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STRUCTURAL NOTES

POST-INSTALLED CONCRETE/MASONRY ANCHORS:

PI-1 POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. IF ADHESIVE / MECHANICAL ANCHOR IS GENERICALLY CALLED OUT ON THE CONSTRUCTION DOCUMENTS, ANY ANCHOR MENTIONED BELOW IS ACCEPTABLE. IF SPECIFIC ANCHOR IS CALLED FOR, SUBSTITUTION MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD FOR EACH CASE.

PI-2 ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY THE ANCHOR MANUFACTURER OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

PI-3 CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S RECOMMENDATIONS. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY FERROSCAN, GPR, X-RAY OR OTHER MEANS ACCEPTABLE TO THE STRUCTURAL ENGINEER-OF-RECORD.

PI-4 SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. SUBSTITUTIONS WILL ALSO BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.

PI-5 THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

PI-6 THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.

PI-7 MECHANICAL ANCHORS FOR CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED CONCRETE RECOGNITION.

PI-8 PRE-APPROVED MECHANICAL ANCHORS FOR CONCRETE INCLUDE:
- A) SIMPSON STRONG-TIE "TITEN-HD" AND "TITEN-HD ROD HANGER"
- B) SIMPSON STRONG-TIE "STRONG-BOLT" AND "STRONG-BOLT 2"
- C) SIMPSON STRONG-TIE "TORQ-CUT"
- D) HILTI "KWIK HUS-EZ" OR "KWIK HUS-EZ-I" SCREW ANCHORS
- E) HILTI "KWIK BOLT TZ" EXPANSION ANCHOR
- F) HILTI "HDA" UNDERCUT ANCHOR
- G) HILTI "HSL-3" EXPANSION ANCHOR
- H) POWERS "POWER-BOLT +"

PI-9 ADHESIVE ANCHORS FOR CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE RECOGNITION.

PI-10 PRE-APPROVED ADHESIVE ANCHORS FOR CONCRETE INCLUDE:
- A) SIMPSON STRONG-TIE "SET-XP" AND "AT-XP"
- B) HILTI "HIT-RE 500-SD" ADHESIVE
- C) HILTI "HIT-HY 200" SAFE SET SYSTEM WITH HILTI "HIT-Z" ROD.
  - a. NO CLEANING IS REQUIRED FOR HIT-Z ANCHORS FOR TEMPERATURES ABOVE 41°F.
  - b. FOR TEMPERATURE BELOW 41°F FOR HIT-Z ANCHOR INSTALLATIONS, USE HILTI TE-CD OR TE-YD HOLLOW DRILL BITS WITH VC 20/40 VACUUM SYSTEM.
  - c. FOR ALL TEMPERATURES FOR REBAR INSTALLATIONS, USE HILTI TE-CD OR TE-YD HOLLOW DRILL BITS WITH VC 20/40 VACUUM SYSTEM.
- D) HILTI "HIT-HY 200" SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM
- E) POWERS FASTENERS "PE1000 +" ADHESIVE
- F) POWERS FASTENERS "AC100 + GOLD" ADHESIVE ANCHORING SYSTEM

ENGINEERED WOOD PRODUCTS:

EW-1 ALL LAMINATED VENEER LUMBER (LVL) AND PARALLEL STRAND LUMBER (PSL) BEAMS SHALL HAVE THE FOLLOWING MINIMUM DESIGN PROPERTIES, E=2,000,000psi. , Fb=2900psi. , Fv=290psi.

EW-2 ALL ENGINEERED WOOD PRODUCTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDED MINIMUM REQUIREMENTS AND INSTALLATION DETAILS.

EW-3 ALL GLUE LAMINATED MEMBERS SHALL CONFORM TO THE APPLICABLE CURRENT REQUIREMENTS OF A.I.T.C. SPECIFICATIONS. FABRICATION SHALL BE PERFORMED BY AN "APPROVED FABRICATOR" PER REQUIREMENTS OF GOVERNING CODE, WITH WORK A.I.T.C. FACTORY INSPECTED, CERTIFIED AND GRADE STAMPED.

ENGINEERED WOOD PRODUCTS (CONT.):

EW-4 EXPOSED MEMBERS SHALL BE ARCH. APPEARANCE GRADE. NON-EXPOSED MEMBERS SHALL BE INDUSTRIAL APPEARANCE GRADE. ALL MEMBERS SHALL MEET OR EXCEED THE FOLLOWING STRESS VALUES:

PARALLAM (PSL)		
Fbxx	(TENSION ZONE IN TENSION)	2900PSI
Fc perp	(TENSION FACE)	750PSI
Fc perp	(COMPRESSION FACE)	750PSI
Fvxx	(HORIZONTAL SHEAR)	290PSI
E	(MODULUS OF ELASTICITY)	2,000,000PSI

EW-5 LAMINATED MEMBERS SHALL BE SIZED TO DIMENSIONS SHOWN IN THE CONTRACT DOCUMENTS WITH BEAMS CUT TO DEPTHS WITHIN AN APPROVED TOLERANCE OF ± 1/8". ENDS ARE TO BE SEALED AND INDIVIDUALLY WRAPPED.

EW-6 PRIOR TO START OF FABRICATION SUBMIT SHOP AND ERECTION DRAWINGS. SHOP DRAWINGS SHALL INCLUDE ALL NECESSARY BOLTS, HARDWARE, ETC., NECESSARY FOR JOINING MEMBERS TO EACH OTHER AND TO THEIR SETTING PLATES.

EW-7 ALL LAMINATED BEAMS SHALL BE DELIVERED WITH A MOISTURE CONTENT WHICH IS COMPATIBLE FOR USE IN THE LOCAL AREA.

EW-8 ALL LAMINATED BEAMS SHALL BE CAPABLE OF DEVELOPING THE FULL SPECIFIED DESIGN STRESSES, I.D. BLEMISHES, IMPERFECTIONS, SPLITS, ETC., SHALL NOT EXCEED THAT WHICH HAS BEEN ACCOUNTED FOR IN ESTABLISHING THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION ALLOWABLE DESIGN STRESSES.

EW-9 ANY GLUE LAMINATED MEMBER WHICH DOES NOT MEET THE ABOVE DESIGN REQUIREMENTS SHALL BE REJECTED. USE OF THE FEELER GAGE TEST METHOD OF MEASURING DEPTHS OF SPLITS, ETC., WILL NOT BE PERMITTED FOR THE PURPOSE OF DETERMINING MEMBER ACCEPTABILITY, BUT MAY BE UTILIZED FOR REJECTION.

FASTENING SCHEDULE:

CONNECTION	FASTENING [a,m]	LOCATION
1. Joist to sill or girder	3 – 8d common (2 1/2"x0.131") 3 – 3"x0.131" nails 3 – 3" 14 gage staples	toenail
2. Bridging to joist	2 – 8d common (2 1/2"x0.131") 2 – 3"x0.131" nails 2 – 3" 14 gage staples	toenail each end
3. 1"x6" Subfloor or less to each joist	2 – 8d common (2 1/2"x0.131")	face nail
4. Wider than 1"x6" subfloor to each joist	3 – 8d common (2 1/2"x0.131")	face nail
5. 2" Subfloor to joist or girder	2 – 16d common (3 1/2"x0.162")	blind and face nail
6. Sole plate to joist or blocking	16d (3 1/2" x 0.135") at 16"o.c. 3" x 0.131" nails at 8"o.c. 3" 14 gage staples at 12"o.c.	typical face nail
Sole plate to joist or blocking at braced wall panel	3" – 16d (3 1/2"x0.135") at 16"o.c. 4 – 3"x0.131" nails at 16" 4 – 3" 14"gage staples per 16"	braced wall panels
7. Top plate to stud	2 – 16d common (3 1/2"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	end nail
8. Stud to sole plate	4 – 8d common (2 1/2"x0.131") 4 – 3"x0.131" nails 3 – 3" 14 gage staples	toe nail
	2 – 16d (3 1/2"x0.162") 3 – 3"x0.131" nails 3 – 3" 14 gage staples	end nail
9. Double Studs	16d (3 1/2" x 0.135") at 24"o.c. 3" x 0.131" nails at 8"o.c. 3" 14 gage staples at 8"o.c.	face nail
10. Double top plates	16d (3 1/2"x0.135") at 16"o.c. 3"x0.131" nails at 12" o.c. 3" 14 gage staples at 12"o.c.	typical face nail
Double top plates	8 – 16d common (3 1/2"x0.162") 12 – 3" x0.131" nails 12 – 3" 14 gage staples	lap splice
11. Blocking between joists or rafters to top plate	3 – 8d common (2 1/2"x0.131") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	toenail
12. Rim joist to top plate	8d (2 1/2"x0.131") at 6"o.c. 3"x0.131" nails at 6"o.c. 3" 14 gage staples at 6"o.c.	toenail
13. Top plates, laps and intersections	2 – 16d common (3 1/2"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	face nail
14. Continuous header, two pieces	16d common (3 1/2"x0.162")	16"o.c. along edge
15. Ceiling joists to plate	3 – 8d common (2 1/2"x0.131") 5 – 3" x0.131" nails 5 – 3" 14 gage staples	toenail
16. Continuous header to stud	4 – 8d common (2 1/2"x0.131")	toenail
17. Ceiling joists, laps over partitions	3 – 16d common (3 1/2"x0.162") minimum, 4 – 3"x0.131" nails 4 – 3" 14 gage staples	face nail
18. Ceiling joists to parallel rafters	3 – 16d common (3 1/2"x0.162") minimum, 4 – 3"x0.131" nails 4 – 3" 14 gage staples	face nail
19. Rafter to plate	3 – 8d common (2 1/2"x0.131") 3 – 3"x0.131" nails 3 – 3" 14 gage staples	toenail
20. 1" Diagonal brace to each stud and plate	2 – 8d common (2 1/2"x0.131") 2 – 3"x0.131" nails 3 – 3" 14 gage staples	face nail
21. 1"x8" Sheathing to each bearing	3 – 8d common (2 1/2"x0.131")	face nail
22. Wider than1"x8"sheathing to each bearing	3 – 8d common (2 1/2"x0.131")	face nail
23. Built-up corner studs	16d common (3 1/2"x0.162") 3" x0.131" nails 3" 14 gage staples	24"o.c. 16"o.c. 16"o.c.

FASTENING SCHEDULE: (CONT.)

CONNECTION	FASTENING [a,m]	LOCATION
24. Built-up girder and beams	20d common (4"x0.192") 32"o.c. 3"x0.131" nails at 24"o.c. 3" 14 gage staples at 24"o.c. 2 – 20d common (4"x0.192") 3 – 3"x0.131" nails 3 – 3" 14 gage staples	face nail at top and bottom staggered on opposite sides face nail at ends and at each splice
25. 2" Planks	16d common (3 1/2"x0.162")	at each bearing
26. Collar tie to rafter	3 – 10d common (3"x0.148") 4 – 3"x0.131" nails 4 – 3" 14 gage staples	face nail
27. Jack rafter to hip	3 – 10d common(3"x0.148") 4 – 3"x0.131" nails 4 – 3" 14 gage staples 2 – 16d common (3 1/2"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	toenail face nail
28. Roof rafter to 2-by ridge beam	2 – 16d common (3 1/2"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples 2 – 16d common (3 1/2"x0.162") 3 – 3" x0.131" nails 3 – 3" 14 gage staples	toenail face nail
29. Joist to band joist	3 – 16d common (3 1/2"x0.162") 4 – 3" x0.131" nails 4 – 3" 14 gage staples	face nail
30. Ledger strip	3 – 16d common (3 1/2"x0.162") 4 – 3" x0.131" nails 4 – 3" 14 gage staples	face nail
31. Wood structural panels and particleboard[g] subfloor, roof and wall sheathing (to framing)	1/2" and less 6d[c,i] 2 3/8"x0.113" nail[n] 1 3/4" 16 gage[o] 19/32" TO 3/4" 8d[i] or 6d[n] 2 3/8"x0.113" nail[n] 2" 16 gage[o] 7/8" TO 1" 8d[i]	
Single floor (Combination subfloor-underlayment to framing)	1 1/8" TO 1 1/4" 10d[d] or 8d[d] 3/4" and less 6d[d] 7/8" TO 1" 8d[d] 1 1/8" TO 1 1/4" 10d[d] or 8d[d]	
32. Panel siding (to framing)	1/2" and less 6d[f] 5/8" 8d[f]	
33. Fiberboard sheathing[q]	1/2" No. 11 gage roofing nail[h] 6d common nail (2"x0.113") No. 16 gage staple[l] 25/32" No. 11 gage roofing nail[h] 8d common nail (2 1/2"x0.131") No. 16 gage staple	
34. Interior paneling	1/4" 4d[j] 3/8" 6d[k]	

For SI: 1 inch = 25.4 mm.

a. Common or box nails are permitted to be used except where otherwise stated.
b. Nails spaced at 6 inches on center at edges, 12 inches at intermediate supports except 6 inches at supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to section 2305. Nails for wall sheathing are permitted to be common, box or casing.
c. Common or deformed shank (6d – 2"x0.113"; 8d – 2 1/2"x0.131"; 10d – 3"x0.148").
d. Common (6d – 2" x0.113"; 8d – 2 1/2"x0131"; 10d – 3"x0.148").
e. Deformed shank (6d – 2"x0.113"; 8d – 2 1/2"x0.131"; 10d – 3"x0.148").
f. Corrosion-resistant siding (6d – 1 7/8"x0.106"; 8d – 2 3/8"x0.128") or casing (6d – 2"x0.099"; 8d – 2 1/2"x0.113") nail.
g. Fasteners spaced 3 inches on center at exterior edges and 6 inches on center at intermediate supports, when used as structural sheathing. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications.
h. Corrosion-resistant roofing nails with 7/16-inch-diameter head and 1 1/2-inch length for 1/2-inch sheathing and 1 3/4-inch length for 25/32-inch sheathing.
i. Corrosion-resistant staples with nominal 7/16-inch crown and 1 1/8-inch length for 1/2-inch sheathing and 1 1/2-inch length for 25/32-inch sheathing. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
j. Casing (1 1/2"x0.080") or finish (1 1/2"x0.072") nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
k. Panel supports at 24 inches. Casing or finish nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
l. For roof sheathing applications, 8d nails (2 1/2"x0.113") are the minimum required for wood structural panels.
m. Staples shall have minimum crown width of 7/16 inch.
n. For roof sheathing applications, fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.
o. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports for subfloor and wall sheathing and 3 inches on center at edges, 6 inches at intermediate supports for roof sheathing.
p. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.

TIMBER FRAMING:

TF-1 TIMBER FRAMING AND PLYWOOD SHEATHING SHALL CONFORM TO THE CODE APPLICABLE EDITIONS OF THE AMERICAN PLYWOOD ASSOCIATION (APA) PLYWOOD DESIGN SPECIFICATION, AND THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH THE N.F.P.A. SUPPLEMENT.

TF-2 STUDS SHALL BE DOUBLED AT ALL ANGLES, CORNERS, BEAM SUPPORTS AND AROUND ALL OPENINGS. REFER DETAIL **2/S4.0**.

TF-3 BEAMS MADE UP OF SEVERAL 2X PIECES SHALL HAVE NO SPLICES EXCEPT OVER SUPPORTS. NAIL BOARDS TOGETHER, REFER DETAIL **7/S4.0**.

TF-4 ALL SILL PLATES SHALL BE #2 TREATED SOUTHERN PINE AND SHALL BE ATTACHED TO THE FOUNDATION WITH 1/2" DIAMETER BOLTS WITH A MINIMUM OF 7" EMBEDMENT INTO THE CONCRETE AT 4'-0"o.c. THERE SHALL BE A MINIMUM OF 2 BOLTS PER PIECE WITH ONE BOLT LOCATED WITHIN 12" OF EACH END OF EACH PIECE UNLESS NOTED OTHERWISE ON THE FRAMING PLANS OR DETAILS IF GREATER.

TF-5 PLACE SINGLE PLATE AT BOTTOM OF ALL STUD WALLS.

TF-6 NAILING AND THE ATTACHMENT OF ALL FRAMING MEMBERS SHALL BE AS SPECIFIED ON THE FASTENING SCHEDULE. COMMON WIRE NAILS OR SPIKES OR GALVANIZED BOX NAILS SHALL BE USED FOR ALL FRAMING UNLESS NOTED OTHERWISE.

TF-7 ALL EXTERIOR WALLS AT CORNERS AND MAIN CROSS STUD PARTITIONS SHALL BE BRACED AT LEAST EVERY 25 FEET AND AT EACH END WITH 4'-0" WIDE x 5/32" THICK PLYWOOD DIAPHRAGM FROM THE TOP PLATE TO THE BOTTOM PLATE. FASTEN TO STUDS W/ 10d NAILS AT 6"o.c. MAX. AND AT 12"o.c. TO BLOCKING.

TF-8 ALL TIMBER FRAMING (EXCEPT WALL STUDS) MEMBERS SHALL BE NO.2 SOUTHERN YELLOW PINE WITH 15% MAXIMUM MOISTURE UNLESS NOTED OTHERWISE. STUDS SHALL BE S-P-F STUD GRADE AND COLUMNS SHALL BE NO.2 DOUGLAS FIR-LARCH WITH 15% MAX. MOISTURE.

TF-9 ALL HEADERS AND BEAMS INCLUDING PARALLAM BEAMS SHALL BE LATERALLY SUPPORTED ON THEIR COMPRESSION EDGE AT INTERVALS OF 24"o.c. OR CLOSER.

TIMBER FRAMING (CONTINUED):

TF-10 ALL STUD WALLS SHALL BE A MINIMUM OF 2x4 SPACED AT 16"o.c. FOR HEIGHT NOT EXCEEDING 13 FEET, UNLESS NOTED OTHERWISE ON FRAMING PLAN OR ARCHITECTURAL DRAWINGS. USE 2x6 SPACED AT 16"o.c. FOR HEIGHT NOT EXCEEDING 20 FEET. ALL STUD WALLS SHALL BE CONTINUOUS AND HAVE SOLID BLOCKING AT MID-HEIGHT, BUT NOT TO EXCEED 8'-0" APART.

TF-11 SOLID 2x BLOCKING SHALL BE PROVIDED AT ENDS AND AT POINT OF SUPPORTS OF ALL WOOD JOISTS AND SHALL BE PLACED BETWEEN SUPPORTS IN ROWS NOT EXCEEDING 8'-0" APART.

TF-12 ROOF SHEATHING
PLYWOOD ROOF SHEATHING SHALL BE 3/4" THICK (ORIENTED STRAND BOARD- OSB) GRADE C-D WITH EXTERIOR GLUE. PLYWOOD SHEATHING EXPOSED AT OVERHANGS OR OTHERWISE PERMANENTLY EXPOSED TO WEATHER SHALL BE C-C EXT. – DFPA GRADE OR BETTER. INSTALL WITH LONG DIMENSION OF PANEL ACROSS SUPPORTS. SPACE PANEL ENDS AND PANEL EDGES 1/8" UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER. SUITABLE EDGE SUPPORT SHALL BE PROVIDED IN ACCORDANCE WITH RECOMMENDATIONS OF THE AMERICAN PLYWOOD ASSOCIATION BY USE OF PLY CLIPS, TONGUE AND GROOVE PANELS, OR LUMBER BLOCKING BETWEEN JOIST. PANEL END JOINTS SHALL OCCUR OVER FRAMING. PLYWOOD ROOF SHEATHING SHALL BE ATTACHED TO SUPPORT FRAMING USING 8d NAILS. NAIL SPACING SHALL BE 6" ALONG PANEL EDGES AND 12" AT INTERMEDIATE SUPPORTS.

TF-13 USE THE FOLLOWING MINIMUM MEMBERS UNLESS NOTED OTHERWISE.
2x8 ROOF RAFTERS @ 24"o.c.
2x6 CEILING JOISTS @ 16"o.c.

TF-14 ALL WOOD IN CONTACT WITH STEEL, MASONRY CONCRETE, AND/OR GROUND SHALL BE PRESSURE PRESERVATIVE TREATED AND RATED FOR GROUND CONTACT.

TF-15 UNLESS OTHERWISE SHOWN ON PLANS, WOOD LINTELS OVER OPENINGS SHALL BE DOUBLE 2x8 WITH 1/2" PLYWOOD HEADERS FOR SPANS UNDER 6'-0". FOR SPANS 6'-0" TO 8'-0", WOOD LINTELS SHALL BE DOUBLE 2x12 WITH 1/2" PLYWOOD HEADERS.

TF-16 ALL FRAMING MEMBERS FRAMING INTO THE SIDE OF A HEADER SHALL BE ATTACHED WITH METAL HANGERS.

TF-17 REFER TO ARCHITECTURAL FOR WOOD FRAMING REGARDING NON-STRUCTURAL FRAMING SUCH AS SUSPENDED CEILING AND MISC. ARCHITECTURAL FEATURES.

PREFABRICATED WOOD ROOF TRUSSES:

WT-1 PREFABRICATED WOOD TRUSSES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER, LICENSED IN TEXAS, IN ACCORDANCE WITH THE DESIGN SPECIFICATION FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES, CODE APPLICABLE TPI EDITION FOR THE TRUSS PLATE INSTITUTE.

WT-2 TRUSS MEMBERS AND CONNECTIONS SHALL BE PROPORTIONED, WITH A MAXIMUM ALLOWABLE STRESS INCREASE FOR LOAD DURATION OF 25 PERCENT, TO WITHSTAND THE FOLLOWING SUPERIMPOSED LOADS. LOADS SHOWN DO NOT INCLUDE TRUSS SELF WEIGHT.

DEAD LOAD.....5 P.S.F.
(INCLUDING TRUSS OWN WEIGHT & METAL ROOF)
APPLIED TO TOP CHORD OF TRUSS
.....10 P.S.F.
APPLIED TO BOTTOM CHORD OF TRUSS

LIVE LOAD.....20 P.S.F.
APPLIED TO TOP CHORD OF TRUSS
.....10 P.S.F.
APPLIED TO BOTTOM CHORD OF TRUSS (NOT ACTING SIMULTANEOUSLY WITH TOP CHORD LIVE LOADS)
.....17 P.S.F.
NET UPLIFT APPLIED TO TOP CHORD OF TRUSS

WT-3 THE TRUSS MANUFACTURER SHALL SUBMIT THE FOLLOWING CERTIFICATIONS, SEALED BY THE ENGINEER RESPONSIBLE FOR DESIGN, FOR THE ARCHITECTS APPROVAL PRIOR TO FABRICATION OF ANY MATERIALS:

A. CERTIFICATION THAT THE MANUFACTURER IS LICENSED TO FABRICATE TRUSSES UTILIZING THE CONNECTOR SYSTEM PROPOSED.

B. CERTIFICATION THAT THE TRUSSES ARE DESIGNED TO MEET THE LOAD CRITERIA SPECIFIED HEREIN.

WT-4 FABRICATION AND INSTALLATION DRAWINGS SHALL BE SUBMITTED TO THE CONTRACTOR FOR APPROVAL OF SIZE, SHAPE, TEMPORARY BRACING AND LAYOUT PRIOR TO FABRICATION OF MATERIALS.

WT-5 TOP CHORDS SHALL BE DESIGNED TO RESIST BENDING INDUCED BY THE ROOF DEAD LOAD AND LIVE LOAD.

WT-6 DEFLECTIONS DUE TO LIVE LOAD SHALL BE LIMITED TO L/360.

WT-7 CONNECT ROOF TRUSSES TO THE BEARING WALL OR SUPPORT BEAM AT EACH END WITH SIMPSON STRONG TIE H8 CONNECTOR OR HEAVIER FRAMING ANCHOR TO BE SPECIFIED AFTER TRUSS SHOP DRAWING SUBMITTAL. CONTRACTOR SHOULD INCLUDE **(1,300-LBS)** ALLOWANCE FOR HEAVIER ANCHOR AND INCLUDE ALL LABOR IN THEIR BID.

WT-8 PROVIDE LONGITUDINAL WOOD DIAGONAL BRACES TO TRUSSED RAFTER RIDGES AT 20'-0" o.c. MAXIMUM. TRUSSED RAFTER CONNECTIONS SHALL HAVE A MINIMUM OF 2 – 16D NAILS UNTIL PERMANENT ROOF SHEATHING IS APPLIED. SEE DETAIL **5/S4.0**.

WT-9 PROVIDE BOTTOM CHORD BRACING AS SHOWN ON DETAIL **3/S4.0** AS TRUSSES ARE SET IN PLACE. BOTTOM CHORD BRACING TO BE LEFT IN PLACE AFTER ERECTION IS COMPLETED EXCEPT SOLID SHEATHING IS ATTACHED DIRECTLY TO BOTTOM OF TRUSS TO ACT AS BRACING.

WT-10 CARE SHALL BE TAKEN DURING THE DELIVERY AND INSTALLATION OF THE TRUSSES TO PREVENT EXCESSIVE LATERAL BENDING AND POSSIBLE JOINT DAMAGE. TRUSSES SHALL BE HANDLED, INSTALLED, AND BRACED IN ACCORDANCE WITH TRUSS PLATE INSTITUTE HIB-91 COMMENTARY AND RECOMMENDATIONS FOR HANDLING INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES. DESIGN FOR TRUSS BRACING SHALL BE IN ACCORDANCE WITH TRUSS PLATE INSTITUTE DSB-89 RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES. ALL DAMAGED TRUSSES SHALL BE REPLACED. ONLY REPAIRS AUTHORIZED BY THE TRUSS MANUFACTURER'S ENGINEER WILL BE ALLOWED.

WT-11 ALL TRUSSES SHALL BE INSTALLED PLUMB, SQUARE AND PROPERLY ALIGNED AT THE SPECIFIED SPACING. BRACING SHALL BE PROVIDED BOTH DURING ERECTION AND AFTER PERMANENT INSTALLATION HAS BEEN COMPLETED. GABLE END OR FIRST TRUSS BRACING, LATERAL BRACING, CROSS BRACING AND DIAGONAL BRACING CAN BE USED TO PROVIDE TEMPORARY AND/OR PERMANENT BRACING.

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9-23-14

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ENGINEER'S PROJECT NUMBER
142409

DATE: 09/23/14

SCALE

REVISIONS

SHEET TITLE
STRUCTURAL NOTES

SHEET NUMBER
S1.1

SHEET 2 OF 8

PLOT SCALE 1=1
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