

GENERAL STRUCTURAL NOTES

- REFER TO LOAD TABLE FOR INFORMATION REGARDING THE APPLICABLE MODEL BUILDING CODE GOVERNING THE DESIGN AND CONSTRUCTION OF THIS PROJECT.
- THE INFORMATION CONTAINED IN THIS DOCUMENT APPLIES ONLY TO THE STRUCTURAL DESIGN ISSUES ASSOCIATED WITH THIS PROJECT. THIS INCLUDES THE PRIMARY STRUCTURAL ELEMENTS RESPONSIBLE FOR RESISTING THE LATERAL AND GRAVITY LOADS AS SPECIFIED BY THE GOVERNING MODEL BUILDING CODE. THIS DOCUMENT ALSO PROVIDES MINIMUM FASTENING REQUIREMENTS FOR STRUCTURAL SHEATHING MATERIALS, AND THE MINIMUM DESIGN PRESSURE RATINGS FOR DOORS AND WINDOWS.
- THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR THE SPECIFICATION, THE DESIGN OR THE DETAILING FOR FLASHING, WATERPROOFING MATERIALS (INCLUDING, BUT NOT LIMITED TO, MEMBRANES) OR WATERPROOFING ASSEMBLIES. THESE ITEMS SHALL BE THE SOLE RESPONSIBILITY OF OTHERS.
- THE GENERAL CONTRACTOR OR HOME DESIGNER IS RESPONSIBLE FOR NOTIFYING THE STRUCTURAL ENGINEER IN WRITING OF ANY FLOOR FINISHES, CEILING FINISHES OR FENESTRATION REQUIRING STRUCTURAL DESIGN CONSIDERATIONS IN EXCESS OF THE LEGALLY ADOPTED BUILDING CODE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES PRIOR TO EXCAVATING FOR THE CONSTRUCTION OF FOUNDATIONS OR ANY OTHER STRUCTURAL ELEMENT DEPICTED IN THIS DOCUMENT. ANY CONFLICTS WITH UNDERGROUND UTILITIES SHALL BE REPORTED TO THE ARCHITECT AND RESOLVED PRIOR TO RESUMING CONSTRUCTION.
- THE PROPER DESIGN, SPECIFICATION, AND ATTACHMENT OF ALL NON-STRUCTURAL COMPONENTS ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THIS INCLUDES HANDRAILS, SKYLIGHTS, CUPOLAS, AWNINGS, SIDING, SHUTTERS, ROOFING MATERIALS, FLASHING, WATERPROOFING, FLAGPOLES, SIGNAGE, STOREFRONT, CURTAIN WALLS, ETC.
- STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR IDENTIFYING THE PRESENCE OF OR SPECIFICATIONS FOR THE HANDLING, REMEDIATION OR DISPOSAL OF ANY HAZARDOUS MATERIALS, COMPOUNDS OR BIOLOGICAL INFESTATIONS ENCOUNTERED AT ANY POINT DURING THE CONSTRUCTION OR DESIGN PROCESS. THIS NOTE APPLIES TO, BUT IS NOT LIMITED TO, PRESENCE OF ASBESTOS, MOLD, STORED COMPOUNDS, CONTAMINATED SOILS, ETC.
- THE STRUCTURAL DESIGN IS SUBJECT TO MODIFICATION WHEN REQUIRED DUE TO THE LOADS IMPARTED TO THE STRUCTURE BY ADDITIONAL COMPONENTS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE MAGNITUDE OF THESE ADDITIONAL LOADS TO THE STRUCTURAL ENGINEER.
- THE GENERAL CONTRACTOR MUST CONFIRM THAT EXISTING CONDITIONS ARE COMPATIBLE WITH ASSUMPTIONS STATED IN THE PRODUCTION OF THIS DESIGN DOCUMENT. STRUCTURAL ENGINEER OR LEAD DESIGNER MUST BE CONTACTED IMMEDIATELY IN THE EVENT OF ANY DISCREPANCY.
- THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION AND ERECTION OF TEMPORARY SHORING OR BRACING DURING THE CONSTRUCTION PROCESS.
- THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL SAFETY REGULATIONS.
- THE GENERAL CONTRACTOR MUST TAKE INTO CONSIDERATION THE POTENTIAL DAMAGE TO SURROUNDING STRUCTURES WHEN CONSIDERING CONSTRUCTION METHODS. THIS IS ESPECIALLY APPLICABLE DURING PILE INSTALLATION AND OPERATION OF HEAVY EQUIPMENT. ANY CONCERNS REGARDING DRIVEN PILE INSTALLATION IN CLOSE PROXIMITY TO EXISTING STRUCTURES MUST BE ADDRESSED BY A REGISTERED GEOTECHNICAL ENGINEER.
- STRUCTURAL PLANS, DETAILS, AND SECTIONS SHALL NOT BE REPRODUCED FOR THE PREPARATION OF SHOP DRAWINGS. THE REPRODUCTION OF ORIGINAL DESIGN DOCUMENTS UNDERMINES THE ADDITIONAL CARE PROVIDED BY THE INDEPENDENT WORK OF THE DETAILER.
- THE STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR INSPECTION OR QUALITY CONTROL OF CONSTRUCTION UNLESS CONTRACTUAL ARRANGEMENTS HAVE BEEN MADE TO PROVIDE THESE SERVICES.
- IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS CONTAINED WITHIN THE CONSTRUCTION DOCUMENTS, THE MOST STRICT REQUIREMENT SHALL GOVERN. THIS INCLUDES CONFLICTS WITHIN THE STRUCTURAL ENGINEERING DOCUMENTS AND CONFLICTS BETWEEN ITEMS CONTAINED IN THE STRUCTURAL ENGINEERING DOCUMENTS AND IN THE SPECIFICATIONS OF OTHER TRADES, INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL DRAWINGS, PROJECT MANUAL, GEOTECHNICAL REPORT, ETC.
- ANY QUESTIONS OR COMMENTS RELATING TO THIS DOCUMENT MUST BE FORWARDED TO THE LEAD DESIGNER OR ARCHITECT IN WRITING. IN THE EVENT THAT THE STRUCTURAL ENGINEER OF RECORD IS THE SOLE DESIGN PROFESSIONAL, QUESTIONS MAY BE FORWARDED TO:

J. CHRISTOPHER HOLLINGSWORTH, JR., P.E.
 P.O. BOX 1448
 MURRELLS INLET, SC 29576
 FAX: 843-357-8783
 EMAIL: chris@jchollingsworth.com

GEOTECHNICAL AND FOUNDATION NOTES

- THE FOUNDATION FOR THIS STRUCTURE HAS BEEN DESIGNED IN THE ABSENCE OF A GEOTECHNICAL REPORT. IT IS RECOMMENDED THAT A GEOTECHNICAL INVESTIGATION BE PERFORMED BY A QUALIFIED AGENCY AND FOUNDATION DESIGN RECOMMENDATIONS BE MADE BY A REGISTERED ENGINEER SPECIALIZING IN GEOTECHNICAL ANALYSIS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR VERIFYING EXISTING SOIL CONDITIONS. THE CURRENT FOUNDATION DESIGN IS SUBJECT TO CHANGE BASED ON THE GEOTECHNICAL ENGINEER'S FINDINGS. ALLOWABLE BEARING PRESSURE SHOULD BE EVALUATED IN ADDITION TO POTENTIAL DIFFERENTIAL SETTLEMENT.
- THE FOUNDATION FOR THIS STRUCTURE HAS BEEN DESIGNED BASED ON AN ASSUMED SOIL BEARING CAPACITY OF 1,500 P.S.F. IT IS NECESSARY THAT A QUALIFIED GEOTECHNICAL AGENCY CONFIRM THAT EXCAVATIONS MEET THE SOIL BEARING CAPACITY REQUIREMENTS. THIS REQUIREMENT MAY BE WAIVED AT THE DISCRETION OF THE BUILDING OFFICIAL.
- THE LOT SHALL BE GRADED SO AS TO DRAIN WATER AWAY FROM THE PERIMETER OF THE FOUNDATION.
- THE TOP SURFACE OF ALL FOOTINGS SHALL BE LEVEL, SLOPING A MAXIMUM OF ONE UNIT VERTICAL IN TEN UNITS HORIZONTAL. FOOTINGS SHALL BE STEPPED IF THIS SLOPE MUST BE EXCEEDED.
- THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL EXTEND A MINIMUM OF 12" BELOW UNDISTURBED GROUND OR ENGINEERED FILL.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE NECESSARY PROTECTION AND STABILIZATION OF OPEN EXCAVATIONS AND FILL SO AS NOT TO ENDANGER LIFE OR PROPERTY.
- TOP SOIL, FOREIGN MATERIAL, ORGANIC DEBRIS, STUMPS AND ROOTS SHALL BE REMOVED FROM THE SOIL IN THE AREA TO BE OCCUPIED BY THE BUILDING.
- FILL SHALL BE PLACED IN UNIFORM LIFTS OF 10" OR LESS, AND COMPACTED TO MEET A 95% MODIFIED PROCTOR VALUE, UNLESS NOTED OTHERWISE. THIS NOTE MAY BE OMITTED PROVIDED THE EXISTING SOIL IS COMPACTED TO THE SATISFACTION OF THE BUILDING OFFICIAL.

STRUCTURAL CONCRETE

- MATERIALS USED TO PRODUCE CONCRETE AND TESTING THEREOF SHALL COMPLY WITH THE APPLICABLE STANDARDS LISTED IN ACI 318. ALL REFERENCE MADE TO ACI 318 IN THIS SECTION REFERS TO THE EDITION REFERENCED IN THE GOVERNING BUILDING CODE. GOVERNING BUILDING CODE IS INDICATED IN THE LOAD TABLE.

- CONCRETE SHALL BE PROPORTIONED PER THE REQUIREMENTS OF ACI 318, CHAPTER 5. THE MIX SHALL BE DESIGNED BY THE SUPPLIER TO MEET THE 28-DAY COMPRESSIVE STRENGTH (F_{CD}) SPECIFIED IN THIS DOCUMENT. THE MIX DESIGN (INCLUDING SLUMP, AIR ENTRAINMENT AND ADMIXTURES) SHALL TAKE INTO CONSIDERATION THE LOCATION OF THE CONCRETE (WALL, SLAB, ETC.), THE PLACEMENT METHOD AND THE OUTSIDE TEMPERATURE DURING PLACEMENT. THE CONTRACTOR SHALL SUBMIT THE PROPOSED MIX DESIGN TO THE ARCHITECT OR RECORD FOR APPROVAL.
- CONCRETE SHALL NOT BE PLACED UNLESS THE TEMPERATURE IS 40 DEGREES FAHRENHEIT AND RISING WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.
- PORTLAND CEMENT, CONCRETE AGGREGATES, ADMIXTURES AND MIXING WATER SHALL MEET THE REQUIREMENTS OF THE VERSION OF ACI-318 REFERENCED IN THE APPLICABLE BUILDING CODE.
- CONCRETE REINFORCEMENT SHALL BE DEFORMED AND MEET THE REQUIREMENTS OF ACI 318. THE MINIMUM SPECIFIED YIELD STRENGTH OF DEFORMED REINFORCEMENT SHALL BE 60,000 P.S.I.
- NO MIX DESIGNS CONTAINING CALCIUM CHLORIDE SHALL BE USED.
- UNDER NO CIRCUMSTANCES SHALL WATER BE ADDED TO THE MIX UNLESS INSTRUCTIONS TO DO SO ARE PROVIDED BY THE CONCRETE BATCH PLANT, AND ACCOUNTED FOR IN THE ORIGINAL MIX DESIGN.
- REINFORCEMENT SHALL NOT BE WELDED UNLESS PRE-APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. WELDED REINFORCEMENT SHALL BE OF TYPE ASTM A 706. WELDS SHALL CONFORM TO THE REQUIREMENTS IN ANSI/AWS D1.4.
- SLABS ON GRADE ARE TO BE PLACED ON TOP OF 4" COMPACTED DRAINABLE SOIL, MINIMUM.
- A MINIMUM 6-MIL VAPOR BARRIER MUST BE PROVIDED BENEATH SLABS ON GRADE WHEN THERE IS HEATED SPACE DIRECTLY ABOVE. AS A MINIMUM THE VAPOR BARRIER MUST LAP 6".
- SAWN CONTROL JOINTS IN SLABS ON GRADE MUST BE CUT AS SOON AS POSSIBLE SUCH THAT NO SURFACE DEFECTS ARE INCURRED DURING THE PROCESS. WHEN NOT INDICATED ON THE DRAWINGS, CONTROL JOINTS SHALL ENCOMPASS AN AREA NOT LARGER THAN 250 S.F., AND SHALL HAVE AN ASPECT RATIO NOT LARGER THAN 3:2. CONTRACTOR SHALL COORDINATE CONTROL JOINT LOCATIONS WITH FLOOR FINISHES.
- SLABS ON GRADE MUST BE REINFORCED WITH 6X6-W1.4XW1.4 W.W.F. OR REINFORCING FIBERS AT RATE RECOMMENDED BY SUPPLIER UNLESS SPECIFIED OTHERWISE IN PLANS OR DETAILS. W.W.F. MUST LAP A MINIMUM OF TWO MESHES.
- ALL DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI-SP-66). SHOP DRAWINGS DEPICTING REINFORCEMENT SHALL BE SUBMITTED TO THE ARCHITECT OF RECORD FOR REVIEW.
- REINFORCING STEEL MUST BE FREE OF LOOSE RUST, MILL SCALE, OR ANY OTHER FOREIGN MATERIAL.
- REINFORCEMENT MUST BE ACCURATELY POSITIONED AND HELD IN PLACE DURING CONCRETE PLACEMENT.
- FORMS SHALL BE CLEANED AND PREPPED FOR EASY REMOVAL. NO FORM RELEASE AGENTS SHALL BE USED THAT LEAVE RESIDUE ON THE CONCRETE THAT INHIBITS THE BONDING OF FINISH MATERIALS.
- CONCRETE CONSOLIDATION TECHNIQUES SHALL NOT CAUSE SEGREGATION OF THE MIX.
- REPAIR ALL SURFACE DEFECTS INCLUDING THE HOLES, MINOR HONEYCOMBING, AND OTHER VISUAL IRREGULARITIES WITH THE NECESSARY COMBINATION OF RUBBING, GRINDING AND THE APPLICATION OF CEMENT MORTAR. MORTAR FOR PATCHING SHALL BE THE SAME COMPOSITION AS THAT USED IN THE CONCRETE. SURFACE REPAIR AND PATCHING SHALL BE PERFORMED AS SOON AS POSSIBLE AFTER FORM REMOVAL.
- TWO 6'-0" LONG #4 BARS SHALL BE PLACED AT MID-DEPTH OF SLABS ON GRADE AT ALL RE-ENTRANT CORNERS, PITTS, RECESSES AND CHANGES IN SLAB THICKNESS. THIS NOTE APPLIES IN THE ABSENCE OF MORE SPECIFIC REINFORCEMENT REQUIREMENTS SPECIFIED IN PLANS OR DETAILS.
- ANCHOR RODS OR BOLTS EMBEDDED INTO CONCRETE SHALL HAVE A MINIMUM DIAMETER OF 5/8" AND SHALL BE EMBEDDED A MINIMUM OF 7". ANCHOR RODS MUST BE HEADED OR L-SHAPED. THESE ARE MINIMUM REQUIREMENTS TO BE MET IN THE ABSENCE OF MORE RESTRICTIVE REQUIREMENTS IN THE DESIGN DOCUMENTS.
- ANCHOR RODS OR BOLTS EMBEDDED INTO CONCRETE SHALL BE ASTM F1554 GRADE 36.
- REQUIREMENTS FOR CONCRETE QUALITY, MIXING AND PLACING SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, CHAPTER 5.
- CONCRETE ELEMENTS SHALL MEET THE FOLLOWING 28-DAY MINIMUM STRENGTH REQUIREMENTS:

MEMBER	F _b	F _c	E
LVL BEAM	2,600PSI	-	1,900,000PSI
PSL BEAM	2,900PSI	-	2,000,000PSI
GLU-LAM BEAM	2,600PSI	-	1,900,000PSI
PSL COLUMN	-	2,500PSI	1,800,000PSI
LSL COLUMN	-	1,835PSI	1,300,000PSI

SAWN LUMBER / LAMINATED LUMBER

- ALL LUMBER SHALL CLEARLY HAVE THE MARK OF A RECOGNIZED LUMBER GRADING OR INSPECTION BUREAU OR AGENCY THAT COMPLIES WITH DOC. PS 20 OR EQUIVALENT.
- ALL WALL STUDS AND RAFTERS SHALL BE SPF NO. 2 OR BETTER. OTHER FRAMING MEMBERS SHALL BE S.P.F. NO. 2 OR BETTER.
- ENGINEERED LUMBER SHALL BE MANUFACTURED AND IDENTIFIED AS FOLLOWS:
 A. GLUE LAMINATED LUMBER - AITC A190.1 AND ASTM D2559.
 B. STRUCTURAL COMPOSITE LUMBER (LVL, PSL, AND LSL) - PRODUCTS TESTED AND EVALUATED IN ACCORDANCE WITH ASTM D5456 AND HAVING A CURRENT PUBLISHED EVALUATION REPORT BY AN ACCREDITED EVALUATION SERVICE.
- ALL ENGINEERED LUMBER SHALL BE DESIGNED AND SPECIFIED BY SUPPLIER UNLESS A SPECIFIC SIZE AND MATERIAL PROPERTIES ARE OTHERWISE SHOWN BY STRUCTURAL ENGINEER OF RECORD. ENGINEERED LUMBER SPECIFIED BY STRUCTURAL ENGINEER OF RECORD SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

MEMBER	F _b	F _c	E
LVL BEAM	2,600PSI	-	1,900,000PSI
PSL BEAM	2,900PSI	-	2,000,000PSI
GLU-LAM BEAM	2,600PSI	-	1,900,000PSI
PSL COLUMN	-	2,500PSI	1,800,000PSI
LSL COLUMN	-	1,835PSI	1,300,000PSI

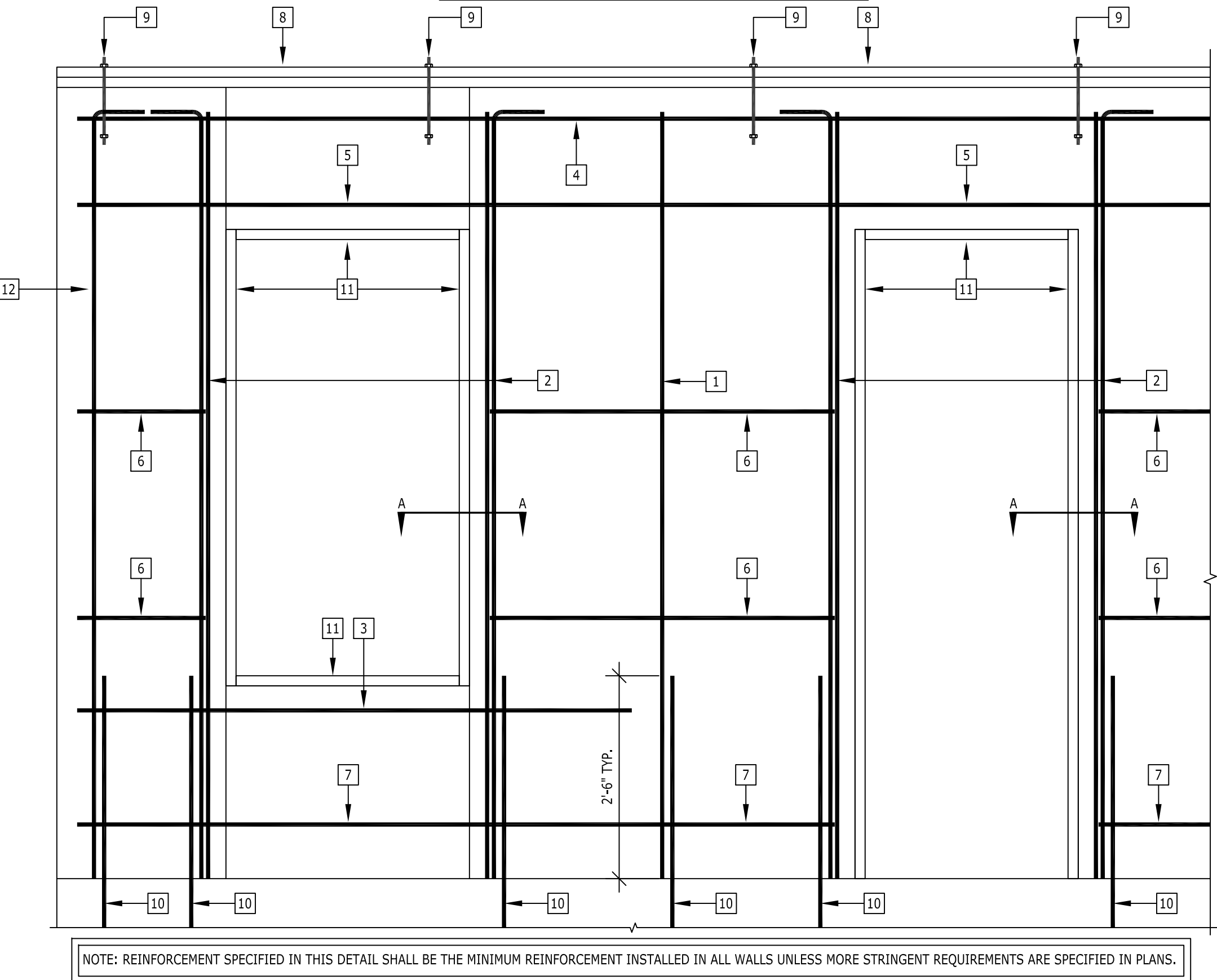
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM THAT SPAN RATING FOR PLYWOOD FLOOR SHEATHING MEETS THE DEFLECTION REQUIREMENTS FOR FLOOR FINISHES. THIS IS ESPECIALLY APPLICABLE WHEN SPACING OF FLOOR FRAMING EXCEEDS 16" O.C.
- WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS FOR THEIR TYPE IN DOC. PS 1 OR PS 2.
- NAILS SHALL NOT BE PLACED CLOSER THAN 3/8" TO PANEL EDGES.
- FASTENING AT ADJOINING STRUCTURAL PANEL EDGES SHALL BE STAGGERED.
- IF STRUCTURAL PANELS ARE APPLIED TO TWO SIDES OF FRAMING MEMBERS, BOTH HORIZONTAL AND VERTICAL JOINTS MUST BE STAGGERED FROM THOSE ON OPPOSITE SIDE OF WALL.
- WOOD STRUCTURAL PANELS USED FOR ROOF SHEATHING SHALL BE INSTALLED WITH A 1/8" GAP BETWEEN SHEETS AT ALL EDGES. THE 1/8" GAP IS ALSO APPLICABLE TO FLOOR SHEATHING SUPPORTING NATURAL STONE OR CERAMIC TILE FINISHES. TO WALL SHEATHING WHEN RECOMMENDED BY THE SHEATHING MANUFACTURER, WHEN REQUIRED BY THE EXTERIOR WALL FINISH MANUFACTURER OR OTHERWISE REQUIRED BY THE GOVERNING BUILDING CODE.

- TREATED WOOD SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE MODEL CODE CITED AND AWA STANDARD U1 FOR THE FOLLOWING USE CATEGORIES:
 WALL SILL PLATES - UC3B
 NAILERS ON CONCRETE OR MASONRY WALLS - UC3B
 POSTS AND POLES - UC4C
 GLUE LAMINATED BEAMS - UC4B
 PSL BEAMS - UC4B
- ALL TREATED WOOD CUTOFFS SHALL BE TREATED IN ACCORDANCE WITH AWA M4.
- ALL FASTENERS, HARDWARE, STRAPS AND HANGERS IN CONTACT WITH FIRE RETARDANT OR PRESERVATIVE TREATED LUMBER, HAVING EXTERIOR EXPOSURE OR EXPOSURE TO SALT SPRAY, SHALL BE STAINLESS STEEL, POSSESS A G185 ZINC COATING OR BE HOT-DIPPED GALVANIZED. STAINLESS STEEL SHALL BE SUPPLIED WHEN AVAILABLE IN ALL WIND EXPOSURE CATEGORY D APPLICATIONS.
- FASTENING REQUIREMENTS SHALL BE AS INDICATED IN NC STATE BUILDING CODE 2012 TABLE C2304.9.1 UNLESS OTHERWISE INDICATED IN THE DESIGN DOCUMENTS.
- NAILS AND STAPLES SHALL CONFORM TO THE REQUIREMENTS OF ASTM F 1667.
- FASTENERS SHALL NOT BE DRIVEN BEYOND FLUSH IN THE APPLICATION OF STRUCTURAL PANELS TO FRAMING MEMBERS.
- REFERENCED NAILS REFER TO "COMMON NAILS" WITH DIAMETERS AND LENGTHS AS FOLLOWS:
 a. 8d .131" x 2.5"
 b. 10d .148" x 3"
 c. 16d .162" x 3.5"
- HOLDDOWN ANCHORS, STRAPPING, AND TIES MUST BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS WHERE INDICATED ON STRUCTURAL PLANS AND SECTIONS.
- THE CONTRACTOR MUST USE HIS EXPERIENCE AND DISCRETION WHEN INSTALLING BRACING AND MAKING CONNECTIONS NOT DETAILED IN THESE DRAWINGS. IT IS HIS RESPONSIBILITY TO CONTACT THE STRUCTURAL ENGINEER IN THE EVENT OF ANY UNCERTAINTY.

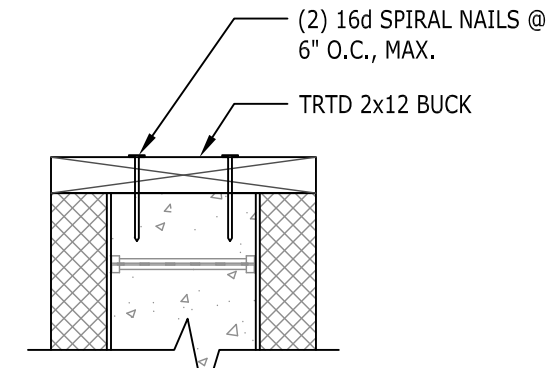
ENGINEERED WOOD TRUSSES

- WOOD TRUSS DESIGN SHALL BE REVIEWED AND SEALED BY A STRUCTURAL ENGINEER REGISTERED IN THE PROJECT STATE. TRUSS LAYOUT AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.
- PRE-MANUFACTURED WOOD TRUSSES SHALL BE DESIGNED TO RESIST THE LOADS INDICATED IN THE LOAD TABLE LOCATED IN THE STRUCTURAL GENERAL NOTES. CONTRACTOR SHALL COORDINATE AREAS WITH TRUSS SUPPLIER THAT ARE SUBJECT TO ADDITIONAL LOADS FROM CABINETRY, FLOOR TILE, ROOF TILE, ETC.

NOTE: WHERE INDICATED IN NOTES BELOW, VERTICAL WALL REINFORCEMENT IN THE TOP-MOST STORY WITH CONCRETE WALLS SHALL BE TERMINATED WITH A 90-DEGREE STANDARD HOOK. THE BAR EXTENSION OF THE HOOK SHALL BE A MINIMUM OF 12 BAR DIAMETERS AND ORIENTED PARALLEL TO THE HORIZONTAL WALL REINFORCEMENT AND BE WITHIN 4" OF THE TOP OF THE WALL.



- (1) #4 BAR, VERTICAL, NOT TO EXCEED 24" O.C., MAX. FOR ALL WALLS 12'-0" OR LESS, OR (1) #4 BAR @ 12" O.C., MAX. FOR ALL WALLS GREATER THAN 12'-0". REF. ARCH. PLAN FOR DIFFERENT PLATE HEIGHTS.
- (2) #5 BARS, VERTICAL, @ EA. SIDE OF OPENINGS AND WALL TERMINATIONS. (1) OF (2) VERTICAL REINFORCEMENT BARS ON EACH SIDE OF OPENINGS/WALL TERMINATIONS SHALL TERMINATE WITH A 90 DEGREE STANDARD HOOK WITHIN 4" OF THE TOP OF THE WALL AND SHALL HAVE A MINIMUM LEG EXTENSION OF 8".
- (1) #4 BAR, HORIZONTAL, BENEATH EA. WINDOW OPENING. BAR MUST BE WITHIN 3-1/2" OF OPENING AND EXTEND A MIN. OF 24", EA. DIRECTION, BEYOND OPENING.
- (1) #4 BAR, HORIZONTAL, AT THE TOP OF EACH WALL. BAR MUST BE WITHIN 4" FROM TOP OF WALL.
- (1) #4 BAR, HORIZONTAL, CONTINUOUS ABOVE EACH OPENING. BAR MUST BE WITHIN 3-1/2" OF OPENING AND EXTEND A MIN. OF 24", EA. DIRECTION, BEYOND OPENING.
- PROVIDE #4 BARS, HORIZONTAL, NOT TO EXCEED 24" O.C., MAX.
- (1) #4 BAR, HORIZONTAL, AT THE BOTTOM OF EA. WALL. BAR MUST BE WITHIN 16" FROM BOTTOM OF WALL BUT NOT LESS THAN 3" FROM BOTTOM OF WALL.
- DOUBLE S.P.F. No. 2 2x12 CONTINUOUS TOP PLATE. MEMBERS IN DIRECT CONTACT WITH CONCRETE MUST BE TREATED. RIP TO MATCH WIDTH OF ICF WALL.
- ANCHOR TOP PLATE TO CONCRETE ICF WALL USING 1/2" DIA. HEADED GALV. ANCHOR BOLTS @ 4'-0" O.C., MAX AND WITHIN 6" OF ALL CORNERS WITH 6" MINIMUM EMBEDMENT. INSTALL WITH 3"x3"x1/4" PLATE WASHER.
- #4 DOWELS FROM FOUNDATION BELOW. DOWELS SHALL LAP VERTICAL BARS AS SHOWN IN DETAIL. DOWELS SHALL BE LOCATED AT 24" O.C., MAX AND ON EA. SIDE OF OPENING AS SHOWN.
- ATTACH BUCKS USING (2) SPIRAL SHANKED 16d NAILS @ 6" O.C., MAX. NAILS SHALL BE DRIVEN PRIOR TO CONCRETE BEING POURED. BRACE BUCKS AS PER MANUFACTURER'S SPECIFICATIONS.
- (1) #5 BAR, VERTICAL, @ CORNER. VERTICAL REINFORCEMENT BAR AT CORNER SHALL TERMINATE WITH A 90 DEGREE STANDARD HOOK WITHIN 4" OF THE TOP OF THE WALL AND SHALL HAVE A MINIMUM LEG EXTENSION OF 8".



SECTION "A-A"
 SCALE: 1:1/2" = 1'-0"

DIAPHRAGM SHEATHING FASTENING SCHEDULE							
AREA:	MATERIALS:	THICKNESS:	FASTENERS / SPACING		BLOCK SEAMS:	GLUE:	REMARKS:
			EDGES:	FIELD:			
ROOF	OSB OR PLYWOOD	7/16"	8d (.131") @ 6" O.C.	8d (.131") @ 12" O.C.	NO	NO	1,2
WALLS	OSB OR PLYWOOD	7/16"	8d (.131") @ 4" O.C.	8d (.131") @ 8" O.C.	YES	NO	2,3

1. FASTEN FIRST COURSE OF ROOF SHEATHING AT EAVE WITH RING-SHANK 8d NAILS AT 4" O.C. EDGES AND 8" O.C. FIELD. FIRST SHEATHING SEAM UP FROM EAVE SHALL BE BLOCKED.
 2. "OSB" OR "PLYWOOD" REFERS TO APA RATED FLOOR, ROOF OR WALL SHEATHING.
 3. IF WALLS ARE SHEATHED ON BOTH SIDES, HORIZONTAL AND VERTICAL SEAMS MUST BE STAGGERED FROM THOSE ON OPPOSITE SIDE OF WALL.

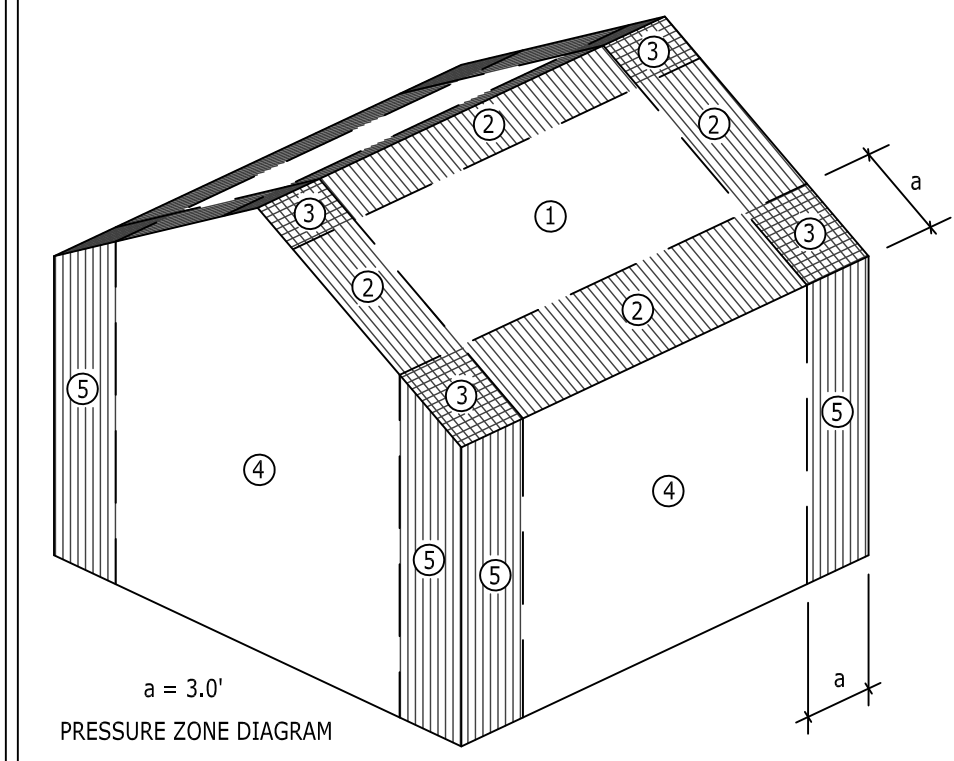
- ENGINEERED WOOD TRUSSES SHALL MEET THE FOLLOWING DEFLECTION CRITERIA AS A MINIMUM STANDARD:
 DEAD LOAD PLUS LIVE LOAD ROOF TRUSSES L/240
 LIVE LOAD ONLY ROOF TRUSSES L/360
- TRUSSES SHALL BE TEMPORARILY BRACED AS REQUIRED DURING CONSTRUCTION TO PREVENT COLLAPSE. THE BUILDER IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THIS BRACING. INFORMATION REGARDING TEMPORARY TRUSS BRACING CAN BE OBTAINED FROM THE "WOOD TRUSS COUNCIL OF AMERICA" - (608) 274-4849
- ALL PLANES OF ALIGNED TRUSS CHORDS SHALL BE PERMANENTLY BRACED WITH AN APPROPRIATE COMBINATION OF "L-BRACES", CONTINUOUS LINEAR BRACES, AND DIAGONALS TO PREVENT BUCKLING. INFORMATION REGARDING PERMANENT TRUSS BRACING CAN BE OBTAINED FROM EITHER OF THE FOLLOWING SOURCES:
 WOOD TRUSS COUNCIL OF AMERICA - (608) 274-4849
 TRUSS PLATE INSTITUTE - (608) 833-5900
- THE PROJECT SHALL NOT BE CONSIDERED COMPLETE UNTIL PERMANENT TRUSS BRACING IS INSTALLED.
- TRUSS SHOP DRAWINGS SHALL CLEARLY INDICATE BOTH UPLIFT AND DOWNWARD REACTIONS FOR TYPICAL TRUSSES AND GIRDETS. ALLOWANCE SHALL BE MADE IN THE CONTRACT PRICE FOR GIRDER TRUSS ANCHORS. GIRDER TRUSS HOLDDOWN ASSEMBLIES SHALL BE PROVIDED AND INSTALLED SUCH THAT A CONTINUOUS LOAD PATH IS PROVIDED TO THE FOUNDATION. ASSEMBLY CAPACITIES SHALL BE EQUAL TO OR GREATER THAN REACTION VALUES PROVIDED BY TRUSS SUPPLIER ON THE FINAL SEALED TRUSS SHOP DRAWINGS.
- REGARDLESS OF WHETHER INFORMATION APPEARS ON PLANS, A CONTINUOUS PATH OF HOLD-DOWN RESISTANCE SHALL BE PROVIDED TYING ALL ROOF TRUSSES TO THE FOUNDATION.

**2012 NORTH CAROLINA STATE BUILDING CODE
 LOAD TABLE**

1. DEAD LOADS	USE ACTUAL WEIGHT OF MATERIALS
2. LIVE LOADS (ASCE 7-05)	20 P.S.F.
A. ROOF	40 P.S.F.
B. FLOOR	40 P.S.F.
3. SNOW LOADS (ASCE 7-05)	
A. GRND SNOW LOAD (P _g)	10 P.S.F.
B. SNOW EXPOSURE FACTOR (C _e)	0.9
C. SNOW LOAD IMPORTANCE FACTOR (I)	1.0
D. THERMAL FACTOR (C _t)	1.2
E. FLAT ROOF SNOW LOAD (P _f)	10 P.S.F.
F. SLOPED ROOF SNOW LOAD (P _s)	10 P.S.F.
4. WIND LOADS (ASCE 7-05)	
A. BASIC WIND SPEED	130 M.P.H.
B. EXPOSURE CATEGORY	C
C. RISK CATEGORY	II
D. WIND ENCLOSURE	ENCLOSED
E. ADJUSTMENT FACTOR FOR HEIGHT AND EXPOSURE	1.35
F. G _{cp}	+/- 0.18

IN WIND-BORNE DEBRIS REGIONS, GLAZING IN BUILDINGS SHALL BE IMPACT-RESISTANT OR PROTECTED WITH AN IMPACT-RESISTANT COVERING MEETING THE REQUIREMENTS OF AN APPROVED IMPACT-RESISTING STANDARD OR ASTM E 1996 AND ASTM E 1886 REFERENCED THEREIN AS FOLLOWS:
 1. GLAZED OPENINGS LOCATED WITHIN 30 FEET OF GRADE SHALL MEET THE REQUIREMENTS OF THE LARGE MISSILE TEST OF ASTM E 1996.
 2. GLAZE OPENINGS LOCATED MORE THAN 30 FEET ABOVE GRADE SHALL MEET THE PROVISIONS OF THE SMALL MISSILE TEST OF ASTM E 1996.

NOTE: ALL OPENINGS AT THIRD FLOOR OR HIGHER, NOT DIRECTLY ACCESSIBLE FROM PORCH, SHALL BE IMPACT RESISTANT OR BE EQUIPPED WITH IMPACT RESISTANT SHUTTERS OPERABLE FROM INTERIOR.



ZONE	DESIGN PRESSURES (LBS./SQ. FT.)*			
	TRIBUTARY AREA (SQ. FT.)			
	10	20	50	100
1	+17/-28	+16/-27	+14/-26	+13/-26
2	+18/-49	+16/-45	+14/-40	+13/-36
3	+18/-72	+16/-67	+14/-61	+13/-57
4	+31/-33	+29/-32	+28/-30	+26/-29
5	+31/-41	+29/-38	+28/-35	+26/-32

COMPONENTS AND CLADDING WIND DESIGN PRESSURES
 (ASCE 7-05, Chapter 6, Method 1 - Simplified Method)

*THE PRESSURES PROVIDED ARE ALLOWABLE STRESS DESIGN VALUES DETERMINED FROM ASCE 7-05.

- SEISMIC LOADS (ASCE 7-10)
 A. SEISMIC RISK CATEGORY II
 B. SITE CLASS (ASSUMED PER 2015 IBC 2304.9.1) D
 C. SEISMIC IMPORTANCE FACTOR 1.00
 D. SEISMIC DESIGN CATEGORY D
 E. ANALYSIS PROCEDURE EQ. LAT. FORCE
 F. BASIC SEISMIC FORCE RESISTING SYSTEM LIGHT FRAMED WALLS SHEATHED W/ WOOD STRUC. PANELS
- GEOTECHNICAL INFORMATION
 A. DESIGN LOAD BEARING CAPACITY (ASSUMED) 1,500 P.S.F.

SEAL

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 FUQUAY VARINA, NORTH CAROLINA

JOB NUMBER:
 18-328

DATE: 10/15/2018

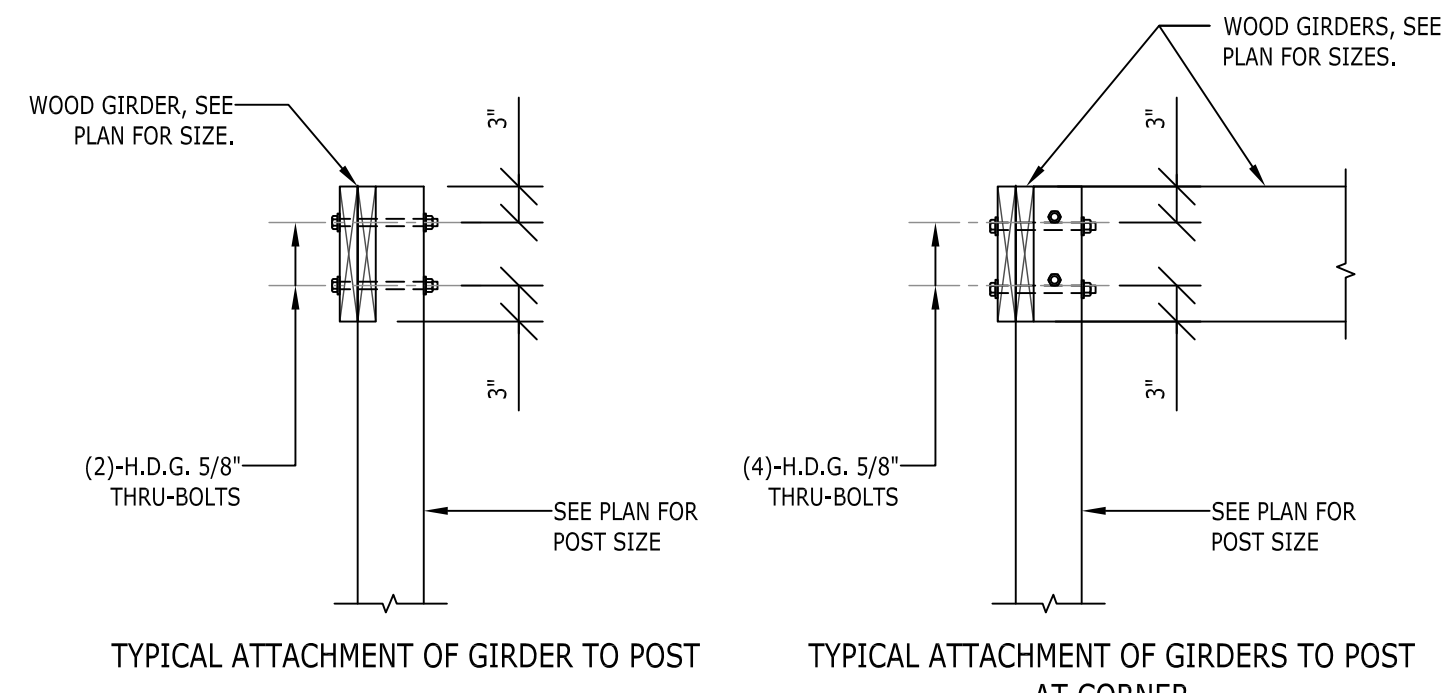
DESIGNED BY:
 M.L.B.

DRAWN BY:
 M.L.B.

CHECKED BY:
 T.H.H.

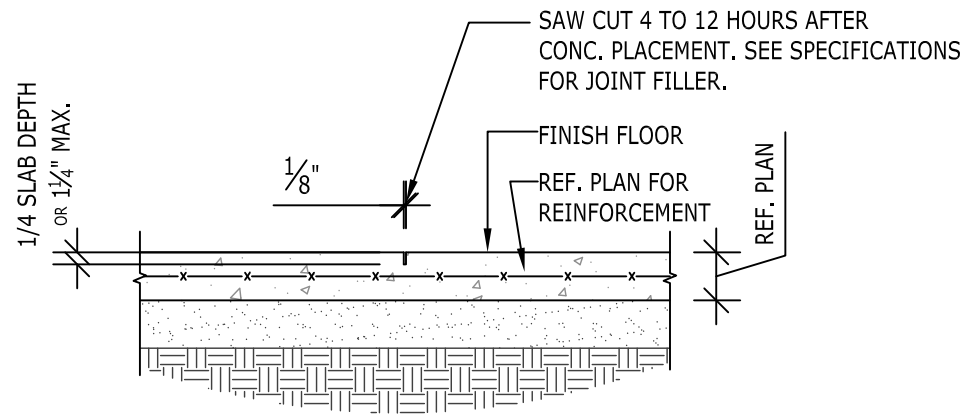
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SHEET No.:
S1.0
 1 OF 3



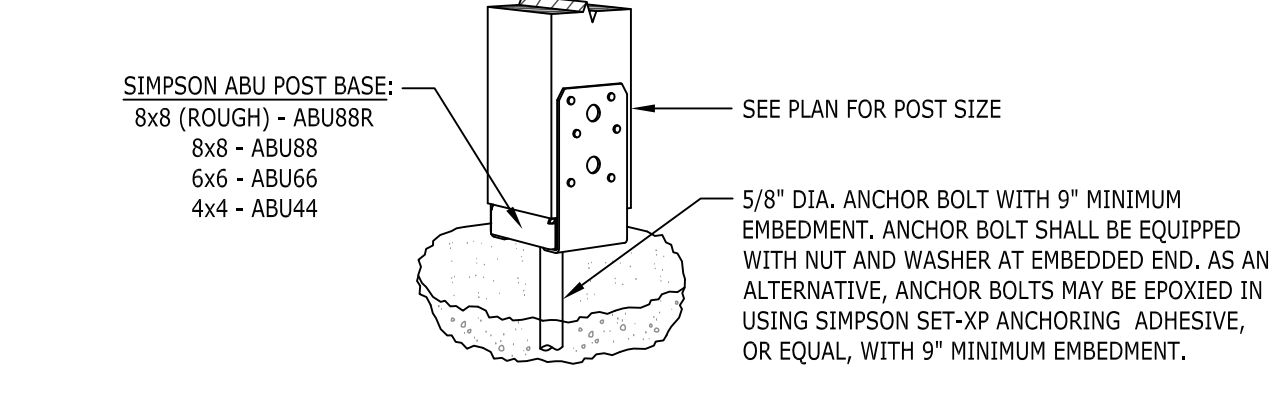
TYPICAL POST AND BEAM FRAMING DETAILS

SCALE: 3/4"=1'-0"

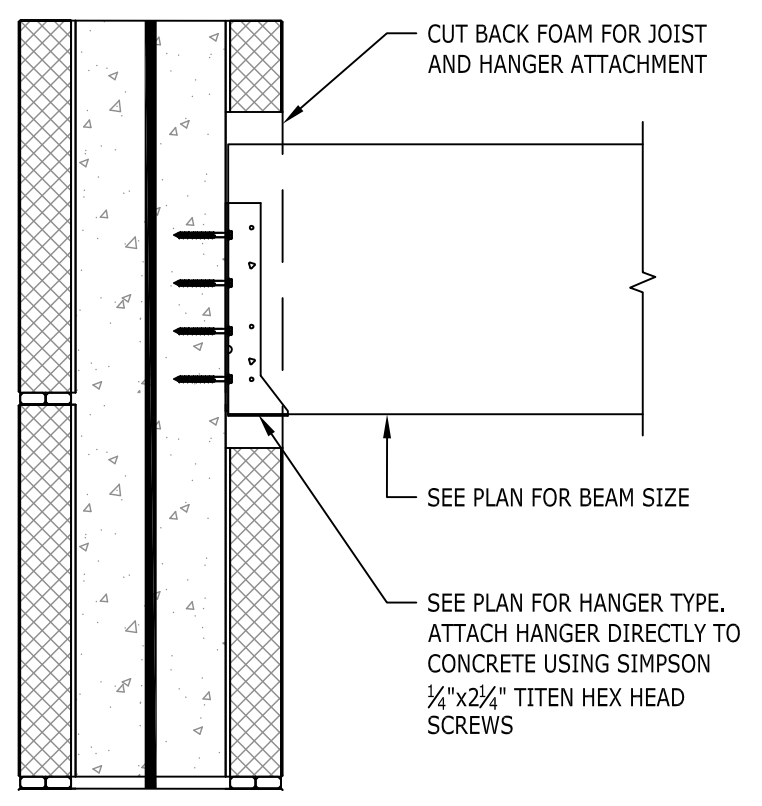


TYPICAL SAWN JOINT DETAIL

SCALE: 3/4"=1'-0"

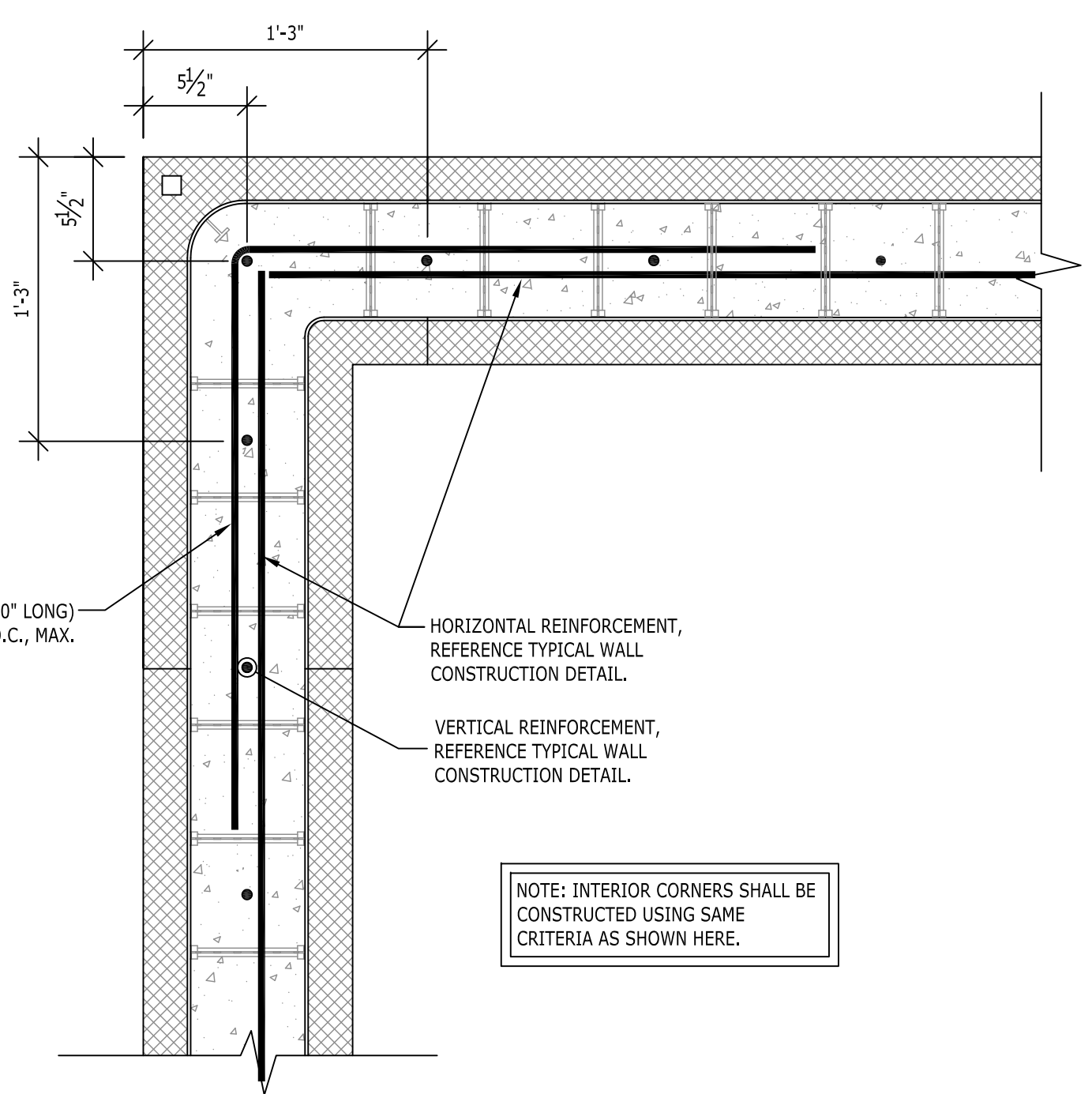


TYPICAL ABU POST BASE DETAIL



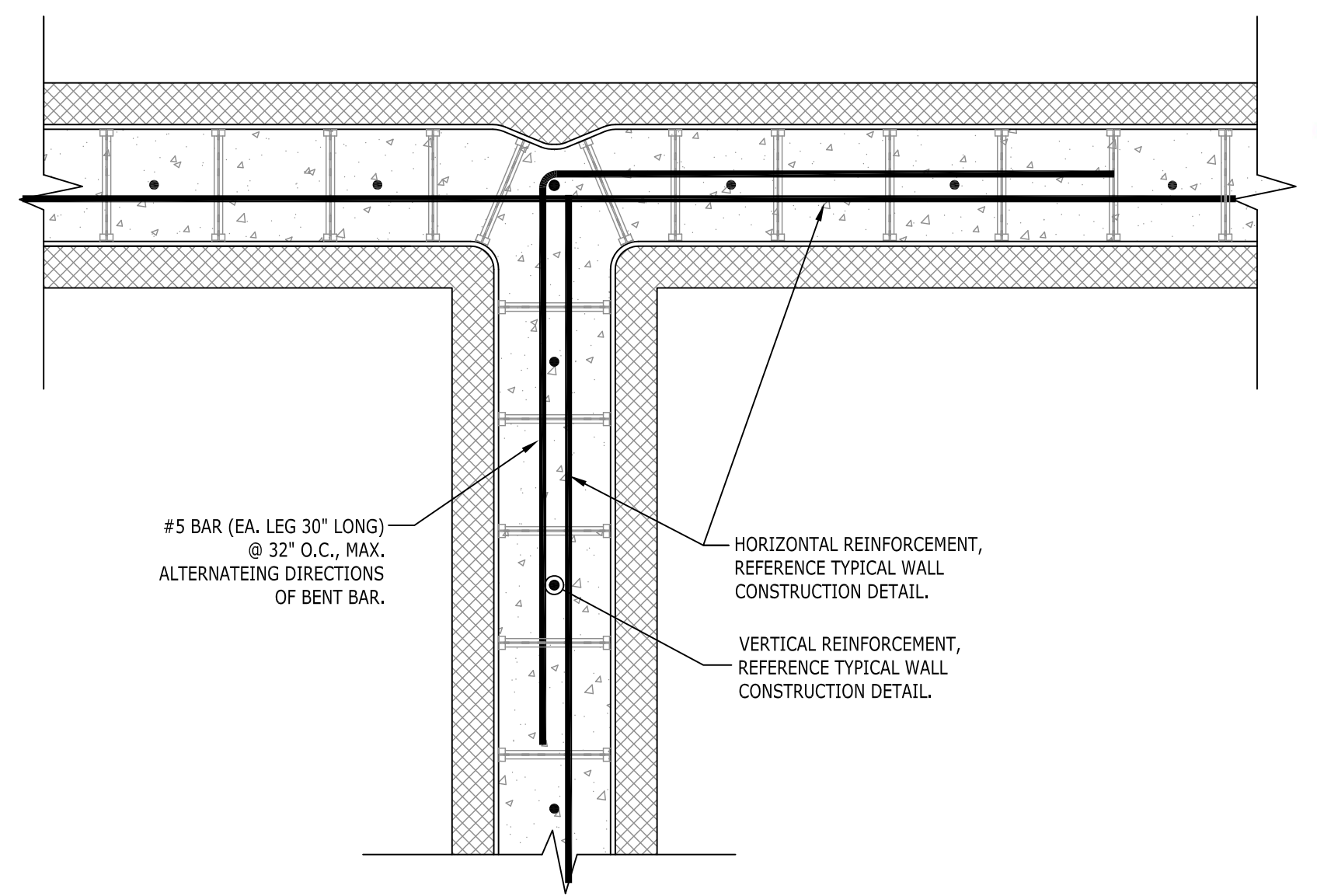
TYPICAL BEAM ATTACHMENT DETAIL

SCALE: 1-1/2"=1'-0"



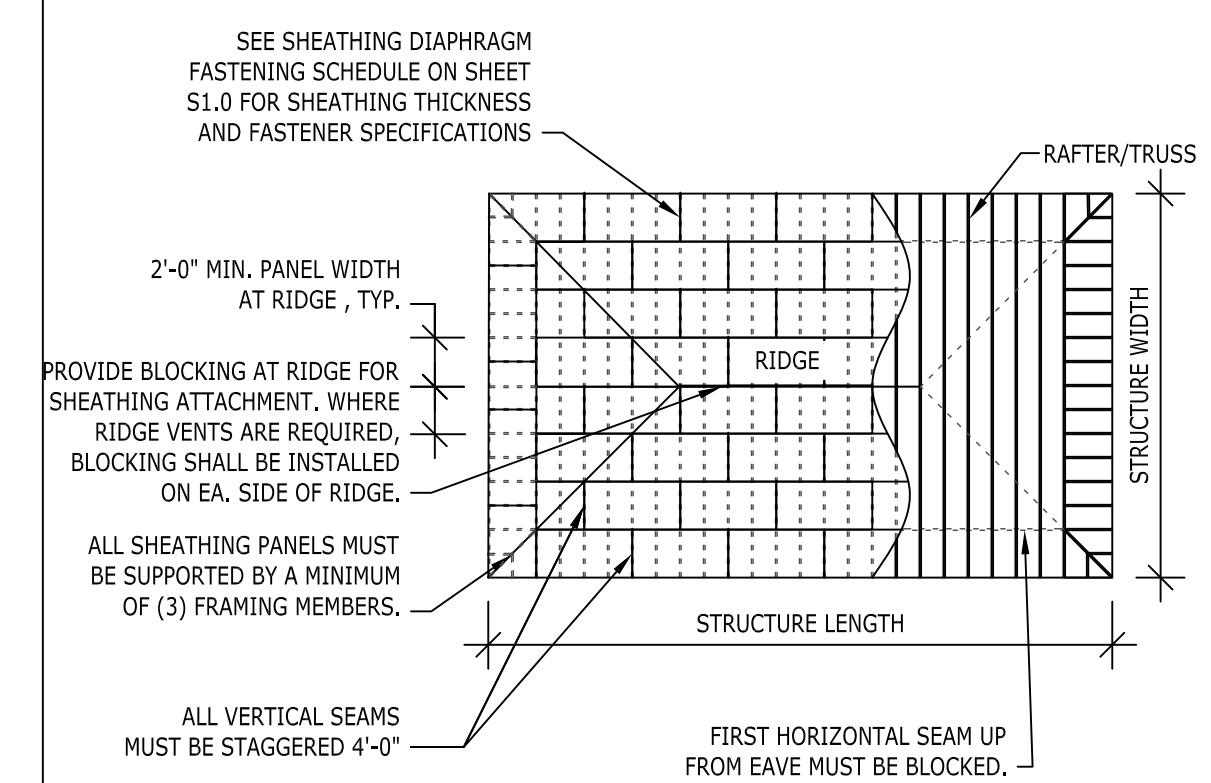
TYPICAL CORNER DETAIL

SCALE: 1-1/2"=1'-0"



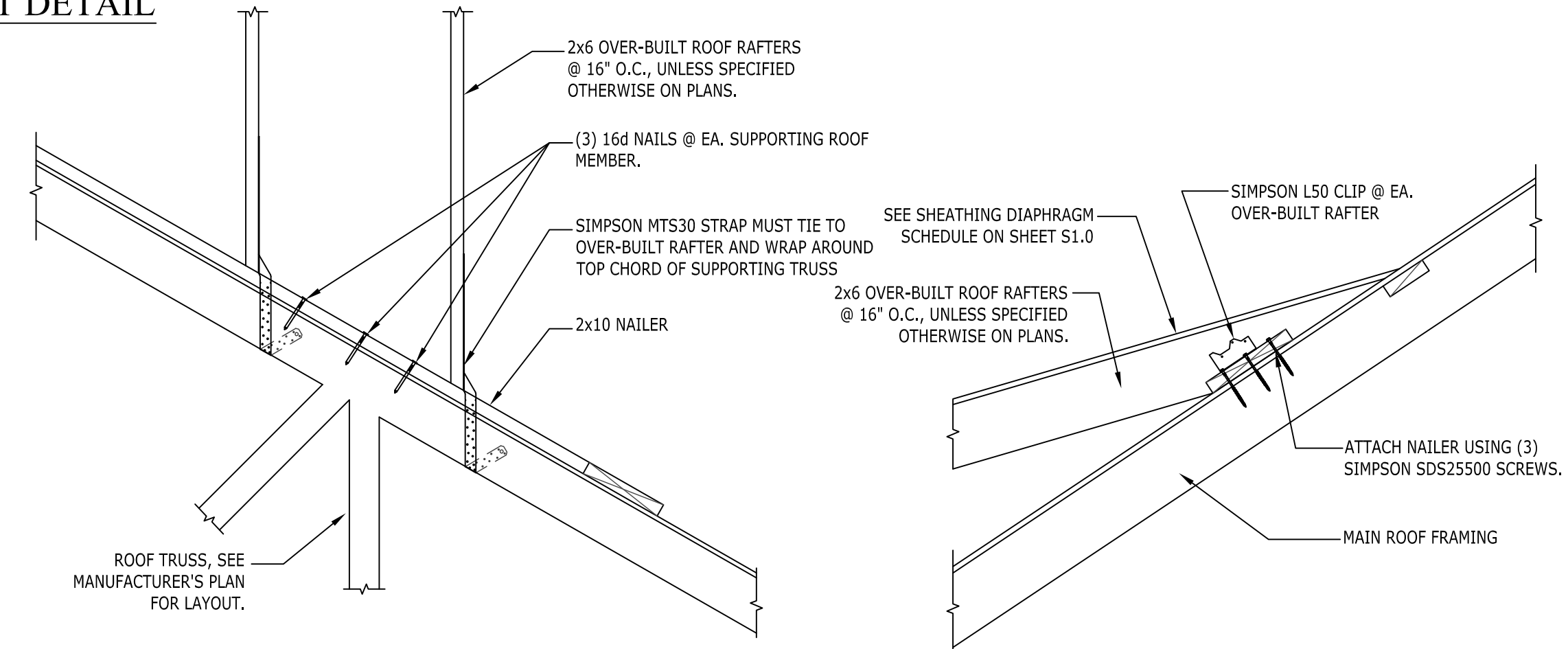
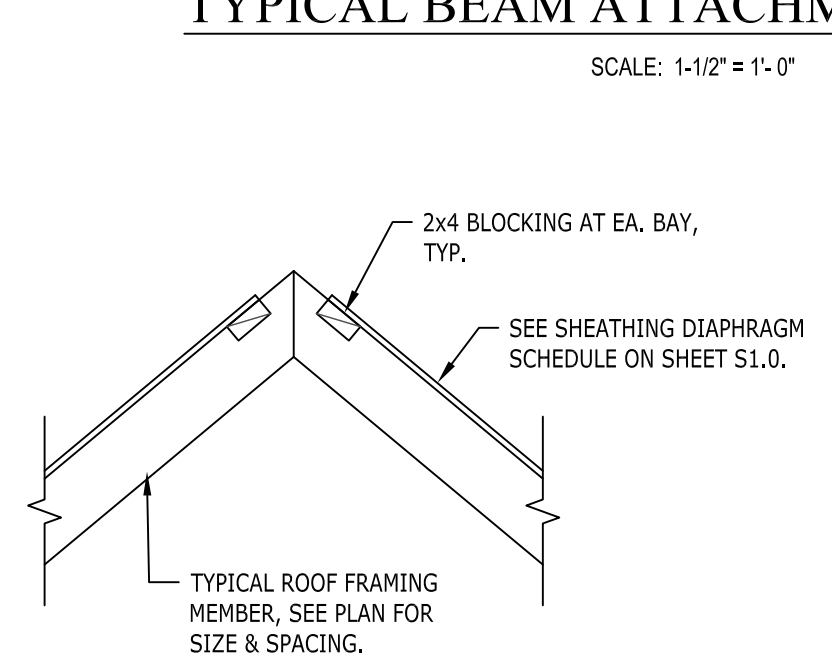
TYPICAL T-SECTION DETAIL

SCALE: 1-1/2"=1'-0"



ROOF SHEATHING & CONSTRUCTION DETAILS

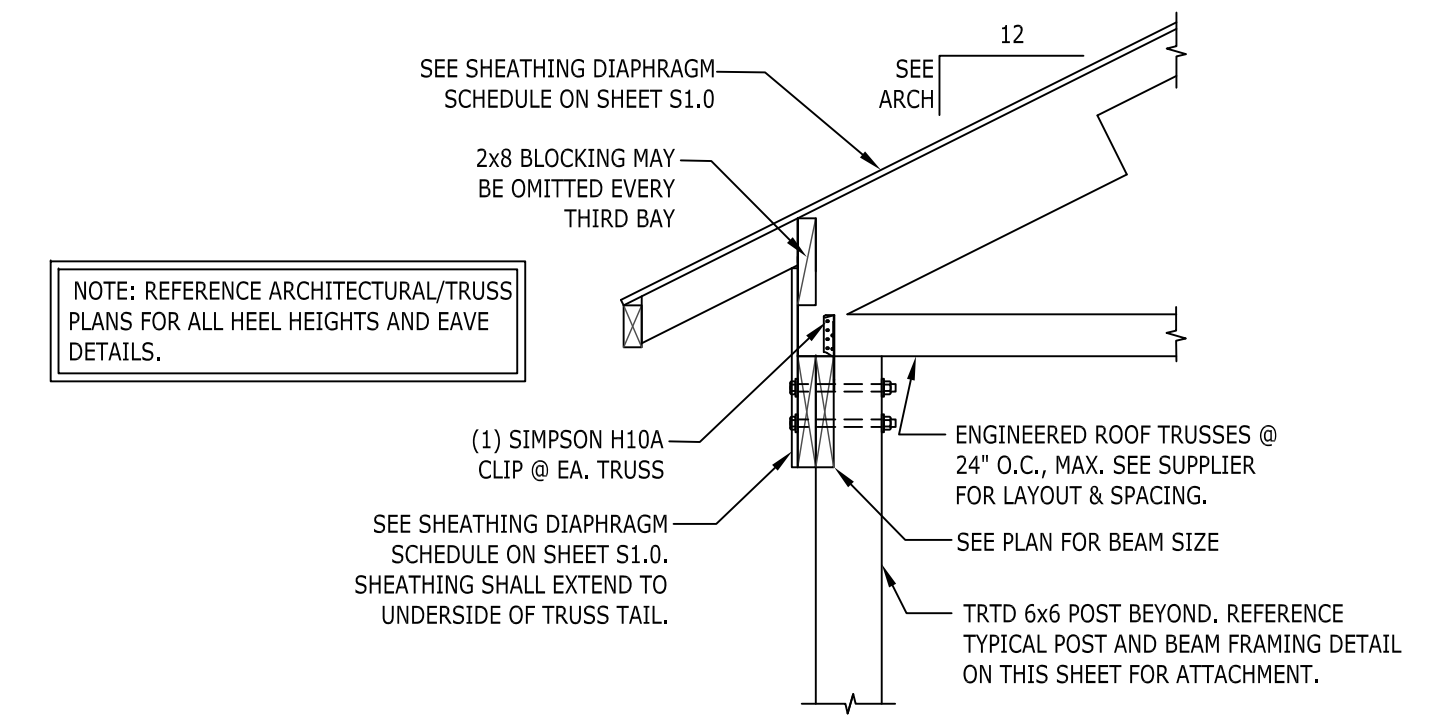
NOT TO SCALE



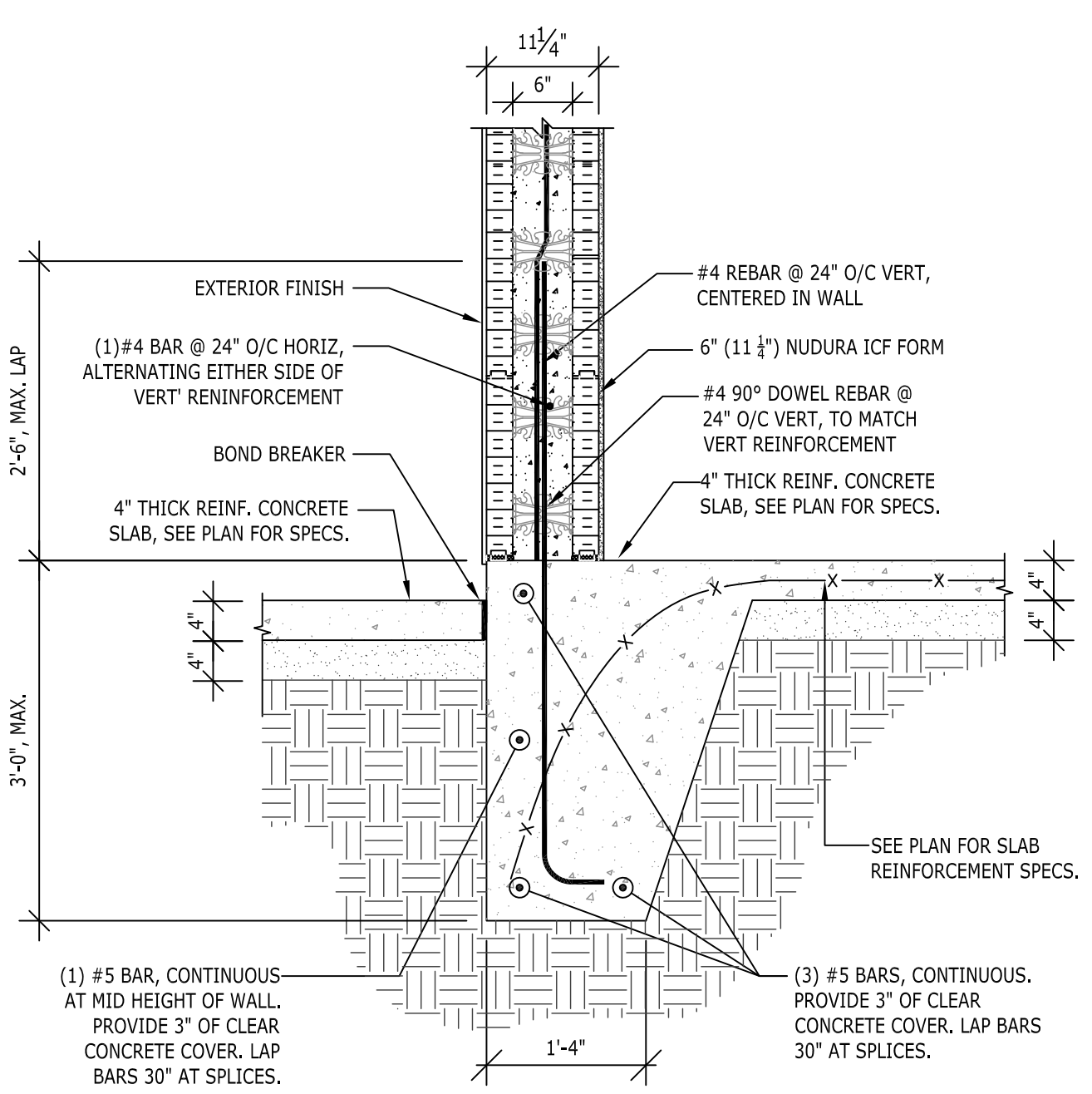
TYPICAL OVER-BUILT ROOF FRAMING DETAILS

SCALE: 3/4"=1'-0"

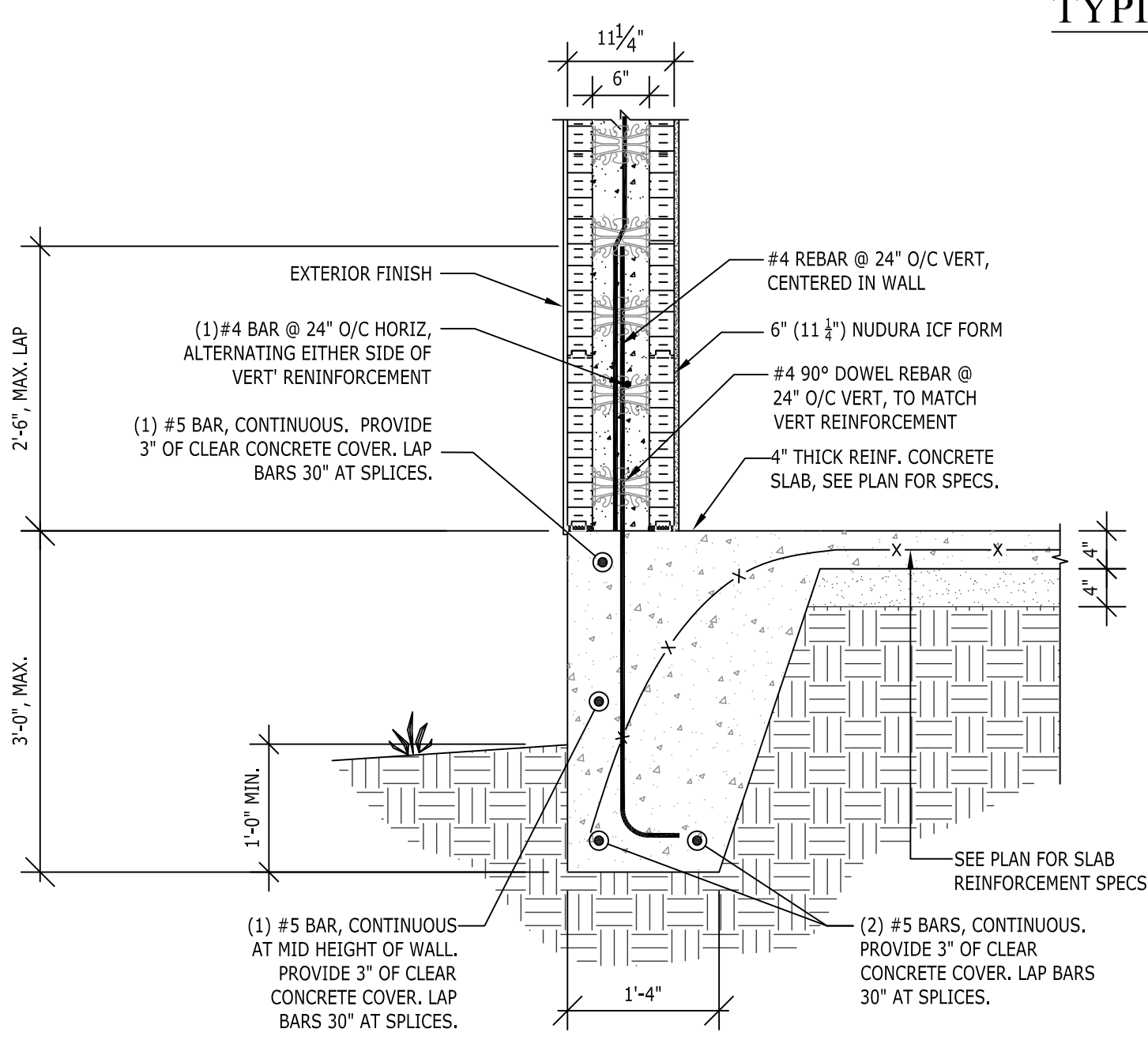
NOTE: REFERENCE ARCHITECTURAL/TRUSS PLANS FOR ALL HEEL HEIGHTS AND EAVE DETAILS.



SECTION AT PORCH ROOF EAVE



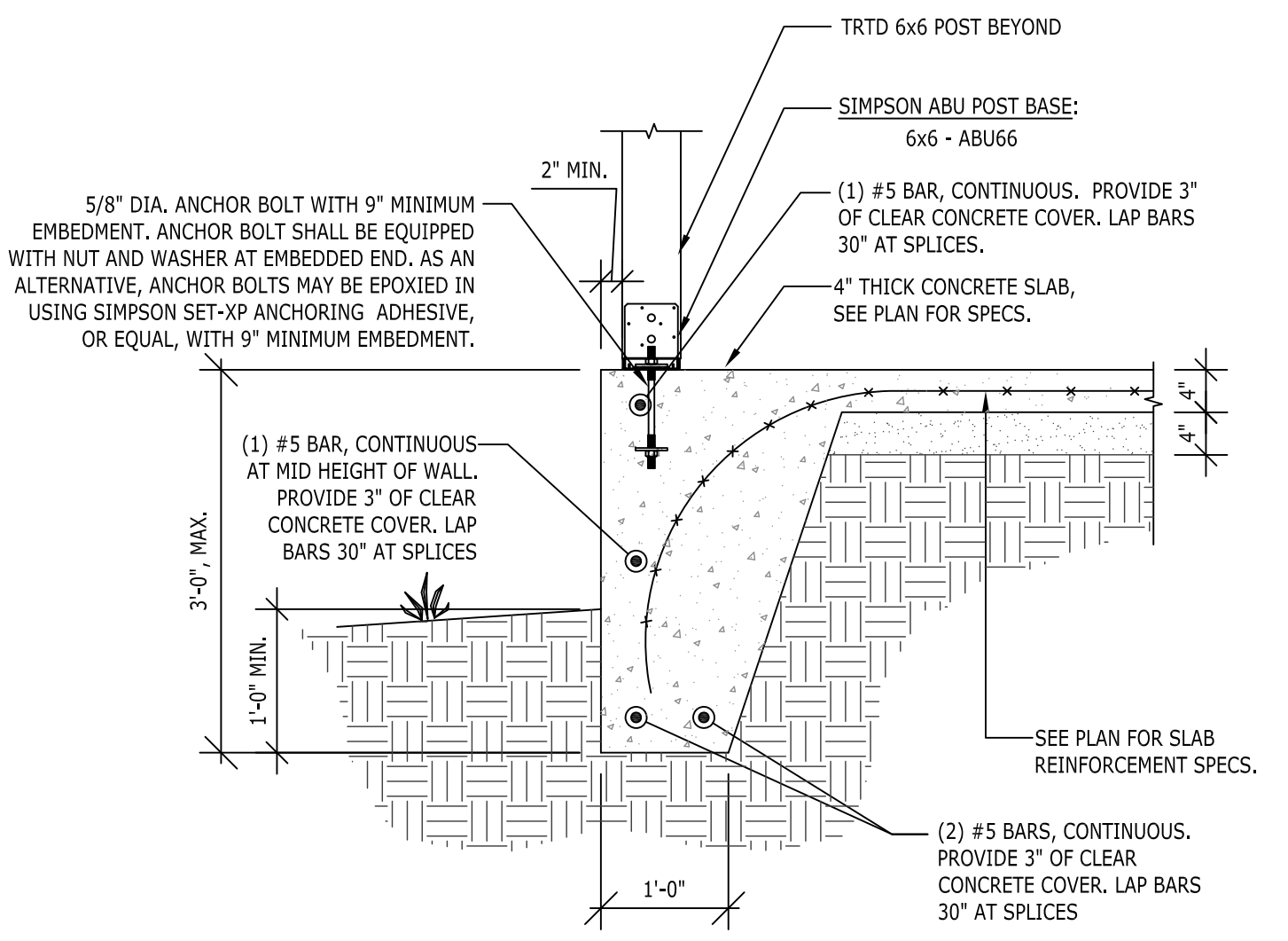
SECTION AT TYPICAL PORCH INTERIOR FOUNDATION



SECTION AT MONOLITHIC SLAB FOUNDATION

TYPICAL WALL SECTIONS

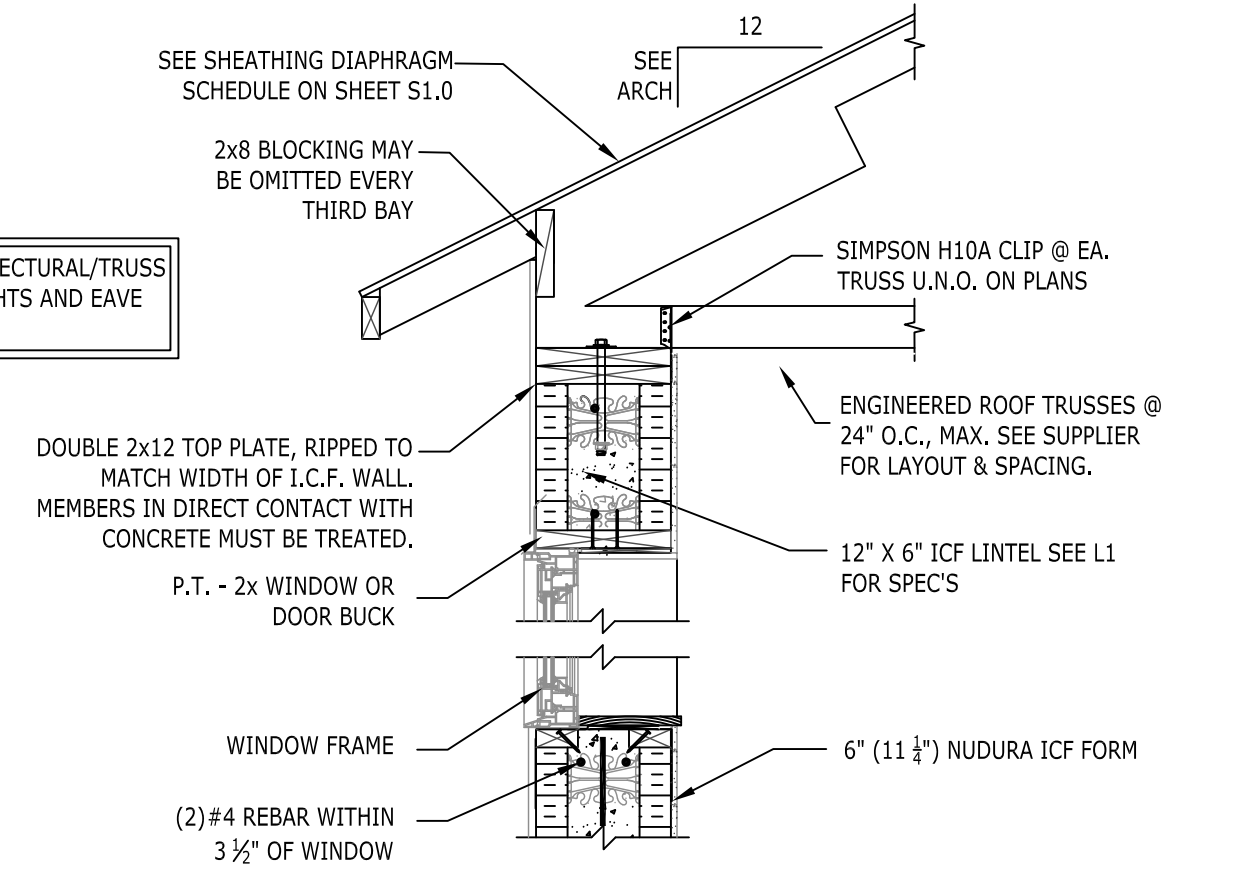
SCALE: 3/4"=1'-0"



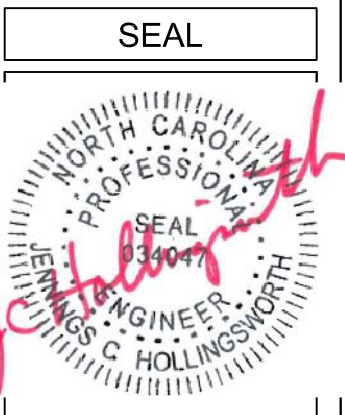
SECTION AT PORCH FOUNDATION

TYPICAL PORCH SECTIONS

SCALE: 3/4"=1'-0"



SECTION AT TRUSS ROOF EAVE



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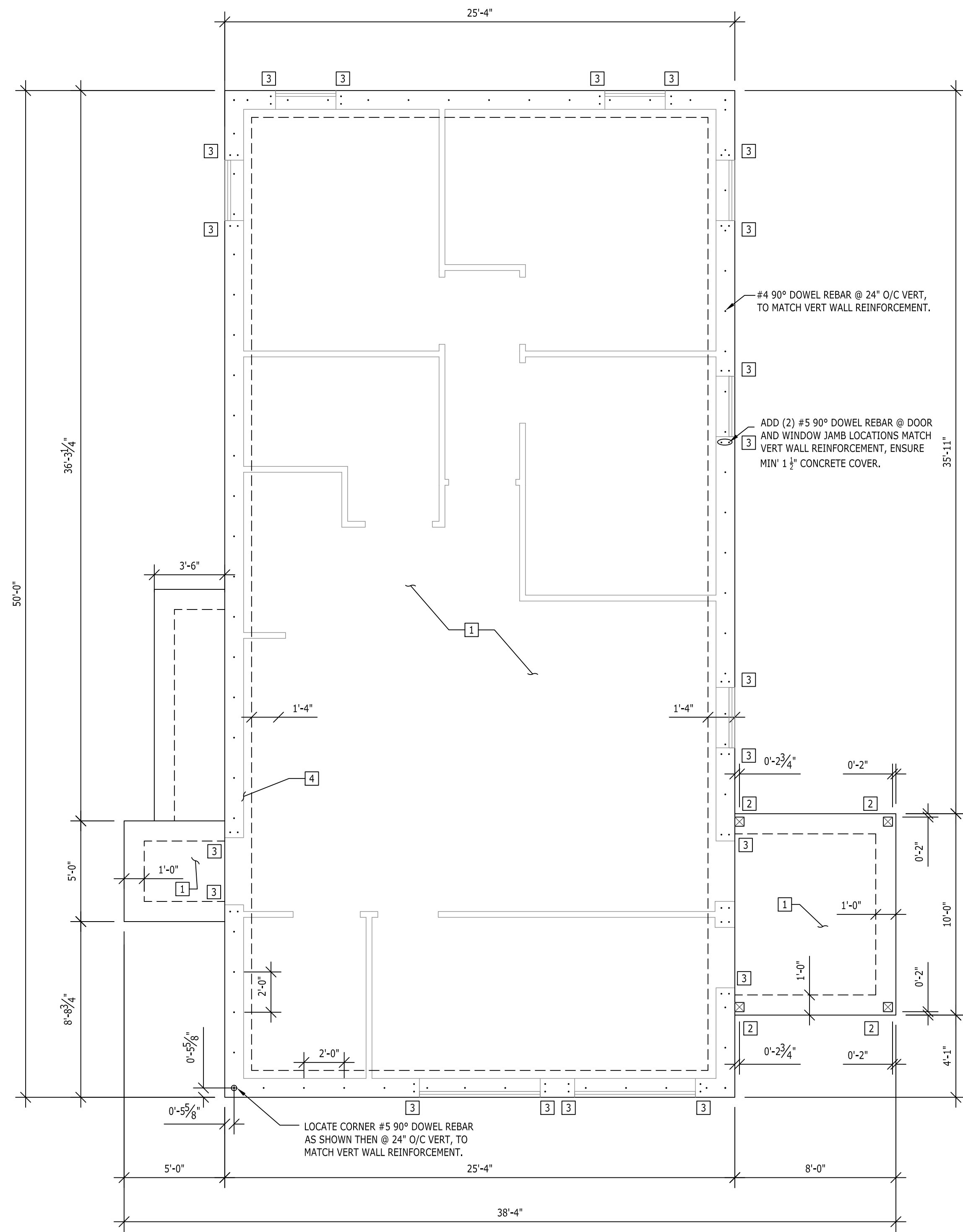
DATE: 10/15/2018

DESIGNED BY: M.L.B.

DRAWN BY: M.L.B.

CHECKED BY: T.H.H.

SCALE: 3/4"=1'-0"



- 1 3000 P.S.I. 4" THICK CONCRETE SLAB ON 4" COMPACTED DRAINABLE SOIL. REINFORCE WITH 6x6 W1.4xW1.4 W.W.F. OR FIBERMESH. CONTRACTOR SHALL COORDINATE CONTROL JOINT LOCATIONS PER "STRUCTURAL CONCRETE" NOTE 11 ON SHEET S1.0.
- 2 TRTD 6x6 POST ABOVE. SECURE AT BASE USING SIMPSON ABU66 POST BASE. SEE TYPICAL ABU POST BASE DETAIL ON SHEET S1.1 FOR ATTACHMENT OF POST BASE.
- 3 ADD (2) #5 90° DOWEL REBAR @ DOOR AND WINDOW JAMB LOCATIONS TO MATCH VERT WALL REINFORCEMENT, ENSURE MIN 1 1/2" CONCRETE COVER.
- 4 6" NUDURA ICF WALL TO HAVE 4000 P.S.I. CONCRETE W/ MAX 1/2" AGGREGATE. MIX TO HAVE 6" +/- 1" SLUM MEASURE AT DISCHARGE. SEE SHEET SHEET S1.0. FOR MORE DETAILS

NOTE: ALL BOTTOM AND DOUBLE TOP PLATES SHALL BE SOUTHERN YELLOW PINE No. 2 OR BETTER, SPRUCE-PINE-FIR SHALL NOT BE PERMITTED.

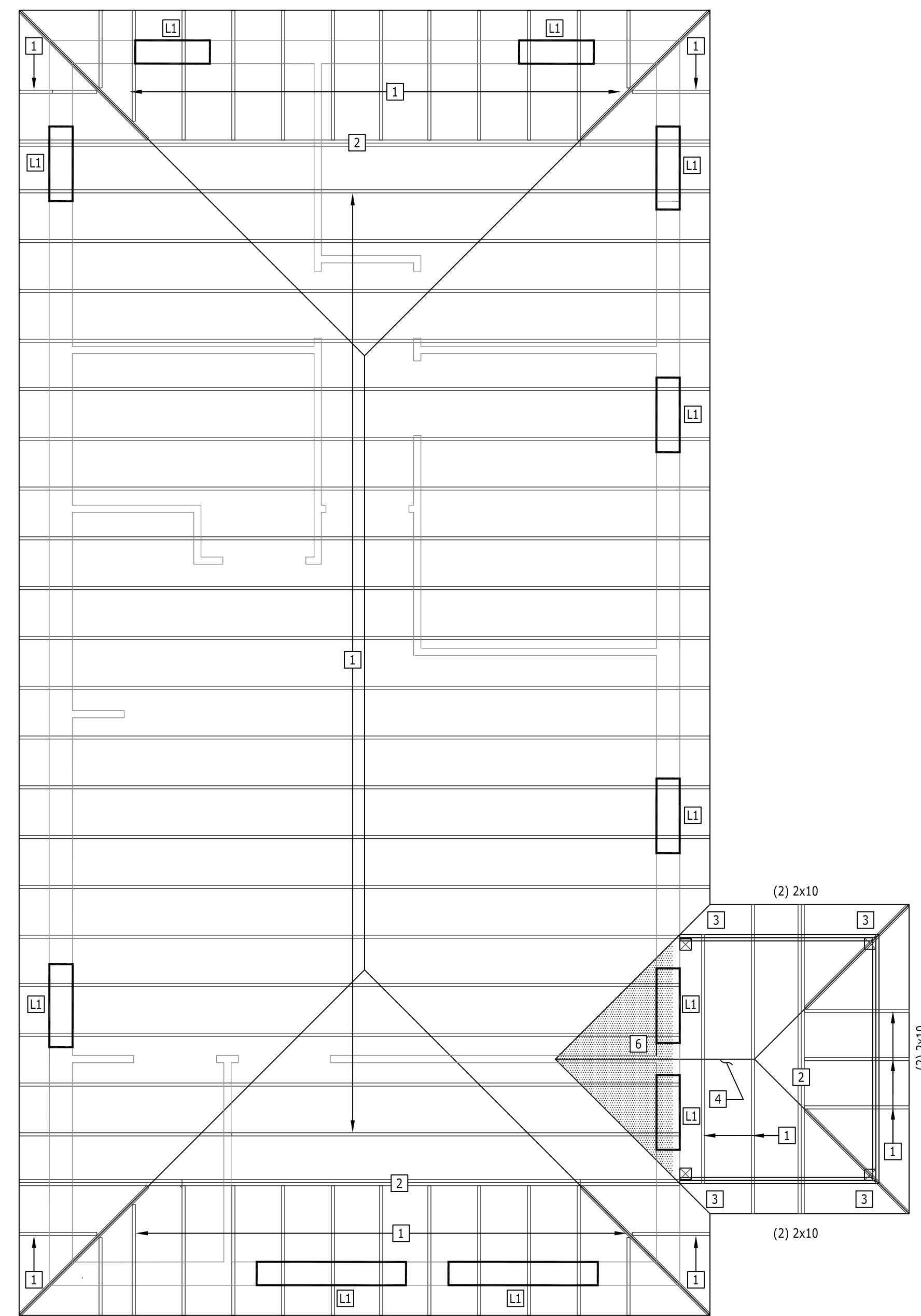
NOTE: CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR THE DESIGN, DETAILING AND INSTALLATION OF ALL FLASHING AND WATERPROOFING ASSEMBLIES.

NOTE: CONTRACTOR RESPONSIBLE FOR PROVIDING SIMPSON, U.S.P., OR EQUAL GIRDER TRUSS HOLD-DOWN ASSEMBLY TO RESIST UPLIFT LOAD INDICATED BY TRUSS MANUFACTURER. HOLD-DOWN ASSEMBLY SHALL PROVIDE CONTINUOUS PATH FROM GIRDER TRUSS TO FOUNDATION.

NOTE: CONTRACTOR IS TO COORDINATE LOCATION OF TRUSSES DESIGNED WITH CATHEDRAL, COFFERED, VAULTED, ETC. CEILINGS WITH THE TRUSS SUPPLIER.

FOUNDATION / SLAB PLAN

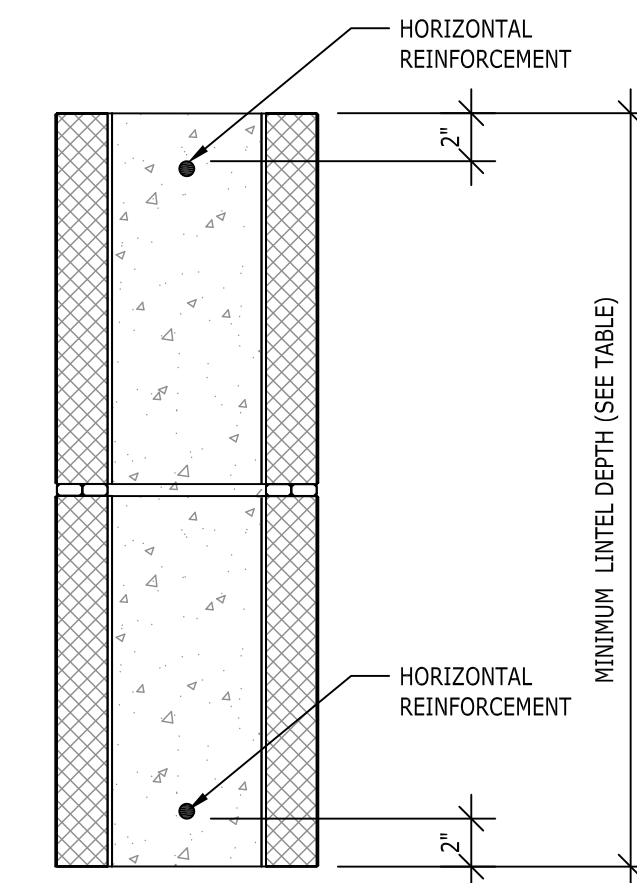
SCALE: 1/4" = 1'-0"



- 1 ENGINEERED WOOD ROOF TRUSSES @ 24" O.C., MAX. SEE SUPPLIER FOR LAYOUT & SPACING.
- 2 GIRDER TRUSS BY TRUSS SUPPLIER.
- 3 TRTD 6x6 POST BELOW. SEE TYPICAL POST & BEAM FRAMING DETAIL ON SHEET S1.1.
- 4 CONTRACTOR SHALL INSTALL (1) LAYER OF 7/16" OSB, PLYWOOD OR CEMENTITIOUS SHEATHING ON THE PORCH CEILING USING 8d NAILS SPACED AT 6" O.C. EDGE AND 12" O.C. FIELD.
- 5 "NOT USED"
- 6 INDICATED DOT HATCHED AREA REPRESENTS 2x6 OVER-BUILT RAFTERS AT 16" O.C., MAX. SEE TYPICAL OVER-BUILT ROOF FRAMING DETAIL ON SHEET S1.1.
- L1 ICF LINTEL TO HAVE (2) #5 HORIZONTAL BARS @ DOOR AND WINDOW HEADER, TO EXTEND MIN OF 24" BEYOND JAMB. EACH JAMB TO HAVE (2) #5 VERTICAL FULL HEIGHT OF WALL. SEE LINTEL DETAIL ON THIS SHEET.

ROOF FRAMING PLAN

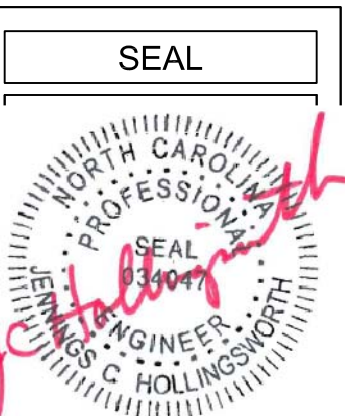
SCALE: 3/8" = 1'-0"



LINTEL REINFORCEMENT SCHEDULE			
OPENING TYPE	SHEAR TIE REQUIREMENTS	HORIZONTAL REINFORCEMENT REQUIREMENTS	MINIMUM LINTEL DEPTH
"L1"	NOT REQUIRED	(1) #5 BAR, TOP & BOTTOM	12"

TYPICAL OPENING LINTEL DETAILS

SCALE: 1-1/2" = 1'-0"



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SCALE:	3/4" = 1'-0"

SHEET No.:
S2.0
 4 OF 4