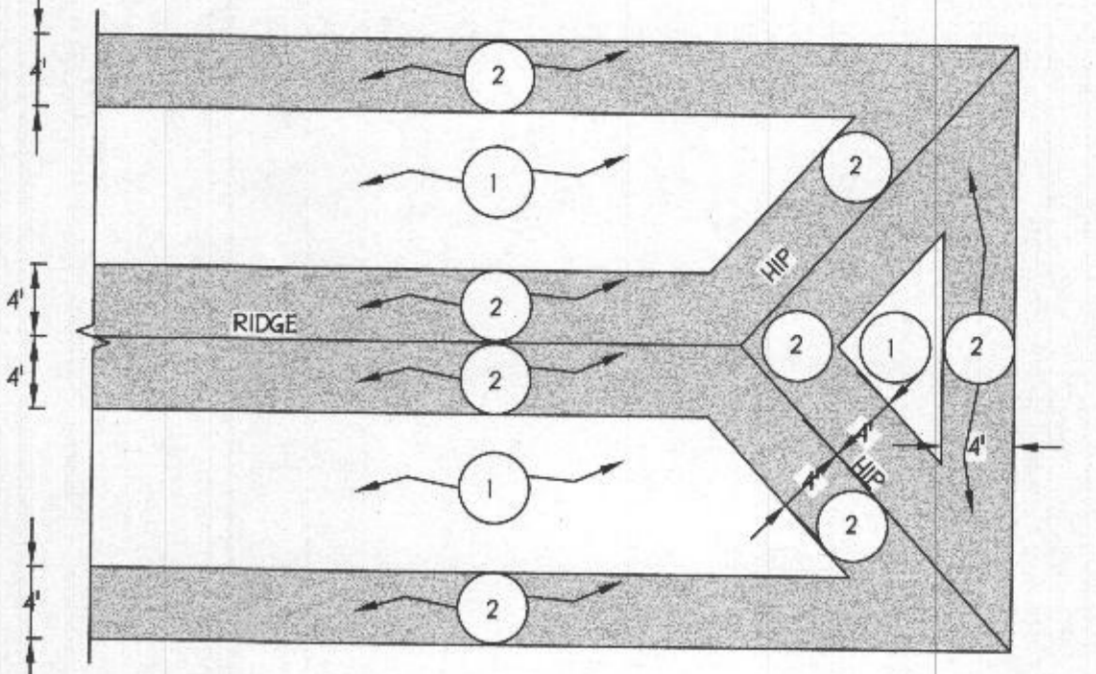
2 SECTION
 3/4" PER FOOT



OVERFRAMING (TRUSSES) DETAIL
 NTS



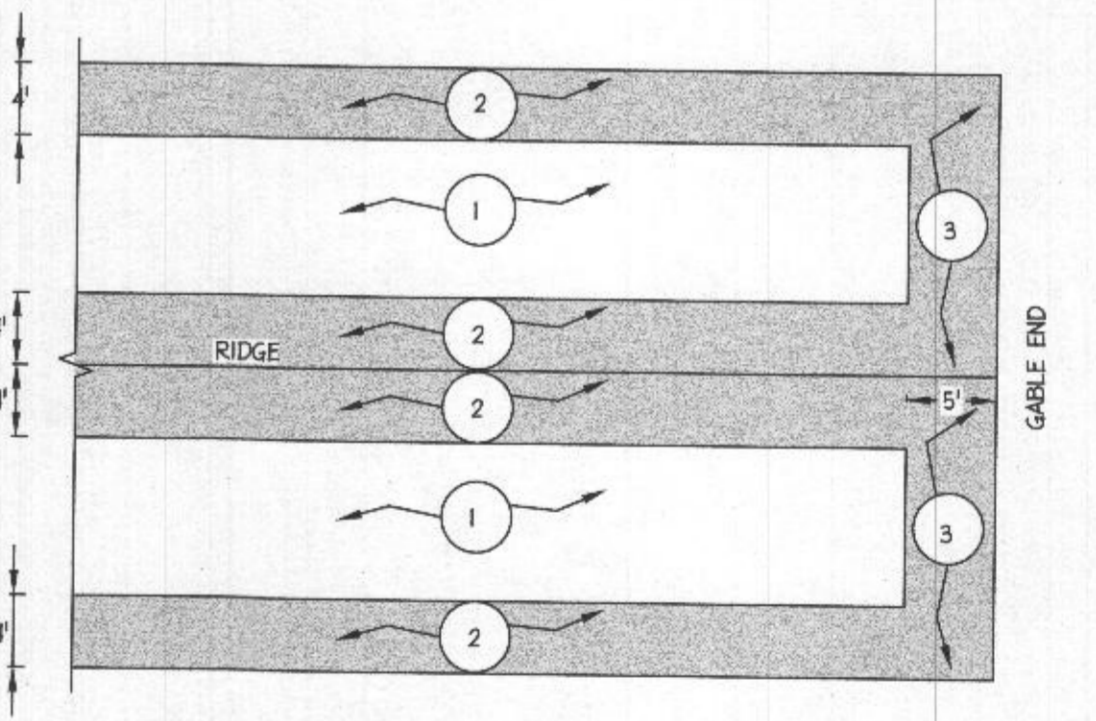
5 SECTION
 3/4" PER FOOT



NAIL SPACING SCHEDULE

ZONE	1		2	
	010 MPH (35SEC GUST)	210 MPH (35SEC GUST)	010 MPH (35SEC GUST)	210 MPH (35SEC GUST)
PANEL EDGE	6" O.C.	4" O.C.	6" O.C.	6" O.C.
PANEL INTERIOR	12" O.C.	6" O.C.	12" O.C.	6" O.C.

NOTE: USE 8d RING SHANK NAILS
 PARTIAL ROOF (PLAN VIEW) SHOWING SHEATHING/FASTENING DETAIL



NAIL SPACING SCHEDULE

ZONE	1		2		3	
	010 MPH (35SEC GUST)	210 MPH (35SEC GUST)	010 MPH (35SEC GUST)	210 MPH (35SEC GUST)	010 MPH (35SEC GUST)	210 MPH (35SEC GUST)
PANEL EDGE	6" O.C.	4" O.C.	6" O.C.	6" O.C.	6" O.C.	4" O.C.
PANEL INTERIOR	12" O.C.	6" O.C.	12" O.C.	6" O.C.	6" O.C.	6" O.C.

NOTE: USE 8d RING SHANK NAILS
 PARTIAL ROOF (PLAN VIEW) SHOWING SHEATHING/FASTENING DETAIL