

GENERAL NOTES (CONTINUED)

11. STRUCTURAL STEEL

(REFERENCE STANDARD: AISC MANUAL OF STEEL CONSTRUCTION, 14TH EDITION)

- A. STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL BE DONE IN ACCORDANCE WITH THE ABOVE REFERENCED STANDARD. ALL CONNECTIONS SHALL BE SHOP WELDED AND FIELD BOLTED UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. FIELD BOLTS SHALL BE 3/4" DIA A514M A325 BEARING TYPE BOLTS WITH THREADS INCLUDED IN THE SHEAR PLANE. ALL FIELD WELDING SHALL BE DONE WITH E-70XX ELECTRODES.
- B. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
 W SHAPES..... ASTM A992, GR 50
 TS SHAPES..... ASTM A500, GR B
 PLATES, ANGLES, CHANNELS, BARS..... ASTM A36
 PIPES..... ASTM A53, GR B
- C. CAST-IN-PLACE ANCHOR BOLTS SHALL CONFORM TO THE FOLLOWING UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS:
 STANDARD..... ASTM F1554 GR 35
 STAINLESS STEEL..... ASTM F593
- D. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO THE "AWS D1.1/D1.1M: STRUCTURAL WELDING CODE STEEL", LATEST EDITION. CONTRACTOR SHALL MAINTAIN PROOF OF WELDER CERTIFICATION ON THE JOB SITE.
- E. ALL WELDED JOINTS SHALL COMPLY W/ THE PROVISIONS OF AWS D1.1, STRUCTURAL WELDING CODE BY AMERICAN WELDING SOCIETY (SECTION 2207). CONTRACTOR SHALL MAINTAIN PROOF OF WELDER CERTIFICATION ON THE JOB SITE.
- F. THE GENERAL CONTRACTOR SHALL SUBMIT TO THE ARCHITECT, FOR REVIEW, ENGINEERED AND CONTRACTOR APPROVED SHOP DRAWINGS SHOWING SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS, AND ERECTION DRAWINGS FOR ALL STRUCTURAL STEEL.
- G. ALL BEAMS AND GIRDERS SHALL BE FABRICATED WITH NATURAL CAMBER UP. PROVIDE INDUCED CAMBER WHERE INDICATED ON THE DRAWINGS. CAMBER SHOWN ON THE DRAWINGS REPRESENTS CAMBER AT MID-SPAN.
- H. ALL CONNECTIONS SHALL BE DESIGNED BY A CONNECTION ENGINEER EMPLOYED BY OR CONTRACTED TO THE FABRICATOR. THE CONNECTION ENGINEER SHALL BE A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT STATE. CONNECTION DETAILING SHALL BE PERFORMED BY A DETAILER UNDER THE RESPONSIBLE CHARGE OF THE CONNECTION ENGINEER. CONNECTION DESIGN & DETAILING SHALL BE PERFORMED USING RATIONAL DESIGN AND STANDARD PRACTICE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE GENERAL DETAILS SHOWN ON THE DRAWINGS ARE CONCEPTUAL ONLY AND DO NOT INDICATE THE REQUIRED NUMBER OF BOLTS OR WELD SIZES, UNLESS SPECIFICALLY NOTED. CONNECTION CALCULATIONS, SIGNED & SEALED BY THE CONNECTION ENGINEER, SHALL BE SUBMITTED WITH THE STRUCTURAL STEEL SHOP DRAWINGS FOR THE ENGINEER'S RECORD.
- I. NON-COMPOSITE BEAM CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR'S CONNECTION ENGINEER FOR THE REACTION DUE TO THE MAXIMUM ALLOWABLE LOAD FOR THE APPROPRIATE SPAN AND SHAPE BASED ON THE ALLOWABLE UNIFORM LOAD TABLES IN THE ABOVE REFERENCED STANDARD.
- J. WHERE APPLICABLE, COMPOSITE BEAM CONNECTIONS SHALL BE DESIGNED FOR THE REACTIONS INDICATED ON THE PLAN.
- K. MINIMUM NUMBER OF BOLT ROWS BASED ON MEMBER DEPTH FOR W & C SHAPES ARE AS NOTED BELOW. ADDITIONAL BOLT ROWS MAY BE REQUIRED AS REQUIRED BY CONNECTION ENGINEER'S DESIGN PER NOTES H, I & J ABOVE.
 UP TO 12" DEEP..... 2 ROWS
 14" TO 16" DEEP..... 3 ROWS
 18" TO 21" DEEP..... 4 ROWS
 24" DEEP..... 5 ROWS
- L. ALL SIMPLE SHEAR CONNECTIONS SHALL BE CAPABLE OF END ROTATION AS PER THE REQUIREMENTS IN SECTION J1.2 OF THE ABOVE REFERENCED STANDARD FOR UNRESTRAINED MEMBERS.
- M. AFTER FABRICATION, ALL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS AND SHOP PAINTED WITH FABRICATOR'S STANDARD RUST-INHIBITING PRIMER TO PROVIDE A MINIMUM DRY FILM THICKNESS OF 3 MILS. SHOP PRIMER SHALL BE BLOCKED OUT ON SURFACES THAT RECEIVE FIELD WELDS, SURFACES THAT RECEIVE FIELD-WELDED HEADED STUDS, SURFACES THAT RECEIVE SPRAY-ON FIREPROOFING AND SURFACES AT SLIP-CRITICAL BOLTS.
- N. UNLESS NOTED AS GALVANIZED ON THE DRAWINGS, ALL STRUCTURAL STEEL EXPOSED TO THE WEATHER SHALL BE SHOP PRIMER CLEANED & PAINTED AS FOLLOWS: SSPC-SP8, 2-PACK EPOXY POLYAMIDE ZINC-RICH PAINT WITH HIGH-BUILD EPOXY TOPCOAT.
- O. ALL STEEL EXPOSED TO EARTH SHALL BE PAINTED WITH A BITUMINOUS COATING.
- P. FIELD TOUCH-UP PAINTING
 1. ALL STEEL MEMBERS AND THEIR CONNECTIONS, THAT ARE EXPOSED TO VIEW, SHALL BE TOUCH-UP AT FIELD WELDS AT AREAS WHERE SHOP PRIMER WAS BLOCKED OUT AT SLIP-CRITICAL BOLTS AND AT AREAS THAT HAVE BEEN SCRATCHED OR SCRAPED DURING ERECTION.
 2. TOUCH-UP PAINT COLOR SHALL MATCH EXISTING
 3. TOUCH-UP PAINTING SHALL BE COMPLETED BY THE FABRICATOR PRIOR TO FABRICATOR'S DEMOBILIZATION FROM THE JOB SITE
 4. TOUCH-UP AT GALVANIZED COMPONENTS SHALL UTILIZE A ZINC-RICH PAINT
- Q. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES WITH RELATION TO TEMPERATURE DIFFERENTIALS.
- R. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- S. ALL ADDITIONAL STEEL, REQUIRED BY THE CONTRACTOR FOR ERECTION PURPOSES AND SITE ACCESS OF STOCKPILED MATERIALS SHALL BE PROVIDED AT NO COST TO THE OWNER. ALL SUCH ADDITIONAL STEEL SHALL BE REMOVED BY THE CONTRACTOR.
- T. ALL STEEL SHALL BE STORED ON ELEVATED SKIDS AT THE JOBSITE SUCH THAT THE STEEL IS NOT IN CONTACT WITH THE EARTH. PRIOR TO ERECTION, ALL STEEL SHALL BE CLEAN AND FREE OF MILD, DIRT, DEBRIS & RUST.
- U. EXPOSED TO VIEW CANOPY STRUCTURAL STEEL SHALL BE CONSIDERED AS ARCHITECTURE EXPOSED STRUCTURAL STEEL (AESS). IT SHALL CONFORM TO SECTION 10 OF THE AISC CODE OF STANDARD PRACTICE. SEE ARCHITECTURAL DOCUMENTS FOR PAINT SPECIFICATIONS.

12. PRE-ENGINEERED WOOD TRUSSES

(REFERENCE STANDARD: TRUSS PLATE INSTITUTE ANS/TP1-2007)

A. TRUSS DESIGN LOADS ARE AS FOLLOWS:

TRUSS DESIGN LOADS	TOP CHORD	BOTTOM CHORD
ROOF DL (> 3:12):	5 PSF	10 PSF
ROOF DL (< 3:12):	10 PSF	10 PSF
ROOF DL (@ CONDENSORS)	20 PSF	10 PSF
ROOF LL:	20 PSF (REDUCIBLE)	0 PSF
FLOOR DL:	5 PSF	5 PSF
FLOOR LL:	40 PSF (REDUCIBLE)	0 PSF
CORRIDOR DL:	20 PSF	10 PSF
CORRIDOR LL:	40 PSF (REDUCIBLE)	0 PSF
MECH/ELECTRICAL DL:	SEE "CORRIDOR DL"	SEE "CORRIDOR DL"
MECH/ELECTRICAL LL:	50 PSF	0 PSF
PUBLIC AREA DL:	SEE "CORRIDOR DL"	SEE "CORRIDOR DL"
PUBLIC AREA LL:	100 PSF (NON-REDUCIBLE)	0 PSF
STAIR LANDING DL:	SEE "CORRIDOR DL"	SEE "CORRIDOR DL"
STAIR LANDING LL:	120 PSF	0 PSF
STAIR LANDING LL:	45 PSF	10 PSF
STAIR LANDING LL:	100 PSF	0 PSF

- B. ALL TRUSS CONNECTOR PLATES SHALL BE MANUFACTURED FROM ASTM A445-72 GRADE A GALVANIZED STEEL OF NO LESS THAN 20 GAGE THICKNESS WITH A MINIMUM YIELD OF 33,000 PSI AND AN ULTIMATE TENSILE STRENGTH OF 45,000 PSI. CONNECTOR PLATE GAUGES SHALL BE AS REQUIRED BY MANUFACTURERS DESIGN CALCULATIONS.

- C. TRUSS SHOP DRAWINGS SHALL BE SUBMITTED FOR THE ARCHITECTS REVIEW PRIOR TO FABRICATION AND SHALL INCLUDE THE FOLLOWING:

1. SLOPE OR DEPTH, SPAN AND SPACING
2. LOCATION OF ALL JOINTS
3. DESIGN LOADS AS APPLICABLE:
 - a. TOP CHORD LIVE LOAD (INCLUDING SNOW LOADS)
 - b. TOP CHORD DEAD LOAD
 - c. BOTTOM CHORD LIVE LOAD
 - d. BOTTOM CHORD DEAD LOAD
 - e. CONCENTRATED LOADS AND THEIR POINTS OF APPLICATION
 - f. CONTROLLING WIND AND EARTHQUAKE LOADS
4. ADJUSTMENTS TO LUMBER AND METAL CONNECTOR PLATE DESIGN VALUES FOR CONDITIONS OF USE
5. EACH REACTION FORCE AND DIRECTION
6. METAL CONNECTOR PLATE SIZE, THICKNESS OR GAGE, AND DIMENSIONED LOCATION OF EACH METAL CONNECTOR PLATE EXCEPT WHERE SYMMETRICALLY LOCATED RELATIVE TO THE JOINT INTERFACE
7. LUMBER SPECIES, AND GRADE FOR EACH MEMBER
8. CONNECTION REQUIREMENTS FOR:
 - a. TRUSS TO TRUSS GIRDER
 - b. TRUSS PLY TO PLY
 - c. OVERBUILD TRUSS TO SUPPORTING TRUSS
 - d. FIELD SPLICES
9. SEE SCHEDULE BELOW FOR FLOOR AND ROOF TRUSS LONG-TERM DEFLECTION LIMITS:

CONSTRUCTION	DEFLECTION LIMITS*		DEAD + LIVE OR WIND	MAX ALLOWABLE DEFLECTION (in)
	FLOOR OR ROOF LIVE	SNOW OR WIND		
ROOF MEMBERS	1/240	1/240	1/180	1"
FLOOR MEMBERS	1/350	-	1/240	3/4"

- NOTES:
1. CALCULATED DEFLECTIONS SHALL NOT EXCEED LIMITS BASED ON SPAN LENGTH, L, OR MAX ALLOWABLE IN TABLE, WHICHEVER IS LESS.
 2. THE WIND LOAD IS PERMITTED TO BE TAKEN AS 0.42 TIMES THE "COMPONENTS AND CLADDING" LOADS FOR THE PURPOSE OF CALCULATING DEFLECTION.
 3. L DENOTES TRUSS SPAN LENGTH IN INCHES.

10. MAXIMUM AXIAL COMPRESSION FORCES IN THE TRUSS MEMBERS
11. REQUIRED PERMANENT TRUSS MEMBER BRACING LOCATION
12. LUMBER SPECIES AND GRADES OF TRUSS MEMBERS
13. SEAL AND SIGNATURE OF TRUSS DESIGN ENGINEER IN RESPONSIBLE CHARGE FOR ALL TRUSS ENGINEERED DOCUMENTS AND/OR DRAWINGS
14. UNIFORM, LATERAL AND CONCENTRATED LOAD REQUIREMENTS AS NOTED ON PLANS AND/OR CORRESPONDING DETAILS

- D. FIELD REPAIR OF DAMAGED TRUSSES MUST BE APPROVED IN WRITING BY THE TRUSS ENGINEER AND ENGINEER OF RECORD.

- E. ALL ROOF TRUSS BEARING WALLS SHALL HAVE METAL FASTENERS TO RESIST CODE PRESCRIBED UPLIFT FORCES.

- F. TRUSS SUPPLIER IS TO PROVIDE PLAN AND PROCEDURES FOR INSTALLING, SECURING AND BRACING OF ALL TRUSSES.

- G. TRUSS SUPPLIER SHALL PROVIDE TRUSS BLOCKS CAPABLE OF TRANSFERRING LATERAL LOADS AS NOTED ON PLANS AND/OR DETAILS.

- H. APPROVED TRUSS PLANS SHALL BE AVAILABLE ON JOB SITE DURING TIMES OF INSPECTION.

- I. TRUSS MANUFACTURER TO PROVIDE OR ALIGN TRUSS ABOVE ALL SHEAR WALLS AS SHOWN ON THE PLANS.

- J. TRUSS DESIGNER SHALL PROVIDE VERENDREL TRUSS OPENINGS WHERE POSSIBLE TO ACCOMMODATE MECHANICAL, PLUMBING AND ELECTRICAL RUNS.

- K. TRUSS DESIGNER SHALL DESIGN TRUSSES TO SUPPORT ALL MECHANICAL AND FIRE SPRINKLER EXHAUST/SHOWN ON THE MECHANICAL PLUMBING AND ELECTRICAL PLANS. SEE MECHANICAL/PLUMBING DWGS FOR EQUIPMENT LOADS & D.O.L. REQUIREMENTS.

- L. TRUSS DESIGNER SHALL ALIGN FLOOR TRUSSES EACH SIDNEY WASHER DRAIN & PRODUCK UP BOX PER 1/57.D. SEE ARCHITECTURAL & PLUMBING DRAWINGS FOR ALL BOX LOCATIONS WITHIN UNITS.

13. SOLID SAWN & LAMINATED LUMBER

(REFERENCE STANDARD: ANS/AWC 2012-NATIONAL DESIGN SPECIFICATION)

A. ALL LUMBER SHALL BE USUALLY DRIED SOUTHERN YELLOW PINE (SYP)/SPRUCE PINE FRY SPECIES EXPOSED AND WITH 19% MAX MOISTURE CONTENT UNLESS OTHERWISE NOTED IN ACCORDANCE WITH THE FOLLOWING MINIMUM GRADE REQUIREMENTS:

SPECIES	GRADE	F _b ^a (psf)	F _x ^a (psf)	F _v (psf)	F _y (psf)	F _c (psf)	F _e (psf)	E (psf)
SYP	NO. 2	875	875	450	135	425	1,150	1,400,000
SYP	NO. 2	SEE ANS/AWC NATIONAL DESIGN SPECIFICATION						
SYP	NO. 3	SEE ANS/AWC NATIONAL DESIGN SPECIFICATION						

- B. GRADES SHALL BE DETERMINED IN ACCORDANCE WITH SPB GRADING RULES AGENCY

- C. END-JOINTED STUDS ARE PERMITTED TO BE USED INTERCHANGEABLY WITH SOLID-SAWN STUDS OF THE SAME SPECIES AND GRADE EXCEPTED AT ALL END-JOINTED STUDS SHALL HAVE THE DESIGNATION "HEAT RESISTANT ADHESIVE" OR "HRA" INCLUDED IN ITS GRADE MARK. END-JOINTED STUDS SHALL ONLY BE USED AS VERTICAL MEMBERS IN STUD WALLS.

- D. PANEL STUD WALLS UNTIL ALL WOOD DECKING, ROOF TRUSSES, AND SHEAR PANELS ARE IN PLACE.

- E. USE PRESSURE TREATED WOOD FOR ALL EXPOSED LUMBER IN CONTACT WITH CONCRETE.

- F. USE WATER-BORNE PRESSURE TREATED WOOD (CSA-A, ACC-C, ACC-D, CA-B, SEX-DOT) FOR ALL LUMBER EXPOSED TO WEATHER AND SILL PLATES IN CONTACT WITH MASONRY OR CONCRETE. IN ADDITION, FOR LUMBER EXPOSED TO WEATHER, A POLYMER SEALER/BINDER IS ALSO RECOMMENDED.

- G. WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING, WHICH REST ON EXTERIOR FDN WALLS OR SLABS & ARE LESS THAN 8" FROM EXPOSED EARTH SHALL BE OF NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD.

- H. INSTALL BEAMS WITH CROWN UP.

- I. ALL LVL MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES (UNO):

LVL MEMBERS						
F _b (psf)	F _x (psf)	F _v (psf)	F _c (psf)	F _e (psf)	E (psf)	
2,600	1,555	285	750	2,510	1,900,000	

14. SOLID SAWN & LAMINATED LUMBER-CONT

(REFERENCE STANDARD: ANS/AWC 2012-NATIONAL DESIGN SPECIFICATION)

- J. ALL GLULAM MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES (UNO):

GLULAM MEMBERS						
F _b ^a (psf)	F _x ^a (psf)	F _v (psf)	F _y (psf)	F _c (psf)	F _e (psf)	E (psf)
2,600	2,600	1,200	300	740	1,600	1,900,000

- K. GLULAM VALUES ABOVE ARE BASED ON STRESS CLASS 26F-V4/SP

TREATMENT TYPE	CORROSION RESISTANCE			
	SXD (DOT)	ACC-C	ACC-B	CSA-A
GALVANIZED FINISH	X	X	X	
G90	X	X	X	
G185	X	X	X	
POST HOT DIP GALVANIZED	X	X	X	
STAINLESS STL (TYPES 304 & 316)	X	X	X	X

- NOTE: FOR WOOD WITH ACTUAL RETENTION LEVELS GREATER THAN 0.40 PCF FOR ACC, 0.41 PCF FOR CSA-A OR 0.21 FOR CA-B, STAINLESS STEEL CONNECTORS AND FASTENERS ARE RECOMMENDED. VERIFY ACTUAL RETENTION LEVEL WITH THE WOOD SUPPLIER/TREATER. WHEN USING STAINLESS STL CONNECTORS, USE STAINLESS STL FASTENERS. WHEN USING GALVANIZED CONNECTORS, USE GALVANIZED FASTENERS.

- L. ALL FASTENERS IN CONTACT W/ PRESSURE TREATED LUMBER SHALL BE BATCH/POST HOT-DIP GALVANIZED (PER ASTM A153) OR MECHANICALLY GALVANIZED (PER ASTM B695, CLASS 55 OR GREATER).

- M. AS A MINIMUM, ALL CONNECTORS EXPOSED TO WEATHER SHALL HAVE A G185 (SIMPSON ZMAX) GALVANIZED FINISH.

- N. WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING, WHICH REST ON EXTERIOR FDN WALLS OR SLABS & ARE LESS THAN 8" FROM EXPOSED EARTH SHALL BE OF NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD.

- O. STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES SHALL BE CONFORMANCE WITH ANSI STANDARD A190.1, AMERICAN NATIONAL STANDARD FOR STRUCTURAL GLUED LAMINATED TIMBER, OR OTHER CODE-APPROVED DESIGN, MANUFACTURING AND/OR QUALITY ASSURANCE PROCEDURES.

- P. ALL MECHANICAL PLUMBING, AND FINISHINGS SHALL ACCOMMODATE THE ESTIMATED SHRINKAGE/ EXPANSION VALUES INDICATED BELOW.

LEVEL	WOOD SHRINKAGE/ EXPANSION/LEVEL	ESTIMATED COMPONENT SHRINKAGE/ EXPANSION		TOTAL DIFFERENTIAL SHRINKAGE/ EXPANSION
		WOOD SHRINKAGE/ EXPANSION	BRICK EXPANSION/ CONTRACTION	
4-STORY	-3/16"	1/16"	1/16"	1/4"
4th	-3/16"	1/16"	3/16"	11/16"
3rd	-3/16"	1/16"	3/16"	7/16"
2nd	-3/16"	1/16"	3/16"	3/16"

- NOTE: BRICK EXPANSION/LEVEL" ASSUMES BRICK RUNS THE ENTIRE HEIGHT OF LEVEL.

2. DESIGNERS & DESIGNERS MUST CALCULATE THE EXPANSION REQUIREMENTS AT GIVEN LOCATIONS IN BUILDING BY SUMMING STORY CUMULATIVE WOOD SHRINKAGE W/ CUMULATIVE BRICK EXPANSION AS REQUIRED.

15. SHEATHING

(REFERENCE STANDARD: IRC 2012 TABLE 2306.4.1 & 2306.4.5)

- A. ROOF DECK AND SUBFLOORS ARE DESIGNED AS UNBLOCKED DIAPHRAGMS UNO.

1. ROOF SHEATHING SHALL BE AS FOLLOWS:

1. ROOF SHEATHING SHALL BE AS FOLLOWS:

- ROOF PITCH > 3:12 - 7/16" THICK EXPOSURE 1 RATED WOOD SHEATHING WITH A PANEL SPAN INDEX (U.S.) NOT LESS THAN 24/16 AND BEARING THE TRADEMARK STAMP OF APA, THE ENGINEERED WOOD ASSOCIATION. PANELS SHALL BE NAILED WITH 8d NAILS @ 6" OC AT ALL PANEL EDGES AND 12" OC AT ALL INTERIOR SUPPORTS UNLESS NOTED OTHERWISE ON PLAN.

- ROOF PITCH ≤ 3:12 - 23/32" THICK EXPOSURE 1 RATED WOOD SHEATHING WITH A PANEL SPAN INDEX (U.S.) NOT LESS THAN 48/24 AND BEARING THE TRADEMARK STAMP OF APA, THE ENGINEERED WOOD ASSOCIATION. PANELS SHALL BE NAILED WITH 10d NAILS @ 6" OC AT ALL PANEL EDGES AND 12" OC AT ALL INTERIOR SUPPORTS UNLESS NOTED OTHERWISE ON PLAN.

- EXCEPTION: ALL ROOF SHEATHING EXTENDING OVER FIRE WALLS SHALL BE FIRE-RETARDANT TREATED, EXPOSURE 1 RATED PLYWOOD. SEE ROOF PITCH CRITERIA ABOVE FOR ROOF SHEATHING THICKNESS.

2. FLOOR SHEATHING SHALL BE 23/32" THICK 1 & G. EXPOSURE 1 RATED WOOD SHEATHING WITH A PANEL SPAN INDEX (U.S.) NOT LESS THAN 48/24 AND BEARING THE TRADEMARK STAMP OF APA, THE ENGINEERED WOOD ASSOCIATION. PANELS SHALL BE NAILED WITH 10d NAILS @ 6" OC AT ALL PANEL EDGES AND 12" OC AT ALL INTERIOR SUPPORTS UNLESS NOTED OTHERWISE ON PLAN.

- EXCEPTION: ALL FLOOR SHEATHING PENETRATING 2-HOUR RATED INTERIOR STAIRWELL WALL ASSEMBLIES SHALL BE FIRE-RETARDANT TREATED, EXPOSURE 1 RATED PLYWOOD. SEE NOTE 2 ABOVE FOR SHEATHING THICKNESS.

- B. SHEAR WALL SYSTEMS ARE AS FOLLOWS:

1. INTERIOR SHEAR WALL SHALL BE COMPRISED OF THE FOLLOWING: 7/16" THICK EXPOSURE 1 RATED WOOD SHEATHING WITH A PANEL SPAN INDEX (U.S.) RATING NOT LESS THAN 24/16 AND BEARING THE TRADEMARK STAMP OF APA, THE ENGINEERED WOOD ASSOCIATION. PANELS SHALL BE NAILED IN ACCORDANCE WITH THE SHEAR WALL SCHEDULE ON S5-00A.

- a. GYPSUM WALLBOARD PANELS WHERE INDICATED ON PLAN

2. EXTERIOR SHEAR WALLS ARE COMPRISED OF 7/16" THICK EXPOSURE 1 RATED WOOD SHEATHING WITH A PANEL SPAN INDEX (U.S.) RATING NOT LESS THAN 24/16 AND BEARING THE TRADEMARK STAMP OF APA, THE ENGINEERED WOOD ASSOCIATION. PANELS SHALL BE NAILED IN ACCORDANCE WITH THE SHEAR WALL SCHEDULE ON S4-00a,b FOR BRACING SCHEDULES AND FASTENER REQUIREMENTS.

- a. REFER TO BRACING PLANS FOR TYPE AND LOCATION OF ALL SHEAR WALLS AND HOLD DOWN ANCHORAGE. REFER TO SHEET S4.0a,b,c FOR BRACING SCHEDULES AND FASTENER REQUIREMENTS.

- b. FRAMING DETAILS INCORPORATE MINIMUM REQUIREMENTS FOR LATERAL LOAD TRANSFER. ANY CHANGE, MODIFICATION, OR SUBSTITUTION OF MATERIALS (INCLUDING GRADE OR SPECIES) OR FASTENERS MUST BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO INSTALLATION.

- c. TEMPORARY BRACING OF THE BLDGS IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND MUST REMAIN IN PLACE UNTIL ALL FRAMING DETAILS, ROOF AND FLOOR SHEATHING AND SHEAR WALL CONSTRUCTION IS COMPLETE.

- d. TEMPORARY STACKING OF WOOD SHEATHING ON ELEVATED WOOD FLOOR FRAMING SHALL BE LIMITED TO FIFTEEN 3/4" THICK 4" WIDE SHEETS LAD FLAT OR 8 SHEETS ON EDGE W/ THE LONG DIMENSION PERPENDICULAR TO JOIST OR TRUSS SPAN. NO JOIST OR TRUSS SHALL SUPPORT MORE THAN ONE STACK OF SHEATHING ALONG ITS SPAN LENGTH.

- e. TEMPORARY STACKING OF GYPSUM SHEATHING ON ELEVATED WOOD FLOOR FRAMING SHALL BE LIMITED TO EIGHTEEN 5/8" THICK 4" WIDE SHEETS LAD FLAT OR TEN SHEETS ON EDGE W/ LONG DIMENSION PERPENDICULAR TO JOIST OR TRUSS SPAN. NO JOIST OR TRUSS SHALL SUPPORT MORE THAN ONE STACK OF SHEATHING ALONG ITS SPAN LENGTH.

16. SILL PLATES

(REFERENCE STANDARD: ANS/AWC 2012-NATIONAL DESIGN SPECIFICATION)

- SILL PLATES SHALL BE ANCHORED TO CONCRETE OR MASONRY FOUNDATIONS WITH 1/2" DIAMETER ASTM A307 ANCHOR BOLTS @ 72" OC MAXIMUM WITH 7" MINIMUM CONCRETE EMBEDMENT. PROVIDE ANCHOR BOLTS AT NOT MORE THAN 12" NOR LESS THAN 4" FROM ENDS OF EACH PLATE WITH 2 ANCHOR BOLTS MINIMUM IN ANY PLATE.

- EXCEPTIONS:

1. INTERIOR SILL PLATES MAY BE ANCHORED WITH POWDER ACTUATED FASTENERS. SPACE FASTENERS @ 18" OC MAXIMUM AND PROVIDE PINS @ 6" AND 10" FROM ENDS OF PLATE WITH 2 FASTENERS MINIMUM IN ANY PLATE. ACCEPTABLE FASTENERS INCLUDE:
 - a. HILTI X-CP 72 P8523 (NON-POST TENSIONED CONCRETE SLABS ONLY)
 - b. RAMSEY RAMGUARD 1524 SDE x 3" LONG (NON-POST TENSIONED CONCRETE SLABS ONLY)
 - c. HILTI X-C P8536 x 2 1/2" LONG
 - d. RAMSEY RAMGUARD 1516 SDE x 2 1/2" LONG

2. SILL PLATES MAY BE ANCHORED TO MASONRY OR CONCRETE FOUNDATIONS WITH SIMPSON M58B OR LMA ANCHORS AT 48" OC MAXIMUM. PLATE ANCHORS NO MORE THAN 12" FROM THE END OF EACH PLATE WITH 2 ANCHORS MINIMUM PER PLATE. USE ANCHOR WITH A FINISH COMPATIBLE WITH THE TYPE OF MASONRY TREATMENT USED ON THE SILL PLATES.

3. SHEAR WALL SILL PLATE ANCHORAGE SHALL GOVERN OVER SCHEDULED ANCHOR TYPE AND SPACING. SEE BRACING PLAN AND SHEAR WALL SCHEDULES ON S5 SERIES DRAWINGS FOR ADDITIONAL INFO.

17. WOOD FASTENERS

- A. UNLESS SPECIFIED OTHERWISE, SCREWS SHALL BE EMBEDDED IN THE APPROPRIATE STRUCTIONS WITH A MINIMUM EMBEDMENT OF 7 TIMES THE SHANK DIAMETER OR THE EMBEDMENT REQUIRED TO SUPPORT THE INTENDED LOAD.

- WHERE MINIMUM EMBEDMENT DEPTH IS NOTED, SCREWS SHALL PROVIDE AN EMBEDMENT INTO THE MAIN MEMBER EQUAL TO OR GREATER THAN THE MINIMUM SHANK DIAMETER.

1. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE LISTED BELOW, SHALL BE SUBMITTED TO THE ENGINEER WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER SHOWING THAT THE SUBSTITUTED PRODUCT WILL ACHIEVE AN EQUIVALENT CAPACITY USING THE APPROPRIATE DESIGN PROCEDURE REQUIRED BY THE BUILDING CODE.

- D. ACCEPTABLE PRODUCTS

- SIMPSON STRONG-TIE:
 1. "SDS WOOD SCREWS" (HEAVY DUTY ALL PURPOSE FASTENER)

- FASTENMASTER:
 1. "LEDERLOK" (CORROSION RESISTANT FASTENER)
 2. "TIMBERLOK" (HEAVY DUTY ALL PURPOSE FASTENER)
 3. "TRUSSLOK" (MULTI-PLY ENGINEERED WOOD FASTENER)

- E. COMMON NAIL SIZES ARE AS FOLLOWS:

TYPE	PENNYWEIGHT					
	8d	10d	12d	16d	20d	
COMMON	LENGTH					