

GENERAL

- 1. THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO THESE NOTES.
2. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE. ALL APPLICABLE SAFETY REGULATIONS TO BE FOLLOWED STRICTLY.
3. THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE IN ALL DIRECTIONS.
4. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS (BOTH NEW AND EXISTING), REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY PHASE OF THE WORK.
5. THE CONTRACTOR SHALL COMPARE STRUCTURAL SECTIONS WITH ARCHITECTURAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
6. DO NOT SCALE DIMENSIONS FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST, FROM THE ARCHITECT, NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS.
7. IF ANY BIDDER IS IN DOUBT AS TO THE INTENT OF THE PLANS OR SPECIFICATIONS, THEY SHALL REQUEST AN INTERPRETATION FROM THE ARCHITECT IN WRITING AT LEAST TEN (10) DAYS PRIOR TO THE SCHEDULED BID DATE.
8. PRINCIPAL OPENINGS IN THE STRUCTURE ARE SHOWN ON THESE DRAWINGS. THE GENERAL CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR REQUIRED OPENINGS AS THEY SHALL BE PROVIDED FOR WHETHER SHOWN ON THESE DRAWINGS OR NOT. GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ALL SUB-CONTRACTORS PRIOR TO CONSTRUCTION.
9. SEE ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS, FLOOR SLOPES, AND THE LOCATION OF DEPRESSED FLOOR AREAS.
10. WHERE A CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS OCCURS THE MORE STRINGENT REQUIREMENT SHALL APPLY.
11. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.

DESIGN CRITERIA

- 1. APPLICABLE CODES:
A. 2015 INTERNATIONAL BUILDING CODE (IBC) WITH NORTH CAROLINA STATE BUILDING CODE MODIFICATIONS (2018)
B. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-10)
C. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14)
D. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-13)
E. STEEL CONSTRUCTION MANUAL - 4TH EDITION (AISC 325-10)
F. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-10)
G. AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (D1.1-11)
H. DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AIS1 101-12)
2. LIVE LOADS
CORRIDORS (2ND AND ABOVE) UNIFORM (PSF) 80 2,000
CORRIDORS (GROUND) 100 2,000
MECHANICAL 150 N/A
OFFICE 50 + 15 = 65* 2,000
PUBLIC AREAS, LOBBIES 100 2,000
ROOF 20 300
STAIRS 100 300
STORAGE 125 N/A
* ADDITIONAL 15 PSF PARTITION LOAD INCLUDED
3. WIND LOADS
WIND CATEGORY II
4. SNOW LOAD:
GROUND SNOW LOAD Pg = 10 PSF
IMPORTANCE FACTOR Is = 1.0
THERMAL FACTOR C = 1.0
FLAT SNOW ROOF LOAD Pf = 10 PSF
5. WIND LOAD:
BASIC DESIGN WIND VELOCITY V = 116 MPH
EXPOSURE CATEGORY C
INTERNAL PRESSURE COEFFICIENTS
BASE SHEAR Vx = 71k Vy = 207k

COMPONENTS AND CLADDING - ALL BUILDING COMPONENTS AND CLADDING WORKING BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY, IMPORTANCE FACTOR, AND EXPOSURE LISTED ABOVE.

Table with 4 columns: SEISMIC DESIGN METHOD, SEISMIC DESIGN CATEGORY, SEISMIC FORCE-RESISTING SYSTEM, and SEISMIC DESIGN CATEGORY. Includes rows for Ss, S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23, S24, S25, S26, S27, S28, S29, S30, S31, S32, S33, S34, S35, S36, S37, S38, S39, S40, S41, S42, S43, S44, S45, S46, S47, S48, S49, S50, S51, S52, S53, S54, S55, S56, S57, S58, S59, S60, S61, S62, S63, S64, S65, S66, S67, S68, S69, S70, S71, S72, S73, S74, S75, S76, S77, S78, S79, S80, S81, S82, S83, S84, S85, S86, S87, S88, S89, S90, S91, S92, S93, S94, S95, S96, S97, S98, S99, S100.

SEISMIC FORCE-RESISTING SYSTEM - INTERMEDIATE REINFORCED MASONRY SHEAR WALLS. STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS. RESPONSE MODIFICATION COEFFICIENT Rm = 3.0. DEFLECTION AMPLIFICATION FACTOR Cd = 3.0. BASE SHEAR Vx = 166k Vy = 166k. NONSTRUCTURAL COMPONENT ANCHORAGE - ALL ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING COMPONENTS ARE TO BE ATTACHED AS REQUIRED BY ACE 7 CHAPTER 13, 'SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS'. EACH INDIVIDUAL CONTRACTOR RESPONSIBLE FOR THE COMPONENT MUST PROVIDE PROJECT SPECIFIC DESIGN AND DOCUMENTATION PREPARED BY AN ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA. CHAPTER 13 DEFINES THE FORCE REQUIRED TO SUPPORT THE COMPONENT FOR THE ANCHORAGE AND BRACING. THE COST OF PREPARING THIS INFORMATION AND DESIGN SHALL BE INCLUDED IN EACH CONTRACTOR'S BID THAT IS PROVIDING THE COMPONENT.

7. FUTURE LOADS: UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER LOADS.

FOUNDATIONS

- 1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT BY STEWART DATED 12/16/2017. (STEWART PROJECT NO.: F17036-00). THE DESIGN ALLOWABLE SOIL BEARING PRESSURE IS 1,000 PSF, BASED ON THIS REPORT.
2. FOOTINGS SHALL BE CARRIED TO LOWER ELEVATIONS THAN THOSE SHOWN ON THE DRAWINGS IF REQUIRED BY THE GEOTECHNICAL ENGINEER OR TESTING LAB TO REACH SOIL CAPABLE OF PROVIDING THE DESIGN ALLOWABLE SOIL BEARING PRESSURE.
3. THE SUBGRADE AND UNDER-FLOOR FILL SHALL BE PREPARED TO A POINT THAT EXTENDS 3'-0" MINIMUM BEYOND THE LIMITS OF THE FOUNDATION.
4. MINIMUM SUBGRADE PREPARATION REQUIREMENTS ARE AS FOLLOWS: COMPACT ALL FILL UNDER BUILDING TO 98% MAXIMUM DENSITY FOR THE TOP 12" AND 95% FOR THE REMAINDER AS DETERMINED BY ASTM D698. PLACE IN LAYERS OF 8" MAXIMUM LOOSE THICKNESS. VERIFY FIELD DENSITY, ASTM D1556, WITH AT LEAST ONE TEST PER 2,000 SQUARE FEET PER LAYER. SEE SPECIFICATIONS FOR OTHER TESTING REQUIREMENTS.
5. WALLS RETAINING SOIL SHALL BE TEMPORARILY BRACED DURING BACKFILLING AND UNTIL ALL SUPPORTING SOIL AND SLABS ARE IN PLACE. BRACING AT DESIGN STRENGTH UNLESS NOTED OTHERWISE ON PLANS AND DETAILS.
6. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS OF ALL SUCH CONDITIONS PRIOR TO CONSTRUCTION.

CONCRETE / REINFORCING STEEL

- 1. CONCRETE COMPRESSIVE STRENGTH IN 28 DAYS: ELEVATED SLABS ON METAL DECK 4,000 PSI, LIGHT WEIGHT CONCRETE ONCAST WALLS, SITE WALLS 4,000 PSI, NORMAL WEIGHT SLAB ON GRADE, FOOTINGS, GRADE BEAMS 3,000 PSI, NORMAL WEIGHT
2. REINFORCING: TYPICAL - ASTM A615, GRADE 60 REINFORCING TO BE WELDED - ASTM A706 DEFORMED BAR ANCHORS - ASTM A 496 WELDED WIRE FABRIC - ASTM A104 (PLAT SHEETS ONLY) GROUT UNDER BASE PLATES TO BE HIGH STRENGTH (5,000 PSI), NON-SHRINK.
3. REFER TO THE DRAWINGS FOR REINFORCING LAP REQUIREMENTS. WHERE LAP SPLICES ARE NOT SHOWN, LAP PER ACI 318 OR CRSI STANDARDS.
4. LAP WELDED WIRE FABRIC SHEETS 8" MINIMUM.
5. CLEAR COVER FROM FACE OF CONCRETE: CAST IN PLACE CONCRETE (MEASURE TO OUTERMOST REINFORCING) - CONCRETE CAST AGAINST AND EXPOSED TO EARTH 3" CONCRETE EXPOSED TO EARTH/WEATHER 2" FOR #6 BARS AND LARGER 1 1/2" ELSE CONCRETE NOT EXPOSED TO EARTH/WEATHER 3/4" FOR SLABS AND WALLS 1 1/2" FOR BEAMS AND COLUMNS (TO TIES) 1" FOR BEAMS AND COLUMNS (TO TIES) 1 1/2" FOR BEAMS AND COLUMNS (TO MAIN BARS)
6. PROVIDE REINFORCING IN SLABS ON GRADE, 1-1/2" FROM TOP OF SLAB: 4" SLABS 6x6-W2, LW.2.1 WHERE SCHEDULED BARS ARE NOT PRESENT, PROVIDE CONTINUOUS #5 TOP AND BOTTOM BARS TO SUPPORT STIRRUPS AS REQUIRED FOR THE LENGTH OF THE STIRRUP SPACING IN ALL BEAMS.
7. WALL FOOTING REINFORCING SHALL BE CONTINUOUS THROUGH ADJACENT COLUMN FOOTINGS.
8. BAR SUPPORTS FOR CONCRETE EXPOSED TO VIEW SHALL HAVE PLASTIC COATED LEGS OR BE HOT DIP GALVANIZED AFTER FABRICATION.
9. MECHANICAL AND ELECTRICAL CONDUIT IN SLABS ON GRADE AND ELEVATED SLABS SHALL RUN UNDER TOP LAYER OF SLAB REINFORCING. PROVIDE A MINIMUM 1 1/2" CLEAR BETWEEN CONDUITS AND BETWEEN REINFORCING AND ADJACENT CONDUITS PARALLEL TO REINFORCING. IF MAXIMUM SIZE OF CONDUIT EXCEEDS ONE THIRD OF THE SLAB DEPTH, ADDITIONAL FRAMING OR REINFORCING MAY BE NECESSARY AT ENGINEER'S DISCRETION.
11. MECHANICAL AND ELECTRICAL CONDUIT IN ELEVATED SLABS ON METAL DECK IS NOT ALLOWED UNLESS SPECIFICALLY REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
12. HEADED CONCRETE ANCHORS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A108, GRADES 1010, 1015, 1017, OR 1020. STUDS SHALL BE AUTOMATICALLY END WELDED IN THE SHOP OR FIELD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
13. EMBED PLATES MUST BE SET IN THE FORM BEFORE POURING CONCRETE, NOT PLACED INTO TOP OF WET CONCRETE. THE CONTRACTOR SHALL CONTACT THE ARCHITECT FOR CORRECTIVE DETAILS FOR ANY EMBED PLATES LEFT OUT OF CONCRETE POURS.
14. FOR SLABS ON GRADE, SLAB AND FOOTING REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS WITH SAND PLATES, OR PRECAST CONCRETE BAR SUPPORTS AS DESCRIBED IN CHAPTER 3 OF THE CRSI MANUAL OF STANDARD PRACTICE. BAR SUPPORTS SHALL BE SPACED AT A MAXIMUM OF 4'-0" OC BOTH WAYS, ROCKS, CMU, OR CLAY BRICK WILL NOT BE USED AS SUPPORTS.
15. THE CONTRACTOR SHALL ASSUME CONCRETE OVERLAGS IN ELEVATED DECK POURS DUE TO MEMBER AND DECK DEFLECTIONS. UNLESS SHOWN ON PLANS, BEAMS ARE NOT CAMBERED. CONCRETE OVERLAGS MAY BE CALCULATED BY THE CONTRACTOR FOR BEAM DEFLECTIONS EQUALING L/300 INCLUDING ADDITIONAL DEFLECTIONS DUE TO PONDING AND DECK DEFLECTIONS PER SDI.
16. REBAR SHALL NOT BE HEATED WITH A TORCH IN THE FIELD.
17. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER FAR ENOUGH IN ADVANCE (48 HOURS) OF EACH CONCRETE POUR TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE THE BEGINNING OF THE ACTUAL POUR, BUT NOT PRIOR TO 90% OF THE STEEL HAVING BEEN PLACED.

CONCRETE CONSTRUCTION JOINTS

- 1. CONTRACTOR SHALL PROVIDE NECESSARY CONSTRUCTION JOINTS IN MONOLITHIC CONCRETE POURS SO THAT THE QUALITY OF PLACEMENT AND FINISH MEETS THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT A PLAN SHOWING THE LOCATION OF ALL CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER FOR APPROVAL.
2. THERE SHALL BE NO HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS. ALL VERTICAL CONSTRUCTION JOINTS IN SLABS AND BEAMS SHALL BE MADE WITH BULKHEADS. ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS SHALL BE AS SPECIFIED BY THE STRUCTURAL ENGINEER. SEE TYPICAL CONSTRUCTION JOINT DETAILS.

STRUCTURAL STEEL

- 1. STRUCTURAL STEEL: WIDE FLANGE SHAPES (W SECTIONS) - ASTM A992, GRADE 50 (Fy=50 KSI) CHANNELS, ANGLES, ROOF, AND BARS - A36 (Fy=36 KSI) PLATES - ASTM A572, GRADE 50 (Fy=50 KSI) OR ASTM A36 (Fy=36 KSI) SQUARE AND RECTANGULAR TUBES - ASTM A500, GRADE B (Fy=46 KSI) RPES - ASTM A53, GRADE B (Fy=35 KSI)
2. ANCHOR BOLTS AND THREADED RODS SHALL CONFORM TO ASTM F1554, GRADE 36.
3. DESIGN, FABRICATION AND ERECTION SHALL BE AS PER SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-05).
4. BEAM SIMPLE SHEAR AND BRACED FRAME CONNECTIONS NOT DETAILED ON STRUCTURAL DRAWINGS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER RETAINED BY THE STEEL SUPPLIER AND REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE CONNECTIONS FOR COMPOSITE BEAMS SHALL BE DESIGNED FOR REACTIONS SHOWN ON DRAWINGS OR FOR REACTIONS DETERMINED BY USING THE AISC DESIGN GUIDE. UNIFORM LOAD AS TABULATED IN PART 3 OF THE AISC STEEL CONSTRUCTION MANUAL FOR THE SECTION, SPAN AND STRENGTH OF STEEL. CONNECTIONS SHALL BE MADE WITH ASTM A325 3/4"-9 BOLTS (MINIMUM), TIGHTENED TO A SNUG-TIGHT CONDITION PER AISC REQUIREMENTS.
5. THE CONNECTIONS FOR COMPOSITE BEAMS SHALL BE DESIGNED FOR REACTIONS SHOWN ON THE DRAWINGS. FOR COMPOSITE REACTIONS SHOWN ON THE DRAWINGS, REACTIONS SHALL BE PROVIDED TO THE SELECTED FABRICATOR. A MINIMUM OF 55% COLD SHEAR SHALL BE PROVIDED FOR UNSPECIFIED CONNECTIONS.
6. REACTIONS MAY BE OMITTED ON PLANS FOR CLARITY. REACTIONS CAN BE PROVIDED ONCE A CONTRACT IS AWARDED. NOTIFY ENGINEER FOR REEVAL.
7. THE CONNECTION ENGINEER SHALL SUBMIT A SIGNED AND SEALED LETTER STATING THEY HAVE REVIEWED THE STEEL SHOP DRAWINGS. CONNECTIONS ARE CONSISTENT WITH THEIR CALCULATIONS AND INTENT.
8. WHERE STEEL MEMBERS ARE WELDED AND NO SIZE IS SPECIFIED, PROVIDE FULL LENGTH G2 JOINTS BOTH SIDES OF MEMBER. WELD SIZES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE: MEMBER THICKNESS WELD SIZE
3/16" 3/16"
1/4" 3/16"
5/16" 3/16"
3/8" 1/4"
7/16" 1/4"
1/2" 5/16"
9/16" 3/8"
9/8" 7/16"
9. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE. ANY MEMBER HAVING A SPLICE NOT SHOWN AND DETAIL ON SHOP DRAWINGS WILL BE REJECTED.
10. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE, USE E70 SERIES ELECTRODES FOR ALL STRUCTURAL STEEL WELDS.
11. SEE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL ITEMS REQUIRED TO BE HOT-DIP GALVANIZED AFTER FABRICATION.
12. STRUCTURAL STEEL SHALL BE FINISHED FOR GOOD CONDITION, WALLS, CLIPS AND TIES IN ACCORDANCE WITH ARCHITECTURAL/STRUCTURAL DETAILS.
13. ULTRASONIC INSPECTION BY THE TESTING LABORATORY SHALL BE PROVIDED FOR ALL WELDS CALLED FOR ON THE STRUCTURAL DRAWINGS OR SHOP DRAWINGS AS FULL PENETRATION WELDS.

STEEL STAIRS

- 1. STEEL STAIRS AND LANDINGS AND ALL CONNECTIONS SHALL BE DESIGNED BY THE SUPPLIER FOR A LIVE LOAD OF 100 PSF. TREADS SHALL BE DESIGNED FOR A 300 POUND POINT LOAD DISTRIBUTED OVER A SQUARE INCHES. ALL HANDRAILS SHALL BE DESIGNED FOR A LATERAL LOAD OF 50 PLF APPLIED TO THE TOP OF THE RAIL, OR A 300 POUND LOAD AT ANY POINT IN ANY DIRECTION, WHICHEVER GOVERNS THE DESIGN. ALL STAIR SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED. CALCULATIONS SHALL BE SUBMITTED UPON REQUEST.

STEEL JOISTS

- 1. ALL STEEL JOISTS SHALL BE OPEN-WEB TYPE CONFORMING TO THE LATEST STANDARD LOAD TABLE DESIGN, FABRICATION AND ERECTION REQUIREMENTS PUBLISHED BY THE STEEL JOIST INSTITUTE.
2. PROVIDE BRIDGING PER STEEL JOIST INSTITUTE STANDARD SPECIFICATION. ALL BRIDGING SHALL BE BOLTED OR WELDED AT ALL JOISTS AND AT ALL CROSSINGS AND ANCHORED TO SPANDREL MEMBERS. ALL BRIDGING FOR JOISTS USED AS SPANDREL MEMBERS (AT EDGE OF DECK) SHALL BE "X" BRIDGING. SIZE OF BRIDGING SHALL BE DETERMINED BY THE JOIST SUPPLIER. JOIST SUPPLIER TO PROVIDE ADDITIONAL BRIDGING AS REQUIRED FOR UPLIFT LOADS.
3. ALL JOISTS SHALL HAVE ANGLE BOTTOM CHORD MEMBERS UNLESS OTHERWISE APPROVED.
4. ALL K-SERIES JOISTS SHALL BE WELDED TO SUPPORT STEEL WITH A MINIMUM OF 2" OF 1/8" FILLET WELD AT BOTH SIDES OF JOIST SEAT.
5. WHERE JOISTS FRAME TO COLUMNS, JOISTS SHALL BE FIELD BOLTED TO COLUMNS WITH TWO 1/2"-DIAMETER A307 BOLTS AT EACH END OF THE JOIST TO PROVIDE LATERAL STABILITY DURING CONSTRUCTION.
6. PROVIDE BOLTED DIAGONAL BRIDGING WHERE REQUIRED PER STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS. JOIST SHOP DRAWINGS SHALL INDICATE ALL JOISTS WHICH SHALL HAVE A ROW OF BOLTED BRIDGING IN PLACE BEFORE SLACKENING OF HOISTING LINES.
7. JOIST MANUFACTURER SHALL BE PREPARED TO SUBMIT CALCULATIONS FOR ALL JOISTS AT ARCHITECT'S OR ENGINEER'S REQUEST. CALCULATIONS SHALL HAVE LOAD DIAGRAMS FOR EACH MEMBER CLEARLY INDICATING SPAN, UNIFORM AND CONCENTRATED LOADS. ALL CALCULATIONS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
8. JOISTS SHALL BE DESIGNED FOR A NET WIND UPLIFT LOAD OF 10 PSF UNLESS NOTED OTHERWISE.

NON-LOAD BEARING COLD ROLLED STEEL (METAL STUDS)

- 1. ALL COLD FORMED LIGHT GAGE METAL FRAMING AND CONNECTIONS SHALL BE DESIGNED BY THE SUPPLIER'S ENGINEER. AT ARCHITECT'S OR ENGINEER'S REQUEST CONTRACTOR SHALL SUBMIT CALCULATIONS FOR ALL COLD FORMED METAL FRAMING USED TO SUPPORT CEILING AND EXTERIOR CLADDING.
2. ALL MEMBERS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE, "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" (S100-07 & S200-07).
3. ALL MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI AND BE FORMED FROM STEEL HAVING A G-60 GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A653 AND C255.
4. ALL THE COLD-FORMED STEEL STRUCTURAL MEMBERS SHALL COME FROM A SINGLE SOURCE MANUFACTURER; ONLY MANUFACTURERS WHO ARE MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) OR THE STEEL FRAMING INDUSTRY ASSOCIATION (SFAI) WILL BE ACCEPTED. THE INSTALLATION SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. SUBMIT SHOP DRAWINGS FOR ALL COLD FORMED METAL FRAMING USED TO SUPPORT CEILING AND EXTERIOR CLADDING. SHOP DRAWINGS SHALL INDICATE PLACING OF ALL FRAMING MEMBERS SHOWING TYPE, SIZE, GAUGE, NUMBER, LOCATION AND SPACING. THEY SHALL ALSO INDICATE SUPPLEMENTAL STRAPPING, BRACING, SPLICES, BRIDGING, ACCESSORIES AND DETAILS REQUIRED FOR PROPER INSTALLATION.
6. SHOP DRAWINGS SHALL SHOW SIZE AND LENGTH OF WELDS FOR ALL WELDED CONNECTIONS AND SIZE AND NUMBER OF SCREWS FOR SCREWED CONNECTIONS. SUBMIT MANUFACTURER'S DATA GIVING STRENGTH VALUES. FACTORS MUST BE TESTED IN ACCORDANCE TO ICC AC208.
7. SHOP DRAWINGS SUBMITTED MUST BE PREPARED UNDER THE SUPERVISION OF AN ENGINEER LICENSED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
8. ALL STRUCTURAL FRAMING ACCESSORIES SHALL BE FORMED FROM STRUCTURAL QUALITY STEEL WITH A MINIMUM YIELD STRENGTH OF 50 KSI AND HAVE MINIMUM PROTECTIVE COATING EQUAL TO ASTM A553 G-60 GALVANIZED COATING.
9. VERTICAL DEFLECTION CLIPS ARE REQUIRED TO BE CAPABLE OF ACCOMMODATING UPWARD AND DOWNWARD LATERAL DISPLACEMENT OF THE STRUCTURE THROUGH MECHANICAL ATTACHMENT TO STUD WEB. MECHANICAL ATTACHMENT TO STUD WEBS AND SCREW ATTACHMENT TO STUD WEB USING STEP-BUSHINGS TO PERMIT VERTICAL MOVEMENT. CONNECTIONS MUST BE TESTED IN ACCORDANCE TO ICC AC208 CRITERIA AND HOLD A VALID ICC-ES EVALUATION SERVICE REPORT TO BE ACCEPTABLE.

STRUCTURAL MASONRY

- 1. LOAD-BEARING MASONRY WALLS, PLASTERS, PIERS, RETAINING WALLS, FOUNDATION WALLS AND ANY OTHER MASONRY SO DESIGNATED ON DRAWINGS IS CONSIDERED HERE TO BE STRUCTURAL MASONRY.
2. REQUIRED COMPRESSIVE STRENGTH OF MASONRY UNITS: SOLID MASONRY 4,000 PSI CONCRETE BLOCKS 2,000 PSI OR NET AREA CONCRETE MASONRY UNITS (CMU) SHALL BE LIGHT WEIGHT (110 PCF) GRADE N, CONFORMING TO ASTM C90. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SPECIFIC REQUIREMENTS FOR UNIT TYPE, FACE, COLOR, FINISH, ETC.
3. MASONRY SHALL BE SET ON A 2" THICK BED OF SAND.
4. ALL REINFORCED MASONRY SHALL BE FINE GROUT, ASTM C476. MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE 2,000 PSI.
5. MAXIMUM 28-DAY COMPRESSIVE STRENGTH (Fm) OF THE MASONRY WALLS SHALL BE 2,000 PSI. MASONRY STRENGTH SHALL BE DETERMINED BY THE UNIT MANUFACTURER OR THE UNIT TEST METHOD AS DESCRIBED BY ACI 930.
7. REINFORCING: TYPICAL - ASTM A615, GRADE 60. ALL REINFORCING TO BE WELDED - ASTM A706.
8. REFER TO THE DRAWINGS FOR REINFORCING LAP TYPICAL DETAIL AND SCHEDULE REQUIREMENTS. WHERE LAP SPLICES ARE NOT SHOWN, LAP 2 BAR DIAMETERS PER ACI 530 AS MODIFIED BY THE STATE BUILDING CODE, UNLESS NOTED ON DRAWINGS.
9. MAXIMUM GROUT TO WHICH MASONRY SHALL BE LAID BEFORE GROUTING IS 5 FEET ABOVE CONSTRUCTION SURFACE OR PREVIOUSLY GROUTED MASONRY. IF GROUT POUR HEIGHT EXCEEDS 5 FEET, THEN "HIGH LIFT" GROUTING PROCEDURE MUST BE FOLLOWED. PROVIDE CLEANOUT OPENINGS AT THE BOTTOM OF EACH GROUT LIFT. CLEANOUT OPENINGS SHALL BE PROVIDED AT EACH CELL TO BE FILLED WITH GROUT.
10. ALL GROUT PLACED OVER 12" IN HEIGHT SHALL BE MECHANICALLY CONSOLIDATED DURING GROUTING. GROUT SHALL BE RECONSOLIDATED BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED.
11. MAXIMUM GROUT LIFT (GROUT POURED IN ONE CONTINUOUS OPERATION) IS 5 FEET. THIS LIMIT ALSO APPLIES TO "HIGH LIFT" GROUTING.
12. REINFORCE MASONRY WHERE SHOWN ON STRUCTURAL DRAWINGS. THE REINFORCING IN POSITION AND PLACE GROUT AROUND REINFORCING. DO NOT PUSH REINFORCING DOWN INTO PREVIOUSLY PLACED GROUT FILL. SET BOLTS SIMILARLY.
13. THE MASONRY WYTHES WITH HORIZONTAL REINFORCING AS SPECIFIED.
14. PROVIDE VERTICAL BARS, SIZE MATCHING WALL REINFORCING, AT ALL CORNERS, ENDS OF WALLS, EACH SIDE OF CONTROL JOINTS AND EACH SIDE OF WALL OPENINGS. TIE EACH BAR TO THE FOUNDATION WITH A MATCHING DOWEL. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF CONTROL JOINTS.
15. ALL CORNERS AND INTERSECTIONS OF STRUCTURAL MASONRY WALLS SHALL BE CONSTRUCTED BY INTERLOCKING COURSES.
16. ALL LINTELS TO BEAR 8" MINIMUM EACH SIDE OF OPENING, UNLESS NOTED OTHERWISE.
17. GROUT ALL MASONRY WALLS AND CAVITY BELOW GRADE SOLID. GROUT ALL WALLS ABOVE GRADE AT THE REINFORCED CELLS (MIN) OR AS INDICATED IN SPECIFIC SECTIONS.
18. ONE 3/4" (MAXIMUM) VERTICAL CONDUIT ALLOWED IN ANY REINFORCED CELL PROVIDED "1" CLEAR IS MAINTAINED BETWEEN REINFORCING AND CONDUIT. NO OTHER VERTICAL OR HORIZONTAL CONDUITS, PIPES, OR SLEEVES SHALL BE LOCATED IN REINFORCED CELLS UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER. CONTRACTOR SHALL COORDINATE LAYOUT TO AVOID REINFORCED CELLS.

REPRODUCTION

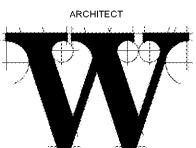
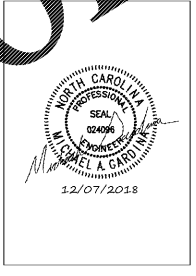
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ABBREVIATION LIST

Table with 2 columns: Abbreviation and Full Name. Includes entries such as @ AT, A10 ANCHOR BOLT, A12 ANCHOR BOLTS, ACI AMERICAN CONCRETE INSTITUTE, ADL ADDITIONAL, ADH ADHESIVE, AFF ABOVE FINISHED FLOOR, AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AISI AMERICAN IRON AND STEEL INSTITUTE, ALT ALTERNATE, ARCH ARCHITECT'S ARCHITECTURAL, ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS, AWS AMERICAN WELDING SOCIETY, B/ or BOT BOTTOM, BCX BOTTOM CHORD EXTENSION, BFF BELOW FINISHED FLOOR, BLDG BUILDING, BM BOTTOM OF STEEL, BOS BEARING, BTWN BETWEEN, CANTL CANTILEVER, CTRL CONTROL, CLR CLEAR, CMU CONCRETE MASONRY UNIT, COL COLUMN, CONC CONCRETE, CONN CONNECTION, CONT CONTINUOUS, COIN COINTEGRATED, COOR COORDINATE, CTRD CENTERLINE, DIM DIMENSION, DEF DEFLECTION, DEP DEPRESSION / DEPRESSED, DIA DIAGONAL, DIM DIMENSION, DIST DISTANCE, DOW(D,S) DOWEL(S), DW(L,S) DOWEL(S), EA EACH, EAF EACH FACE, EF EACH FACE, EJV EXPANSION JOINT, ELEV ELEVATION, EMB EMBEDDED / EMBEDMENT, ENGR ENGINEER, EOD EDGE OF DECK, EOS EDGE OF SLAB, EQ EQUAL, EQUP EQUIPMENT, EXW EACH WAY, EXIST EXISTING, EXP EXPANSION, EXT EXTERIOR, FDN FOUNDATION, FFE FINISHED FLOOR ELEVATION, FOM FACE OF MASONRY, FOW FACE OF WALL, FAR FAR SIDE, FTG FOOTING, GA GALVANIZED, HD HEADED, HI HIGH, HORIZ HORIZONTAL, HSS HIGH STRENGTH STEEL SECTION, INT INTERIOR, JOINT JOINT, K KNEE BRACE, KS KIPS PER SQUARE INCH, LB LBS, LBS POUNDS, LLH LONG LEG HORIZONTAL, LLV LONG LEG VERTICAL, LOW LOW, LOC LOCATION, LSH LONG SIDE HORIZONTAL, LSV LONG SIDE VERTICAL, LWC LIGHT WEIGHT CONCRETE, MAX MAXIMUM, MC MEMBRANE CONNECTION, MECH MECHANICAL, MFR MANUFACTURER, MID MIDDLE, MIN MINIMUM, MISCL MISCELLANEOUS, MOW MIDDLE OF WALL, NP NUMBER, NS NEAR SIDE, NTS NOT TO SCALE, NWC NORMAL WEIGHT CONCRETE, OC ON CENTER, OPNG OPENING, ORP OPPOSITE HAND, PAF POWDER ACTUATED FASTENER, PED PEDESTAL, PL PLATE, PSF POUNDS PER SQUARE FOOT, PSI POUNDS PER SQUARE INCH, PT PRESSURE TREATED, P-T POST-TENSIONED, REF REFERENCE, REINF REINFORCING, REQD REQUIRED, SB SHIRT BAR, SCHED SCHEDULE, SIM SIMILAR, SOB SLAB ON GRADE, SPEC(S) SPECIFICATION(S), SQ SQUARE, STD STANDARD, STIFF STIFFENER, STIRR STRIRRUPS), STL STEEL, STR STRUCTURAL, T TOP, TCX TOP CHORD EXTENSION, TDC TOP CHORD CONCRETE, TOP TOP OF FOOTING, TOS TOP OF STEEL, TOW TOP OF WALL, TYP TYPICAL, UNO UNLESS NOTED OTHERWISE, VERT VERTICAL, VFI VERIFY IN FIELD, WIF WITH, WWF WELDED WIRE FABRIC, WP WORK POINT.

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REVISIONS

DATE: DECEMBER 7, 2016 PROJECT NUMBER: 9197-000

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SHEET NUMBER: S-001