

STRUCTURAL STEEL

1. ALL GROUT USED UNDER STEEL COLUMN BASE PLATES SHALL BE OF NON-SHRINKABLE TYPE CONFORMING TO ASTM C1090 AND THE CORPS OF ENGINEERS SPECIFICATION CRD-C-621 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI. 100 PERCENT OF VOID UNDER ALL BASE PLATES IS TO BE GROUTED. ALL BASE PLATES WITH A DIMENSION GREATER THAN 24" SHALL HAVE TWO 1" DIAMETER GROUT HOLES. IF THE SPACE UNDER A COLUMN BASE PLATE IS LESS THAN 1/4", A PRESSURE INJECTION SYSTEM SHALL BE USED. PRE-GROUTING OF THE BASE PLATES IS NOT PERMITTED
2. ALL STRUCTURAL STEEL DESIGN, DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO LOAD AND RESISTANCE FACTOR DESIGN (LRFD) ACCORDING TO THE 2005 AISC SPECIFICATION.
3. ALL WELDING SHALL CONFORM TO THE STANDARDS OF THE THIRTEENTH EDITION OF THE MANUAL STEEL CONSTRUCTION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AND THE AMERICAN WELDING SOCIETY ANSI/AWS D1.1 STRUCTURAL WELDING CODE-STEEL. WELDING OF REINFORCING BARS SHALL COMPLY TO THE AMERICAN WELDING SOCIETY AWS D1.4. SHORT CIRCUIT TRANSFER FOR THE GAS METAL ARC WELDING PROCESS IS NOT PERMITTED.
4. ELECTRODES FOR ALL FIELD AND SHOP WELDING SHALL BE CLASS E70XX LOW HYDROGEN.
5. ALL STRUCTURAL STEEL ROLLED SHAPES SHALL CONFORM TO ASTM A992, AND ALL ANGLES, BARS, CHANNELS AND PLATES SHALL CONFORM TO ASTM A36. ALL SQUARE AND RECTANGULAR TUBES (Fy 50 KSI) SHALL CONFORM TO ASTM A500 GRADE C AND ROUND PIPES (Fy 50 KSI) SHALL CONFORM TO ASTM A500 GR C. ALL COLD-FORMED GIRTS AND PURLINS SHALL CONFORM TO ASTM A570M GR. 55.
6. ALL STRUCTURAL STEEL DETAILS AND CONNECTIONS SHALL CONFORM TO STANDARDS OF THE AISC. DOUBLE CONNECTIONS THROUGH COLUMN WEBS, BEAMS THAT FRAME OVER THE TOP OF COLUMNS, AND BEAM TO BEAM CONNECTIONS SHALL HAVE A BEAM ERECTION SEAT OR A STAGGERED CONNECTION WITH AT LEAST ONE INSTALLED BOLT REMAINING IN PLACE TO SUPPORT THE FIRST BEAM WHILE THE SECOND BEAM IS BEING ERECTED.
7. CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE SELECTED FROM THE TABLES IN PART 10 OF THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. TABLE 10-1 MAY BE USED FOR ALL BOLTED DOUBLE ANGLE CONNECTIONS. TABLE 10-2 MAY BE USED FOR WELDED/BOLTED DOUBLE ANGLE CONNECTIONS. TABLE 10-3 MAY BE USED FOR ALL-WELDED DOUBLE ANGLE CONNECTIONS. BEAM REACTIONS USED SHALL BE ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD GIVEN IN TABLE 3-6 THROUGH 3-9 IN PART 3 OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. CONNECTIONS FOR COMPOSITE BEAMS SHALL HAVE THE STANDARD AISC CAPACITY INCREASED BY 35 PERCENT.
8. ALL MISCELLANEOUS WELDS (FIELD OR SHOP) SHALL BE MINIMUM SIZE FILLET ALL AROUND IN ACCORDANCE WITH AISC. IT IS ASSUMED TO BE THE PLATE THICKNESS OF THE THINNEST PIECE MINUS 1/16". WELDING OF CONTINUOUS MEMBERS SHALL BE A MINIMUM OF 2 INCHES OF 3/16 INCH FILLET STITCH WELDS AT 12 INCHES O.C., STAGGERED EACH SIDE, UNLESS OTHERWISE NOTED. COLUMN BASE PLATES, CAP PLATES AND STIFFENER PLATES SHALL BE WELDED ALL AROUND.
9. PROVIDE COLUMN CAP PLATES AS FOLLOWS UNLESS NOTED OR DETAILED OTHERWISE:
- A) **FOR DECK BEARING** — 1/4 INCH THICK FOR ALL HSS SECTIONS AND WIDE FLANGE SECTIONS WHERE BEAMS DO NOT FRAME INTO BOTH SIDES OF THE WEB
- B) **FOR JOIST BEARING**
- 1) K-SERIES JOISTS — 1/2 INCH THICK
- 2) LH AND DLH — 3/4 INCH THICK
- 3) JOIST GIRDERS — 1 INCH THICK
- C) **FOR BEAM BEARING** — SEE TYPICAL DETAILS OF 3/4 INCH MINIMUM UNLESS NOTED OTHERWISE
- D) **FOR MOMENT CONNECTS** — REFER TO TYPICAL MOMENT CONNECTION DETAILS
- E) ALWAYS PROVIDE CAP PLATES FOR SQUARE, RECTANGULAR, AND ROUND HSS COLUMNS
10. WEB STIFFENERS SHALL BE PROVIDED IN WIDE FLANGE SHAPES AS FOLLOWS:
- A) **COLUMN WEBS AT FULLY DEVELOPED MOMENT CONNECTIONS** — STIFFENERS SHALL BE COMPLETE PENETRATION GROOVE WELDED WITH SAME THICKNESS AND GRADE AS THE BEAM FLANGES. WHERE MOMENT CONNECTIONS OCCUR ON COLUMN FLANGES AND COLUMN WEBS, STIFFENER THICKNESS SHALL BE EQUAL THE VECTOR SUMMATION OF THE RESPECTIVE BEAM FLANGE THICKNESSES.
- B) **BEAM WEBS WHERE BEAMS BEAR ON A COLUMN** — SAME THICKNESS AND STRENGTH AS COLUMN FLANGES.
- C) **BEAM WEBS WHERE COLUMN BEARS ON A BEAM (POST UP OR STUB COLUMN)** — SAME THICKNESS AND STRENGTH AS COLUMN FLANGES.
11. PROVIDE ALL NECESSARY HOLES IN MISCELLANEOUS STRUCTURAL STEEL MEMBERS FOR ATTACHMENT OF NON-STRUCTURAL ITEMS (IE: HOLES FOR WINDOW HEAD ANCHORS). SEE ARCHITECTURAL DRAWINGS FOR REQUIREMENTS.
12. SPLICING OF STRUCTURAL STEEL MEMBERS WHERE NOT DETAILED IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
13. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS): WHERE NOTED ON PLANS OR BY THE ARCHITECT SHALL CONFORM TO AISC 303 SECTION 10
14. ALL CONNECTION BOLTS FOR STRUCTURAL STEEL MEMBERS SHALL CONFORM TO ASTM A325 EXCEPT WHERE NOTED OTHERWISE. MINIMUM SIZE SHALL BE 3/4 INCH DIAMETER UNLESS NOTED OTHERWISE. BOLTS SHALL BE DIRECT TENSION INDICATING BOLTS CONFORMING TO ASTM F1552 WITH HARDENED WASHERS UNDER THE NUT AND SACRIFICIAL SPLINES. HEX NUTS SHALL CONFORM TO ASTM A563 AND WASHERS SHALL CONFORM TO ASTM F436.
15. SHOP BOLTED CONNECTIONS ARE PERMISSIBLE IF SUFFICIENT BOLT CLEARANCE IS AVAILABLE FOR TIGHTENING OF HIGH STRENGTH BOLTS. CLEARANCES SHALL BE IN ACCORDANCE WITH TABLE 7-16 AND 7-17 OF THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. ALL STEEL MEMBERS AND ASSEMBLIES SHALL BE SHOP FABRICATED TO THE GREATEST EXTENT POSSIBLE. TRUSSES SHALL BE FULLY SHOP ASSEMBLED. FIELD SPLICES FOR SHIPPING SHALL ONLY BE AS APPROVED BY THE ENGINEER OF RECORD. THE STEEL FABRICATOR AND THE STEEL ERECTOR SHALL COORDINATE THE SHOP FABRICATION, SHIPPING AND ERECTION OF ALL STRUCTURAL MEMBERS AND ASSEMBLIES.
16. ALL BRICK SUPPORT ANGLES ARE DESIGNED TO FULLY SUPPORT THE BRICK VENEER WITH SOME NORMAL DEFLECTION AS THE BRICK IS INSTALLED. LEDGER ANGLE FOR FASCIA BRICK SUPPORT SHALL BE INSTALLED SUCH THAT THE SWEEP OR CAMBER DOES NOT EXCEED 1/8 INCH DEVIATION FROM STRAIGHT. BRICK SHALL BE INSTALLED WITHOUT SHORING THE SUPPORT ANGLE DURING CONSTRUCTION. SHORING THE BRICK DURING CONSTRUCTION CAN RESULT IN HORIZONTAL BED JOINT CRACKING WHEN THE SHORES ARE REMOVED.
17. HEADED ANCHORS SHALL BE MANUFACTURED FROM COLD DRAWN WIRE CONFORMING TO ASTM A108, GR.50 WITH FLUXED ENDS. STUDS SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE STUD WELDING EQUIPMENT IN ACCORDANCE WITH AWS D1.1. STUDS FOR EMBEDDED PLATES AND OTHER ANCHORS SHALL BE SHOP WELDED. STUDS FOR COMPOSITE BEAMS SHALL BE FIELD WELDED.
18. ALL STRUCTURAL STEEL WHICH IS OUTSIDE THE BUILDING ENVELOPE SHALL BE HOT DIPPED GALVANIZED. ZINC COATING SHALL MEET THE REQUIREMENTS OF ASTM 123-73, WITH A MINIMUM COATING CLASS OF G100 AND SHALL BE APPLIED AFTER FABRICATION. ALL FIELD WELDS SHALL BE GROUND SMOOTH AND TOUCHED UP WITH A ZINC RICH PAINT.
19. STEEL COLUMNS SHALL BE SPLICED A MINIMUM OF 4'-0" ABOVE THE FINISH FLOOR IN STORIES WHERE SPLICES OCCUR. COLUMNS SHALL BE SPLICED EVERY TWO LEVELS. COLUMNS SHALL HAVE HOLES FOR 3/4" DIAMETER SAFETY CABLES OR PLATES WITH A HOLE WELDED TO THE COLUMN. PROVIDE AN L3x3x1/4 DECK SUPPORT ANGLE ON ALL SIDES OF THE COLUMN.
20. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTOR'S SHALL COMPLY TO OSHA 29 CFR 1926 SUBPART R, SAFETY STANDARDS FOR STEEL ERECTION.

21. AS SCOPE AND PERFORMANCE DOCUMENTS, THE DRAWINGS AND SPECIFICATIONS DO NOT INDICATE OR DESCRIBE ALL OF THE WORK REQUIRED FOR THE PERFORMANCE AND COMPLETION OF THIS WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE FABRICATION AND INSTALLATION OF ALL MISCELLANEOUS METAL ITEMS INDICATED, DESCRIBED, OR IMPLIED ON THE STRUCTURAL AND/OR THE ARCHITECTURAL DRAWINGS. MISCELLANEOUS STEEL ITEMS, WITHIN AN ASSEMBLY AND NOT ATTACHED TO THE STRUCTURE, ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS WHETHER THEY ARE SHOWN OR NOT SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS. SUCH ASSEMBLIES INCLUDE BUT ARE NOT LIMITED TO, EXTERIOR AND INTERIOR WALL ASSEMBLIES, CEILING ASSEMBLIES, PARTITION ASSEMBLIES, SHELF AND CABINET ASSEMBLIES AND ALL OTHER SIMILAR ASSEMBLIES. ANY MISCELLANEOUS METAL ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS AND NOT SHOWN ON STRUCTURAL DRAWINGS SHALL BE A MINIMUM OF L4x4x1/2", C7x9.8, 3/8" PLATE OR HSS4x4x3/8" UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.

TIMBER NOTES

1. TIMBER SHALL CONFORM TO NATIONAL DESIGN SPECIFICATION FOR STRESS GRADE LUMBER AND ITS FASTENINGS, NATIONAL FOREST PRODUCTS ASSOCIATE'S LATEST EDITION.
2. MATERIALS FOR FRAMING LUMBER SUBJECT TO BENDING STRESSES SUCH AS BEAMS, JOISTS, RAFTERS, HEADERS, AND OTHER HORIZONTAL MEMBERS SHALL BE SOUTHERN PINE NO. 2 KD (MC 15) CONSTRUCTION MINIMUM, UNLESS A HIGHER GRADE IS SHOWN ON THE DRAWINGS.
3. MATERIALS FOR STUD WALLS AND COLUMNS SHALL BE SOUTHERN PINE NO. 2 GRADE TIMBER OR EQUIVALENT DOUGLAS FIR-LARCH UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
4. MATERIALS MUST BE GRADE MARKED.
5. LAMINATED STRUCTURAL LUMBER (LSL), OTHER THAN GLULAM MEMBERS, SHALL BE PARALLEL STRAND LUMBER HAVING THE FOLLOWING MINIMUM DESIGN PROPERTIES:

|                                 |               |
|---------------------------------|---------------|
| MAXIMUM BENDING STRESS (Fb)     | 2,900 PSI     |
| MODULUS OF ELASTICITY (E)       | 2,000,000 PSI |
| MAXIMUM COMPRESSIVE STRESS (Fc) | 2,900 PSI     |
| MAXIMUM SHEAR STRESS (Fv)       | 290 PSI       |

6. PLYWOOD ROOF DECKING SHALL BE APA RATED CD INTERIOR WITH EXTERIOR GLUE, THICKNESS AS SHOWN ON THE DRAWINGS. INSTALL PLYWOOD WITH FACE GRAIN ACROSS SUPPORTS. PROVIDE PLYWOOD SHEATHING CLIPS AT ALL FREE EDGES. PLYWOOD SPAN RATING SHALL BE 32/16. NAIL PLYWOOD TO FRAMING WITH 8d HOT-DIP GALVANIZED NAILS AS FOLLOWS:

| ROOF ZONE NAILING PATTERNS: |                        |                            |            |
|-----------------------------|------------------------|----------------------------|------------|
|                             | FIRST 5' OF GABLED END | FIRST 4' FROM EDGE & RIDGE | ALL OTHERS |
| PANEL EDGES                 | 4" O.C.                | 6" O.C.                    | 6" O.C.    |
| PANEL FIELD                 | 6" O.C.                | 6" O.C.                    | 12" O.C.   |

NAIL TO ALL SUPPORTS AT 4" O.C. FOR A 10'-0" SQUARE AREA AT CORNERS.

(USE 8d RING SHANK HOT-DIP GALVANIZED NAILS WHEN MEAN ROOF HEIGHT EXCEEDS 25 FEET)

7. PLYWOOD FLOOR DECKING SHALL BE APA RATED CD INTERIOR WITH EXTERIOR GLUE, THICKNESS AS SHOWN ON THE DRAWINGS. INSTALL PLYWOOD WITH FACE GRAIN ACROSS SUPPORTS. PLYWOOD SPAN RATING SHALL BE 48/24. NAIL PLYWOOD 6" O.C. ALONG PANEL EDGES AND 10" O.C. AT INTERMEDIATE SUPPORTS AND BLOCKING WITH 10d HOT-DIP GALVANIZED MINIMUM NAILS.
8. PLYWOOD WALL SHEATHING SHALL BE APA RATED CD INTERIOR WITH EXTERIOR GLUE, THICKNESAS SHOWN ON THE DRAWINGS. SPAN RATING SHALL BE 32/16. NAIL PLYWOOD AT 4" O.C. ALONG PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS AND BLOCKING WITH 10d MINIMUM NAILS UNLESS SHOWN OTHERWISE ON THE DRAWINGS. EXTERIOR GYPSUM WALL SHEATHING (SEE ARCHITECTURAL DRAWINGS) SHALL BE NAILED AT 4" O.C. ALONG PANEL EDGES AND INTERMEDIATE SUPPORTS WITH NO. 11, 1 3/4" LONG, 7/16" HEAD HOT-DIP GALVANIZED NAILS MINIMUM.
9. DOUBLE JOISTS UNDER ALL PARTITIONS PARALLEL WITH JOISTS. LAP JOISTS 4 INCHES MINIMUM OVER DROPPED BEAMS AND BEARING PARTITIONS.
10. UNLESS OTHERWISE NOTED ON THE PLANS PROVIDE FIVE JOISTS DIRECTLY BELOW ALL LOAD BEARING PARTITIONS WHEN FLOOR JOISTS ARE PARALLEL TO PARTITIONS. WHEN LOAD BEARING PARTITIONS ARE PERPENDICULAR TO JOISTS USE DOUBLE JOISTS AT EACH LOCATION WHERE PARTITION CROSSES JOISTS, AND SOLID DOUBLE BLOCKING CONTINUOUSLY UNDER WALL. DOUBLE JOISTS EACH SIDE OF CHASE WALLS PARALLEL WITH JOISTS AND PROVIDE 2x SOLID BLOCKING AT 48 INCHES ON CENTER BETWEEN DOUBLE JOISTS.
11. BRIDGING BETWEEN JOISTS AND RAFTERS SHALL BE 1x4 WOOD OR 16 GAGE HOT-DIP GALVANIZED STEEL CROSS-BRIDGING OR 2x SOLID BRIDGING AT ALL BEARING LOCATIONS AND AT 8 FOOT MAXIMUM INTERVALS.
12. BEAMS MADE UP OF MULTIPLE 2x PIECES SHALL NOT BE SPLICED EXCEPT OVER SUPPORTS. ALL MULTI PLY MEMBER BEAMS SHALL BE ATTACHED TOGETHER BY GLUEING AND NAILING WITH 10d NAILS AT 6" O.C. TOP AND BOTTOM FOR EACH PLY. FLITCH BEAMS WITH STEEL PLATES SHALL BE BOLTED TOGETHER WITH 1/2" DIAMETER HOT-DIP GALVANIZED A307 THRU BOLTS AT 1'-0" O.C. STAGGERED FROM TOP TO BOTTOM.
13. PROVIDE TRIPLE STUDS AT ALL CORNERS AND AT ALL BEAM BEARINGS THROUGH TO FOUNDATION UNLESS NOTED OTHERWISE. PROVIDE STUDS AT BEAM BEARINGS TO MATCH BEAM WIDTH WHERE BEAM WIDTH EXCEEDS 4 1/2 INCHES.
14. ANCHOR WOOD SILLS (PRESSURE TREATED) TO CONCRETE WITH 1/2" DIA. x 9" LONG HOT-DIP GALVANIZED, HOOKED ANCHOR BOLTS WITH 3/16" WIDE TYPE 'B' HOT-DIP GALVANIZED WASHERS EMBEDDED 7" MINIMUM AT 48 INCHES MAX. O.C. AT CORNERS AND DOOR OPENINGS PROVIDE ONE ANCHOR BOLT AT 8 INCHES IN EACH DIRECTION FROM CORNER. PROVIDE TWO BOLTS MINIMUM PER PIECE OF SILL PLATE.
15. HOLES NO GREATER THAN 1/3 THE DEPTH OF THE JOIST MAY BE CUT HORIZONTALLY THRU JOISTS AND SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST.
16. PREFABRICATED TIMBER TRUSSES SHALL BE FABRICATED BY A CERTIFIED TIMBER TRUSS MANUFACTURER.
17. TRUSSES SHALL BE FABRICATED WITH WOOD CHORDS AND WEBS IN ACCORDANCE WITH THE NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION, ANSI/TPI 1, LATEST EDITION, BY THE TRUSS PLATE INSTITUTE.
18. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY BRACING FOR TIMBER TRUSSES. BRACING SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS FOR BRACING WOOD TRUSSES, PUBLICATION H1B, LATEST EDITION, BY THE TRUSS PLATE INSTITUTE.
19. TRUSS MANUFACTURER SHALL SUBMIT DRAWINGS FOR APPROVAL SHOWING ALL MEMBER FORCES, SIZES AND CONNECTORS. DRAWINGS SHALL BE SEALED BY A LICENSED ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED. ALL TEMPORARY AND PERMANENT BRACING OF THE TRUSSES SHALL BE DESIGNED AND DETAILED BY A LICENSED ENGINEER. CHANGES IN THE TRUSS LAYOUT SHOWN ON THE CONTRACT DRAWINGS BY THE TRUSS MANUFACTURER WILL REQUIRE CHANGES IN THE LOCATIONS AND QUANTITIES OF ROOF TRUSS AND ROOF GIRDER TRUSS UPLIFT ANCHORS AND HOLDDOWNS AND SHEARWALL SIZES, LOCATIONS AND HOLDDOWNS. GENERAL CONTRACTOR SHALL COORDINATE ANY CHANGES IN THE TRUSS LAYOUT WITH THE ENGINEER OF RECORD. ADDITIONAL DESIGN SERVICES DUE TO THESE CHANGES WILL BE CHARGED TO THE GENERAL CONTRACTOR.
20. TYPICAL TRUSS LOADING IS SHOWN ON THE DRAWINGS. THE MANUFACTURER SHALL EXAMINE THE DRAWINGS FOR SPECIAL CONDITIONS AND/OR LOADS NOT SHOWN AND PROVIDE FOR SUCH IN THE DESIGN.
21. AT BUILDING ENDS, SPECIAL GABLE-END TRUSSES SHALL BE USED. TRUSSES SHALL BE DESIGNED AND FABRICATED WITH VERTICAL STUDS NO MORE THAN 16 INCHES ON CENTER. NARROW FACE OF STUD SHALL BE PARALLEL TO FACE OF EXTERIOR WALL OR NARROW FACE OF STUD MAY BE PERPENDICULAR TO EXTERIOR FACE OF BUILDING. STUDS SHALL BRACED AS REQUIRED FOR THE DESIGN WIND LOAD. AT GABLE END WALLS, STUDS SHALL BE BALLOON FRAMED TO THE BOTTOM OF THE TRUSS.
22. PLANS AND DETAILS FOR FRAMING ARE A SCHEMATIC REPRESENTATION OF THE FRAMING AT VARIOUS LOCATIONS AND CONDITIONS ON THIS PROJECT. THE CONTRACTOR SHALL NOT SCALE OR COUNT FRAMING MEMBERS SHOWN AS A SUBSTITUTE FOR SHOP DRAWINGS AND AN ACCURATE QUANTITY TAKEOFF. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL FRAMING NECESSARY TO COMPLETELY FRAME THE PROJECT AND PROVIDE FOR ALL CONDITIONS SHOWN ON THE ARCHITECTURAL DRAWINGS.
23. JOIST AND RAFTER HANGERS, TIES, HOLDDOWNS AND OTHER PRE-ENGINEERED CONNECTORS SHALL BE "SIMPSON STRONG-TIE" OR APPROVED EQUAL. SIZE AND USAGE SHALL BE AS SHOWN ON THE DRAWINGS, SPECIFIED IN THESE NOTES AND AS RECOMMENDED BY THE MANUFACTURER. ALL CONNECTORS SHALL BE POST HOT-DIP GALVANIZED COATED AFTER FABRICATION OR STAINLESS STEEL.
24. INSTALL A SIMPSON "H1O" OR TWO (2) -"H2.5A" METAL TIES AT THE CONNECTION BETWEEN ALL RAFTERS OR TRUSS ENDS WHERE THEY BEAR ON A WOOD SUPPORT FOR 10'-0" IN ANY DIRECTION FROM BUILDING CORNERS. DOUBLED UP CLIPS SHALL BE INSTALLED DIAGONALLY ACROSS FROM EACH OTHER ON OPPOSITE SIDES OF THE TOP PLATE. INSTALL A SIMPSON "H2.5A" AT ALL OTHER TRUSS ENDS. METAL ANCHORS AT ROOF GIRDER TRUSS LOCATIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE TABLE PROVIDED ON THE DRAWINGS. SIZE AND USAGE SHALL BE VERIFIED BY THE STRUCTURAL ENGINEER.
25. INSTALL A SIMPSON "H2.5A" METAL TIE AT THE TOP AND A SIMPSON "H3" METAL TIE AT THE BOTTOM OF EVERY EXTERIOR STUD WHERE THE STUD JOINS THE TOP PLATE AND SILL PLATE. WHERE AN "H2.5A" METAL TIE IS REQUIRED AT TRUSS ENDS, INSTALL TWO (2) - "H3" METAL TIES AT THE BOTTOM OF EVERY EXTERIOR STUD WHERE THE STUD JOINS THE SILL PLATE. WHERE "H1O" TIES IS REQUIRED AT TRUSS ENDS, DOUBLED UP CLIPS SHALL BE INSTALLED DIAGONALLY ACROSS FROM EACH OTHER ON OPPOSITE SIDES OF THE TOP PLATE OR BOTTOM SILL PLATE.

26. ALL TIMBER OUTSIDE THE BUILDING ENVELOPE SHALL BE PRESSURE TREATED. ALL CONNECTIONS OUTSIDE THE BUILDING ENVELOPE SHALL BE MADE WITH HOT-DIP GALVANIZED BOLTS OR NAILS.



ARCHITECTURE | DESIGN | CONSTRUCTION

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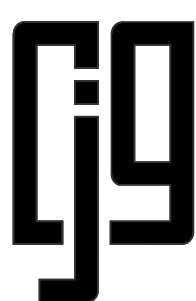
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REVISIONS

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| APPROVED BY   |    |           |