

GENERAL NOTES (CONT.)

3.00 REINFORCED CONCRETE

- 3.01 ALL CONCRETE WORK SHALL CONFORM TO ACI 301-16, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS. DESIGN IS BASED ON ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- 3.02 UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT AND HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:
ISOLATED FOUNDATIONS AND WALLS 3500 PSI, NORMAL WEIGHT
SLAB-ON-GRADE 3500 PSI, NORMAL WEIGHT
- 3.03 THE PROPOSED MATERIALS AND MIX DESIGNS SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE OWNER'S TESTING LABORATORY AND THE STRUCTURAL ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR OBTAINING THE REQUIRED DESIGN STRENGTH.
- 3.04 USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
- 3.05 HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE INDICATED. THE LOCATION OF VERTICAL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. CONSTRUCTION JOINTS SHALL BE THOROUGHLY ROUGHENED BY MECHANICAL MEANS AND CLEANED.
- 3.06 CHAMFER OR ROUND ALL EXPOSED CORNERS MINIMUM 3/4".
- 3.07 DETAIL CONCRETE REINFORCEMENT AND ACCESSORIES IN ACCORDANCE WITH ACI 91-066 (04) DETAILING MANUAL. SUBMIT SHOP DRAWINGS FOR APPROVAL, SHOWING ALL FABRICATION DIMENSIONS AND LOCATIONS FOR PLACING REINFORCING STEEL AND ACCESSORIES. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS ARE COMPLETED AND REVIEWED.
- 3.08 DETAIL ALL CONCRETE WALLS AND BEAMS ON THE SHOP DRAWINGS IN ELEVATION UNLESS SPECIFICALLY APPROVED OTHERWISE.
- 3.09 REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
- 3.10 WELDED WIRE FABRIC (MESH) SHALL CONFORM TO ASTM A185 AND SHALL BE PROVIDED IN FLAT SHEETS ONLY (ROLLS NOT PERMITTED). LAP ALL END AND CROSS SIDE LAPS ONE CROSS WIRE PLUS 2".
- 3.11 TIE ALL REINFORCING STEEL AND EMBEDMENTS SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOUELS INTO WET CONCRETE IS NOT PERMITTED.
- 3.12 PROVIDE CONTINUOUS REINFORCEMENT WHERE POSSIBLE. SPLICE ONLY AS SHOWN OR APPROVED. USE TENSION SPLICE (CLASS "B") UNLESS NOTED OTHERWISE.
- 3.13 REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE COVER UNLESS NOTED OTHERWISE:
CONCRETE CAST AGAINST EARTH (NOT FORMED) 3"
FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:
#5 THROUGH #8 BARS 2"
#9 BARS AND SMALLER 1-1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
SLABS AND WALLS 3/4"
BEAMS AND PIERS; TIES AND STIRRUPS 1 1/2"
- 3.14 DO NOT PLACE PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB THICKNESS WITHIN THE SLAB UNLESS SPECIFICALLY SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
- 3.15 DO NOT WELD OR TACK WELD REINFORCING STEEL.
- 3.16 ALL REINFORCING STEEL PLACEMENT SHALL BE REVIEWED BY THE REGISTERED DESIGN PROFESSIONAL, OR BY A REPRESENTATIVE RESPONSIBLE TO HIM. (REF: ACI 318-14, SECTION 13.1)
- 3.17 PROVIDE FOR AN ALLOWANCE OF 1% OF REINFORCING BARS TO BE FABRICATED, AND PLACED DURING PROGRESS OF WORK AS MAY BE DIRECTED BY THE STRUCTURAL ENGINEER, IN ADDITION TO ALL THE STEEL INDICATED ON THE DRAWINGS. CREDIT ANY UNUSED QUANTITY AT THE END OF THE PROJECT TO THE OWNER.
- 3.18 THE RESULTS OF ALL CONCRETE COMPRESSIVE TEST RESULTS SHALL BE PROMPTLY DISTRIBUTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. THE TEST RESULTS SHALL BE AVAILABLE ON THE JOB SITE FOR REVIEW BY THE INSPECTOR.

REINFORCING BAR SPLICE LENGTH SCHEDULE

BAR SIZE, DIAMETER	#3	#4	#5	#6	#7	#8
TENSION SPLICE, CLASS A, 3500 PSI	16"	21"	26"	31"	45"	51"
TENSION SPLICE, CLASS B, 3500 PSI	20"	27"	33"	40"	58"	66"
COMPRESSION SPLICE	12"	15"	19"	23"	27"	30"

4.00 CONCRETE MASONRY:

- 4.01 CONCRETE MASONRY DESIGN AND CONSTRUCTION SHALL CONFORM TO ACI 530-13, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES AND ACI 530I-13, SPECIFICATIONS FOR MASONRY STRUCTURES, AND ASCE/SEI 5-13, BUILDING CODE REQUIREMENTS FOR MASONRY AND ASCE/SEI 6-13 SPECIFICATIONS FOR MASONRY STRUCTURES.
- 4.02 PROVIDE LIGHT WEIGHT, HOLLOW, LOAD-BEARING CONCRETE MASONRY UNITS (CMU) CONFORMING TO ASTM C90, GRADE N, TYPE II, UNLESS NOTED OTHERWISE.
- 4.03 PROVIDE CONCRETE MASONRY WITH MINIMUM COMPRESSIVE STRENGTH, $f_m = 2000$ PSI, CORRESPONDING TO UNIT STRENGTH OF 3,050 PSI ON NET CROSS-SECTIONAL AREA OF CMU DETERMINED IN ACCORDANCE WITH ASTM C140.
- 4.04 PROVIDE TYPE "M" MORTAR IN ACCORDANCE WITH ASTM C270, UNLESS NOTED OTHERWISE. MORTAR BED JOINTS SHALL NOT EXCEED 5/8 IN. THICKNESS.
- 4.05 PROVIDE GROUT FOR REINFORCED MASONRY IN ACCORDANCE WITH ASTM C416 WITH MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI UNLESS NOTED OTHERWISE.
- 4.06 PROVIDE HORIZONTAL JOINT REINFORCEMENT COMPLYING WITH ASTM A62, NO. 9 GAUGE OR HEAVIER ZINCOATED, PLACED 16 INCHES ON CENTER UNLESS NOTED OTHERWISE.
- 4.07 PROVIDE MINIMUM #5 VERTICAL, GROUTED FULL HEIGHT, AT EACH SIDE OF OPENINGS AND WALL ENDS.
- 4.10 ALL VERTICAL REINFORCEMENT TO BE PLACED IN FULLY GROUTED CELLS. ALL BOND BEAMS TO BE FULLY GROUTED.
- 4.08 LAY MASONRY UNITS IN RUNNING BOND UNLESS NOTED OTHERWISE.

5.00 WOOD FRAMING:

- 5.01 ALL DIMENSIONAL LUMBER JOISTS, TRUSSES, AND PLYWOOD WEB JOISTS SHALL BE SUPPORTED WITH SIMPSON HANGERS, NOT LEDGERS OR BANDS. PROVIDE AND INSTALL GALVANIZED HANGERS, FRAMING ANCHORS, AND FASTENERS OF THE TYPE INDICATED. FASTENER TYPE AND QUANTITY SHALL BE AS NOTED BY THE MANUFACTURER'S TECHNICAL LITERATURE TO PROVIDE THE MAXIMUM CAPACITY UNLESS NOTED. NAILS SHALL BE FULLY DRIVEN IN ALL HOLES IN THE ANCHOR.
- 5.02 ROOF SHEATHING SHALL BE 1/2" APA SPAN RATED ORIENTED STRAND BOARD STRUCTURAL SHEATHING MANUFACTURED IN ACCORDANCE WITH VOLUNTARY PRODUCT STANDARD PS-2 OR APA FRP-108 PERFORMANCE STANDARDS. ROOF DECKING PANELS SHALL BE APPLIED W/ LONG EDGE PERP. TO TRUSSES OR SUPPORT FRAMING MEMBERS. FASTEN SHEATHING PANELS TO SUPPORTING STRUCTURE WITH 8d x 2 1/2" LONG RING-SHANK NAILS ON 4" CENTERS AT PERIMETER OF ROOF DIAPHRAGM, AT 6" CENTERS AT ALL OTHER PANEL EDGES, AND ON 6" CENTERS IN THE FIELD AT INTERMEDIATE SUPPORTS.
- 5.03 FLOOR SHEATHING SHALL BE APA SPAN-RATED 3/4" TONGUE & GROOVE ORIENTED STRAND BOARD PANELS, GLUED AND NAILED. ADHESIVES SHALL CONFORM WITH PERFORMANCE SPECS AFG-01 OR ASTM D3498. FASTEN FLOOR SHEATHING PANELS TO SUPPORTING STRUCTURE WITH 0.113" DIA. X 2 3/8" LONG SMOOTH OR DEFORMED SHANK NAIL ON 6" AT ALL EDGES AND ON 12" IN THE FIELD AT INTERMEDIATE SUPPORTS.
- 5.04 UNLESS NOTED OTHERWISE, WALL SHEATHING SHALL BE 1/8" APA SPAN RATED ORIENTED STRAND BOARD STRUCTURAL SHEATHING MANUFACTURED IN ACCORDANCE WITH VOLUNTARY PRODUCT STANDARD PS2-10 OR APA FRP-108 PERFORMANCE STANDARDS AND NAILED PER SHEAR WALL SCHEDULE.
- 5.05 ALLOWABLE DESIGN STRESSES FOR ENGINEERED LUMBER ARE AS FOLLOWS:
ALL 1&2 MICROLAM LVL BEAMS PLACED OUTSIDE THE BUILDING ENVELOPE (OR UNIT) SHALL BE TREATED WITH TRUSS-JOIST WATERSHED RESIN-IMPREGNATED STABILITY OVERLAY. TREAT ALL SAILED ENDS OF EACH FLY WITH OVERLAY TREATMENT.
2.0E MICROLAM LVL ENGINEERED LUMBER: FOR BEAM ORIENTATION (UNTREATED, INTERIOR USE):
Fc = 2510 PSI Fc Perp = 150 PSI Fb = 2600 PSI Fv = 285 PSI E = 2,000,000 PSI
2.0E PARALLAM PSL ENGINEERED LUMBER: FOR BEAM ORIENTATION (UNTREATED, INTERIOR USE):
Fc = 2300 PSI Fc Perp = 150 PSI Fb = 2300 PSI Fv = 230 PSI E = 2,000,000 PSI
1.8E PARALLAM PSL ENGINEERED LUMBER: FOR COLUMN ORIENTATION (UNTREATED, INTERIOR USE):
Fc = 2500 PSI Fc Perp = 425 PSI Fb = 2400 PSI Fv = 130 PSI E = 1,800,000 PSI
ALL ENGINEERED LUMBER PLACED OUTSIDE THE BUILDING ENVELOPE (OR UNIT) SHALL BE WOLMANIZED PRESERVATIVE TREATED (SERVICE LEVEL 2) PARALLAM PSL MATERIAL.
- 5.06 SEE LOAD BEARING WALL STUD SCHEDULE ON SHEET S13 OR VERTICAL WOOD STUD SPECIES, GRADE, AND SPACING.
- 5.07 USE PRESERVATIVE TREATED WOOD FOR ALL EXPOSED LUMBER AND SILL PLATES IN CONTACT WITH CONCRETE.
- 5.08 SEE STRUCTURAL LOAD BEARING WALL NOTES FOR MIN. SILL PLATE AND WALL SHEATHING FASTENING.
- 5.09 DECKS TO BE ATTACHED TO BUILDING WITH P.T. 2x10 BAND THRU- BOLTED TO TRUSSES WITH TWO (2) 1/2" ROUND CARRIAGE BOLTS AT EACH TRUSS, AND NAILED AT RATE OF FOUR (4) 16D NAILS PER FOOT TO TRUSS ENDS AND BANDS, UNLESS NOTED OTHERWISE.
- 5.10 THE NUMBER AND SIZE OF NAILS CONNECTING WOOD FRAMING MEMBERS SHALL NOT BE LESS THAN THAT STATED TABLE 2304.10.1 OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION. SEE FASTENING SCHEDULE ON SHEET S02.
- 5.11 ALL NAILS CONNECTING WOOD FRAMING MEMBERS SHALL BE COMMON NAILS, UNLESS OTHERWISE NOTED.
- 5.12 PREFABRICATED METAL CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE. BASE MATERIAL AND APPLIED GALVANIZED FINISH TO HANGERS, FASTENERS, AND NAILS SHALL BE AS FOLLOWS:
VERIFY ACTUAL RETENTION LEVEL FOR ALL FRAMING MATERIAL WITH THE WOOD MEMBER.
AT ALL INTERIOR (ENCLOSED) CONDITIONS PROTECTED FROM WEATHER. EXPOSURE PROVIDE ZMAX GALVANIZED CONNECTORS WITH FASTENERS GALVANIZED PER ASTM A153.
AT ALL INTERIOR (ENCLOSED) CONDITIONS WHERE CONNECTORS ARE PLACED AGAINST WOOD WITH ACTUAL RETENTION LEVELS GREATER THAN 0.40 PCF FOR ACE, 0.41 PCF FOR CBA, AND 0.41 PCF FOR CAG (GROUND CONTACT), OR ANY TREATMENTS CONTAINING ALUMINA, PROVIDE TYPE 304 OR 316 STAINLESS STEEL CONNECTORS AND FASTENERS.
- 5.13 AS AN ALTERNATE TO THE SIMPSON HOLD DOWN HARDWARE SHOWN ON THE UPLIFT ANCHORAGE SCHEDULE, THE CONTRACTOR MAY PROVIDE HOLD DOWN FASTENERS AS SPECIFIED BY BRIDGEWELL RESOURCES, LLC, CONTACT PHONE NO. 205-864-1910, OR CLICK THE BUY LINK CONTACT PHONE NO. 205-664-1910. PROVIDE ENGINEERED SHOP DRAWINGS SHOWING ALL HOLD DOWN LOCATIONS AND CONNECTIONS FOR REVIEW.

6.00 PRE-ENGINEERED METAL PLATE CONNECTED WOOD TRUSSES:

- 6.01 TRUSSES TO BE PLACED ON 2'-0" MAXIMUM CENTERS UNLESS SHOWN OTHERWISE. SMALLER SPACINGS MAY BE USED IF REQUIRED BY TRUSS DESIGNER. SEE PLANS FOR TRUSS LOCATIONS AND SPANS.
- 6.02 TRUSS SUPERIMPOSED DESIGN LOADS TO BE AS FOLLOWS:
ROOF: FLOOR: CORRIDORS AND BREEZEWAYS:
TOP CHORD LIVE LOAD 20 PSF 40 PSF SEE GENERAL NOTE U10
TOP CHORD DEAD LOAD 15 PSF 15 PSF PARTITIONS SEE DETAILS
BOTTOM CHORD DEAD LOAD 5 PSF 5 PSF 6 PSF
NET UPLIFT, ROOF SEE GENERAL NOTE U10
- 6.03 TRUSS MANUFACTURER TO PROVIDE END WALL TRUSSES AT EACH SIDE OF VAULTED CEILING, AT GABLE ENDS, AT BUILDING STEP DOWNS, AT ATTIC DRAFT STOPPING LOCATIONS, AND AT CHANGE OF ROOF LINES.
- 6.04 CONFIGURATION AND SIZE OF WEB MEMBERS TO BE DETERMINED BY TRUSS MANUFACTURER.
- 6.05 ENGINEERED SHOP DRAWINGS OF TRUSSES SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY ARCHITECT AND ENGINEER OF RECORD PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF ALABAMA.
- 6.06 TOP CHORD DEAD LOAD SHOWN ABOVE INCLUDES 3 PSF TRUSS SELF-WEIGHT.
- 6.07 MAXIMUM LIVE LOAD DEFLECTION SHALL BE SPAN/360 FOR FLOORS, SPAN/240 FOR ROOF.
- 6.08 TRUSSES SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ANSI/APA/NIA NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION AS PUBLISHED BY THE TRUSS INSTITUTE, INC.
- 6.09 TRUSS BRIDGING, TEMPORARY AND PERMANENT BRACING SHALL BE IN ACCORDANCE WITH BUILDING AND COMPONENT SAFETY INFORMATION (BCSI) 1-13 AND UPDATED MARCH 2017 THE GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, AND BRACING OF METAL PLATE CONNECTED WOOD TRUSS JOINTS, PRODUCED BY THE WOOD TRUSS COUNCIL OF AMERICA AND TRUSS PLATE INSTITUTE.
- 6.10 TRUSSES SHALL BE DESIGNED FOR APPLICABLE WIND LOADS IN ACCORDANCE WITH ASCE/SEI 7-10 WIND DESIGN CRITERIA. APPLICABLE CODE PRESERVE FACTORS SHALL BE USED IN DETERMINING WIND LOADS AT TRUSS LOCATIONS.
- 6.11 THE FOLLOWING INFORMATION SHALL BE SHOWN ON THE TRUSS SHOP DRAWINGS. ALL TRUSS SHOP DRAWINGS, INCLUDING ERECTION STABILITY BRACING AND PERMANENT BRACING, SHALL BE AVAILABLE ON JOB SITE AND SHALL BE CLEAR INDICATED THAT THEY HAVE BEEN REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER:
A) SPECIES OF THE LUMBER USED TO FABRICATE ALL TRUSS TYPES.
B) NOMINAL DIMENSIONS OF ALL TRUSS MEMBERS.
C) UNIFORM LIVE AND DEAD LOAD MAGNITUDE, INCLUDING ALL CONCENTRATED LOAD MAGNITUDES (FROM COLUMNS, BRACING PARTITIONS, ETC.) AND THEIR LOCATION.
D) MAGNITUDE OF FORCES IN ALL MEMBERS FOR EACH CRITICAL LOAD CASE.
E) BRIDGING AND BRACING DETAILS AND LOCATIONS.
F) INTERMEDIATE AND END BEARING DETAILS AND OTHER DETAILS OF STRUCTURAL CONNECTIONS NOT ADDRESSED ON STRUCTURAL OR ARCHITECTURAL PLANS.
G) ERECTION PLANS IDENTIFYING INDIVIDUAL TRUSSES SHOWN AND DETAILED ON SHOP DRAWINGS.
H) ALL HARDWARE (BOLTS, HANGERS, STRAPS, ETC.) REQUIRED FOR CONNECTIONS BETWEEN TRUSSES AND TRUSS ELEMENTS.

FASTENING SCHEDULE

CONNECTION	FASTENER
DOUBLE STUD	2-0.131" DIA. X 3 1/4" LONG # 9
WALL CORNERS AND WALL INTERSECTIONS	2-0.131" DIA. X 3 1/4" LONG # 9
MULTI-PLY BEAMS 2" TO 2 1/2" W/ 1/2" SPACER	SEE DETAIL 1/6/14
CONTINUOUS HEADER TO STUD (TOE-NAIL)	4-0.131" DIA. X 3 1/4" LONG NAILS # 9
DOUBLE TOP PLATES TO EACH OTHER (FACE NAIL)	0.131" DIA. X 3 1/4" LONG NAILS # 8, STAGGERED
TOP PLATE TO TOP PLATE - END JOINT (LAP SPLICE)	SEE DETAIL 6/8/14
TOP PLATE OVERLAP AT CORNERS AND INTERSECTIONS (FACE NAIL)	4-0.131" DIA. X 3 1/4" LONG NAILS # 9
TOP OR SOLE (BOTTOM) PLATE TO STUD (END NAIL)	3-0.131" DIA. X 3 1/4" LONG NAILS
STUD TO TOP OR SOLE (BOTTOM) PLATE (TOE-NAIL)	4-0.131" DIA. X 3 1/4" LONG NAILS

FASTENING SCHEDULE NOTES

- 1. FOR CONNECTIONS NOT NOTED OR FOR ARCHITECTURAL FINISH NAILING REQUIREMENTS SEE INTERNATIONAL BUILDING CODE, EDITION 2015, TABLE 2304.10.1.
- 2. FASTENING SCHEDULE IS BASED IN PART ON THE ICC-ES REPORT NO. E6R-1539, POWER-DRIVEN STAPLES AND NAILS, REISSUED ON JULY, 2015.



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JOB PROGRESS:

ITEM: DATE:
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REVISIONS:

TAG: DATE:

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ALEXANDRIA AN APARTMENT COMMUNITY FOR Bobo Family Group HUNTSVILLE, ALABAMA

JOB NUMBER:

DRAWN BY: AV

CHECKED BY: DHS

GENERAL NOTES

SHEET NO.

S0.2

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Order Plans