## MAJOR CODES AND STANDARDS

1. 2012 INTERNATIONAL BUILDING CODE WITH TENNESSEE AMENDMENT (2014)
2. ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
3. ACI 318-11 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
4. AISC MANUAL OF STEEL CONSTRUCTION 13th EDITION
5. NDS - NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION 2012 EDITION

## DESIGN LOADS

1. ROOF LOADS

DEAD LOAD ---------------------------------- 20 PSF
ROOF LIVE LOAD ------------------------------ 20 PSF

2. WIND LOAD

RISK CATEGORY OF BUILDING ----------------------- II
ULTIMATE DESIGN WIND SPEED, $V_{ult}$ --------------------- 115 MPH
NOMINAL DESIGN WIND SPEED, $V_{asd}$ --------------------- 90 MPH
WIND EXPOSURE ---------------------------------- B
INTERNAL PRESSURE COEFFICIENT --------------------- ±0.18
WIND BASE SHEAR ------------------------------- Vx = 9.2 KIPS, Vy = 21 KIPS
COMPONENTS AND CLADDING (ULTIMATE WIND PRESSURE)

| AREA SQ. FT. | ROOF, PSF | | | | | | WALLS, PSF | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | INT. ZONE ① | | PERIMETER ② | | CORNER ③ | | INT. ZONE ④ | | END ZONE ⑤ | |
| 10 | +16.0 | -23.8 | +21.8 | -39.9 | +21.8 | -39.9 | +21.8 | -23.6 | +21.8 | -29.0 |
| 20 | +16.0 | -23.2 | +20.8 | -35.7 | +20.8 | -35.7 | +20.8 | -22.6 | +20.8 | -27.1 |
| 50 | +16.0 | -22.4 | +19.5 | -30.1 | +19.5 | -30.1 | +19.5 | -21.3 | +19.5 | -24.6 |
| 100 | +16.0 | -21.8 | +18.6 | -25.8 | +18.6 | -25.8 | +18.6 | -20.4 | +18.6 | -22.6 |

*SEE BUILDING DIAGRAM FOR LOCATION OF C&C WIND PRESSURE ZONES.

3. SEISMIC LOAD

SPECTRAL RESPONSE ACCELERATION, $S_{DS}$ ---------------- 0.313g
$S_{D1}$ ---------------- 0.214g
RISK CATEGORY --------------------------------- II
SEISMIC DESIGN CATEGORY ---------------------------- D
SITE CLASSIFICATION (SOIL TYPE) ------------------------ D
LATERAL LOAD-RESISTING SYSTEM ----------------------- LIGHT FRAME WOOD WALLS WITH STRUCTURAL WOOD SHEAR PANELS
SEISMIC RESPONSE COEFFICIENT, Cs -------------------- 0.05
DESIGN BASE SHEAR ------------------------------- V = 0.048W
RESPONSE MODIFICATION COEFFICIENT, R ---------------- 6.5
SEISMIC IMPORTANCE FACTOR, $I_E$ ----------------------- 1.0
MAGNITUDE OF SEISMIC BASE SHEAR -------------------- 1.5 KIPS
SEISMIC ANALYSIS PROCEDURE ------------------------ EQUIVALENT LATERAL FORCE PROCEDURE (PER ASCE 7-10 SECTION 12.6)

4. SNOW LOAD

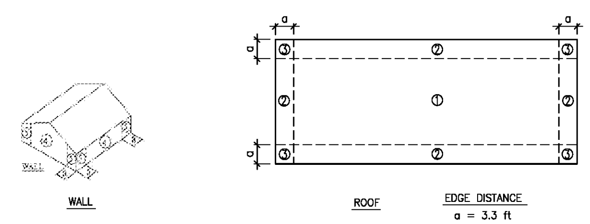
GROUND SNOW LOAD, $P_g$ ---------------------------- 10.0 PSF
SNOW EXPOSURE FACTOR, $C_e$ ------------------------ 1.0
SNOW IMPORTANT FACTOR, $I_s$ ------------------------ 1.0
SLOPE FACTOR, $C_s$ --------------------------------- 1.0
SLOPED ROOF SNOW LOAD, $P_s$ ------------------------ 10.0 PSF BALANCED

## GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE OF TENNESSEE BUILDING CODE AND ALL APPLICABLE FEDERAL AND STATE CODES, STANDARDS, REGULATIONS AND LAWS.
2. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED AND INCLUDED IN THE PROJECT.
3. IN THE CASE OF CONFLICTS BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
4. THE CONTRACTOR SHALL NOT MAKE DEVIATIONS FROM THE DESIGN DRAWINGS WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
5. THE CONTRACTOR SHALL TAKE ALL THE NECESSARY PRECAUTIONS/MEASURES TO PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITY LINES FROM DAMAGES. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGES THAT MAY OCCUR DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS REQUIRED BY HIM TO PERFORM HIS WORK BEFORE STARTING CONSTRUCTION.
7. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, DRIPS, REVEALS, FINISHES, DEPRESSIONS, DOORS, EXPANSION JOINT MATERIAL AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
8. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND ALL OTHER CONTRACT DRAWINGS RELATED TO OTHER TRADES. THE CONTRACTOR IS RESPONSIBLE TO CHECK AND COORDINATE DIMENSIONS, CLEARANCES, ETC., WITH THE WORK OF OTHER TRADES.
9. JOB SAFETY, CONSTRUCTION PROCEDURES AND CONSTRUCTION MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
10. COMPLETE SHOP DRAWINGS FOR CONSTRUCTION OF ALL APPLICABLE SPECIALTY ITEMS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF GEORGIA AND SHALL BE AVAILABLE AT THE JOB SITE DURING THE TIMES OF INSPECTION.
11. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING FOR ALL STRUCTURAL COMPONENTS DURING CONSTRUCTION.

## FOUNDATION

1. THE ALLOWABLE SOIL BEARING PRESSURE FOR FOR CONCRETE FOOTINGS IS ASSUMED TO BE 1,500 PSF (THE PRESUMPTIVE LOAD-BEARING VALUES FOR CLAY, SANDY CLAY, CLAYEY SILT, SILT AND SANDY SILT. SEE 2012 IBC SECTION 1806).
2. ALL FOOTING EXCAVATIONS SHOULD BE OBSERVED AND TESTED BY GEOTECHNICAL ENGINEER. IF SOFT, LOOSE OR DISTURBED SOILS ARE ENCOUNTERED IN FOOTING EXCAVATIONS, THE UNSUITABLE SOILS SHOULD BE REMOVED AND REPLACED WITH APPROVED, PROPERLY COMPACTED GRANULAR FILL EXTENDING DOWN TO SUITABLE NATIVE SOILS.
3. ALL STRUCTURAL FILL SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE SOIL'S STANDARD PROCTOR MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM STANDARD D-698. THE UPPER FOOT OF FILL WHICH WILL SUPPORT PAVEMENTS OR SLABS SHOULD BE COMPACTED TO AT LEAST 98 PERCENT OF THE SOIL'S STANDARD PROCTOR MAXIMUM DRY DENSITY FOR IMPROVED SUPPORT. IN AREAS WHICH ARE AT OR ABOVE THE FINISHED GRADE, AND WHICH WILL SUPPORT PAVEMENTS OR SLAB, THE UPPER 8 INCHES IMMEDIATELY BELOW THESE SYSTEMS SHOULD BE SCARIFIED AND RECOMPACTED TO THE 98 PERCENT CRITERIA.
4. IF UNSUITABLE SOILS SUCH AS BURIED TOPSOIL AND LOW STRENGTH OR DISTURBED SOILS ARE ENCOUNTERED BELOW THE DESIGN FOOTING BASE ELEVATION, THE FOOTING EXCAVATIONS SHOULD BE EXTENDED DEEPER TO REACH ADEQUATE BEARING SOILS. THE FOOTINGS COULD BEAR AT THIS LOWER LEVEL OR AN OVEREXCAVATION AND GRANULAR BACKFILL PROCEDURE COULD BE PERFORMED. SEE THE GEOTECHNICAL REPORT FOR THE OVEREXCAVATION AND BACKFILL PROCEDURE.
5. THE OVEREXCAVATION SHOULD THEN BE PROPERLY BACKFILLED UP TO THE DESIGN ELEVATION WITH WELL-GRADED GRANULAR MATERIALS THAT ARE APPROVED BY THE GEOTECHNICAL ENGINEER.
6. THE BASE OF THE FOUNDATION EXCAVATIONS SHOULD BE FREE OF WATER AND LOOSE SOIL PRIOR TO PLACING CONCRETE. CONCRETE SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATING TO REDUCE THE POTENTIAL FOR BEARING SOIL DISTURBANCE. SOILS AT BEARING LEVEL THAT BECOME FROZEN, DISTURBED OR SATURATED SHOULD BE REMOVED PRIOR TO PLACING CONCRETE.
7. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SUBSURFACE AND EXISTING CONDITIONS BEFORE COMMENCING WORK.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION OF ALL EXCAVATION SLOPES.
9. FOR CONCRETE REQUIREMENTS FOR FOOTINGS, SEE REINFORCED CONCRETE NOTES.




BUILDING DIAGRAM FOR LOCATION OF C&C WIND PRESSURE ZONES.

## REINFORCED CONCRETE

1. ALL CONCRETE SHALL BE CONTROLLED CONCRETE AND ALL CONCRETING PRACTICES SHALL CONFORM WITH ACI-318-11, "AMERICAN CONCRETE INSTITUTE, BUILDING CODE FOR REINFORCED CONCRETE." CONCRETE DETAILS SHALL BE IN ACCORDANCE WITH ACI-135, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" UNLESS OTHERWISE NOTED ON THE DRAWINGS. CONCRETE TESTS FOR THE PRELIMINARY DESIGN MIX PREPARED BY AN APPROVED LABORATORY MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL PLACE NO CONCRETE WITHOUT THE APPROVED DESIGN MIX.
2. THE CONTRACTOR MUST SUBMIT REINFORCING SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. NO REINFORCED CONCRETE CONSTRUCTION IS TO BE STARTED UNTIL THE ENGINEER REVIEWS AND APPROVES THE SHOP DRAWINGS.
3. INSPECTION FOR ALL STRUCTURAL PORTIONS OF THE PROJECT SHALL BE PROVIDED AS REQUIRED PER THE APPLICABLE BUILDING CODE AND PROJECT SPECIFICATIONS. THE ENGINEER MAY VISIT THE SITE TO PROVIDE CONSTRUCTION ASSISTANCE OR TO GENERALLY OBSERVE THE PROGRESS OF CONSTRUCTION. SUCH VISITS ARE NOT TO BE CONSTRUED AS MEETING THE AFORESAID INSPECTION REQUIREMENTS UNLESS THE ENGINEER SPECIFICALLY STATES SO IN WRITING.
4. A RIGID TEMPLATE SHALL BE USED TO INSTALL ALL ANCHOR BOLTS.
5. UNLESS NOTED OTHERWISE ON PLAN, ALL CONCRETE SHALL BE NORMAL WEIGHT WITH 28 DAYS COMPRESSIVE STRENGTH OF 3,000 PSI.
6. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 (fy=60,000 PSI) ALL REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A-706 AND THAT WELDING SHALL BE IN ACCORDANCE WITH AWS D1.4, STRUCTURAL WELDING CODE. THE REINFORCING BARS SUPPLIER SHALL PROVIDE THE ENGINEER WITH AN AFFIDAVIT OF THE PRODUCER OF STEEL CERTIFYING THAT THE STEEL MEETS THE REQUIREMENTS OF THE ASTM.
7. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. ROLLED MESH IS NOT ACCEPTABLE.
8. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE ADDITIONAL BARS OR STIRRUPS NECESSARY TO SUPPORT ALL BARS AS REQUIRED TO COMPLETE HIS WORK.
9. ALL REINFORCING BARS SHALL BE LAPPED AS SPECIFICALLY DETAILED ON THE DRAWINGS. WHERE NOT SPECIFICALLY INDICATED, ALL REINFORCING BARS SHALL BE LAPPED USING CLASS B TENSION SPLICE LENGTHS, PER THE FOLLOWING TABLE:

| REINFORCING BAR LAP SPLICE LENGTHS | | | | | |
|---|---|---|---|---|---|
| BAR SIZE (NO.) | CLASS B TENSION LAP SPLICES | | BAR SIZE (NO.) | CLASS B TENSION LAP SPLICES | |
| | TOP BARS | ALL OTHERS | | TOP BARS | ALL OTHERS |
| 3 | 2'-4" | 1'-10" | 7 | 6'-9" | 5'-3" |
| 4 | 3'-1" | 2'-5" | 8 | 7'-9" | 6'-0" |
| 5 | 3'-11" | 3'-0" | 9 | 8'-9" | 6'-9" |
| 6 | 4'-8" | 3'-7" | 10 | 9'-10" | 7'-7" |

NOTE : TOP BARS ARE DEFINED AS HORIZONTAL BARS SO PLACED THAT 12 IN. OR MORE OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE.

10. UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS, PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING BARS AS FOLLOWS:

CAST AGAINST EARTH ---------------------------- 3"
EXPOSED TO EARTH OR WEATHER
#5 AND SMALLER ---------------------------- 1½"
#6 AND LARGER ----------------------------- 2"
NOT EXPOSED TO EARTH OR WEATHER
SLAB AND WALL
#11 AND SMALLER -------------------------- ¾"

11. PROVIDE CONTRACTION AND CONSTRUCTION JOINTS IN ACCORDANCE WITH ACI-318 BUILDING CODE. SUBMIT SHOP DRAWINGS SHOWING JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS FOR THE ENGINEER'S REVIEW.
12. NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN BEAMS, WALLS AND SLABS UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.
13. CONCRETE SLAB ON GRADE CONTRACTION JOINT SAW CUTTING SHALL BE DONE WITH SOFT-CUT HIGH SPEED SAW AND SHALL BE COMPLETED WITHIN 4 HOURS AFTER THE SLAB HAS BEEN CAST.
14. ALL CONCRETE PAD AND FILL SLABS SHALL BE REINFORCED WITH 6x6-W1.4xW1.4 MINIMUM, PLACED MID DEPTH OF CONCRETE, U.N.O. ROLLED MESH IS NOT ACCEPTABLE.
15. THE RESULTS FOR ALL COMPRESSIVE STRENGTH TESTS SHALL BE AVAILABLE ON THE JOB SITE FOR REVIEW BY THE INSPECTOR.

## STRUCTURAL STEEL

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATIONS. STRUCTURAL FABRICATOR SHALL BE AISC CERTIFIED.
2. ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AISC SPECIFICATIONS AND THE STATE OF TENNESSEE BUILDING CODE.
3. STRUCTURAL STEEL SHALL BE AS SPECIFIED BELOW, UNLESS NOTED OTHERWISE:
   A. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992 OR ASTM A572 GRADE 50, WITH MIN. YIELD STRENGTH OF 50 KSI.
   B. CHANNELS, ANGLES, AND PLATES SHALL CONFORM TO ASTM A36 WITH MIN. YIELD STRENGTH OF 36 KSI.
   C. TUBES LESS THAN 24" IN SIZE SHALL CONFORM TO ASTM A500 GRADE B WITH MIN. YIELD STRENGTH OF 46 KSI.
   D. THE PORTION OF STRUCTURAL STEEL EXPOSED TO CONCRETE SHALL BE HOT-DIP GALVANIZED.
4. THE FRAME SHALL BE CARRIED UP TRUE AND PLUMB AND TEMPORARY BRACING SHALL BE INTRODUCED WHEREVER NECESSARY TO ACCOUNT FOR ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING EQUIPMENT AND OPERATION OF SAME. SUCH BRACING SHALL BE THE RESPONSIBILITY OF THE STEEL CONTRACTOR AND SHALL BE LEFT IN PLACE AS LONG AS REQUIRED FOR SAFETY.
5. ALL BOLTS SHALL CONFORM TO THE FOLLOWING ASTM. DESIGNATION, LATEST EDITION: HIGH STRENGTH BOLTS A325-N, U.N.O.
6. ALL BOLTS SHALL BE ¾" DIAMETER MINIMUM UNLESS OTHERWISE SHOWN ON THE DRAWINGS, U.N.O.
7. ALL SHOP OR FIELD CONNECTIONS SHALL BE HIGH STRENGTH BOLTED OR WELDED. BOLTED CONNECTIONS SHALL BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC-2009 (SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS). ALL STRUCTURAL WELDED JOINTS SHALL CONFORM TO THE PROVISIONS OF AWS D1.1-10, STRUCTURAL WELDING CODE BY AMERICAN WELDING SOCIETY.
8. PROVISIONS SHALL BE MADE FOR CONNECTIONS OF OTHER TRADES INCLUDING CUTTING AND PUNCHING OF STRUCTURAL MEMBERS, WHERE REQUIRED BY THE DRAWING OR FOR WHICH INFORMATION IS FURNISHED PRIOR TO FABRICATION.
9. THE USE OF A CUTTING TORCH IN THE FIELD WILL NOT BE PERMITTED.
10. WELDING ELECTRODES SHALL BE CONFORM TO E70XX ELECTRODES, AND SHALL HAVE COMPATIBLE CHARY-V-NOTCH WHEN WELDING TO THE BASE METAL WITH CHARY-V-NOTCH REQUIREMENT.
11. ALL WELDERS MUST BE CERTIFIED IN THE STATE OF TENNESSEE. PROOF OF WELDER CERTIFICATION SHALL BE AVAILABLE AT THE JOB SITE DURING TIMES OF INSPECTION.
12. ALL STRUCTURAL STEEL SHALL BE PRIME PAINTED. STRUCTURAL STEEL SHALL RECEIVE ONE COAT OF PAINT, ZINC OR BITUMINOUS COATING OR EQUIVALENT METAL PROTECTION BEFORE ERECTION AS SPECIFIED. PARTS OF STRUCTURAL STEEL LEFT UNPAINTED BECAUSE OF WELDING, OR BOLTING SHALL RECEIVE A FIELD APPLICATION OF METAL PROTECTION. PARTS OF STRUCTURAL STEEL ENCASED IN CONCRETE SHALL BE PAINTED WITH COLD GALVANIZING PAINT, ZYNGA OR APPROVED EQUAL.
13. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A 307 OR AN APPROVED EQUIVALENT, U.O.N.
14. DESIGN OF SPECIAL CONNECTIONS BETWEEN STEEL FRAMING COMPONENTS BY OTHER THAN THE PROJECT STRUCTURAL ENGINEER OF RECORD SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TENNESSEE

## WOOD TRUSS

1. TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH APPLICABLE PROVISIONS OF LATEST EDITION OF *NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS), AMERICAN FOREST AND PAPER ASSOCIATION (AFPA), AND NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION (ANSI/TPI 1), TRUSS PLATE INSTITUTE (TPI), AND CODE OF JURISDICTION.*
2. ALL TRUSSES ARE TO BE DESIGNED FOR UPLIFT LOADS REQUIRED BY THE 2012 INTERNATIONAL BUILDING CODE. ALSO, TRUSSES TO BE DESIGNED TO SUPPORT THE MECHANICAL EQUIPMENT IF SHOWN ON THE MECHANICAL DRAWINGS.
3. PREENGINEERED TRUSSES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TENNESSEE.
4. ALL HARDWARE (BOLTS, HANGERS, STRAPS, ETC.) REQUIRED FOR CONNECTIONS BETWEEN PREENGINEERED TRUSSES SHALL BE DESIGNED AND SPECIFIED BY THE TRUSS DESIGN ENGINEER.
5. FABRICATOR SHALL FURNISH DESIGN DRAWINGS BEARING SEAL AND REGISTRATION NUMBER OF A STRUCTURAL ENGINEER LICENSED IN TENNESSEE. DRAWINGS SHALL BE APPROVED BY ARCHITECT PRIOR TO FABRICATION.
6. TRUSS DESIGN DRAWINGS SHALL INCLUDE THE FOLLOWING LOADS AS APPLICABLE:

   A. TOP CHORD LL = 20 PSF    TOP CHORD DL = 10 PSF
   B. BOT CHORD LL = 0 PSF    BOT CHORD DL = 10 PSF
   C. WIND LOAD = 115 MPH (2012 IBC FIGURE 1609A)
7. LUMBER USED SHALL BE IDENTIFIED BY GRADE MARK OF A LUMBER INSPECTION BUREAU OR AGENCY APPROVED BY BOARD OF REVIEW OF AMERICAN LUMBER STANDARDS COMMITTEE, AND SHALL BE SIZE, SPECIES AND GRADE IN ACCORDANCE WITH DESIGN DRAWINGS.
8. CONNECTOR PLATES SHALL MEET OR EXCEED ASTM A653 REQUIREMENTS FOR STRUCTURAL STEEL.
9. TRUSSES SHALL BE FABRICATED AS SET FORTH IN ANSI/TPI 1-2007 IN ACCORDANCE WITH THE DESIGN DRAWINGS BY AN ESTABLISHED FABRICATOR.
10. TRUSSES SHALL BE HANDLED DURING FABRICATION, DELIVERY AND AT JOB SITE SO AS NOT TO BE SUBJECTED TO EXCESSIVE LATERAL BENDING.
11. INSTALLATION SHALL BE IN ACCORDANCE WITH HANDLING, INSTALLING AND BRACING WOOD TRUSSES, HIB-91, TPI. TRUSSES SHALL BE SET AND SECURED LEVEL AND PLUMB, AND IN CORRECT LOCATION.
12. TRUSSES SHALL BE SUFFICIENTLY BRACED DURING INSTALLATION TO PREVENT TOPPLING OR DOMINOING. INSTALL ALL BRACING BEFORE PLACING CONCENTRATED LOADS ATOP TRUSSES.
13. CUTTING AND ALTERING OF TRUSSES IN NOT PERMITTED.
14. ALL PREENGINEERED TRUSS SHOP DRAWINGS SHALL BE AVAILABLE ON THE JOB SITE DURING THE TIMES OF INSPECTION AND SHALL BEAR CLEAR INDICATION THAT THEY HAVE BEEN REVIEWED AND APPROVED BY THE PROJECT STRUCTURAL ENGINEER-OR-RECORD.
15. TRUSSES SHOWN ILLUSTRATE PROFILE OF TRUSS. MINIMUM TOP AND BOTTOM CHORD SIZE - 2x6, AND MINIMUM WEB MEMBER - 2x4, UNLESS NOTED OTHERWISE OR AS DETERMINED BY DETAILED DESIGN.
16. PRESS PLATES SHALL BE PLACED ON EACH SIDE OF TRUSS AT EACH JOINT.
17. TRUSSES AND RAFTERS SHALL BE CONNECTED TO TOP BEARING PLATE WITH SEISMIC TIE DOWN ANCHORS. SIZE AND NUMBER OF TIES TO BE AS REQUIRED TO RESIST FORCE SPECIFIED BY TRUSS DESIGNER. SIMPSON H3 SEISMIC TIES SPECIFIED ON STRUCTURAL SECTIONS AND DETAILS ARE THE MINIMUM SIZE REQUIRED. ADDITIONAL TIES MAY BE REQUIRED TO RESIST FORCE SPECIFIED BY TRUSS DESIGNER. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH TRUSS DESIGN ENGINEER.
18. TRUSS DRAWINGS SHALL SHOW MEMBER FORCES FOR GRAVITY AND UPLIFT CONDITIONS.
19. WHERE ATTACHED CEILINGS (i.e. ATTACHED DIRECTLY TO BOTTOM CHORD) OCCUR, THEY MAY BE CONSIDERED CAPABLE OF PROVIDING LATERAL SUPPORT TO TRUSS BOTTOM CHORD. AT LOCATIONS WHERE ATTACHED CEILINGS DO NOT OCCUR, BOTTOM CHORD SHALL BE BRACED AT 6'-0" O.C. MAXIMUM.
20. ALL WOOD BEARING SHALL HAVE FULL CONTACT BETWEEN MEMBERS.
21. TRUSS SYSTEM DESIGN ENGINEER SHALL PROVIDE CONNECTIONS FOR TRUSS GIRDERS AT SUPPORTS AND AT ENDS. DO NOT BEAR TRUSS GIRDERS OVER LINTELS AT OPENINGS U.N.O.
22. ROOF TRUSSES, TRUSS SYSTEM, AND WOOD ROOF FRAMING ARE THE RESPONSIBILITY OF THE CONTRACTOR AND HIS DESIGN TEAM.
23. AT LOCATIONS WHERE ENDS OF ROOF TRUSSES LAP CONNECT TRUSSES TOGETHER WITH 10d NAILS @ 6" O.C. VERTICALLY, UNLESS NOTED OTHERWISE.
24. ROOF TRUSSES AND WOOD ROOF FRAMING SHALL BE SUPPORTED BY STRUCTURAL MEMBERS AND LOAD BEARING WALLS SHOWN ON ROOF FRAMING PLAN.
25. THE NUMBER AND SIZE OF NAILS OR STAPLES CONNECTING WOOD MEMBERS SHALL NOT BE LESS THEN THOSE SPECIFIED IN FASTENING SCHEDULE 2304.9.1 OF THE 2012 INTERNATIONAL BUILDING CODE. FOR ATTACHMENT OF WOOD STRUCTURAL PANELS TO FLOOR AND ROOF FRAMING USE 10d NAILS @ 6" O.C. UNLESS NOTED OTHERWISE.
26. TRUSSES TO BE DESIGNED TO TRANSFER LATERAL (WIND AND SEISMIC) FORCES ONLY TO TOP OF WALL AND TOP OF BEAMS.
27. TRUSS DESIGN ENGINEER SHALL PROVIDE CONNECTIONS FOR ALL TRUSS TO TRUSS CONNECTIONS.
28. CONTRACTOR SHALL PROVIDE ADDITIONAL WALL STUDS AT LOCATIONS WHERE TRUSS GIRDERS BEAR ON WALLS.
29. TRUSS DEFLECTION DUE TO TOTAL LOAD (D.L. AND L.L.) SHALL NOT EXCEED L/360 FOR THE WHOLE TRUSS AND EACH CHORD MEMBER.
30. ALL TRUSS CHORD AND WEB MEMBERS AT PANEL POINTS SHALL BE ASSUMED TO BE PINNED AND NOT FIXED.
31. TRUSS MANUFACTURER/FABRICATOR SHALL SUPPLY SHOP DRAWINGS THAT INCLUDE TRUSS LAYOUT PLAN, TRUSS ELEVATIONS, TRUSS TO TRUSS CONNECTIONS, TRUSS TO BEARING CONNECTIONS AND DETAILS, DIAPHRAGM SHEAR TRANSFER BRACING, LATERAL WEB BRACING, BOTTOM CHORD BRACING, AND ALL TEMPORARY OR ERECTION BRACING. SHOP DRAWINGS AND/OR CALCULATIONS SHALL SHOW THE LIVE AND DEAD LOADS AT THE TOP AND BOTTOM CHORD AND THE STRESSES IN EACH TRUSS MEMBER.

## SHOP DRAWINGS

1. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER. IF A CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, JAMES WESTBROOK ENGINEERING, INC. WILL NOT BE RESPONSIBLE FOR THE STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT.
2. SHOP DRAWINGS ARE REVIEWED BY THE ENGINEER AS A CONVENIENCE TO THE CONTRACTOR AND ARE NOT CONTRACT DOCUMENTS.
3. AT THE TIME OF SHOP DRAWING SUBMISSION, THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS.
4. REPRODUCTION OF STRUCTURAL DRAWINGS FOR USE AS SHOP DRAWINGS SHALL NOT BE PERMITTED.
5. COMPLETE SHOP DRAWINGS FOR CONSTRUCTION OF EACH BUILDING COMPONENT NOT DESIGNED BY THE DESIGN TEAM-OF-RECORD AND NOT SPECIFIED ON THE PROJECT CONSTRUCTION DOCUMENTS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TENNESSEE AND SHALL BE AVAILABLE AT THE JOB SITE DURING THE TIMES OF INSPECTION INCLUDING GLAZED SYSTEM (INCLUDING BUT NOT LIMITED TO WINDOW UNITS, CURTAIN WALLS, AND STOREFRONTS) WHICH EXCEEDS TEN (10) FEET IN HEIGHT, AND STAIRS.

## WOOD AND TIMBER FRAMING

1. FABRICATION AND ERECTION OF STRUCTURAL LUMBER SHALL CONFORM TO THE AMERICAN WOOD COUNCIL (AWC) SPECIFICATIONS.
2. ALL LUMBER DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF NDS AND THE STATE OF TENNESSEE BUILDING CODE.
3. UNTREATED STRUCTURAL LUMBER SHALL BE AS SPECIFIED BELOW, UNLESS NOTED:

   A. LUMBER SHALL BE GRADED IN ACCORDANCE WITH THE RULES OF ONE OF THE FOLLOWING ASSOCIATIONS: *"GRADING RULES FOR SOUTHERN PINE LUMBER"* OF THE SOUTHERN PINE INSPECTIONS BUREAU. *"STANDARD GRADING AND DRESSING RULES NO. 16"* OF THE WEST COAST LUMBER INSPECTION. *"GRADING RULES FOR WESTERN LUMBER"* PUBLISHED BY WESTERN WOOD PRODUCTS ASSOCIATION.

   B. REDWOOD SHALL CONFORM TO REQUIREMENTS OF *"STANDARD SPECIFICATIONS FOR GRADES OF CALIFORNIA REDWOOD LUMBER"* OF THE REDWOOD INSPECTION SERVICE.
4. WOOD FRAMING MEMBERS SHALL BE SOUTHERN PINE NO.2 WITH MIN. Fb = 1,350 PSI; E = 1,600,000 PSI U.N.O.
5. MOISTURE CONTENT OF LUMBER SHALL BE NO LESS THAN 7 PERCENT NOR GREATER THAN 19 PERCENT AT TIME OF ERECTION.
6. GEORGIA-PACIFIC LAM 2.0E BEAM SHALL HAVE MIN. Fb = 2,850 PSI; E = 2,000,000 PSI U.N.O.
7. UNLESS NOTED OTHERWISE, ALL EXTERIOR BEARING WALL SHALL BE 2x6 STUDS SPACED AT 16" ON CENTER WITH DOUBLE TOP PLATES.
8. UNLESS NOTED OTHERWISE, ALL MEMBER CONNECTIONS SHALL HAVE STANDARD GALVANIZED METAL FRAMING ANCHORS OR CLIPS CONNECTION MEMBERS CARRYING ANY COMBINATION OF DEAD, LIVE OR WIND LOADS. PROVIDE MINIMUM 20 GA. HOT-DIPPED GALVANIZED (G60) FRAMING ANCHORS AT EVERY POINT OF BEARING IN ACCORDANCE WITH ASTM A 153M OR ASTM A 641, SUPPLEMENTARY REQUIREMENTS
9. ALL WOOD SILL PLATES AT BOTTOM OF WALLS SHALL BE PRESSURE TREATED.
10. PROVIDE 2x HORIZONTAL BLOCKING AT LOAD BEARING WALLS SPACED AT 48" O.C VERTICALLY.
11. PROVIDE ONE ROW OF 2x HORIZONTAL BLOCKING AT NON-LOAD BEARING WALLS AT MID-HEIGHT OF STUD.
12. ALL UNSUPPORTED PANEL EDGES OF EXTERIOR WALL AND OSB SHEATHING ALONG SHEAR WALLS SHALL BE BACKED WITH 2" (NOMINAL) OR WIDER FRAMING MEMBERS (BLOCKING).
13. WOOD FRAMING SHALL BE BUILT IN ACCORDANCE WITH A.I.T.C. RECOMMENDATIONS.
14. FASTENERS: ASTM A153 HOT-DIP ZINC COATING, OR AISI TYPE 304 STAINLESS STEEL.
15. NAILS, WIRE AND BRADS: FS FF-N-105.
16. POWER DRIVEN FASTENERS: NATIONAL EVALUATION REPORT NER-272.
17. WOOD SCREWS: ANSI B18.6.1.
18. LAG BOLTS: ANSI B18.2.1.
19. BOLTS: STEEL BOLTS, ASTM A307, GRADE A; WITH ASTM A563 HEX NUTS AND FLAT WASHERS.
20. ANCHORING AND NAILING STANDARDS:

   A. PUBLISHED REQUIREMENTS OF MANUFACTURER OF METAL FRAMING ANCHORS.

   B. "TABLE 2304.9.1 - FASTENING SCHEDULE", OF THE IBC 2012. SEE S1.1

## ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| ADD'L | = | ADDITIONAL | L.P. | = | LOW POINT |
| ARCH. | = | ARCHITECTURAL | LT. | = | LIGHT |
| BAL. | = | BALANCE | L.W. | = | LIGHT WEIGHT |
| B.L. | = | BRICK LEDGE | MAX. | = | MAXIMUM |
| BOT. | = | BOTTOM | M.C. | = | MOMENT RESISTING CONNECTION |
| C.J. | = | CONTRACTION JOINT | MFR. | = | MANUFACTURER |
| C | = | CENTER LINE | MIN. | = | MINIMUM |
| CA | = | COLUMN ABOVE | N.F. | = | NEAR FACE |
| CB | = | COLUMN BELOW | NO. | = | NUMBER |
| C.C. | = | CENTER TO CENTER | NTS | = | NOT TO SCALE |
| CL. | = | CLEAR | O.C. | = | ON CENTER |
| COL. | = | COLUMN | OPNG. | = | OPENING |
| CONC. | = | CONCRETE | P.A.F. | = | POWDER ACTUATED FASTENERS |
| CONN. | = | CONNECTION | P.C. | = | PRECAST CONCRETE |
| CONSTR. | = | CONSTRUCTION | PL | = | PLATE |
| CONT. | = | CONTINUOUS | P.T. | = | PRESSURE TREATED |
| DET. | = | DETAIL | REINF. | = | REINFORCEMENT |
| DIA. | = | DIAMETER | REQD. | = | REQUIRED |
| DWG. | = | DRAWING | SCHED. | = | SCHEDULE |
| DWLS | = | DOWELS | SECT. | = | SECTION |
| EA. | = | EACH | SIM. | = | SIMILAR |
| E.E. | = | EACH END | S.J. | = | SOFT JOINT |
| E.F. | = | EACH FACE | S.O.G. | = | SLAB ON GRADE |
| E.J. | = | EXPANSION JOINT | SQ. | = | SQUARE |
| EL. | = | ELEVATION | S.S. | = | STAINLESS STEEL |
| ELECT. | = | ELECTRICAL | ST. | = | STEEL |
| E.W. | = | EACH WAY | STD. | = | STANDARD |
| E.O.S. | = | EDGE OF STRUCTURAL SLAB | STIFF. | = | STIFFENER |
| E.O.D. | = | EDGE OF DECK | S.W. | = | SHORT WAY |
| EQUIV. | = | EQUIVALENT | SYM. | = | SYMMETRICAL |
| FIN. | = | FINISHED | T&B | = | TOP & BOTTOM |
| FL. | = | FLOOR | T.O.F. | = | TOP OF FOOTING |
| FTG. | = | FOOTING | T.O.ST. | = | TOP OF STEEL |
| HORIZ. | = | HORIZONTAL | TYP. | = | TYPICAL |
| H.D.G. | = | HOT DIP GALVANIZED | U.O.N. | = | UNLESS OTHERWISE NOTED |
| H.P. | = | HIGH POINT | VERT. | = | VERTICAL |
| JT. | = | JOINT | V.I.F. | = | VERIFY IN FIELD |
| JS. | = | JOIST SUBSTITUTES | W.P. | = | WORKING POINT |
| L.L.H. | = | LONG LEG HORIZONTAL | WT. | = | WEIGHT |
| L.L.V. | = | LONG LEG VERTICAL | W.W.F. | = | WELDED WIRE FABRIC |

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GENERAL STRUCTURAL NOTES

**S1.0**

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