

STRUCTURAL ENGINEERING  
UNLIMITED, LLC

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ARCHITECT: CARB DANIEL MARTIN

CONTRACTOR: CLASSIC HOMES OF MARYLAND

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.: 24518 EXPIRATION DATE: 09-21-2021



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ISSUE: [Signature] DATE: 09-11-2020

REVISION table with 3 columns: No., Description, Date

GENERAL STRUCTURAL NOTES & SCHEDULES

S002

CONCRETE

ALL CONCRETE SHALL BE MADE IN ACCORDANCE WITH DESIGN MIXES WHICH ARE TO BE APPROVED BY THE ARCHITECT OR ENGINEER PRIOR TO CASTING ANY CONCRETE. MIXES SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) 308. ALL PLAIN CONCRETE TO CONFORM TO ACI 308.1 AND ACI 309 GUIDE TO RESIDENTIAL CAST IN PLACE CONCRETE CONSTRUCTION. MIXES SHALL HAVE A MINIMUM CEMENT CONTENT OF 520 LB. PER CUBIC YD., MAXIMUM WATER/CEMENT RATIO OF 0.53 FOR INTERIOR CONCRETE PROTECTED FROM FREEZING AND 0.45 FOR ALL EXTERIOR EXPOSED CONCRETE.

CONCRETE MATERIALS SHALL CONFORM TO ASTM C150, TYPE I FOR PORTLAND CEMENT AND ASTM C33 FOR AGGREGATES. WATER-REDUCING ADMIXTURES SHALL CONFORM TO ASTM C494, TYPE A (FREE OF CALCIUM CHLORIDES), AIR-ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260, AND HIGH-RANGE WATER REDUCERS (SUPER-PLASTICIZERS) SHALL CONFORM TO ASTM C494, TYPE F. FLY ASH SHALL COMPLY WITH ASTM C618 FOR CLASS F AND SHALL NOT BE PROPORTIONED IN MIXES WITH MORE THAN 20% CEMENT BY WEIGHT. LIQUID-MEMBRANE CURING COMPOUNDS SHALL BE HIGH-SOLIDS, WATER AND ACRYLIC-BASED, COMPLYING WITH ASTM C309 AS TESTED UNDER ASTM C156. SLUMP OF THE CONCRETE SHALL BE A MINIMUM OF 4-INCHES AND A MAXIMUM OF 6-INCHES. SEE THE PROJECT SPECIFICATIONS. THE COMPRESSIVE STRENGTH IS BASED 28-DAY COMPRESSIVE STRENGTH.

SLAB ISOLATION JOINTS: PROVIDE PRE-MOLDED JOINT FILLER AROUND ALL PIPING, PIERS & FOUNDATION WALLS.

ALL CONCRETE TO BE PLACED IN THE CELLS OF CONCRETE MASONRY UNITS (CMU BLOCK FILL), OR IN THE VOIDS OF BRICK MASONRY CONSTRUCTION, SHALL CONTAIN PEA GRAVEL (3/8" Ø STONE) IN LIEU OF COARSE AGGREGATE. THE CONCRETE MIX SHALL CONTAIN A HIGH-RANGE WATER REDUCER (SUPERPLASTICIZER). SLUMP OF THE CONCRETE SHALL BE A MINIMUM OF 6" AND A MAXIMUM OF 9". SEE THE PROJECT SPECIFICATIONS.

ALL EXTERIOR CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED, 6% +/- USE OF ADDITIVES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. USE OF ADDITIVES CONTAINING CALCIUM CHLORIDE SHALL NOT BE PERMITTED. DO NOT USE HIGH-RANGE WATER REDUCING ADMIXTURES IN AIR-ENTRAINED CONCRETE. CONFORM TO ASTM C260.

ADDITION OF WATER TO THE CONCRETE AT THE JOB SITE FOR THE PURPOSE OF INCREASING THE SLUMP OR FOR RETEMPERING THE CONCRETE WHICH HAS BEGUN TO SET IS STRICTLY PROHIBITED. SEE THE PROJECT SPECIFICATIONS FOR REQUIREMENTS OF WATER ADDITION TO CONCRETE AT THE JOBSITE.

SLABS ON GRADE SHALL BE 4" THICK CONCRETE AND REINFORCED WITH #4 @ 18" O.C. W/ 2" WELDED WIRE FABRIC SHALL BE SUPPORTED ON HIGH CHAIRS SO THAT THE FABRIC IS POSITIONED AT MID-DEPTH OF THE SLAB THICKNESS. LAP ONE FULL MESH PLUS 2" AT SPLICES IN EACH DIRECTION. PLACE CONCRETE OVER 6 MIL. POLYETHYLENE VAPOR BARRIER AND 4" MINIMUM COURSE AGGREGATE OR AS RECOMMENDED BY SOILS ENGINEER. THE AGGREGATE LAYER SHALL BE PLACED OVER FIRM NATURAL SUBGRADE OR ON COMPACTED AND CONTROLLED FILL. FILL UNDER SLABS SHALL BE COMPACTED IN 8" INCH LAYERS TO 98% MAX. DENSITY. USE AIR-ENTRAINED AT ALL EXTERIOR SLABS.

CONCRETE FOR SLABS-ON-GRADE SHALL BE PLACED IN A SEQUENCE AND MANNER THAT IS CONSISTENT WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE. LOCATE CONSTRUCTION AND CONTROL JOINTS IN SUCH A WAY TO MINIMIZE THE EFFECTS OF SHRINKAGE OF THE CONCRETE SLAB SECTIONS. SUBMIT TO THE ARCHITECT/ENGINEER THE SEQUENCE AND METHOD OF CASTING CONCRETE SLABS-ON-GRADE PRIOR TO PLACING THESE ELEMENTS. POUR SLABS IN ALTERNATE PANELS WITH A MAXIMUM OF 600 SF AND PROVIDE CONTROL AND CONSTRUCTION JOINTS AT 15'-0" MAXIMUM OR AS REQUIRED TO PREVENT UNCONTROLLED CRACKING.

SLAB CONTROL JOINTS: SAW CUT OR FORM TO 1/3 SLAB DEPTH. SPACE NO MORE THAN 8 FEET APART. DISCONTINUE WELDED WIRE FABRIC AT CONTROL JOINTS. PROVIDE JOINTS ON GROUND SUPPORTED SLABS IN RECTANGULAR CONFIGURATION, WITH THE LONGER SIDE NO MORE THAN ONE-AND-ONE-HALF TIMES THE LENGTH OF THE SHORTER SIDE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ANCHOR BOLTS, CLIPS, INSERTS, CONNECTION PLATES, SLEEVES, SLOTS AND OTHER REQUIRED ITEMS IN ACCORDANCE WITH THE CONTRACT DRAWINGS, AND IN COOPERATION WITH OTHER TRADES PRIOR TO PLACING CONCRETE.

ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH ACI'S MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES, (ACI-318). DETAILS OF REINFORCEMENT SHALL CONFORM TO ACI 318, ACI 315, AND CRSI STANDARDS.

ALL REINFORCING STEEL (INCLUDING WELDED WIRE FABRIC) SHALL BE SECURELY TIED AND ANCHORED IN PLACE TO PREVENT DISLOCATION DURING THE PLACING OPERATION.

REINFORCING STEEL SHALL BE CLEAN OF MUD, DEBRIS, LOOSE RUST, CEMENT, GROUT, OR ANY OTHER MATERIAL WHICH MAY INHIBIT THE BOND BETWEEN THE STEEL AND CONCRETE.

PROVIDE 8" x 8" CORNER BARS TO MATCH ALL HORIZONTAL REINFORCING IN WALLS AND FOOTINGS. ALL LAPS SHALL BE A MINIMUM OF 36 BAR DIAMETERS. PROVIDE DONNELS BETWEEN ALL FOOTINGS, WALLS AND PIERS TO MATCH SIZE AND SPACING OF VERTICAL REINFORCING.

DRY PACK SHALL CONSIST OF SIKKA GROUT 212 OR APPROVED SUBSTITUTE. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

WOOD

FLITCH BEAMS SHALL BE SIZED AS INDICATED ON THE DRAWINGS, USING #2 SPF MINIMUM AND A-86 STEEL PLATE. USE TWO ROWS OF 1/2" DIAMETER THROUGH BOLTS 2" FROM TOP AND BOTTOM, SPACED 16" O.C. AT TOP AND 32" O.C. AT THE BOTTOM. BEGIN BOLTING ROWS 6" FROM ENDS. STEEL FLITCH PLATES MUST BE EITHER FULL LENGTH OR FULL MOMENT BUTT SPLICE.

WOOD EXPOSED TO THE ELEMENTS, MOOD IN CONTACT WITH CONCRETE OR MASONRY, AND WOOD DESIGNATED "TREATED" SHALL BE #2 GRADE SOUTHERN PINE OR BETTER 4 PRESSURE IMPREGNATED WITH ALKALINE COPPER QUATERNARY (ACQ) IN ACCORDANCE WITH AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) STANDARD C2, WITH A MIN. RETENTION OF 0.40 LBS. PER CUBIC FOOT OF WOOD. MIN. DEPTH OF PENETRATION SHALL BE 2.5" OR 85% OF THE SAPWOOD.

ALL STUDS SHALL BE INSTALLED IN ACCORDANCE WITH WFOFA. MEMBERS ARE NOT TO BE DRILLED IN EXCESS OF NDS OR LOCAL CODE REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ALL POSTS AND MULTIPLE STUDS SHALL BE RUN CONTINUOUSLY TO SOLID BEARING ON FOUNDATION WALL OR BEAMS, PROVIDE SOLID BLOCKING AT FLOORS. COLUMNS SHALL BE ADEQUATELY ANCHORED TO PREVENT INTERNAL DISPLACEMENT.

FRAME CHIMNEYS: FRAME CHIMNEYS SHALL BE CONSTRUCTED OF MINIMUM #2 SPF STUDS, MAXIMUM 16" O.C. USE 2 X 4 IF CHIMNEY EXTENDS LESS THAN 6' ABOVE ROOF, OTHERWISE USE 2 X 6. SHEATH WITH 1/2" APA OR APPROVED SUBSTITUTE RATED SHEATHING CONTINUOUS ACROSS PLATES AND JOISTS, GLUE, AND NAIL WITH 8D NAILS @ 6" O.C. SECURE TO ROOF. STUDS MUST BE CONTINUOUS ACROSS ROOF INTERSECTION.

NO STRUCTURAL MEMBER SHALL BE OMITTED, NOTCHED, CUT, BLOCKED OUT OR RELOCATED WITHOUT PRIOR APPROVAL BY THE DESIGNER OR STRUCTURAL ENGINEER. DO NOT ALTER SIZES OF MEMBERS NOTED WITHOUT APPROVAL OF BOTH.

CUTTING OF WOOD BEAMS, JOISTS AND RAFTERS SHALL BE LIMITED TO CUTS AND BORED HOLES NOT DEEPER THAN ONE-SIXTH THE MEMBER DEPTH AND SHALL NOT BE LOCATED WITHIN THE MIDDLE THIRD OF THE SPAN. NOTCHES LOCATED CLOSER TO SUPPORTS THAN THREE TIMES THE MEMBER DEPTH SHALL NOT EXCEED ONE-FIFTH THE DEPTH. HOLES BORED OR CUT INTO JOISTS SHALL BE MIN. 2" CLEAR FROM THE TOP OR BOTTOM OF THE JOIST AND THE HOLE DIAMETER SHALL NOT EXCEED ONE-THIRD OF THE JOIST DEPTH.

THERE SHALL NOT BE LESS THAN ONE LINE OF BRIDGING IN EVERY EIGHT FEET OF SPAN IN FLOOR, ATTIC AND ROOF FRAMING. THE BRIDGING SHALL CONSIST OF NOT LESS THAN ONE BY THREE INCH LUMBER DOUBLE NAILED AT EACH END OR OF EQUIVALENT METAL BRACING OF EQUAL RIGIDITY. MIDSPAN BRIDGING IS NOT REQUIRED FOR FLOOR, ATTIC OR ROOF FRAMING WHERE JOIST DEPTH DOES NOT EXCEED TWELVE INCHES NOMINAL. BLOCK ALL STUD WALLS AT MAXIMUM INTERVALS OF EIGHT FEET WITH A MINIMUM OF TWO-BY-SIX SOLID MATERIAL WITH TIGHT JOINTS. PROVIDE TWO-BY-FIVE FIRE STOPS AT MID-POINT OF STUD WALLS.

UNLESS NOTED OTHERWISE, BRACE EXTERIOR CORNERS OF BUILDING WITH 1 X 4 DIAGONALS, LET INTO STUDS, OR 4 X 8 PLYWOOD SHEET OF THICKNESS TO MATCH THAT OF SHEATHING, OR WITH METAL STRAPS. LAP PLATES AT ALL CORNERS.

MISCELLANEOUS

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT AND FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT SAME AGAINST INJURY, DAMAGE OR LOSS.

THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE. SUCH LOADS SHALL NOT EXCEED THE CAPACITY OF THE STRUCTURE AT ANY TIME. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION, AND ANY TEMPORARY BRACING OR SUPPORT REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR IS TO VERIFY ALL OPENING SIZES AND LOCATIONS WITH THE REQUIREMENTS OF OTHER TRADES PRIOR TO FABRICATION AND ERECTION.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE WORK OF ALL TRADES IS COORDINATED WITH STRUCTURAL WORK.

EARTH RETAINING WALLS, OTHER THAN CANTILEVERED TYPE WALLS, SHALL BE ADEQUATELY BRACED UNTIL CONCRETE FOR SUPPORTING SLABS HAS BEEN PLACED AND ALL CONCRETE HAS CURED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, ERECTING AND REMOVING ANY TEMPORARY SHORING AND BRACING DURING CONSTRUCTION.

THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED AT THE PROPER TIME WHEN ALL ITEMS ARE READY FOR OBSERVATION. SUFFICIENT NOTICE SHALL BE GIVEN BY THE CONTRACTOR TO ALLOW FOR SCHEDULING OF OBSERVATIONS.

SAFETY REGULATIONS SHALL BE STRICTLY FOLLOWED BY THE CONTRACTOR OR SUBCONTRACTOR DURING ALL TIMES OF WORK ON THIS PROJECT. THE ARCHITECT OR ENGINEER SHALL NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR ACTS OF OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

ALL SPECIALTY BOLTS, INCLUDING EXPANSION TYPE AND EPOXY TYPE ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

THE CONTRACTOR SHALL PROTECT FROM DAMAGES EXISTING BUILDING(S), OWNER EQUIPMENT, ROADS, WALKS AND UTILITIES. THE CONTRACTOR SHALL MAINTAIN THESE DURING THE COURSE OF THE WORK, AND SHALL REPAIR ALL DAMAGES AT NO ADDITIONAL EXPENSE TO THE OWNER.

IN AREAS WHERE THE DRAWINGS DO NOT ADDRESS METHODOLOGY, THE CONTRACTOR SHALL BE BOUND TO PERFORM IN STRICT COMPLIANCE WITH MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATIONS.

ON-SITE VERIFICATION OF ALL DIMENSIONS AND CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND HIS SUBCONTRACTORS. NOTED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE.

THE GENERAL NOTES AND TYPICAL DETAILS APPLY THROUGHOUT THE JOB UNLESS OTHERWISE NOTED OR SHOWN.

THE CONTRACTOR SHALL COMPARE AND COORDINATE ALL DRAWINGS. IF A DISCREPANCY EXISTS, HE SHALL PROMPTLY REPORT IT FOR PROPER ADJUSTMENT BEFORE PROCEEDING WITH THE WORK.

IN THE EVENT THAT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS SIMILAR CONDITIONS THAT ARE SHOWN OR NOTED.

THESE PLANS ARE SUBJECT TO MODIFICATIONS AS NECESSARY TO MEET CODE REQUIREMENTS OR TO FACILITATE MECHANICAL, PLUMBING INSTALLATIONS OR TO INCORPORATE DESIGN IMPROVEMENTS.

DO NOT BUILD OVER GAS LINES OR ENCLOSE THE METER. CONSULT THE LOCAL GAS COMPANY PRIOR TO CONSTRUCTION.

CHIMNEY SHALL EXTEND AT LEAST 2 FEET HIGHER THAN ANY PORTION OF THE BUILDING WITHIN 10 FEET, BUT SHALL NOT BE LESS THAN 3 FEET ABOVE THE POINT WHERE IT PASSES THROUGH THE ROOF.

DECKS ARE NOT APPROVED FOR FUTURE HOT TUB INSTALLATION.

NO OPENING NOR ANY CHANGES IN SIZE, DIMENSION OR LOCATION SHALL BE MADE IN ANY STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH NEW WORK IN AREAS AFFECTED BY EXISTING CONDITIONS. STRUCTURAL ENGINEER SHALL BE INFORMED IN WRITING OF CONFLICTS BETWEEN EXISTING AND PROPOSED NEW CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS. INCONSISTENCIES ON THE STRUCTURAL DRAWINGS OR BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER CONTRACT, SHOP, FABRICATION, OR OTHER DRAWINGS OR INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH AFFECTED WORK.

THE STRUCTURAL INTEGRITY OF THE BUILDING IS DEPENDANT UPON COMPLETION ACCORDING TO PLANS AND SPECIFICATIONS. THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. THE METHOD OF CONSTRUCTION AND SEQUENCE OF OPERATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUPPLY ANY NECESSARY SHORING, BRACING, GUTS, ETC., TO PROPERLY BRACE THE STRUCTURE AGAINST WIND, DEAD AND LIVE LOADS UNTIL THE BUILDING IS COMPLETED ACCORDING TO THE PLANS AND SPECIFICATIONS.

CONTRACTOR SHALL NOT PLACE BACK FILL AGAINST BASEMENT WALLS UNTIL THE FLOOR SYSTEM IS COMPLETELY INSTALLED OR CONTRACTOR HAS PROVIDED ADEQUATE SHORING AND BRACING. ANY QUESTIONS REGARDING TEMPORARY SHORING REQUIREMENTS SHOULD BE FORWARDED TO THE STRUCTURAL ENGINEER FOR REVIEW.

FOUNDATION STEM WALL REINFORCEMENT SCHEDULE

Table with columns: STEM WALL HEIGHT (H), SOIL CLASSIFICATIONS, REINFORCEMENT (EQVALENT FLUID PRESSURE), and REINFORCEMENT (EQVALENT FLUID PRESSURE). Includes diagrams for 6" and 9" wall heights.

FOUNDATION WALL STRIP FOOTING SCHEDULE

Tables for 8" and 10" concrete wall strip footing sizes. Includes diagrams for 2x4 shear keys and 3" clear cover. Includes notes on soil classifications and bearing capacities.

FOUNDATION WALL REINFORCEMENT SCHEDULE

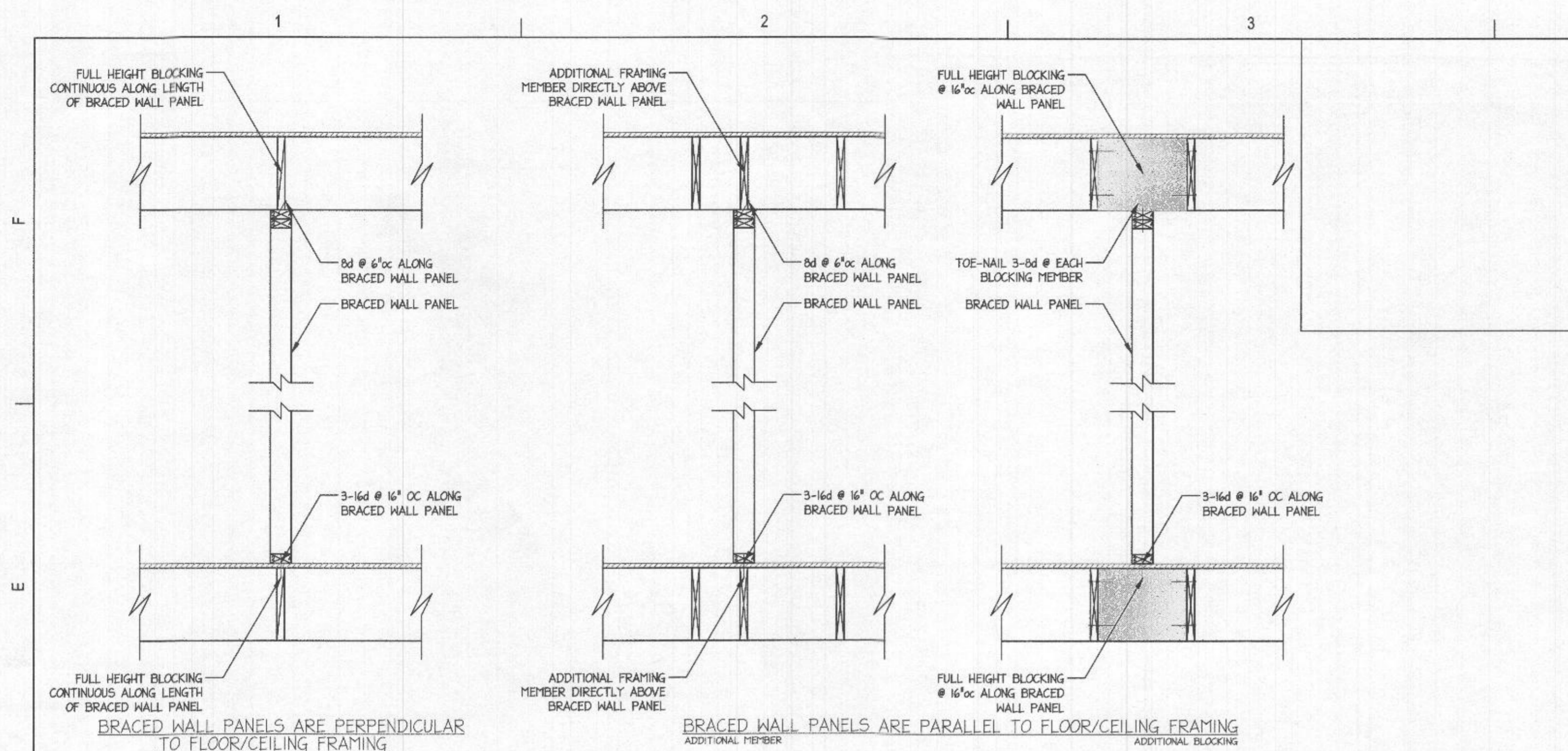
Tables for 8" and 10" concrete wall vertical reinforcement. Includes diagrams for vertical rebar and horizontal reinforcement. Includes notes on soil classifications and bearing capacities.

ISOLATED FOOTING SCHEDULE

Tables for square and round isolated footing specifications. Includes diagrams for footing cross-sections and reinforcement details.

GARAGE GRADE BEAM SCHEDULE

Table for garage grade beam schedule. Includes columns for span (ft), beam size (inches), and flexure reinforcement.

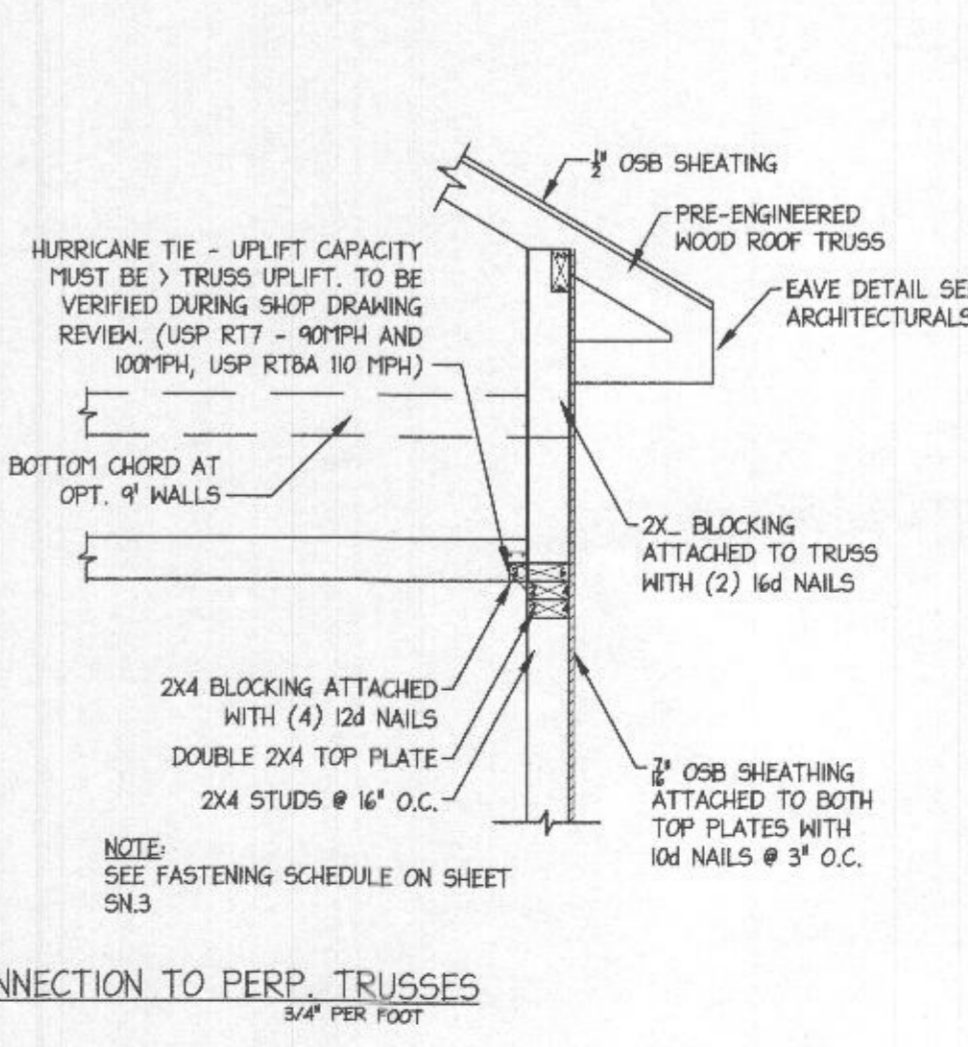
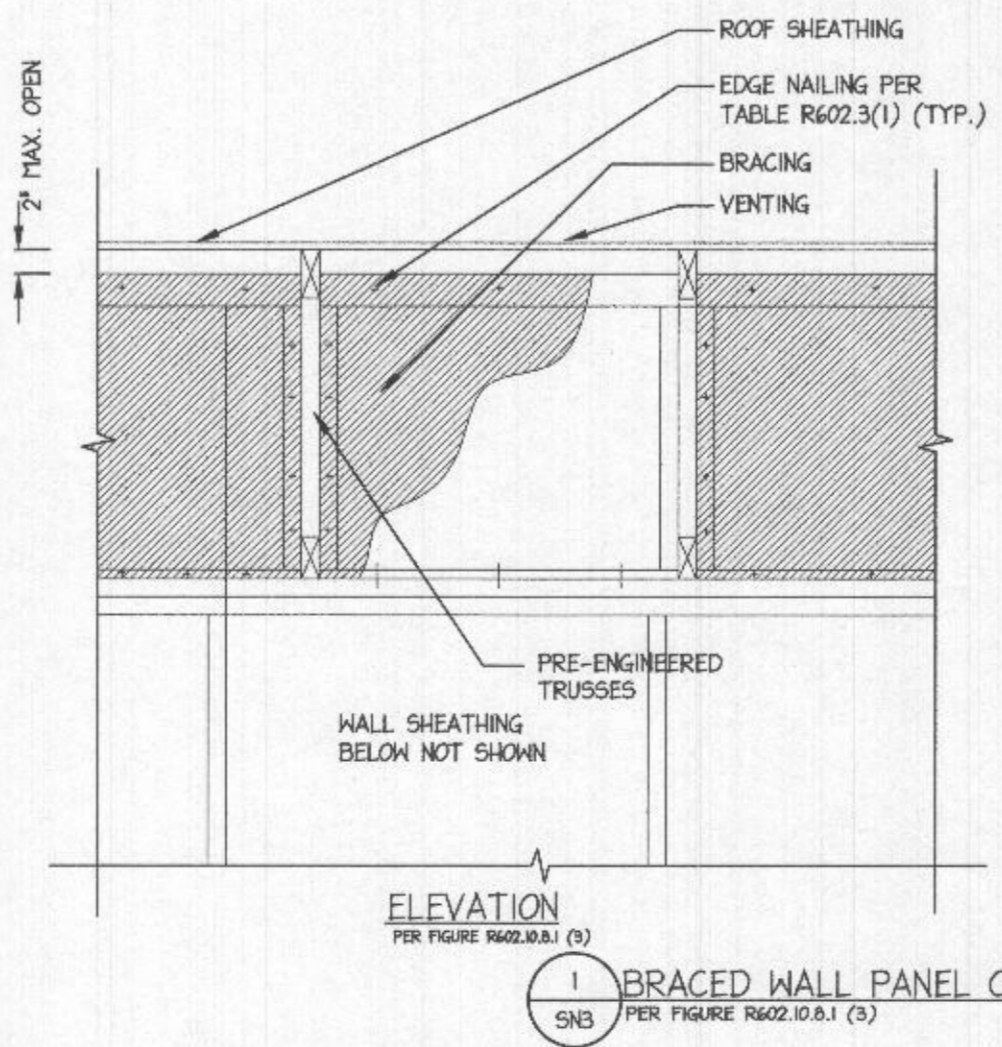
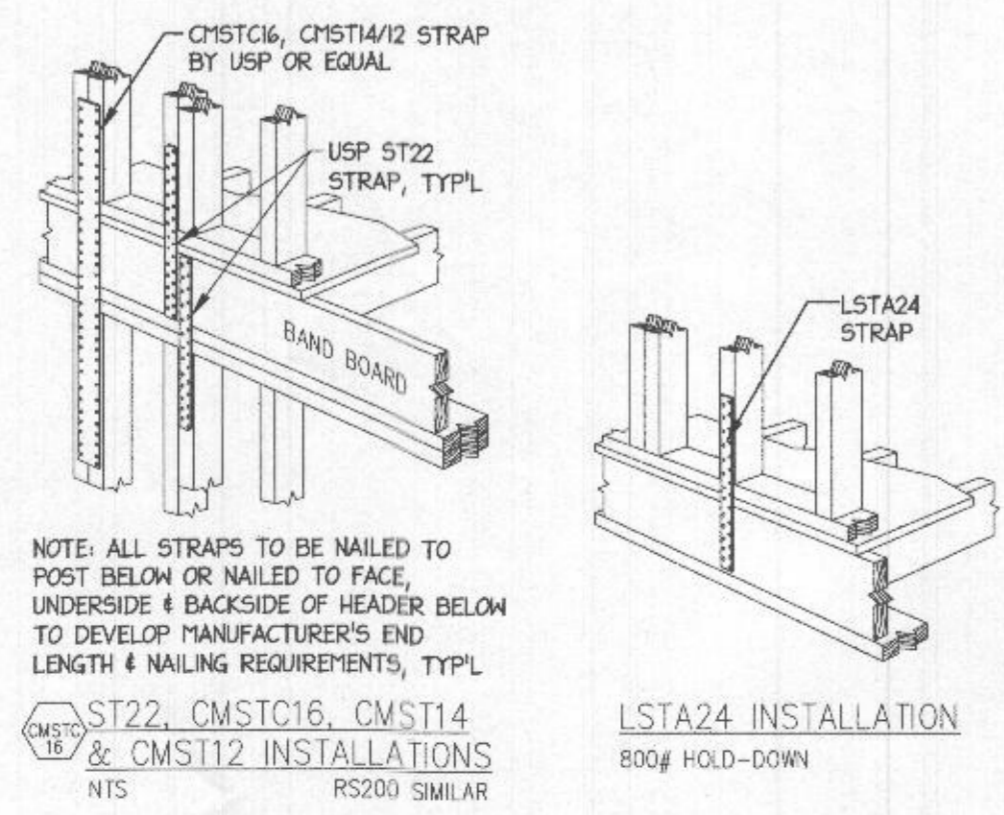
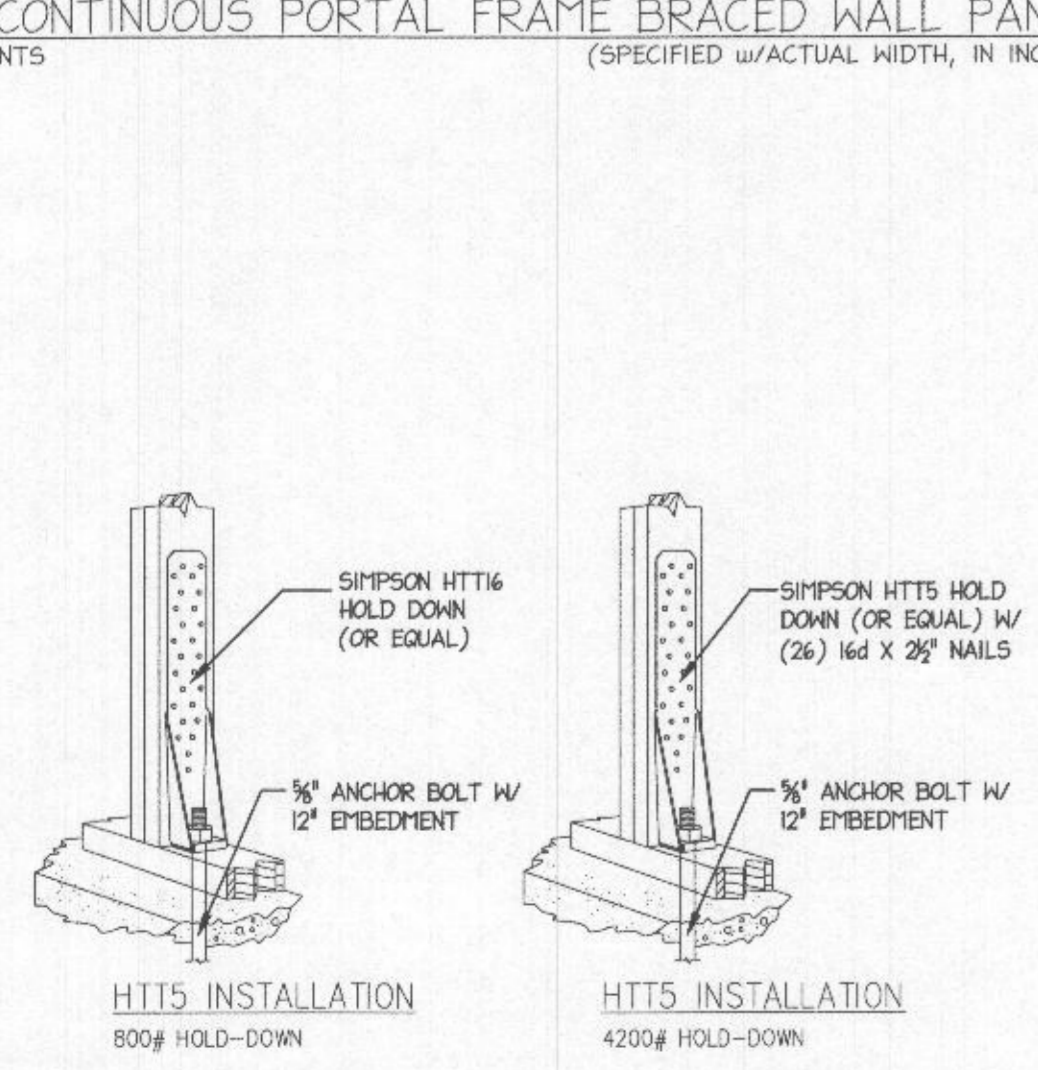
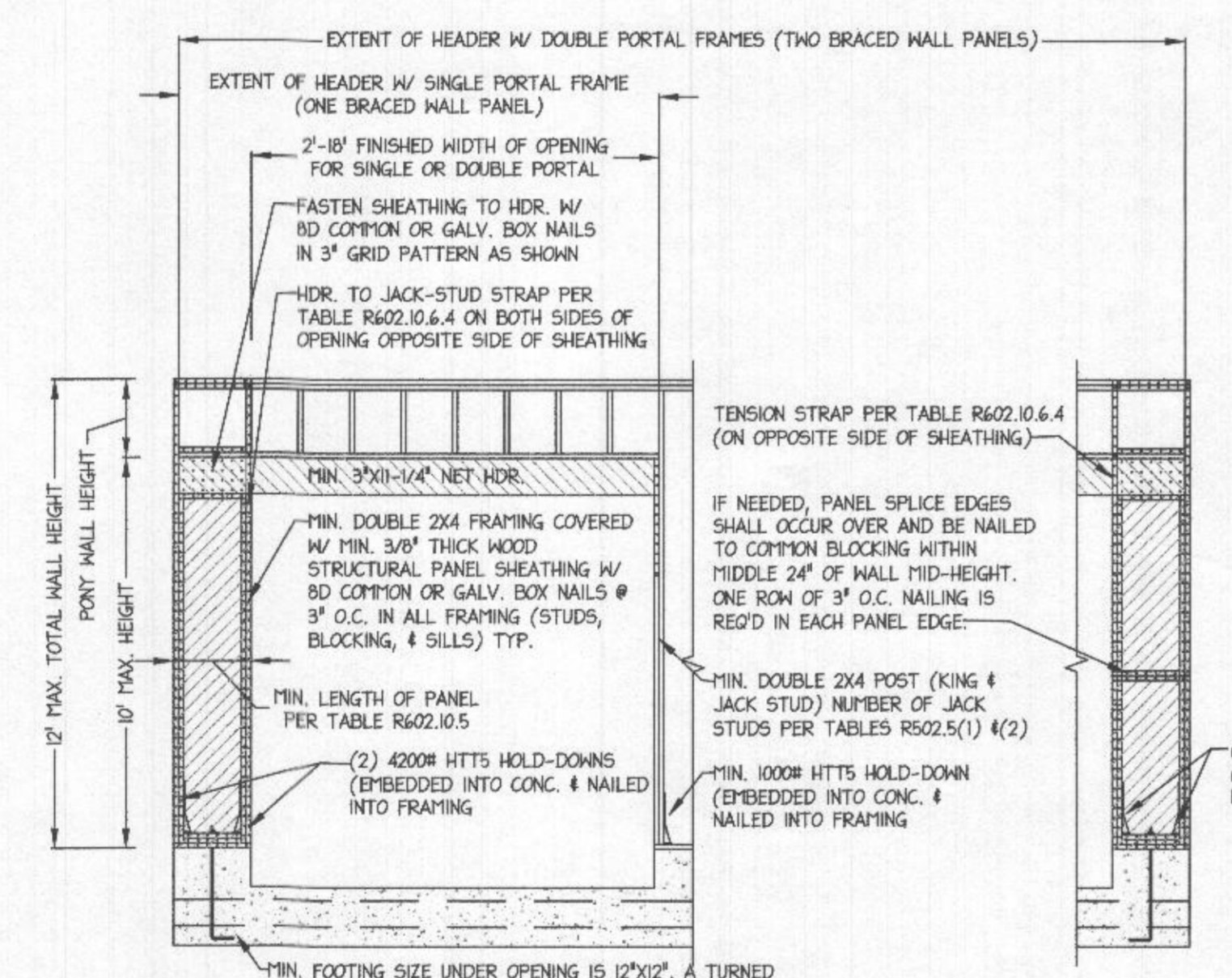
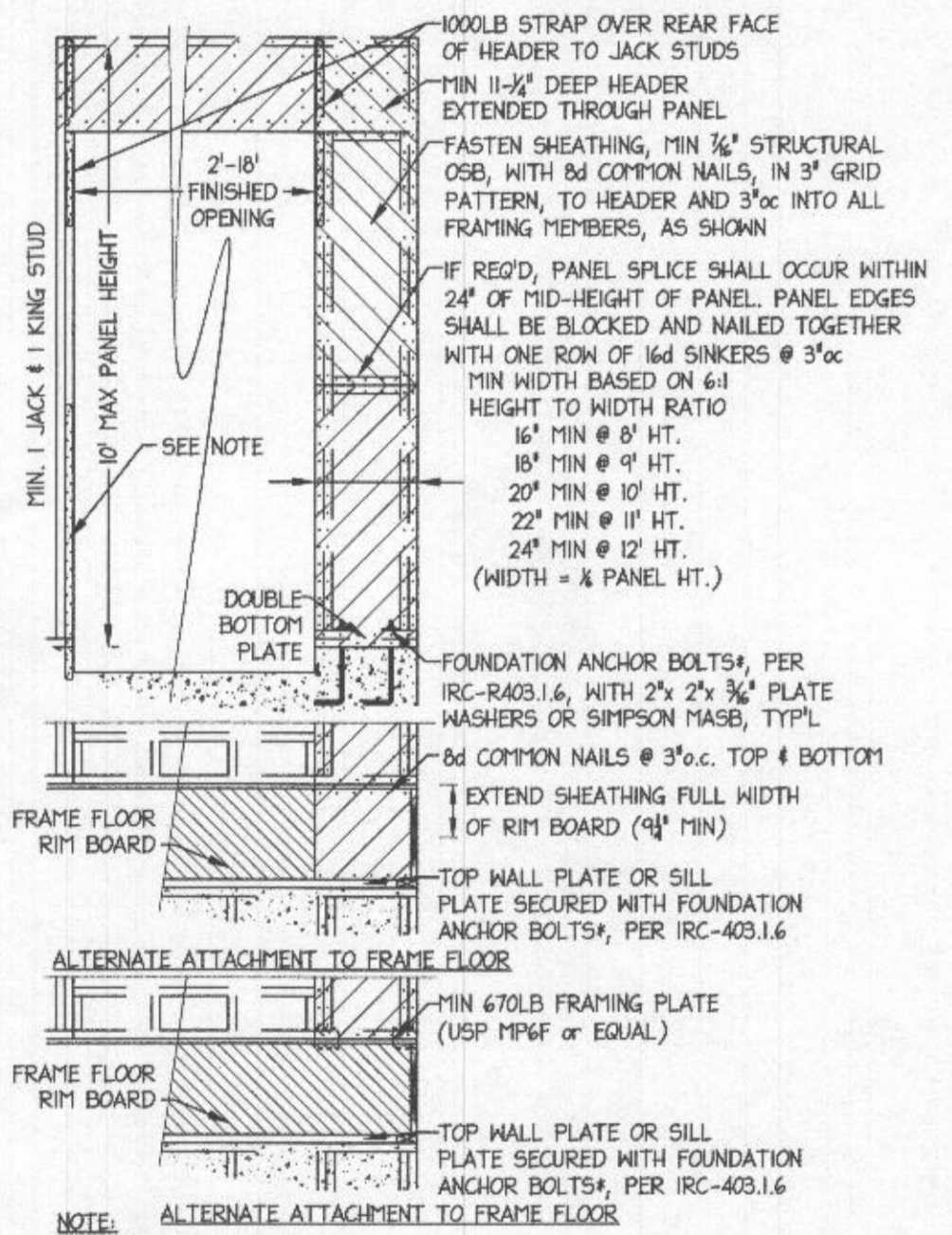


### PARTIAL SHEATHING FASTENING SCHEDULE

SHEATHING	FASTENERS	S, SPACING OF FASTENERS PANEL EDGES PANEL FIELD	
3/4" - 1" PLYWOOD	6d COMMON, FLOOR, WALL 6d COMMON, ROOF	6	12
1/2" - 1 1/2" PLYWOOD	6d COMMON 6d DEFORMED	6	12
1/2" GYPSUM	1/2" GALV ROOFING; 6d COMMON; 1/2" GALV STAPLE; 1/2" SCREW, TYPE 5 OR W	4	6
1/2" GYPSUM	1/2" GALV ROOFING; 6d COMMON; 1/2" GALV STAPLE; 1/2" SCREW, TYPE 5 OR W	4	6

### PARTIAL FASTENING SCHEDULE

MARK	CONNECTION	FASTENING	DETAIL
1	TOP PLATE TO STUD, END NAIL	2X4 2-16d 2X6 3-16d 2X8 4-16d 2X10 5-16d 2X12 6-16d	(5)
2	DOUBLE TOP PLATE, FACE NAIL	10d @ 24"oc	(1)(2)(3)
3	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	16d TOENAILS @ 6"oc (MIN 2 PER BLOCK)	(6)(7)
4	CEILING JOISTS TO PLATE, TOE NAIL	(2) 16d	(1)(2)
5	CEILING JOIST/COLLAR TIE TO RAFTER, FACE NAIL	(6) 16d (MIN)	(1)(2)
6	RAFTER / TRUSS TO PLATE, TOE NAIL	(3) 16d	(1)(2)
7	BLOCKING TO JOIST OR RAFTER, EACH END	(2) 16d, TOE NAIL OR (2) 16d, END NAIL	(1)(2)
8	STUD TO SOLE PLATE, END NAIL	2X4 (2) - 16d 2X6 (3) - 16d 2X8 (4) - 16d 2X10 (5) - 16d 2X12 (6) - 16d	(1)(2)(3)(4)(5)(6)
9	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL SEGMENTS, FACE NAIL	3-16d @ 16"oc 4-16d @ 12"oc OR 5-16d @ 24"oc	(1)(2)(3)(4)(5)(6)
10	SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	2-16d @ EACH JOIST OR BLOCKING	(1)(2)(3)(4)(5)(6)
11	SOLE PLATE TO RIM BOARD, FACE NAIL	16d @ 16"oc	(1)(2)
12	RIM BOARD TO TOP/ SILL PLATE, TOE NAIL	10d @ 6"oc	(1)(2)
13	JOIST TO RIM BOARD, END NAIL	(3) 16d	(1)(2)(3)
14	JOIST TO TOP / SILL PLATE OR GIRDER, TOE NAIL	(2) 16d	(1)(2)(3)(4)(5)(6)
15	SILL PLATE TO FOUNDATION WALL	1/2" ANCHOR BOLTS (7" MIN EMBEDMENT INTO WALL) @ 48"oc (MAX) (MIN 2 PER PLATE, WITH 1 WITHIN 12" OF END OF PLATE)	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
16	TOP PLATE LAPS SPlice, FACE NAIL (4'-0" MINIMUM)	(8) 16d	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
17	DOUBLE STUDS, FACE NAIL (STAGGER)	10d @ 12"oc EACH FACE	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
18	JACK STUD TO KING STUD, FACE NAIL (STAGGER)	10d @ 12"oc EACH FACE	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
19	KING STUD TO HEADER, FACE NAIL - EACH PLY	(3) 16d	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
20	CONTINUED HEADER, TWO PIECES	16d @ 16"oc ALL EDGES & 4-16d NAILS AT ENDS	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
21	BUILT UP HEADER, TWO PLYS WITH 1/2" SPACER	16d @ 16"oc ALL EDGES & 4-16d NAILS AT ENDS	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
22	TOP PLATE LAP AT WALL INTERSECTION, FACE NAIL	(2) 10d	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
23	CEILING JOIST TO JOIST, LAP OVER PARTITION	(5) 10d FACE NAILS	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
24	RAFTER TO RIDGE, VALLEY OR HIP RAFTER	(3) 16d FACE NAILS, (4) 16d TOE NAILS	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
25	BUILT-UP CORNER STUDS (THREE STUDS MINIMUM)	16d @ 16"oc	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
26	BUILT-UP BEAM AND GIRDERS, 2-INCH LUMBER LAYERS, NAILING PER LAYER	16d @ 16"oc ALL EDGES & 4-16d NAILS AT ENDS AND SPLICES	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)
27	INTERMEDIATE SUPPORT POST TO HEADER, TOE NAIL	(2) 16d EACH PLY OF POST	(1)(2)(3)(4)(5)(6)(7)(8)(9)(10)(11)



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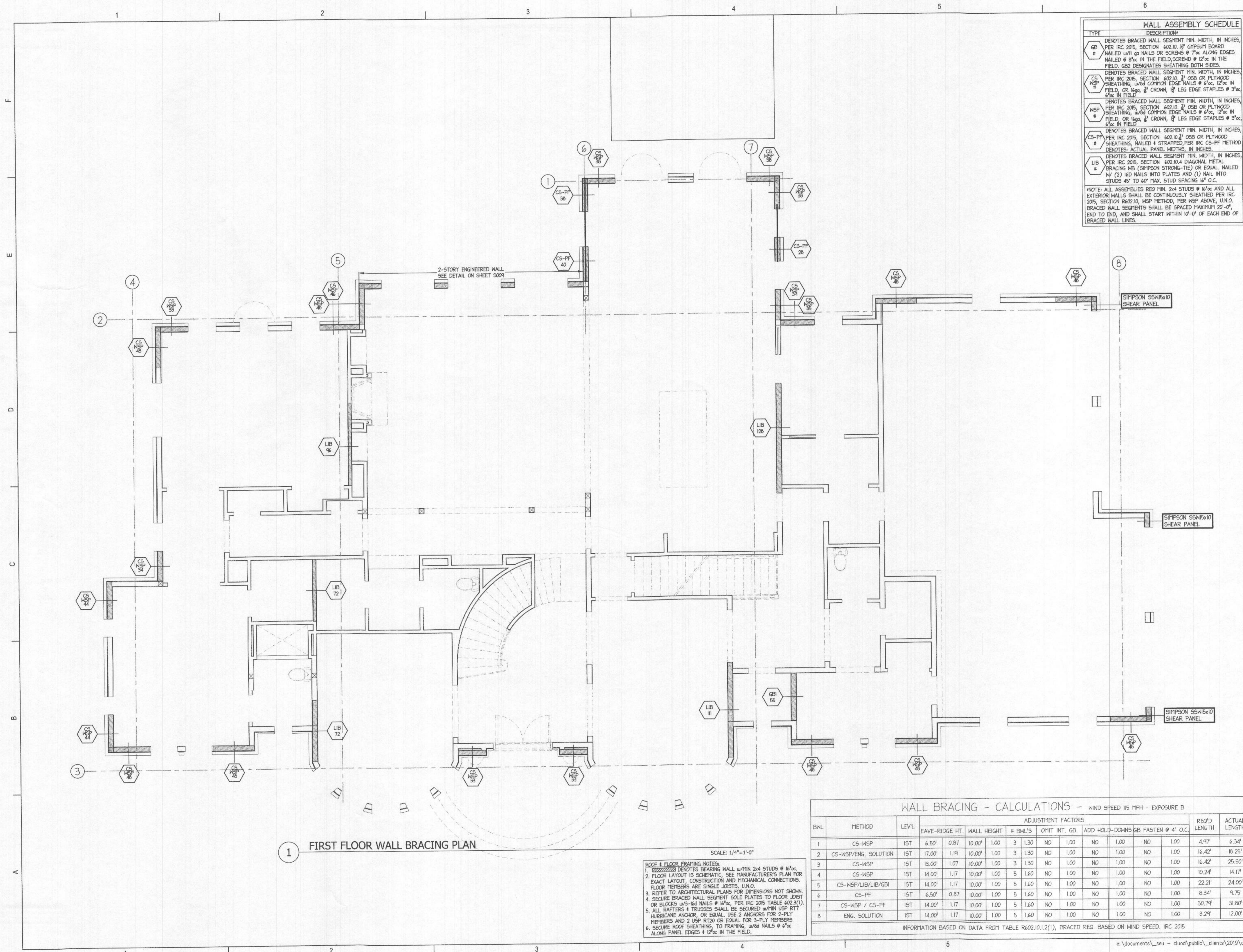
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**GENERAL STRUCTURAL NOTES & SCHEDULES**

**S003**







WALL ASSEMBLY SCHEDULE	
TYPE	DESCRIPTION
GB #	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10. 1/2" GYPSUM BOARD NAILED w/1" 90 NAILS OR SCREWS @ 7"oc ALONG EDGES NAILED @ 8"oc IN THE FIELD, SCREWS @ 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. 1/2" OSB OR PLYWOOD SHEATHING, w/1" COMMON EDGE NAILS @ 6"oc, 12"oc IN FIELD, OR 1 1/2" CROWN, 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. 1/2" OSB OR PLYWOOD SHEATHING, w/1" COMMON EDGE NAILS @ 6"oc, 12"oc IN FIELD, OR 1 1/2" CROWN, 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. 1/2" 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 MB (SIMPSON STRONG-TIE) OR EQUAL, NAILED w/ (2) 1/4" NAILS INTO PLATES AND (1) NAIL INTO STUDS @ 6" TO 40" 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.

**STRUCTURAL ENGINEERING UNLIMITED, LLC**  
 341 W. PATRICK STREET  
 FREDERICK, MD 21701  
 240-815-6760  
 301-748-2769

**SEN RESIDENCE**  
 13575 NICHOLAS DR.  
 CLARKSVILLE, MD 21029

ARCHITECT: CARIB DANIEL MARTIN  
 CONTRACTOR: CLASSIC HOMES OF MARYLAND

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.: 24518  
 EXPIRATION DATE: 09-21-2021



SCALE: AS NOTED  
 DRAWN BY: SA CHECKED BY: JMU

ISSUE: DATE:  
 PERMIT SET 09-11-2020

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WALL BRACING - CALCULATIONS - WIND SPEED 115 MPH - EXPOSURE B																
BWL	METHOD	LEVL.	ADJUSTMENT FACTORS										REQ'D LENGTH	ACTUAL LENGTH		
			EAVE-RIDGE HT	WALL HEIGHT	# BNL'S	OMIT INT. GB.	ADD HOLD-DOWNS	GB FASTEN @ 4" O.C.	NO	NO	NO	NO				
1	CS-WSP	1ST	6.50'	0.87	10.00'	1.00	3	1.30	NO	1.00	NO	1.00	NO	1.00	4.97'	6.34'
2	CS-WSP/ENG. SOLUTION	1ST	17.00'	1.19	10.00'	1.00	3	1.30	NO	1.00	NO	1.00	NO	1.00	16.42'	18.25'
3	CS-WSP	1ST	13.00'	1.07	10.00'	1.00	3	1.30	NO	1.00	NO	1.00	NO	1.00	16.42'	25.50'
4	CS-WSP	1ST	14.00'	1.17	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	10.24'	14.17'
5	CS-WSP/LIB/LIB/GBI	1ST	14.00'	1.17	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	22.21'	24.00'
6	CS-PF	1ST	6.50'	0.87	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	8.34'	9.75'
7	CS-WSP / CS-PF	1ST	14.00'	1.17	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	30.79'	31.80'
8	ENG. SOLUTION	1ST	14.00'	1.17	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	8.29'	12.00'

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

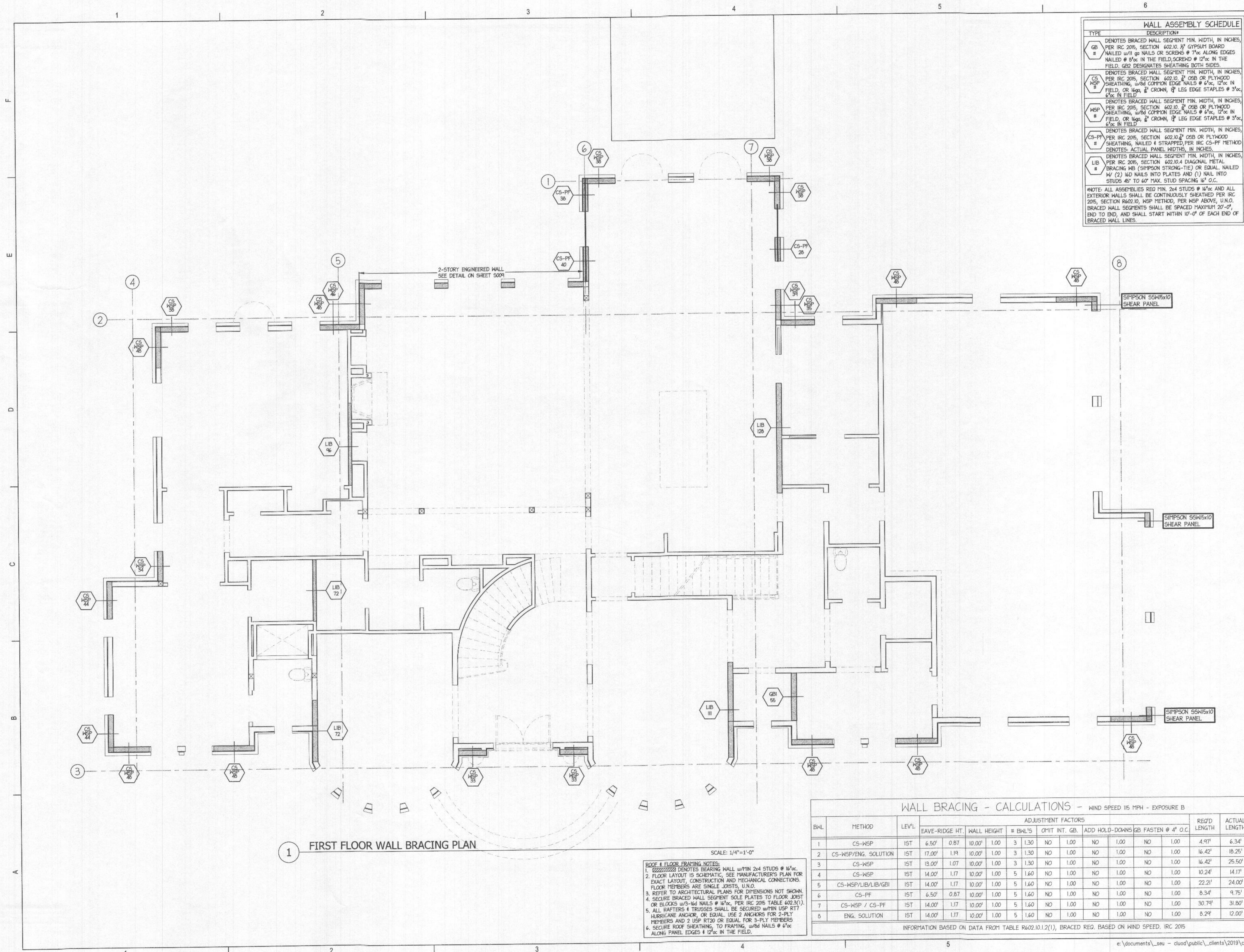
**1 FIRST FLOOR WALL BRACING PLAN**

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

ROOF & FLOOR FRAMING NOTES:  
 1. DENOTES BEARING WALL w/IN 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/IN USP R17 HURRICANE ANCHOR, OR EQUAL, USE 2 ANCHORS FOR 2-PLY MEMBERS AND 2 USP R20 OR EQUAL FOR 3-PLY MEMBERS.  
 6. SECURE ROOF SHEATHING, TO FRAMING, w/1" NAILS @ 6"oc ALONG PANEL EDGES @ 12"oc IN THE FIELD.

**FIRST FLOOR WALL BRACING PLAN & NOTES**

**S008**



WALL ASSEMBLY SCHEDULE	
TYPE	DESCRIPTION
GB #	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10. 1/2" GYPSUM BOARD NAILED w/1" OR NAILS OR SCREENS @ 7"oc ALONG EDGES NAILED @ 8"oc IN THE FIELD, SCREENS @ 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. 1/2" OSB OR PLYWOOD SHEATHING, w/3" COMMON EDGE NAILS @ 6"oc, 12"oc IN FIELD, OR 1/2" CROWN, 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. 1/2" OSB OR PLYWOOD SHEATHING, w/3" COMMON EDGE NAILS @ 6"oc, 12"oc IN FIELD, OR 1/2" CROWN, 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. 1/2" 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 MB (SIMPSON STRONG-TIE) OR EQUAL, NAILED w/ (2) #4 NAILS INTO PLATES AND (1) NAIL INTO STUDS @ 40" 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 602.10, 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.

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.	NO	NO	NO	NO				
1	CS-WSP	1ST	6.50'	0.87	10.00'	1.00	3	1.30	NO	1.00	NO	1.00	NO	1.00	4.97'	6.34'
2	CS-WSP/ENG. SOLUTION	1ST	17.00'	1.19	10.00'	1.00	3	1.30	NO	1.00	NO	1.00	NO	1.00	16.42'	18.25'
3	CS-WSP	1ST	13.00'	1.07	10.00'	1.00	3	1.30	NO	1.00	NO	1.00	NO	1.00	16.42'	25.50'
4	CS-WSP	1ST	14.00'	1.17	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	10.24'	14.17'
5	CS-WSP/LIB/LIB/GBI	1ST	14.00'	1.17	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	22.21'	24.00'
6	CS-PF	1ST	6.50'	0.87	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	8.34'	9.75'
7	CS-WSP / CS-PF	1ST	14.00'	1.17	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	30.79'	31.80'
8	ENG. SOLUTION	1ST	14.00'	1.17	10.00'	1.00	5	1.60	NO	1.00	NO	1.00	NO	1.00	8.29'	12.00'

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

ROOF & FLOOR FRAMING NOTES:  
 1. DENOTES BEARING WALL w/1/4" 2x4 STUDS @ 16"oc.  
 2. FLOOR LAYOUT IS SCHEMATIC, SEE MANUFACTURER'S PLAN FOR EXACT LAYOUT, CONSTRUCTION AND MECHANICAL CONNECTIONS. FLOOR MEMBERS ARE SINGLE DIMTS, 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" x 4" NAILS @ 16"oc, PER IRC 2015 TABLE 602.3(1).  
 5. ALL RAFTERS & TRUSSES SHALL BE SECURED w/1/4" R17 HURRICANE ANCHOR, OR EQUAL, USE 2 ANCHORS FOR 2-PLY MEMBERS AND 2 USP RT20 OR EQUAL FOR 3-PLY MEMBERS.  
 6. SECURE ROOF SHEATHING TO FRAMING w/3" NAILS @ 6"oc ALONG PANEL EDGES & 12"oc IN THE FIELD.

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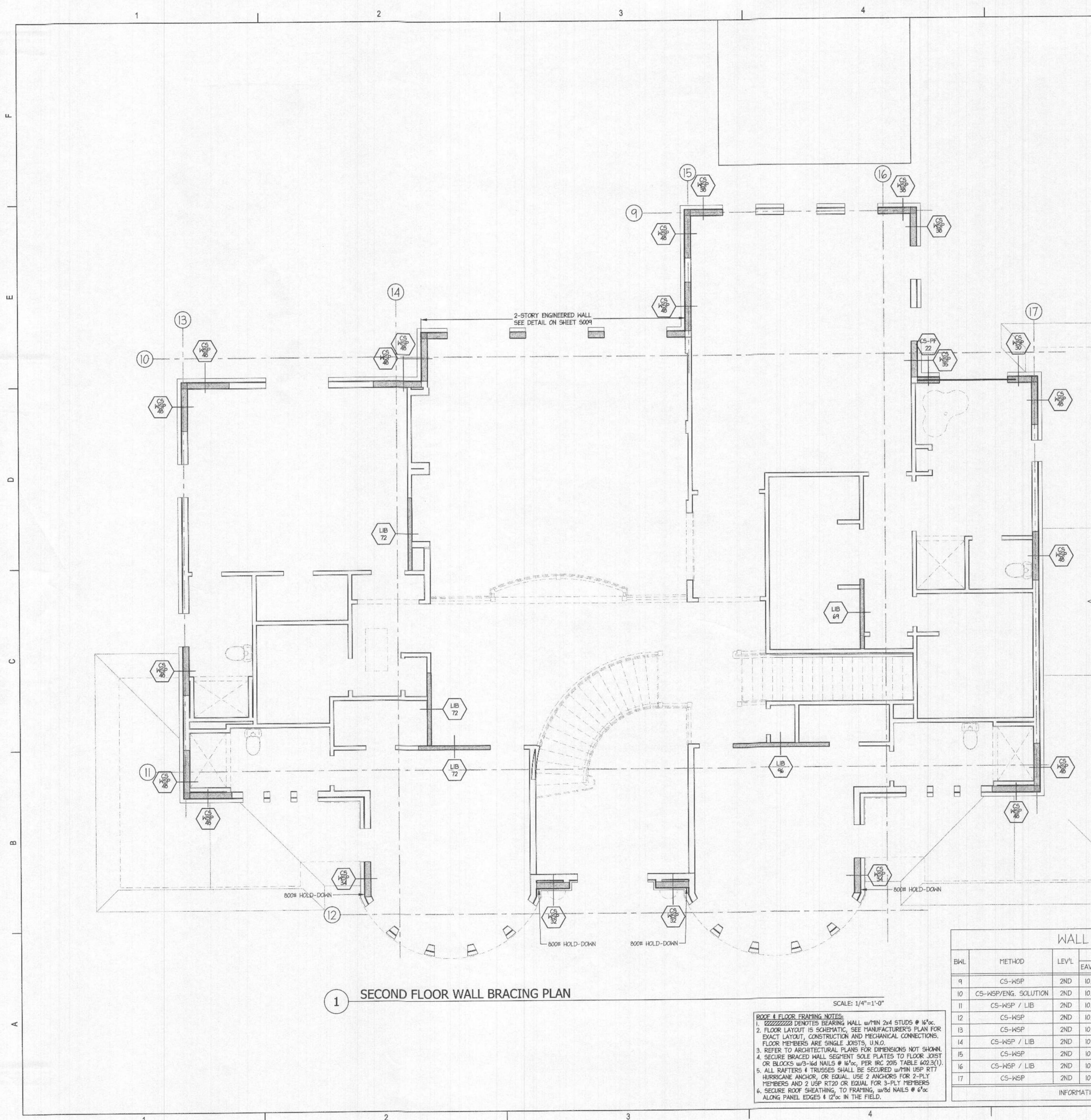
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ISSUE: DATE:  
 PERMIT SET 09-11-2020

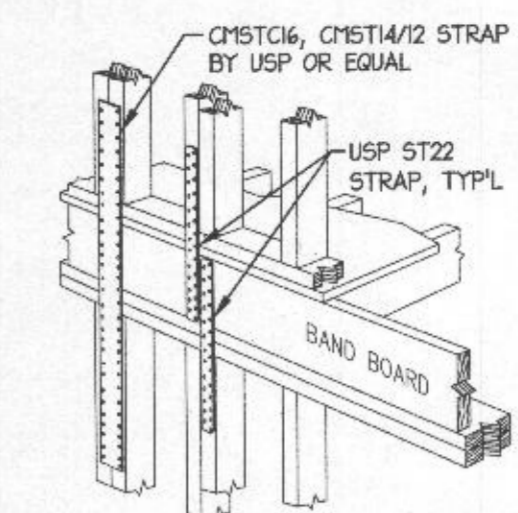
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**FIRST FLOOR WALL BRACING PLAN & NOTES**

**S008**



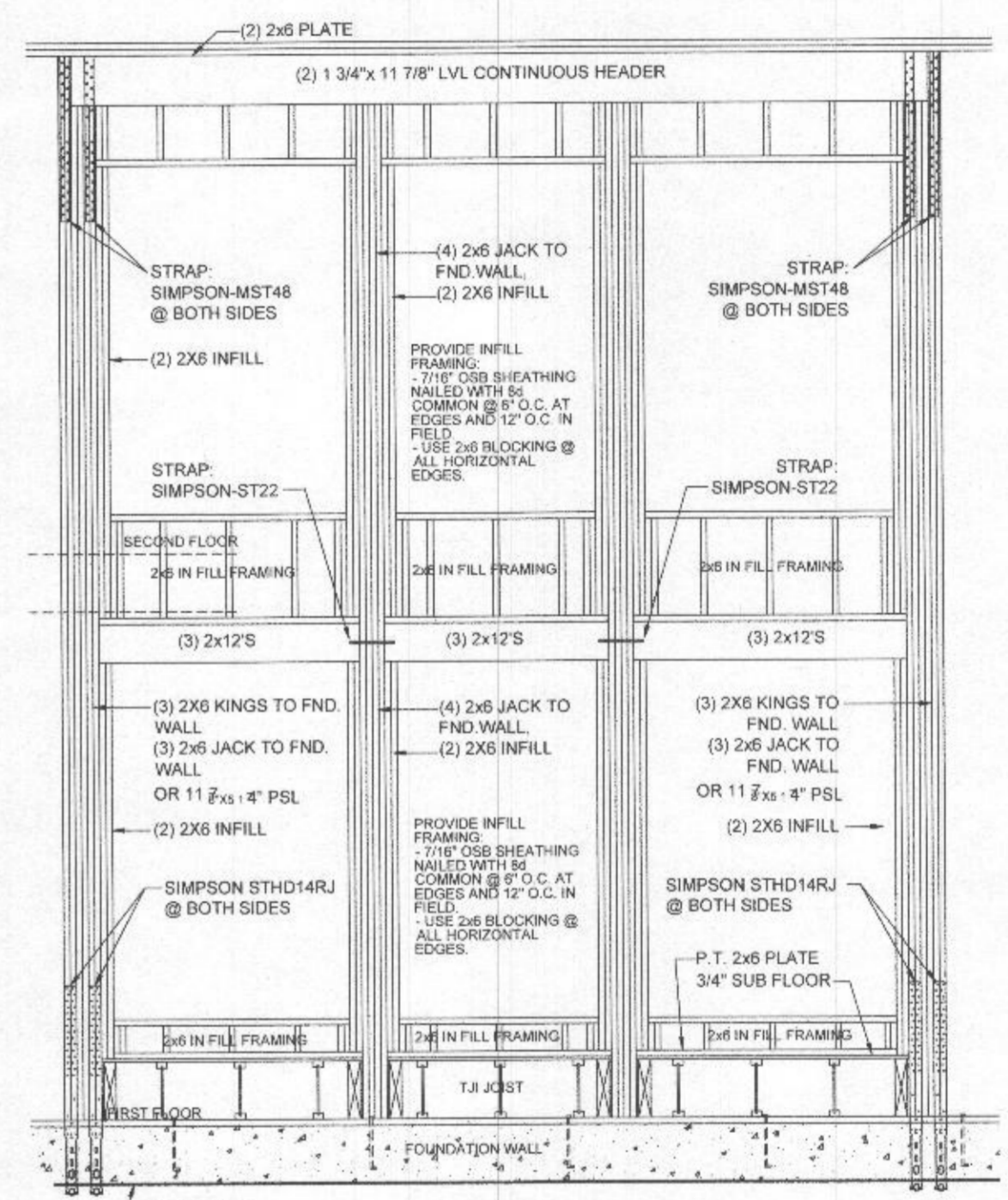
1 SECOND FLOOR WALL BRACING PLAN  
 SCALE: 1/4"=1'-0"



NOTE: ALL STRAPS TO BE NAILED TO POST BELOW OR NAILED TO FACE UNDERSIDE & BACKSIDE OF HEADER BELOW TO DEVELOP MANUFACTURER'S END LENGTH & NAILING REQUIREMENTS, TYP'L.  
 ST22, CMSTC16, CMST14 & CMST12 INSTALLATIONS NTS RS200 SIMILAR

WALL ASSEMBLY SCHEDULE	
TYPE	DESCRIPTION
GB #	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.1/2 GYPSUM BOARD NAILED w/ 1" o.c. NAILS OR SCREWS @ 7" o.c. ALONG EDGES NAILED @ 8" o.c. IN THE FIELD. SCREWS @ 12" o.c. IN THE FIELD. G52 DESIGNATES SHEATHING BOTH SIDES.
CS-WSP #	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.2/3 OSB OR PLYWOOD SHEATHING, w/ 6d COMMON EDGE NAILS @ 6" o.c., 12" o.c. IN FIELD, OR 16ga, 2" CROWN, 1/2" LEG EDGE STAPLES @ 3' o.c., 6" o.c. IN FIELD.
WSP #	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.2/3 OSB OR PLYWOOD SHEATHING, w/ 6d COMMON EDGE NAILS @ 6" o.c., 12" o.c. IN FIELD, OR 16ga, 2" CROWN, 1/2" LEG EDGE STAPLES @ 3' o.c., 6" o.c. IN FIELD.
CS-PP #	DENOTES BRACED WALL SEGMENT MIN. WIDTH, IN INCHES, PER IRC 2015, SECTION 602.10.2/3 OSB OR PLYWOOD SHEATHING, NAILED & STRAPPED, PER IRC CS-PP 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/ (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" o.c. 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.



1 2-STORY ENGINEERED WALL  
 SCALE: 1/4"=1'-0"

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.	REQ'D LENGTH						
9	CS-WSP	2ND	10.33'	0.95	9.00'	0.95	4	1.45	NO	1.00	NO	1.00	1.00	2.96'	6.34'
10	CS-WSP/ENG. SOLUTION	2ND	10.33'	0.95	9.00'	0.95	4	1.45	NO	1.00	NO	1.00	1.00	7.08'	13.25'
11	CS-WSP / LIB	2ND	10.33'	0.95	9.00'	0.95	4	1.45	NO	1.00	NO	1.00	1.00	14.04'	22.00'
12	CS-WSP	2ND	10.33'	0.95	9.00'	0.95	4	1.45	NO	1.00	NO	1.00	1.00	3.01'	5.34'
13	CS-WSP	2ND	10.33'	0.95	9.00'	0.95	5	1.60	NO	1.00	NO	1.00	1.00	4.57'	12.00'
14	CS-WSP / LIB	2ND	10.33'	0.95	9.00'	0.95	5	1.60	NO	1.00	NO	1.00	1.00	14.08'	18.83'
15	CS-WSP	2ND	10.33'	0.95	9.00'	0.95	5	1.60	NO	1.00	NO	1.00	1.00	4.68'	8.00'
16	CS-WSP / LIB	2ND	10.33'	0.95	9.00'	0.95	5	1.60	NO	1.00	NO	1.00	1.00	12.81'	14.67'
17	CS-WSP	2ND	10.33'	0.95	9.00'	0.95	5	1.60	NO	1.00	NO	1.00	1.00	3.43'	12.00'

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

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ARCHITECT: CARIB DANIEL MARTIN  
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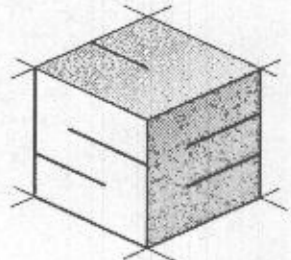
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**SECOND FLOOR WALL BRACING PLAN & NOTES**

**S009**





STRUCTURAL ENGINEERING  
UNLIMITED, LLC

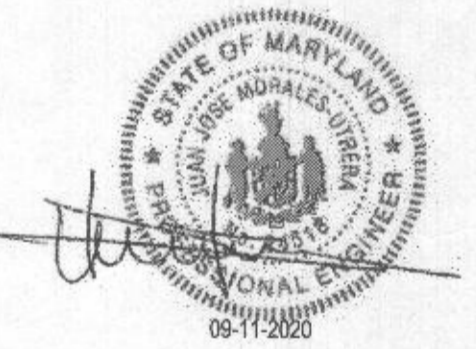
341 W. PATRICK STREET  
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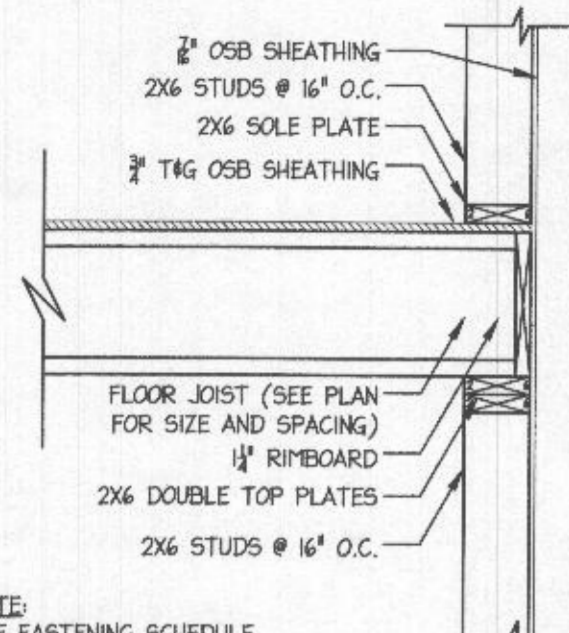
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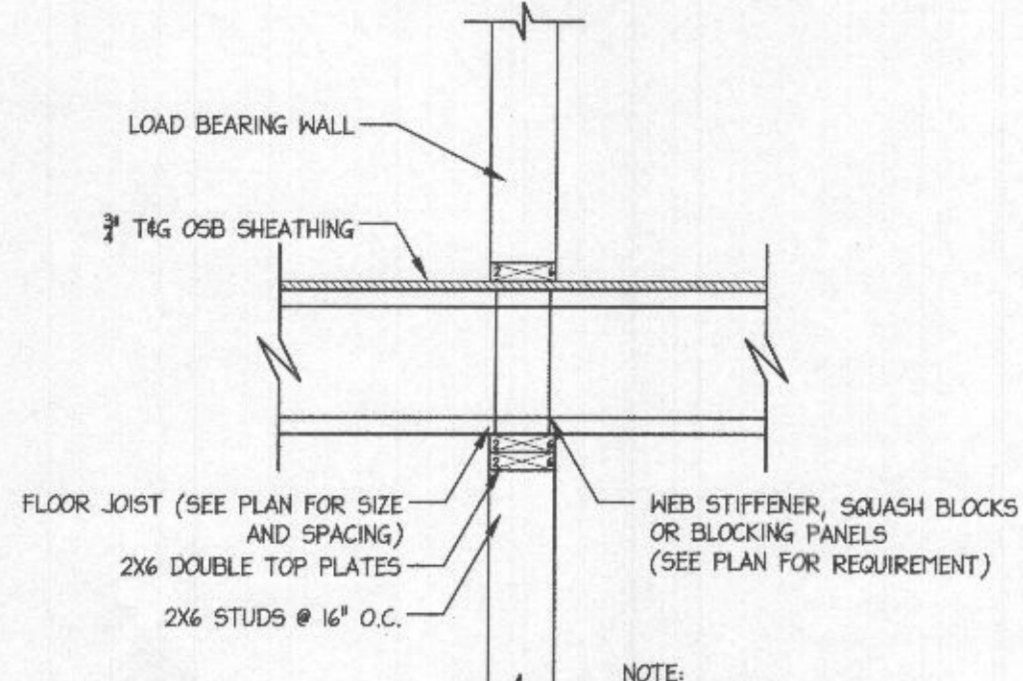
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STRUCTURAL DETAILS  
& NOTES

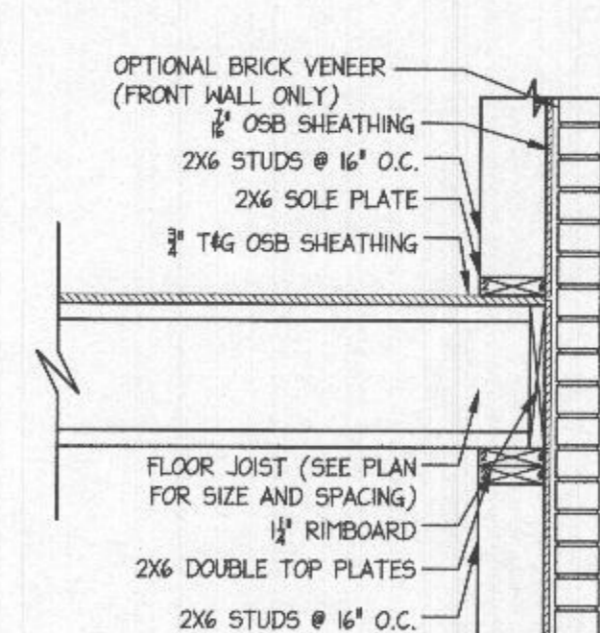
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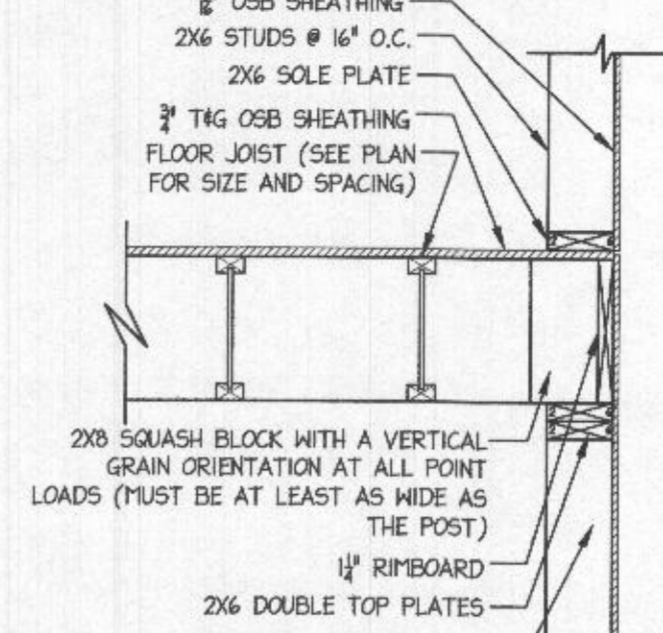
1 SECTION - EXTERIOR WALL  
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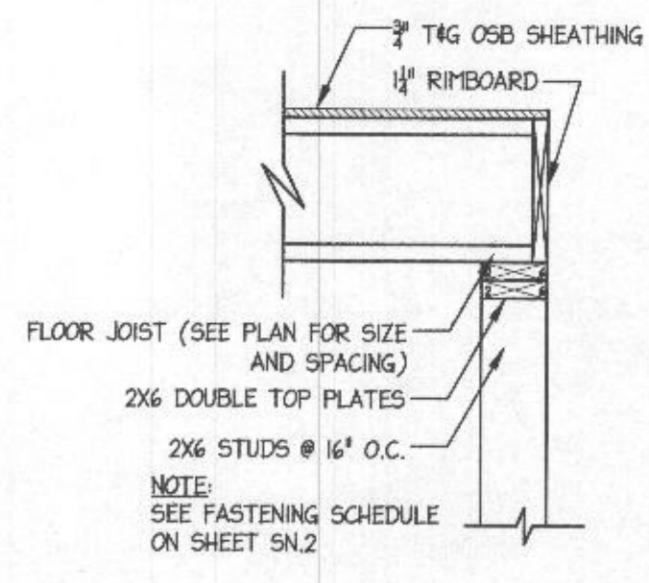
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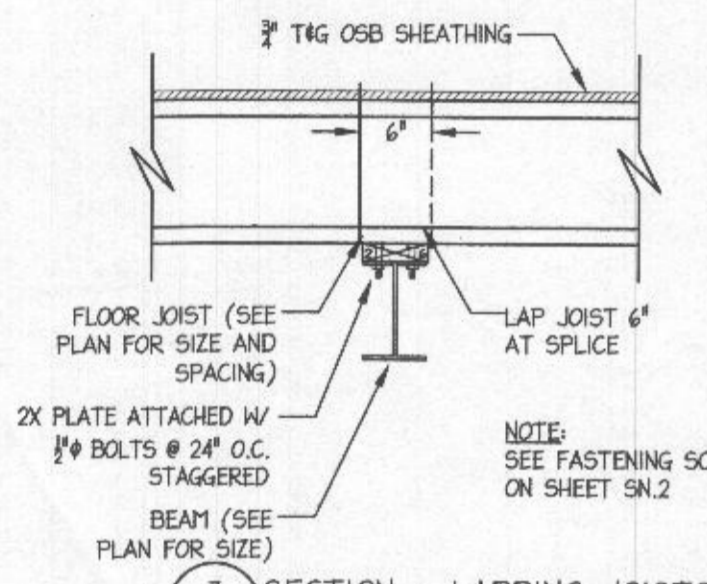
3 SECTION - EXTERIOR WALL W/ BRICK  
SD.2 3/4" PER FOOT



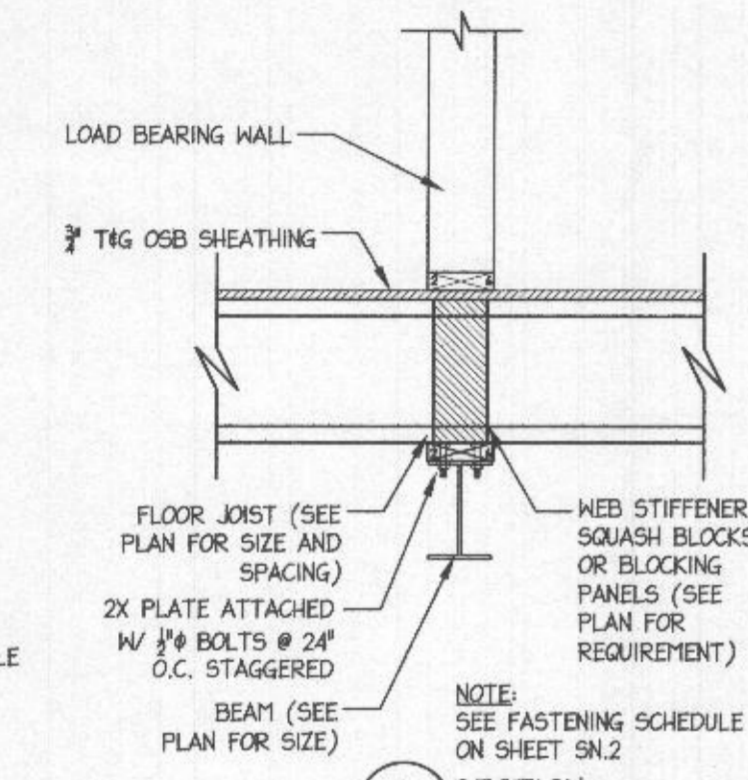
4 SECTION - EXTERIOR WALL  
SD.2 3/4" PER FOOT



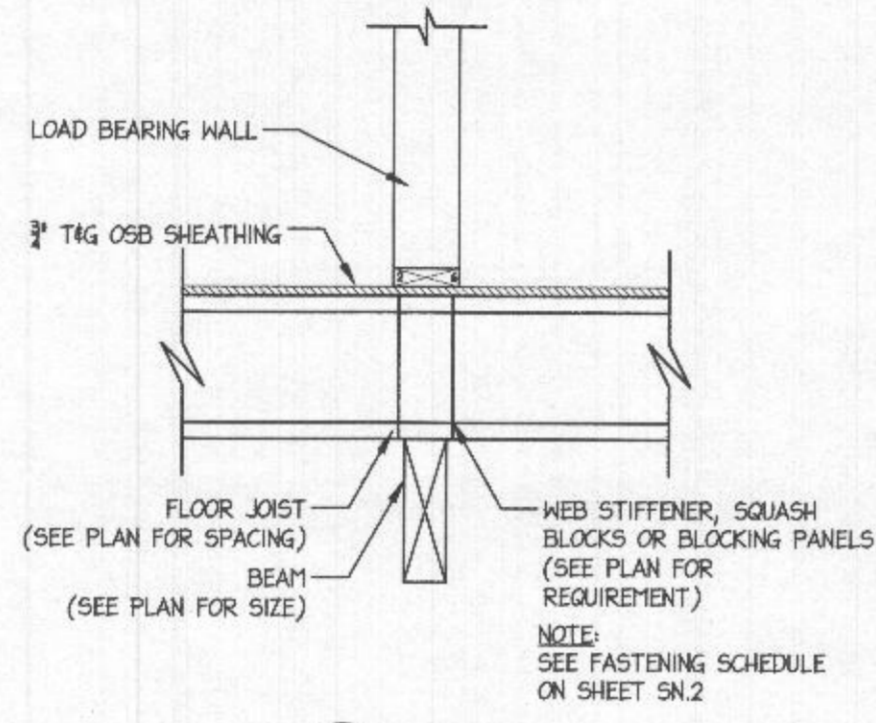
5 SECTION - STAIR WALL  
SD.2 3/4" PER FOOT



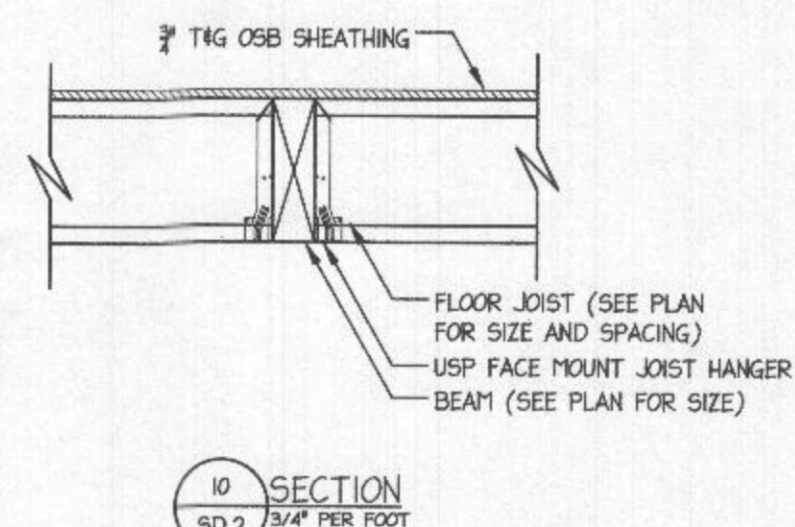
7 SECTION - LAPPING JOISTS  
SD.2 3/4" PER FOOT



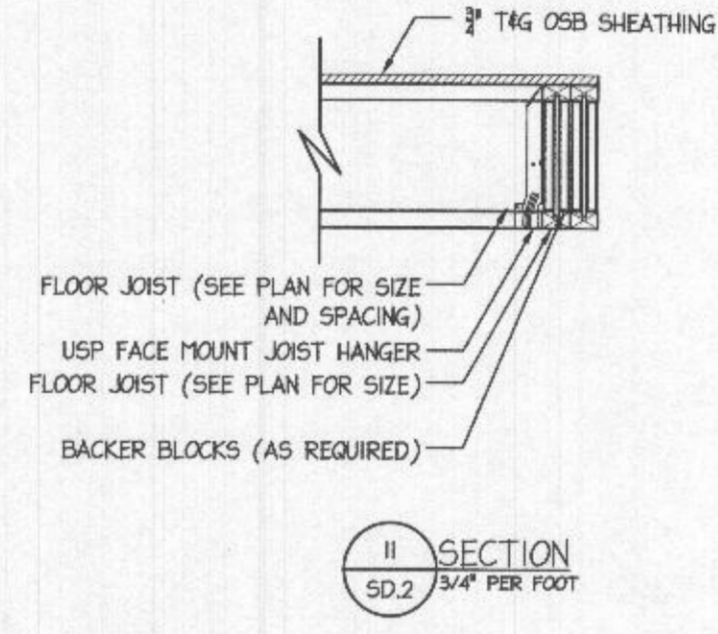
8 SECTION  
SD.2 3/4" PER FOOT



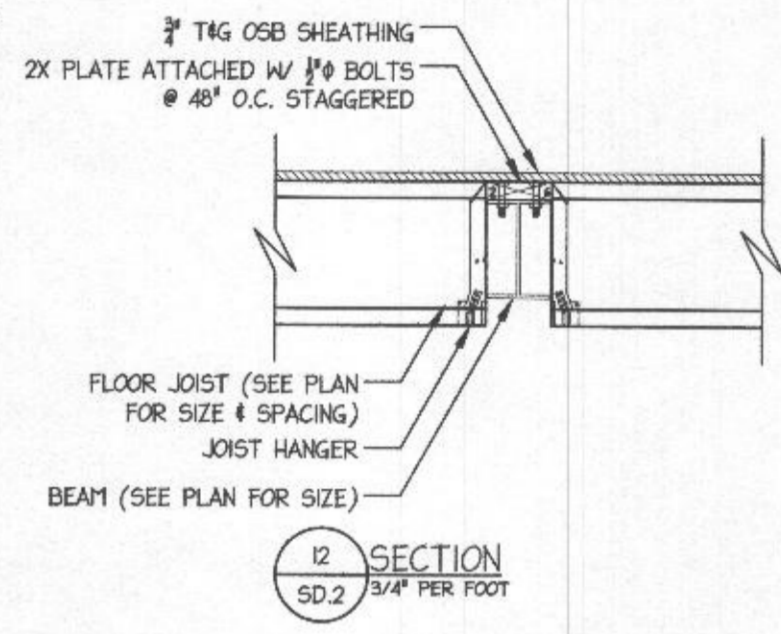
9 SECTION  
SD.2 3/4" PER FOOT



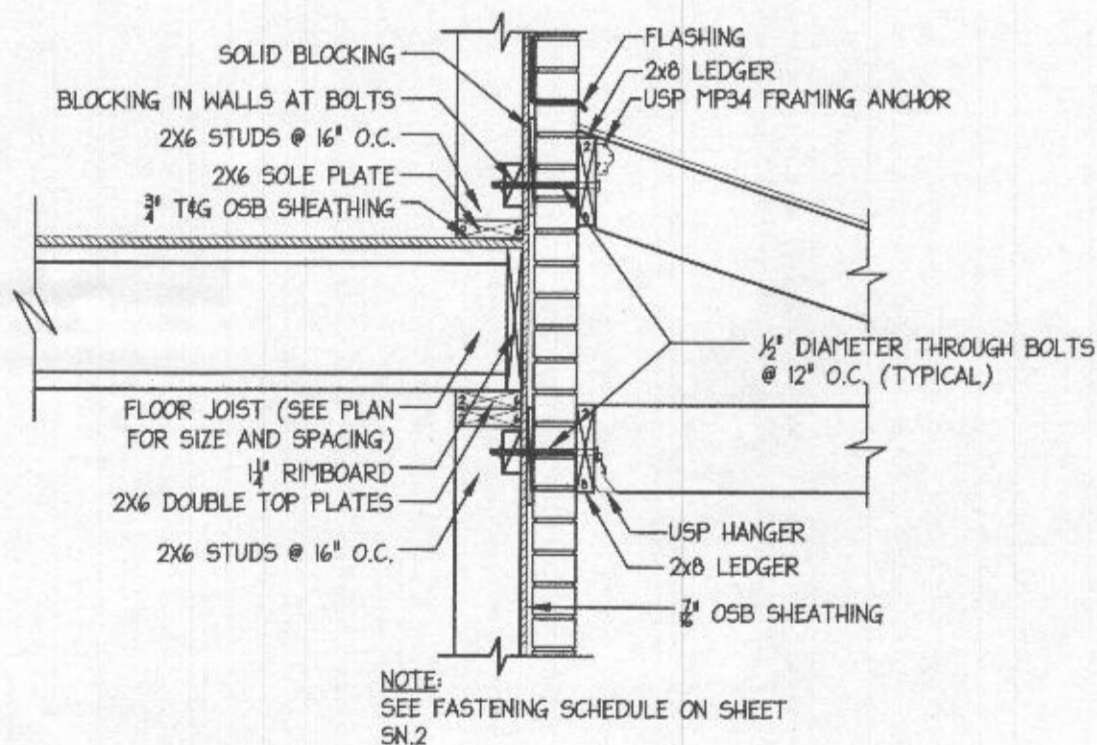
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SD.2 3/4" PER FOOT



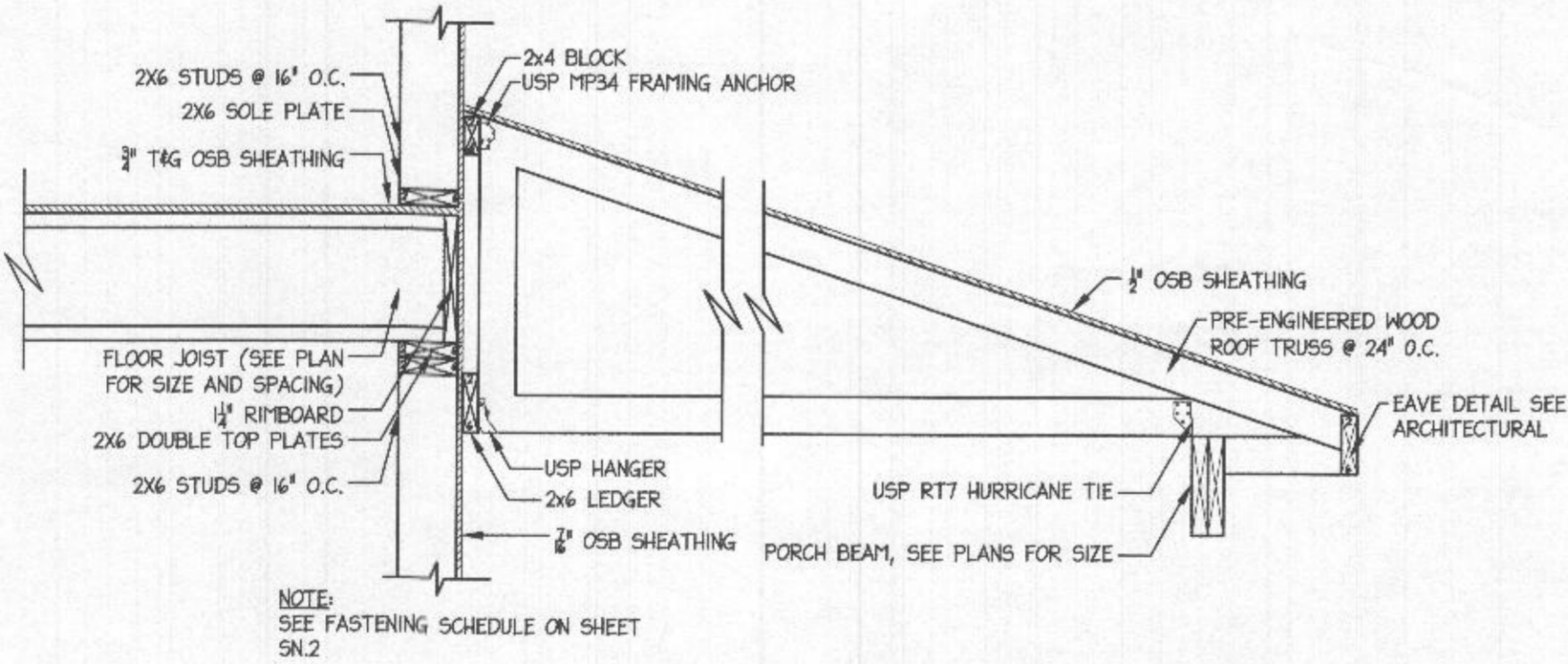
11 SECTION  
SD.2 3/4" PER FOOT



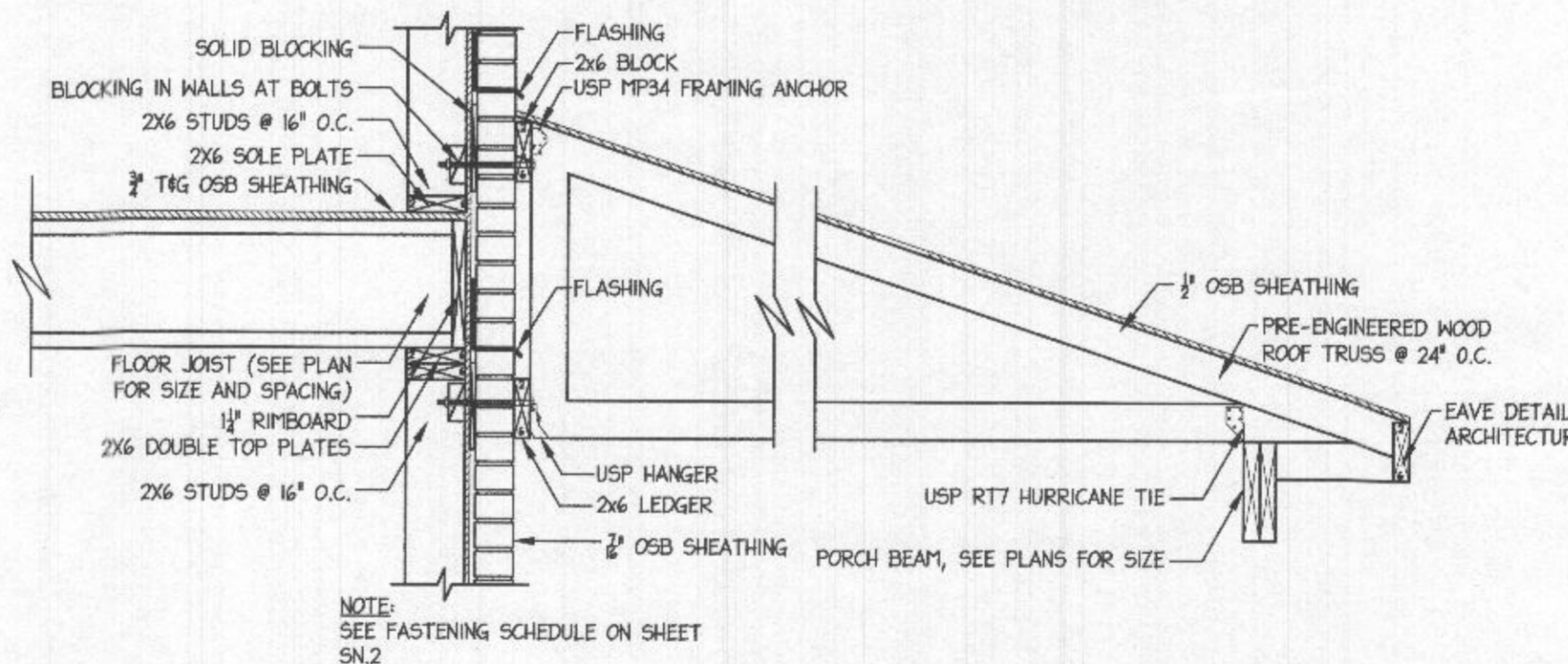
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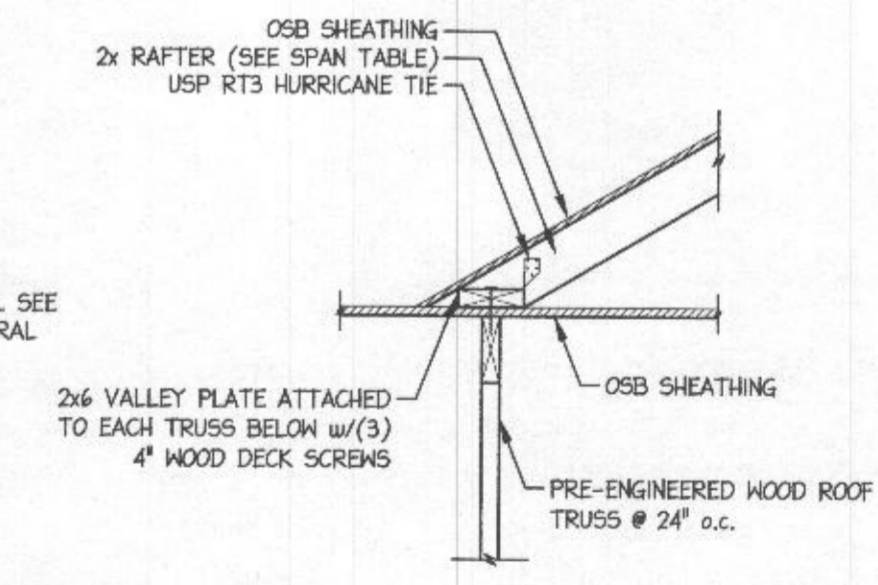
13 DETAIL FOR RAFTER CONNECTION @ WALL W/ BRICK  
SD.2 3/4" PER FOOT



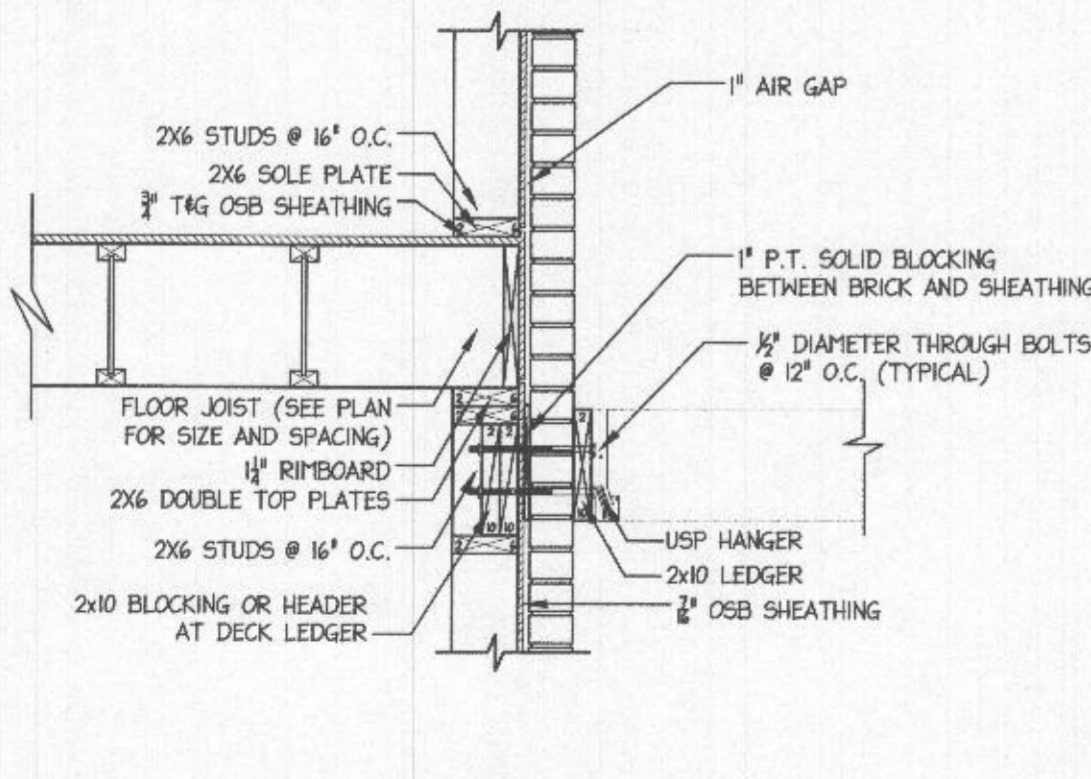
14 DETAIL FOR TRUSS CONNECTION @ WALL  
SD.2 3/4" PER FOOT



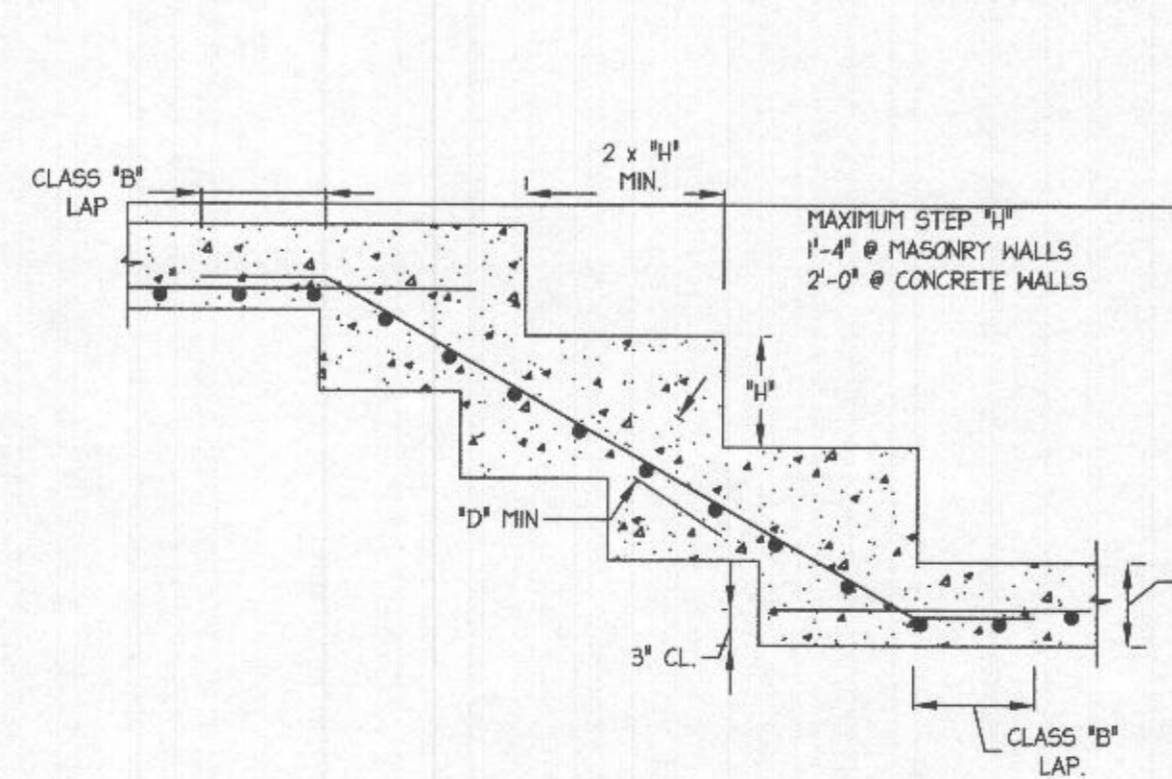
15 DETAIL FOR TRUSS CONNECTION @ WALL W/ BRICK  
SD.2 3/4" PER FOOT



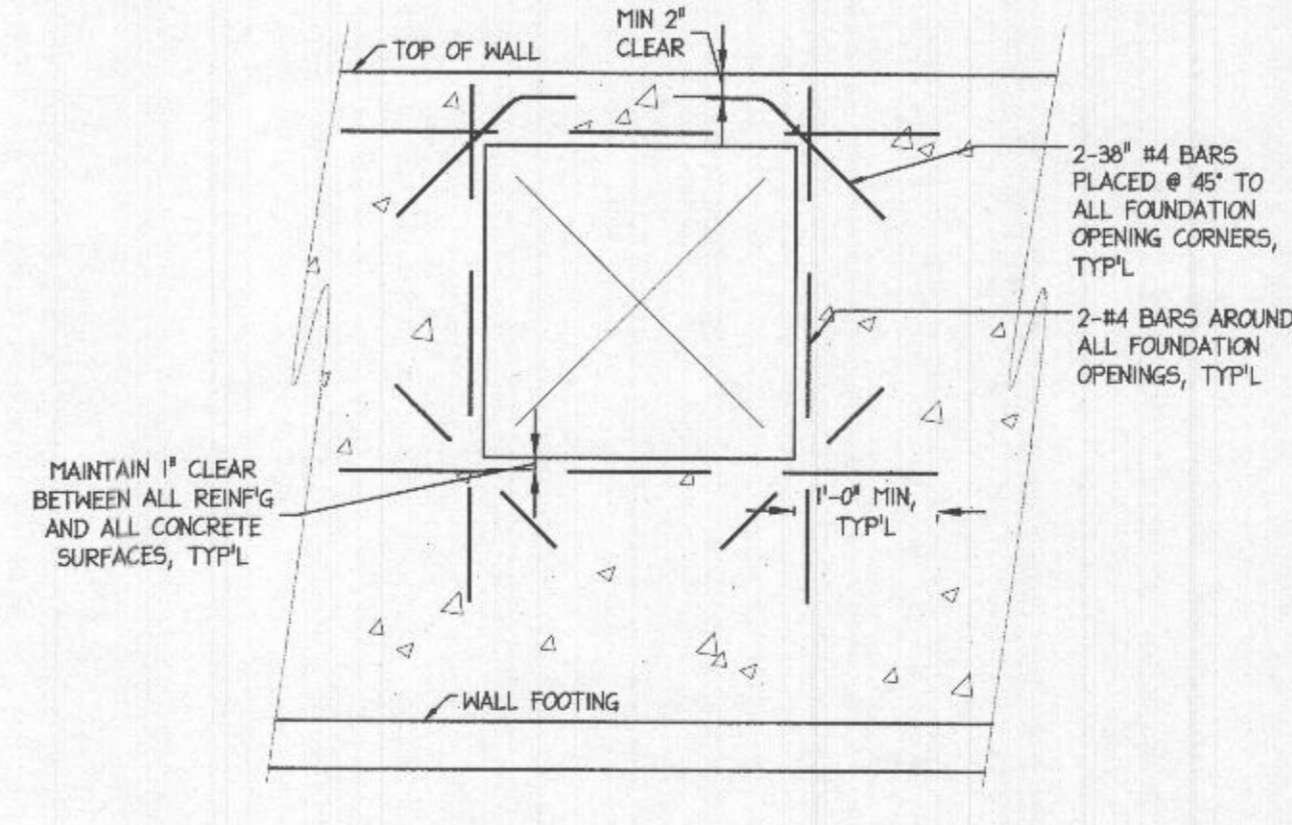
16 TYP OVER FRAMING CONNECTION DETAIL  
SD.2 3/4" PER FT



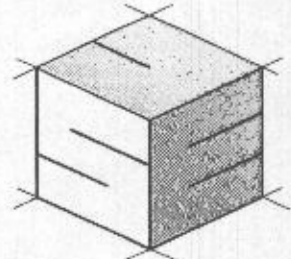
16 DETAIL FOR DECK JOISTS CONNECTION @ WALL W/ BRICK  
SD.2 3/4" PER FOOT



17 STEP FOOTING DETAIL (TYP.)  
SD.2 N.T.S.



18 WALL OPENING DETAIL (TYP.)  
SD.2 N.T.S.



STRUCTURAL ENGINEERING  
UNLIMITED, LLC

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FREDERICK, MD 21701  
240-815-6780  
301-748-2769

SEN RESIDENCE  
13575 NICHOLAS DR.  
CLARKSVILLE, MD 21029

ARCHITECT: CARIB DANIEL MARTIN

CONTRACTOR: CLASSIC HOMES OF MARYLAND

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.: 24518  
EXPIRATION DATE: 09-21-2021



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

ISSUE: PERMIT SET DATE: 09-11-2020

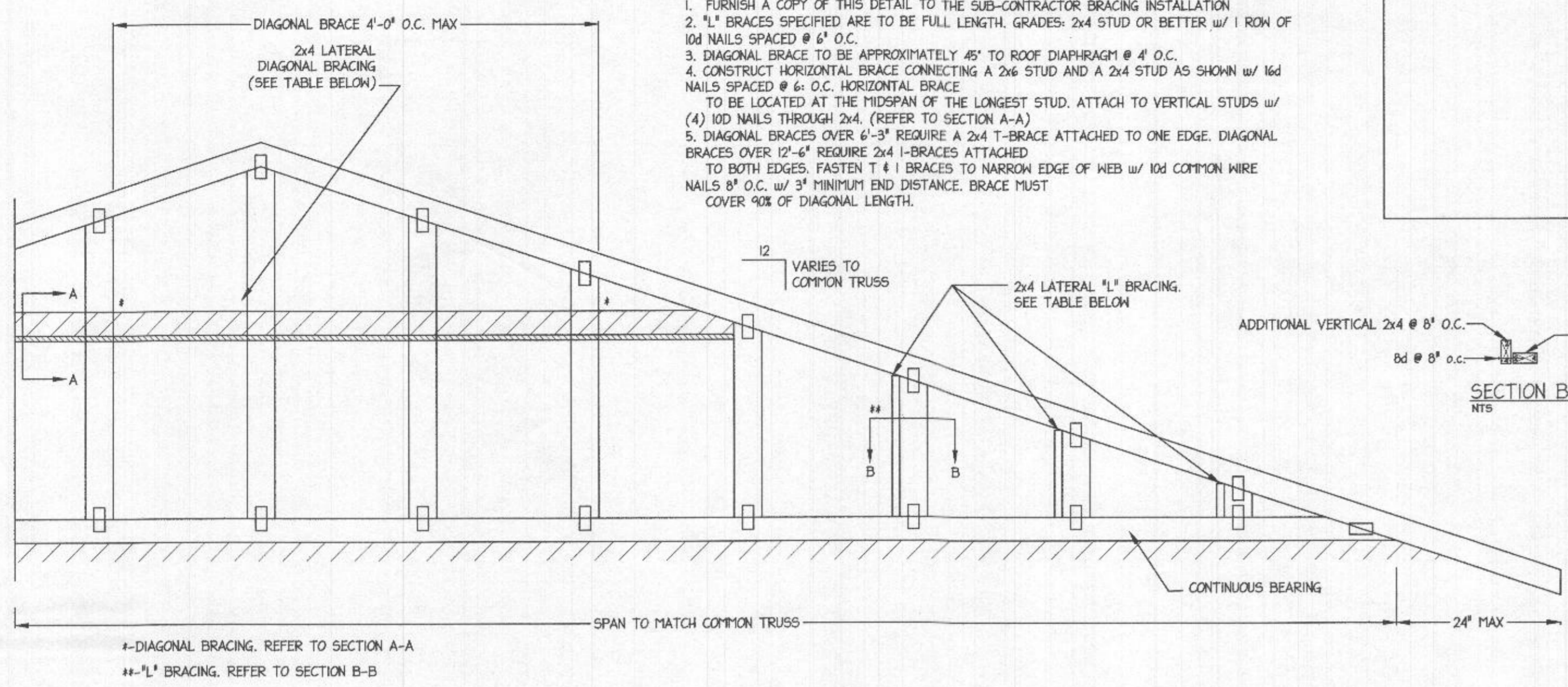
REVISION:

1	
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STRUCTURAL DETAILS  
& NOTES

S012

- NOTE:
1. FURNISH A COPY OF THIS DETAIL TO THE SUB-CONTRACTOR BRACING INSTALLATION
  2. 1" 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/ (4) 10d NAILS THROUGH 2x4. (REFER TO SECTION A-A)
  5. DIAGONAL BRACES OVER 6'-3" REQUIRE A 2x4 T-BRACE ATTACHED TO ONE EDGE. DIAGONAL BRACES OVER 12'-6" REQUIRE 2x4 I-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 90% OF DIAGONAL LENGTH.



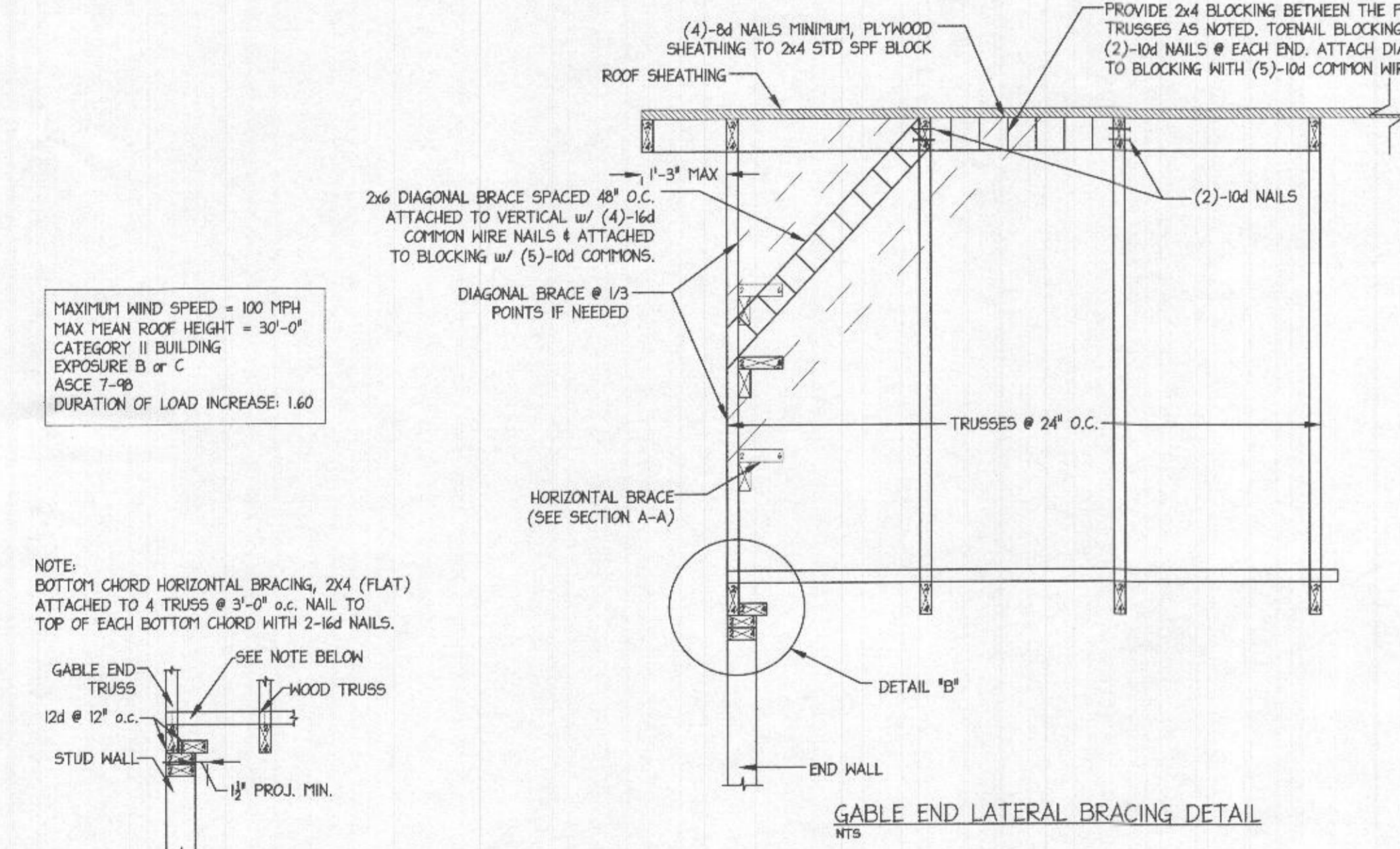
LATERAL BRACING NAILING SCHEDULE

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

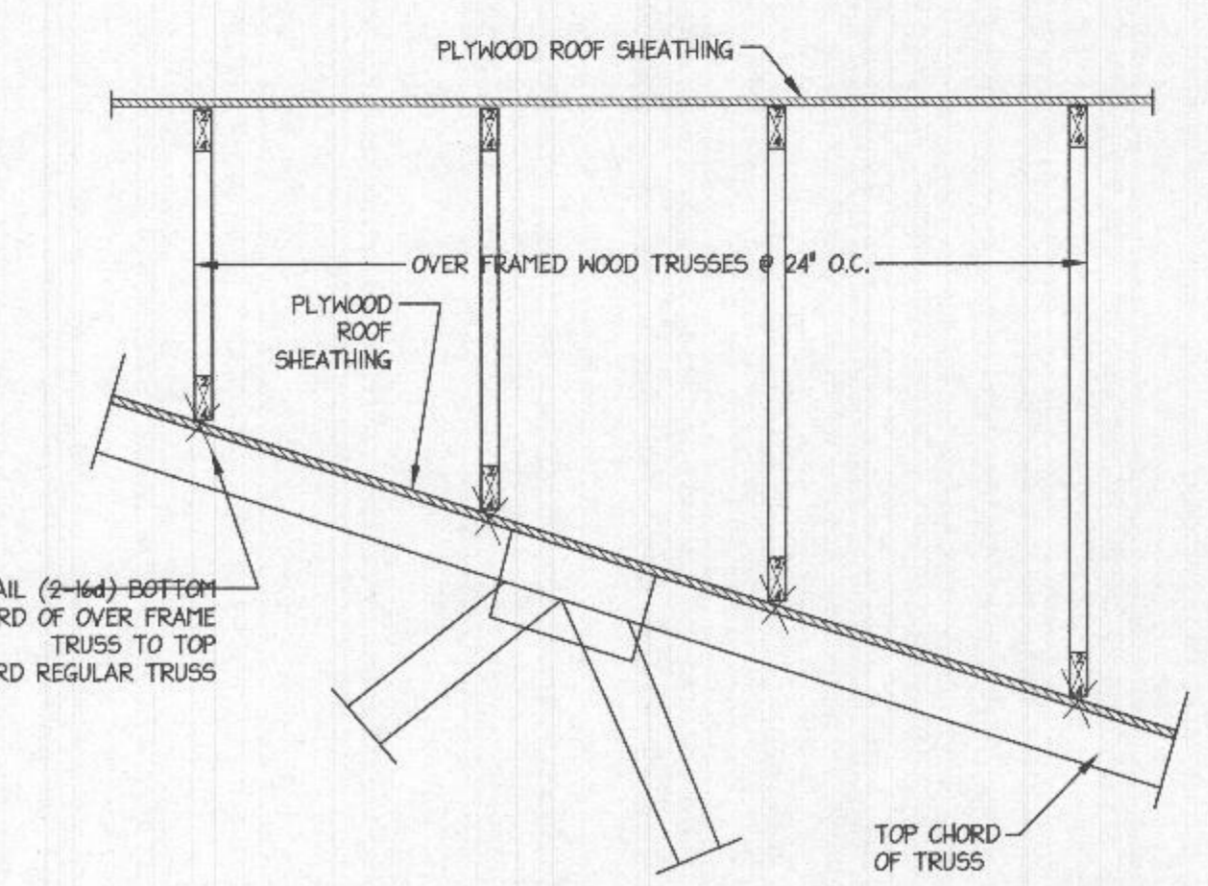
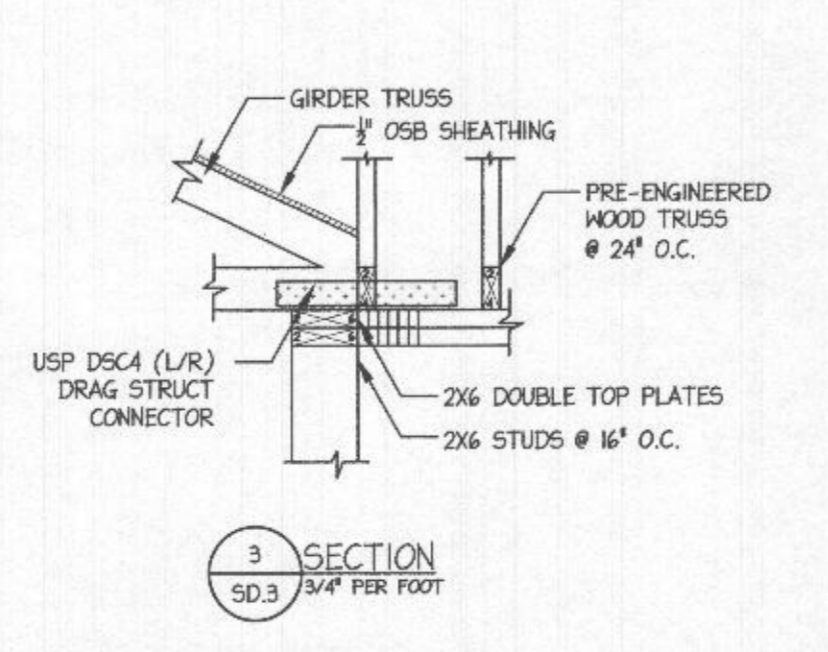
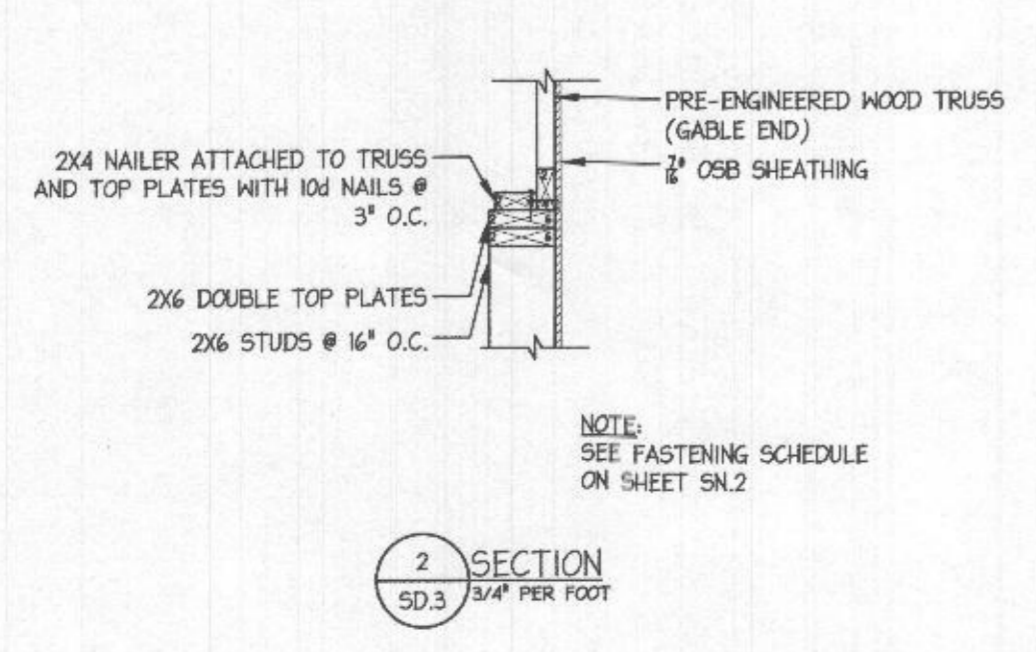
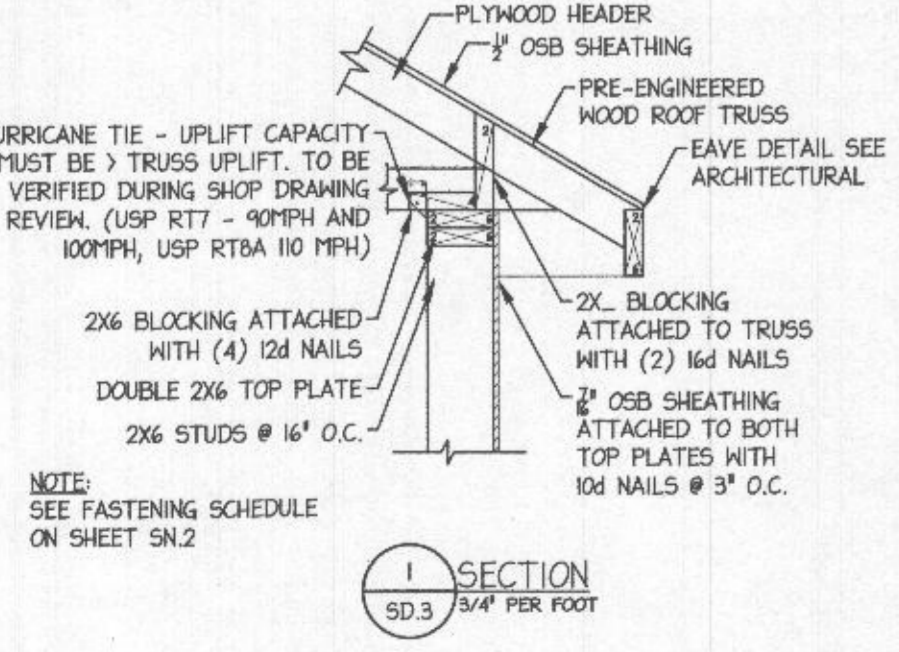
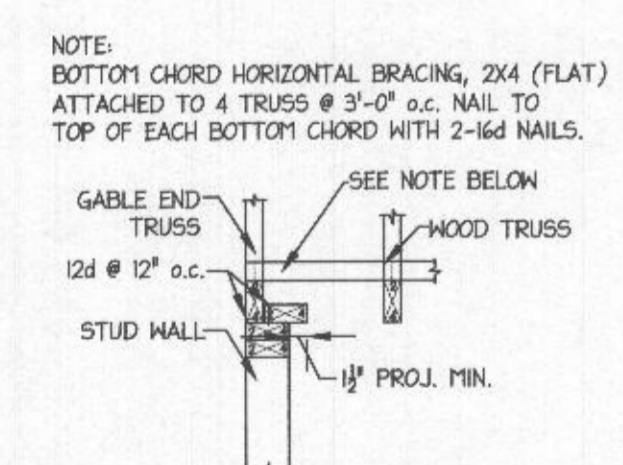
MAXIMUM VERTICAL STUD HEIGHT

SPACING OF VERTICALS	N/O LATERAL BRACE	WITH 1" BRACE	WITH DIAGONAL BRACE	WITH 2 DIAGONAL BRACES AT 4 POINTS
12' o.c.	4'-9-3/4"	7'-10"	9'-1-1/2"	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'-9-1/2"	5'-6-1/2"	7'-7-1/4"	11'-4-3/4"

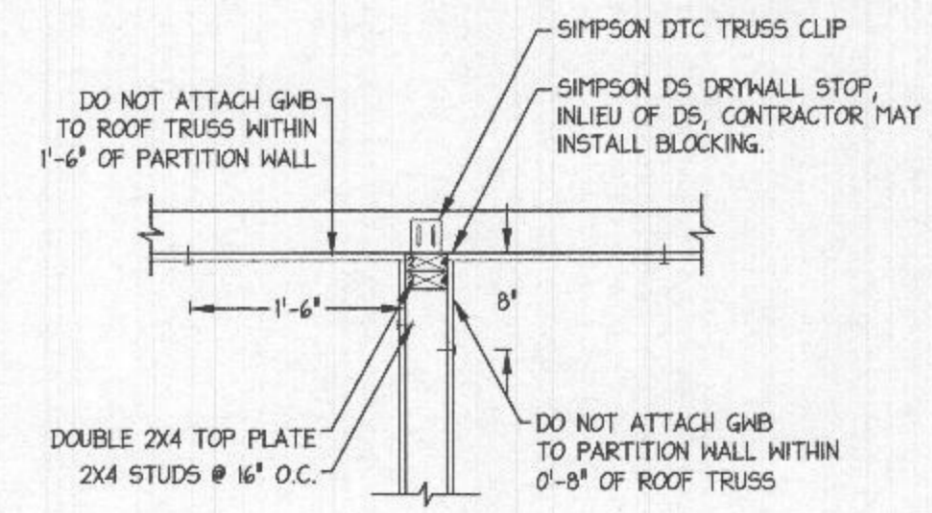
THIS TABLE CANNOT BE USED WITH BRICK VENEER



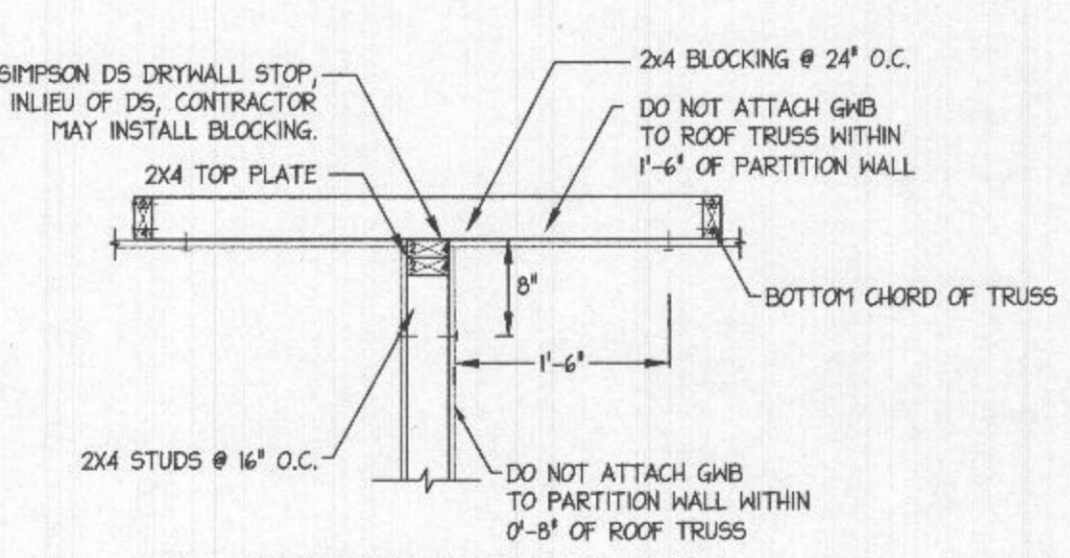
MAXIMUM WIND SPEED = 100 MPH  
MAX MEAN ROOF HEIGHT = 30'-0"  
CATEGORY II BUILDING  
EXPOSURE B or C  
ASCE 7-09  
DURATION OF LOAD INCREASE: 1.60



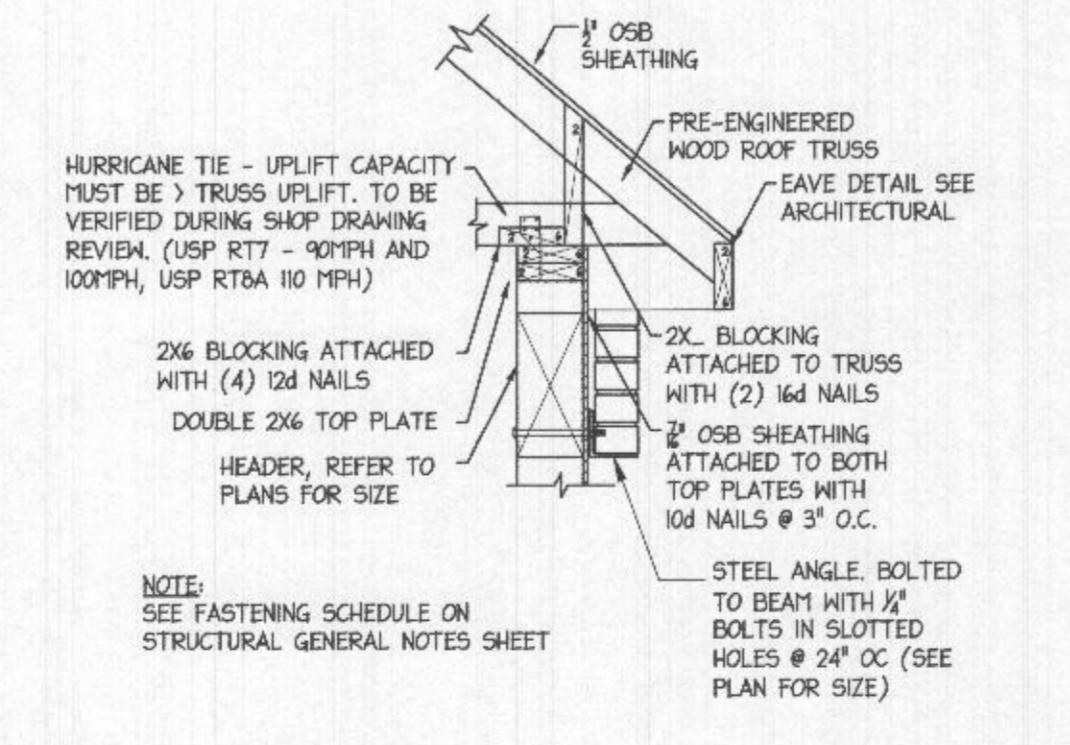
OVERFRAMING (TRUSSES) DETAIL



PERPENDICULAR PARTITION DETAIL (TYP)

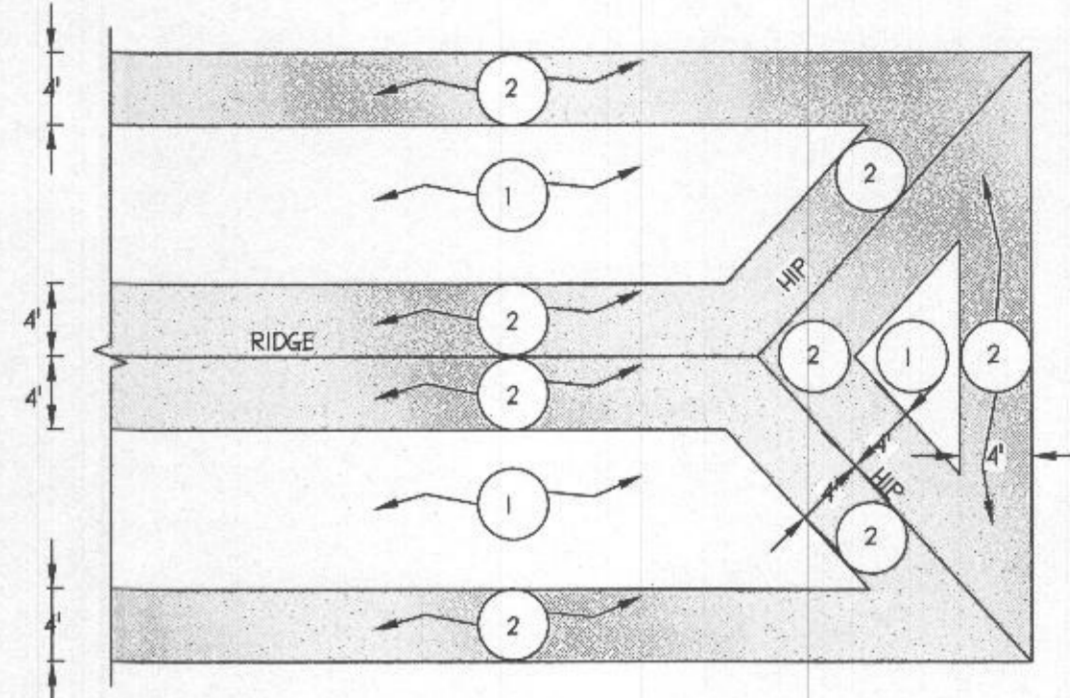


PARALLEL PARTITION DETAIL (TYP)



NOTE: SEE FASTENING SCHEDULE ON STRUCTURAL GENERAL NOTES SHEET

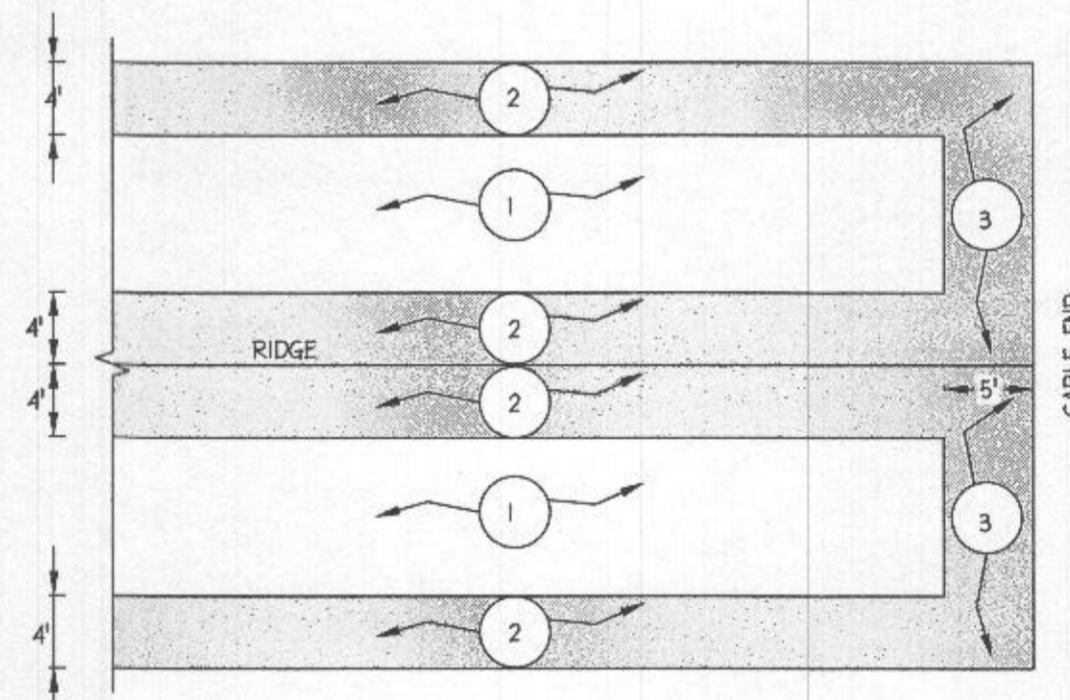
SECTION 4 SD.3 3/4" PER FOOT



NAIL SPACING SCHEDULE

ZONE	1		2	
	110 MPH (3SEC GUST)	140 MPH (3SEC GUST)	110 MPH (3SEC GUST)	140 MPH (3SEC 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.

PARTIAL ROOF (PLAN VIEW) SHOWING SHEATHING/FASTENING DETAIL



NAIL SPACING SCHEDULE

ZONE	1		2		3	
	110 MPH (3SEC GUST)	140 MPH (3SEC GUST)	110 MPH (3SEC GUST)	140 MPH (3SEC GUST)	110 MPH (3SEC GUST)	140 MPH (3SEC 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.

PARTIAL ROOF (PLAN VIEW) SHOWING SHEATHING/FASTENING DETAIL