DESIGN CRITERIA:

1. DESIGN CODES:
   THE INTERNATIONAL BUILDING CODE/2009.
   MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
   ASCE 7-05
2. DESIGN LOADS: (1)
   DEAD LOADS: MATERIAL SELF WEIGHT PLUS SUPERIMPOSED LOADS PER PLAN.
   LIVE LOADS: SEE PLANS
   CONCENTRATED FLOOR LIVE LOAD: 2,000 lbs. UNIFORMLY DISTRIBUTED OVER ANY 2.5 SQUARE FOOT AREA.
3. WIND LOAD:
   BASIC WIND SPEED 90 MPH.
   RISK CATEGORY III
   WIND EXPOSURE B
   DIRECTIONALITY FACTOR, Kd = 0.85
   INTERNAL PRESSURE COEFFICIENT = (+/-) 0.18
   WIND LOAD IMPORTANCE FACTOR: Iw = 1.15
   COMPONENTS & CLADDING LOAD:
   LOADS SHALL BE DETERMINED ACCORDING TO THE ASCE 7-05 REQUIREMENTS BASED ON TRIB AREA, LOCATION OF BUILDING, AND ANY ADDITIONAL PARAMETERS NOTED IN THE DESIGN CODE.
4. SEISMIC LOAD:
   SEISMIC IMPORTANCE FACTOR: Ie = 1.25
   Ss = 0.54 S1 = 0.18
   Sds = 0.36 Sd1 = 0.12
   SITE CLASS B
   SEISMIC DESIGN CATEGORY C
   STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
   BASE SHEAR V = 425 kips
   Cs = 0.083 R = 3.0
   EQUIVALENT LATERAL FORCE PROCEDURE
5. SNOW LOAD:
   GROUND SNOW LOAD: Pg = 20PSF
   FLAT ROOF SNOW LOAD: Pf = 22PSF (MIN.)
   SNOW EXPOSURE FACTOR: Ce = 1.0
   SNOW LOAD IMPORTANCE FACTOR: Is = 1.1
   THERMAL FACTOR: Ct = 1.0
   DRIFTING SNOW LOAD: PER IBC 2009, ASCE 7-05
6. VIBRATION DESIGN CRITERIA:
   1. AS A MINIMUM, FLOOR VIBRATIONS HAVE BEEN LIMITED TO THE "OFFICES, RESIDENCES" OCCUPANCY CURVE PLOTTED IN FIGURE 2.1 FOR "RECOMMENDED PEAK ACCELERATION FOR HUMAN COMFORT FOR VIBRATIONS DUE TO HUMAN ACTIVITIES" IN AISC DESIGN GUIDE 11, 1997. A CONSTANT FORCE FUNCTION OF 65 POUNDS WITH 2% DAMPING HAS BEEN USED TO REPRESENT A WALKING VIBRATION EXCITATION FOR AN OFFICE, RESIDENCE AND CHURCHES TYPE OCCUPANCY.
   2. LABORATORY AREA HAVE BEEN DESIGNED TO LIMIT FLOOR VIBRATION FOR SENSITIVE EQUIPMENT ASSUMING A VIBRATION VELOCITY CRITERIA LEVEL OF 4,000 MICRO-IN./SEC. WITH A WALKING PACE OF 50 STEPS/MINUTE (SLOW PACE) IN A ROOM AND 75 STEPS/MINUTE (MODERATE PACE) IN A CORRIDOR.
7. ALLOWABLE FOOTING NET SOIL BEARING PRESSURE:
   SEE FOUNDATION NOTES.
8. SOIL PARAMETERS:
   A. ACTIVE DESIGN PRESSURE IS EQUAL TO AN EQUIVALENT FLUID PRESSURE OF 43 P.C.F. (GRANULAR)
   B. AT-REST DESIGN PRESSURE IS EQUAL TO AN EQUIVALENT FLUID PRESSURE OF 63 P.C.F. (GRANULAR)
   C. PASSIVE DESIGN PRESSURE IS EQUAL TO AN EQUIVALENT FLUID PRESSURE OF 205 P.C.F.
   D. SURCHARGE LOADS ARE 100 P.S.F. AT THE SURFACE.
   E. COEFFICIENT OF SLIDING FRICTION
      CONCRETE/SOIL = 0.30
9. NO PROVISIONS HAVE BEEN MADE FOR FUTURE VERTICAL OR HORIZONTAL EXPANSION FOR THE BUILDINGS IN THIS PROJECT.

SPECIALTY STRUCTURAL ENGINEER:

1. THE DESIGN RESPONSIBILITY OF THE ELEMENTS LISTED BELOW IS BEING DELEGATED TO A SPECIALTY STRUCTURAL ENGINEER HIRED BY THE CONTRACTOR. THE DESIGNATED ELEMENTS SHALL BE DESIGNED IN ACCORDANCE WITH THE BUILDING CODE AND SPECIFIC REQUIREMENTS IN THE CONTRACT DOCUMENTS BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MISSOURI. SUBMITTALS SHALL BE SIGNED AND SEALED BY THE RESPONSIBLE LICENSED ENGINEER. THE FOLLOWING ELEMENTS AND THEIR CONNECTIONS SHALL BE DESIGNED BY A SPECIALTY STRUCTURAL ENGINEER.
   A. EXCAVATION SUPPORT
   B. TEMPORARY BRACING AND SHORING
   C. STRUCTURAL STEEL CONNECTIONS
   D. COLD-FORMED METAL FRAMING, CONNECTIONS AND ANCHORAGE
   E. SEISMIC ANCHORAGE AND SWAY BRACING OF MECHANICAL, ELECTRICAL AND PLUMBING SYSTEM COMPONENTS
   F. STAIRS AND LADDERS, U.N.O.
2. THE CONTRACTOR'S BID SHALL INCLUDE A LIST OF THE SPECIALITY STRUCTURAL ENGINEERS FOR EACH DELEGATED DESIGN RESPONSIBILITY.
3. THE SUCCESSFUL CONTRACTOR SHALL SUBMIT THE LIST OF SPECIALTY STRUCTURAL ENGINEERS FOR EACH DELEGATED DESIGN RESPONSIBILITY TO THE STRUCTURAL ENGINEER PRIOR TO START OF ANY CONSTRUCTION PROJECT WORK.

FOUNDATIONS:

1. THE FOUNDATION HAS BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE "REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION" BY AKINS CONSULTING SERVICES LLP DATED APRIL 15, 2015 AND SUBSEQUENT LETTERS AND REVISIONS TO THE REPORT DATED SEPTEMBER 28, 2015 AND OCTOBER 20, 2015.
2. FOUNDATION WALLS THAT RETAIN EARTH SHALL BE BRACED AGAINST BACK-FILLING PRESSURES UNTIL FLOOR SLABS AT TOP AND BOTTOM ARE IN PLACE
3. WHERE FOUNDATION WALLS ARE TO HAVE EARTH PLACED ON EACH SIDE, PLACE FILL SIMULTANEOUSLY SO AS TO MAINTAIN A COMMON ELEVATION ON EACH SIDE OF THE WALL.
4. DRILLED PIERS SHALL BE SOCKETED INTO INTACT ROCK CAPABLE OF PROVIDING AN ALLOWABLE BEARING CAPACITY OF 100KSF PER GEOTECHNICAL REPORT. THE MINIMUM PIER SHAFT ROCK SOCKET PENETRATION LENGTH INTO INTACT ROCK SHALL BE TWO TIMES THE SHAFT DIAMETER.
5. DETERMINATION OF THE SUITABILITY OF THE VERTICAL ROCK SOCKET SURFACE FOR AN ALLOWABLE SKIN FRICTION OF 15KSF WILL BE MADE BY THE GEOTECHNICAL ENGINEER. SKIN FRICTION IS USED FOR UPLIFT RESISTANCE.
6. BOTTOM OF ALL PIER HOLES AND VERTICAL ROCK SOCKET SURFACE SHALL BE MADE AVAILABLE FOR INSPECTION BY THE GEOTECHNICAL ENGINEER.
7. GEOTECHNICAL ENGINEER SHALL WITNESS THE POURING OF CONCRETE.
8. SHAFTS SHALL BE DRILLED PLUMB AND STRAIGHT, SEE SPECIFICATIONS FOR TOLERANCES.
9. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE BOTTOM OF THE PIER HOLES. PROVIDE A LEVEL OR LEDGED BOTTOM. SLOPING BOTTOM SURFACES WILL NOT BE ALLOWED.
10. NOT MORE THAN 2" WATER WILL BE ALLOWED IN ANY PIER HOLE AT THE TIME OF CONCRETE PLACEMENT. SEE SPECIFICATIONS FOR DEWATERING.
11. PIER CONCRETE: F'c = 5,000 PSI @ 28 DAYS (145 PCF).
12. PIER REINFORCING: A615 GRADE 60. EPOXY COATING NOT REQUIRED FOR PIER REINFORCING.
13. WHERE PERMANENT OR TEMPORARY CASING IS CALLED FOR OR REQUIRED BY THE GEOTECHNICAL FIELD REPRESENTATIVE, THE CASING SHALL BE PUSHED AHEAD OF THE EXCAVATION.
14. CONTRACTOR SHALL PROTECT THE REBARS (DOWELS) AND ANCHOR BOLTS PROTRUDING OUT OF THE PIERS WITH PLASTIC CAPS AND FILL ALL PIER EXCAVATION WITH GRANULAR FILL AS SPECIFIED.
15. CONTRACTOR SHALL PROVIDE THE OWNER WITH AS-BUILT REPRODUCIBLE DRAWINGS AT COMPLETION.
16. PIERS w/UPLIFT REQUIRES FULL DEPTH REINFORCING CAGES - SEE DRILLED PIER SCHEDULE.
17. BOTTOM OF DRILLED PIER SHAFTS SHALL BE INTERPOLATED BASED ON BORING LOGS CONTAINED IN THE GEOTECHNICAL REPORT. ELEVATIONS SHALL INCLUDE MINIMUM SOCKET DEPTH OF 2X PIER DIAMETER.

CONCRETE

1. STANDARDS
   A. ACI 318-08 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
2. ALL DETAILING, FABRICATION AND ERECTION FOR REINFORCING BARS AND THEIR SUPPORT IN THE FORMS WITH ACCESSORIES MUST FOLLOW THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", (ACI 315-LATEST) AND CRSI "MANUAL OF STANDARD PRACTICE" (LATEST EDITION).
3. MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:
   A. UNFORMED SURFACE IN CONTACT WITH THE GROUND. 3 IN.
   B. FORMED SURFACES EXPOSED TO EARTH OR WEATHER
      #6 BAR AND LARGER. 2 IN.
      FORMED SURFACES EXPOSED TO EARTH OR WEATHER
      #5 BAR AND SMALLER. 1 1/2 IN.
   C. FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:
      1. WALLS, SLABS 3/4 IN.
      2. BEAMS, GIRDERS AND COLUMNS
      (TO TIES OR STIRRUPS) 1 1/2 IN.
4. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH AND DENSITY, IN ACCORDANCE WITH THE FOLLOWING:

	STRENGTH PSI	DENSITY PCF
SLABS ON METAL DECK	4000	145 (1)
STAIR PAN FILL	3000	110
DRILLED PIERS	5000	145
ALL OTHER CONCRETE U.N.O.	4000	145

5. REINFORCING BARS SHALL BE ASTM A615-GRADE 60 STEEL, U.N.O. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. WELDED WIRE FABRIC MUST LAP AT LEAST 2" AT SIDE AND 6" AT ENDS AND BE WIRED TOGETHER.
6. THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS MUST BE REFERRED TO FOR ALL MECHANICAL FLOOR REQUIREMENTS, HOUSEKEEPING PADS & EQUIPMENT INERTIA BASES, AND THE VARIOUS TRADES ARE RESPONSIBLE FOR THE PLACING OF SLEEVES, OUTLET BOXES, ANCHORS, ETC. THAT MAY BE REQUIRED.
7. DOWELS IN WALL FOOTINGS SHALL BE EQUIVALENT IN SIZE AND NUMBER TO VERTICAL BARS. DOWELS MUST BE ANCHORED OR TIED IN POSITION BEFORE PLACING CONCRETE, PUSHING BARS INTO FRESHLY POURED CONCRETE IS NOT ACCEPTABLE.
8. FINE AGGREGATE: SHALL BE CLEAN, HARD, DURABLE AND FREE OF DELETERIOUS SUBSTANCES AND CONFORM TO ASTM C33.
   COARSE AGGREGATE: SHALL BE CLEAN, HARD, DURABLE WITHOUT FLAT OR ELONGATED PIECES AND SHALL CONFORM TO ASTM C33.
9. LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (LATEST EDITION). WHERE CLASSES ARE NOT CALLED OUT ON DRAWINGS, USE CLASS "B" SPLICES.
10. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFERS AT ALL EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.
11. SEE ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS, DRIP SLOTS, REGLETS, MASONRY, ANCHORS, BRICK LEDGE ELEVATIONS AND FOR MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.
12. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES. WHERE FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301.
13. FLOOR SLAB CONSTRUCTION SHALL CONFORM TO GUIDELINES OF ACI 302. FLOOR FINISHED SURFACE SHALL CONFORM TO THE ACI 302 TOLERANCES FOR FLATNESS AND LEVELNESS NUMBERS Ff/Fl SPECIFIED BY ARCHITECT
14. FURNISH THE FOLLOWING LIST OF REINFORCING TO BE STOCKPILED AT THE JOB SITE AND USED AT THE DIRECTION OF THE STRUCTURAL ENGINEER:
    20-#4x20'-0"
    20-#5x20'-0"
    20-#6x20'-0"
15. ALL STRUCTURAL STEEL MUST BE PROTECTED BY 3" OF CONCRETE WHERE EARTH WOULD OTHERWISE BE IN CONTACT WITH STEEL.
16. PROVIDE THE FOLLOWING ADDITIONAL REINFORCING UNLESS OTHERWISE CALLED FOR ON STRUCTURAL PLANS:
    A. CORNER BARS AT ALL CORNERS AND INTERSECTIONS OF CONCRETE WALLS, GRADE BEAMS AND FOOTINGS TO MATCH HORIZONTAL REINFORCING.
    B. PROVIDE #4 SLAB DOWELS AT 12" CENTERS AT DOORS UNLESS NOTED OTHERWISE.
    C. BARS AT OPENINGS IN SLAB AND WALLS. PROVIDE BARS WITH AREA EQUAL TO INTERRUPTED REINFORCING. PLACE 1/2 AT EACH SIDE OF OPENING.
17. PIPES, SLEEVES OR SLOTS SHALL NOT RUN THROUGH ANY BEAM OR GIRDER UNLESS SIZE AND LOCATION HAVE BEEN APPROVED BY THE STRUCTURAL ENGINEER.
18. CONCRETE WALLS SHALL HAVE CONSTRUCTION JOINTS NOT FURTHER THAN 100'-0" APART, THE CONTRACTOR SHALL SUBMIT JOINT PLAN TO THE STRUCTURAL ENGINEER FOR APPROVAL.
19. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED FOR INSPECTION OF REBAR PLACEMENT, NOTICE SHALL BE GIVEN NOT LESS THAN 24 HOURS PRIOR TO CONCRETE PLACEMENT.
19. ALL ABUTTING CONCRETE MEMBERS SHALL BE DOWELED TOGETHER, UNLESS POURED MONOLITHICALLY. DOWELS SHALL BE EQUAL IN SIZE AND SPACING TO THE REINFORCING IN THE ADJACENT MEMBERS.
20. WELDED REINFORCING BARS SHALL CONFORM TO ASTM A706, GRADE 60, WELDABLE STEEL.
21. FOOTINGS MAY BE EARTH-FORMED AT CONTRACTOR'S OPTION. PROVIDE MINIMUM COVER AS SPECIFIED ABOVE.
22. SLAB-ON-GRADE SHALL HAVE CONTROL JOINTS IN BOTH DIRECTIONS SPACED AT NOT MORE THAN 15'-ON CENTERS AND LOCATED IN SUCH A MANNER THAT EACH FLOOR SLAB SECTION IS RECTANGULAR IN SHAPE. SEE TYPICAL DETAILS FOR CONTROL JOINT REQUIREMENTS.
23. EACH REINFORCING STEEL SHOP DRAWING SUBMITTAL SUBMITTED FOR REVIEW SHALL HAVE THE CONTRACTORS STAMP AFFIXED TO THE FIRST SHEET AND SHALL BEAR THE SIGNATURE OF THE REPRESENTATIVE OF THE CONTRACTOR WHO REVIEWED THE SUBMITTAL SIGNIFYING THEIR REVIEW AND ACCEPTANCE OF THE SUBMITTAL.
    REINFORCING STEEL PLACING DRAWINGS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
    1. REINFORCING PLACING DRAWINGS FOR SLABS, BEAMS, JOISTS, ETC. SHALL BE SHOWN ON PLANS DRAWN TO A MINIMUM SCALE OF 1/8"=1'-0". MINIMUM SHEET SIZE WILL BE 24"x36".
    2. REINFORCING FOR FOUNDATION WALLS, RETAINING WALLS, SHEAR WALLS, ETC. SHALL BE SHOWN ON ELEVATIONS DRAWN TO A MINIMUM SCALE OF 1/4"=1'-0".
    3. REINFORCING FOR BEAMS, COLUMNS AND SLABS MUST BE CLEARLY SHOWN IN SCHEDULES SIMILAR TO THOSE ON THE STRUCTURAL DRAWINGS. COMPUTER PRINT-OUTS ATTACHED TO LARGER SHEETS AND REPRODUCED AS SHOP DRAWINGS WILL NOT BE PERMITTED.
    4. LOCATION OF REINFORCING NOT CLEARLY DESCRIBED IN SCHEDULE FORMAT MUST BE REFERENCED ON PLACING PLANS.
24. (1) WATERSTOPS SHALL BE INSTALLED IN HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS OF CONCRETE CONSTRUCTION. STRIP WATERSTOPS PER SPECIFICATIONS SHALL BE LOCATED IN KEYS AND AT LOCATIONS INDICATED. RIBBED DUMBELL TYPE WATERSTOPS PER SPECIFICATIONS SHALL BE LOCATED AT WALL JOINTS AND AS INDICATED. ALL JOINTS BELOW LEVEL 2 REQUIRE WATERSTOPS.

COMPOSITE BEAMS:

1. NUMBER OF 3/4" DIAMETER x 4" LONG (AFTER WELDING) STEEL HEADED STUD ANCHORS (S.A. = STEEL ANCHORS) ASTM A108 TYPE B SHOWN ON THE DRAWINGS ARE BASED UPON THE ASSUMED NOMINAL SHEAR STRENGTH CAPACITIES THAT FOLLOW:
   A. 21.5k EACH FOR NORMAL WT. CONCRETE (145 PCF f'c = 4000 PSI) WITH THE COMPOSITE METAL DECKING ORIENTATED PARALLEL TO THE STEEL SHAPE.
   B. 17.2k EACH FOR NORMAL WT. CONCRETE (145 PSF f'c = 4000 PSI) WITH THE COMPOSITE METAL DECKING ORIENTATED PERPENDICULAR TO THE STEEL SHAPE.
2. S.A. CAPACITY VARIES WITH THE TYPE AND LENGTH OF THE S.A. AND WITH THE PROPERTIES OF THE COMPOSITE DECK. THE S.A. SUPPLIER SHALL DETERMINE THE TYPE AND LENGTH OF STEEL ANCHOR CONSISTENT WITH ALL AISC REQUIREMENTS, INCLUDING MAXIMUM ALLOWABLE SPACING. THE NUMBER OF STEEL ANCHORS SHALL BE ADJUSTED AS REQUIRED.
3. S.A. TYPE, LENGTH, SHEAR VALUE AND DETAILED LAYOUT SHALL BE SUBMITTED WITH THE COMPOSITE METAL DECK SHOP DRAWINGS. SEE COMPOSITE METAL DECK NOTES.
4. MAXIMUM HEIGHT OF S.A. SHALL NOT EXCEED THE SLAB DEPTH MINUS 1/2".
5. SPACING OF S.A. WITHIN A GIVEN LENGTH SHALL BE AS UNIFORM AS POSSIBLE.
6. UNLESS NOTED OTHERWISE, TEMPORARY SHORING OF COMPOSITE AND NONCOMPOSITE BEAMS AND GIRDERS IS NOT REQUIRED FOR ANTICIPATED CONSTRUCTION LOAD (WET CONCRETE WEIGHT PLUS 20 PSF CONSTRUCTION LOAD). ALLOWABLE CONSTRUCTION LOADS SHALL BE SHOWN ON THE ERECTION DRAWINGS.
7. CONTRACTOR SHALL FURNISH THE ADDITIONAL CONCRETE DUE TO WET CONCRETE DEFLECTION OF THE STEEL FRAMING.
8. NO SHOP PAINT ALLOWED ON S.A. OR ON THE TOP SURFACE OF THE BEAMS THAT RECEIVE FIELD WELDED S.A.
9. BEAM CONNECTIONS SHALL BE DESIGNED FOR LOADS SHOWN ON PLANS OR PER STRUCTURAL STEEL GENERAL NOTES.
10. SEE TYPICAL STEEL HEADED SHEAR STUD ANCHOR LAYOUT AND SPACING DETAIL FOR ADDITIONAL INFORMATION.

COMPOSITE CONCRETE SLABS:

1. THE CONTRACTOR SHALL PLACE CONCRETE SLABS SO THAT THE FINISHED SURFACE IS SCREED LEVEL TO AN ELEVATION WITHIN 1/4" OF THE TOP OF SLAB ELEVATION SHOWN ON PLANS.
2. SLABS SHALL HAVE A TROWELED FINISH WITH A CLASS B TOLERANCE IN ACCORDANCE WITH ACI 301, U.N.O. IN STRUCTURAL OR ARCHITECTURAL CONSTRUCTION DOCUMENTS.
3. CONSIDERATION SHALL BE GIVEN TO SEQUENCING OF CONCRETE PLACEMENT SO AS TO CONTROL FINISH ELEVATIONS WITHIN THE SPECIFIED LIMITS.
4. SEE COMPOSITE BEAM NOTES FOR SHORING REQUIREMENTS.

COMPOSITE METAL DECK:

1. DEPTH OF DECK AND SLAB, TYPE OF DECK, STEEL GAGES AND SLAB REINFORCING ARE SHOWN ON THE PLANS. TOP AND BOTTOM DECK SURFACE FINISH SHALL BE GALVANIZED. WHERE ARCHITECTURAL DRAWINGS INDICATE THAT THE BOTTOM DECK SURFACE WILL RECEIVE A FINISH FIELD PAINT COAT, PROVIDE A PRIME SHOP COAT OF PAINT AT BOTTOM SIDE OF GALVANIZED DECK. SEE ARCHITECTURAL DRAWINGS FOR ANY PAINTED FINISH COAT LOCATIONS.
2. UNLESS NOTED OTHERWISE, TEMPORARY SHORING OF COMPOSITE DECK IS NOT REQUIRED FOR ANTICIPATED CONSTRUCTION LOAD (WET CONCRETE WEIGHT PLUS 20 PSF CONSTRUCTION LOAD). SEE SPECIFICATIONS FOR DEFLECTION LIMITATION. ALLOWABLE CONSTRUCTION LOADS SHALL BE SHOWN ON THE ERECTION DRAWINGS.
3. CONTRACTOR SHALL FURNISH THE ADDITIONAL CONCRETE DUE TO WET CONCRETE DEFLECTION OF THE COMPOSITE DECK.
4. DECK SHOP DRAWINGS SHALL SHOW DECK PROFILE AND INDICATE THE TYPE, SIZE, SHEAR VALUE AND LAYOUT OF STEEL HEADED STUD ANCHORS (S.A.) REQUIRED FOR COMPOSITE BEAMS. SEE SPECIFICATIONS AND COMPOSITE BEAM NOTES FOR S.A. REQUIREMENTS.
5. METAL DECK SUPPLIER SHALL PROVIDE COLUMN CLOSURE SHEET STEEL AT ALL STEEL BUILDING COLUMN LOCATIONS AS REQUIRED. THE CLOSURE SHEET STEEL SHALL BE OF THE SAME QUALITY, MATERIAL, FINISH, AND MINIMUM THICKNESS AS THE DECK UNITS. THE STEEL COLUMN DECK CLOSURES SHALL PROVIDE TIGHT FITTING CLOSURE AT ALL OPENINGS OR GAPS BETWEEN THE DECK UNITS AND THE PROFILE OF THE BUILDING COLUMNS. ATTACH METAL DECK COLUMN CLOSURES TO BUILDING COLUMNS.
6. CONNECTION OF COMPOSITE METAL DECK TO SUPPORTING STEEL SHALL BE BY WELDING. CONNECTION OF COMPOSITE METAL DECK TO SUPPORTING STEEL SHALL NOT BE MADE BY MECHANICAL FASTENING INCLUDING BUT NOT LIMITED TO SELF DRILLING SCREWS AND AIR OR POWER DRIVEN FASTENERS.

METAL ROOF DECK:

1. METAL ROOF DECK SHALL COMPLY WITH THE REQUIREMENTS OF THE STEEL DECK INSTITUTE. SEE PLANS FOR DECK TYPES AND GAGES. TOP AND BOTTOM DECK SURFACE FINISH SHALL BE GALVANIZED. WHERE ARCHITECTURAL DRAWINGS INDICATE THAT THE BOTTOM DECK SURFACE WILL RECEIVE A FINISH FIELD PAINT COAT, PROVIDE A PRIME SHOP COAT OF PAINT AT BOTTOM SIDE OF GALVANIZED DECK. SEE ARCHITECTURAL DRAWINGS FOR ANY PAINTED FINISH COAT LOCATIONS.
2. METAL ROOF DECK HAS BEEN DESIGNED TO FUNCTION AS A DIAPHRAGM FOR THE TRANSMISSION OF LATERAL LOADS. CONNECTION OF DECK UNITS TO EACH OTHER AND TO SUPPORTS IS DENOTED ON THE PLANS.
3. DO NOT SUSPEND PIPES OR DUCTS FROM ROOF DECK.
4. FABRICATE DECK UNITS IN LENGTHS TO SPAN THREE OR MORE SUPPORT SPACING.
5. CLEAR OPENINGS DIMENSIONS FOR ROOF FRAMES SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS PRIOR TO FABRICATION.

LIGHT GAUGE STEEL FRAMING:

1. ALL LIGHT GAUGE FRAMING DESIGNATIONS ON DRAWINGS ARE BASED ON STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) STANDARDS.
2. ALL LIGHT GAUGE FRAMING SHOWN IN THE SECTIONS AND DETAILS INCLUDING ALL CONNECTIONS, CLIPS, SCREWS, FASTENERS, BRIDGING, STEEL PLATES, WELDING, CONCRETE ANCHORS, ETC. AND ANY OTHER ITEMS NECESSARY TO INSTALL THE LIGHT GAUGE FRAMING TO BE DESIGNED AND PROVIDED BY THE LIGHT GAUGE SUPPLIER. THE LIGHT GAUGE SUPPLIER SHALL SUBMIT CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MISSOURI. SCREW AND POWDER ACTUATED FASTENERS PATTERNS NOTED ON PLANS ARE MINIMUMS.
3. ALL LIGHT GAUGE FRAMING SHALL BE GALVANIZED.
4. ALL LIGHT GAUGE FRAMING SHALL BE MINIMUM Fy = 50 KSI.
5. LIGHT GAUGE FLANGE WIDTHS AND THICKNESS NOTED ON DRAWINGS ARE MINIMUMS.
6. LIGHT GAUGE SPACINGS SHOWN ON DRAWINGS ARE MAXIMUM SPACINGS.
7. LIGHT GAUGE FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH ALL MANUFACTURER'S REQUIREMENTS.
8. ALL LIGHT GAUGE TRACK ATTACHMENTS TO CONCRETE SHALL BE ATTACHED WITH MINIMUM 0.145" DIAMETER POWDER ACTUATED FASTENERS WITH MINIMUM 1" EMBEDMENT INTO CONCRETE. TRACK SHALL BE ATTACHED TO FLAT CONCRETE SURFACES @ 16"o.c. MAXIMUM SPACING. TRACK SHALL BE ATTACHED TO UNDERSIDE OF COMPOSITE FLOOR DECK WITH (1) ANCHOR AT EACH RIB, MAXIMUM 12"o.c. SPACING. TRACK SHALL BE ATTACHED TO FLAT PLATE STEEL, BENT PLATE STEEL, AND UNDERSIDE OF METAL DECK PARALLEL TO RIBS @ 6"o.c. MAXIMUM SPACING.
9. ALL LIGHT GAUGE TRACK ATTACHED TO METAL ROOF DECK SHALL BE ATTACHED WITH A MINIMUM #12 TEK SCREW @ 12"o.c. MAXIMUM SPACING PERPENDICULAR TO RIBS AND 6"o.c. MAXIMUM SPACING PARALLEL TO RIBS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL COMPLY WITH THE ASD AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS 360-05 AND AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS 341-05.
2. STEEL SHALL CONFORM TO THE FOLLOWING GRADES:
   ALL, ANGLE, BASE PLATES, CONN. PLATES (UNO)----------A36
   WELDING ELECTRODES----------------------------E70XX
   STRUCTURAL PIPE------------------A500 GRADE B (Fy=42)
   BOLTS-------------------------------------A325
   STRUCTURAL TUBE----------------A500 GRADE B (Fy = 46)
   ANCHOR BOLTS-------------------------------F1554 GRADE 36 OR GRADE 105
   W SHAPES----------------------------A992 (GRADE 50)
   C & MC SHAPES-----------------------A992 (GRADE 50)
   STEEL HEADED ANCHORS-------------A108, TYPE B, GRADE 1010 THROUGH 1020
3. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE (LATEST EDITION), EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.
4. (1) CONNECTIONS MAY BE BOLTED OR WELDED. FABRICATOR IS RESPONSIBLE FOR THE DESIGN OF CONNECTIONS NOT DESIGNED ON THE DRAWINGS. GENERALLY, CONNECTIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE SCHEMATIC AND ARE ONLY INTENDED TO SHOW THE RELATIONSHIP OF MEMBERS CONNECTED. ANY CONNECTION THAT IS NOT SHOWN OR IS NOT COMPLETELY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED BY AN ENGINEER, REGISTERED IN THE STATE OF MISSOURI, RETAINED BY THE FABRICATOR. IT IS THE RESPONSIBILITY OF THE FABRICATOR TO PROVIDE ALL STIFFENER PLATES, ETC. THAT MAY BE REQUIRED IN ADDITION TO THOSE SHOWN IN THE STRUCTURAL SCHEMATIC DETAILS TO ENSURE THAT THE MEMBERS CONNECTED TOGETHER HAVE ADEQUATE STRENGTH AT THE CONNECTION. COMPLETELY DETAILED MEANS THE FOLLOWING INFORMATION IS SHOWN ON THE DETAIL DRAWINGS.
   A. ALL PLATE DIMENSIONS AND GRADES.
   B. ALL WELD SIZES, LENGTHS, PITCHES AND RETURNS.
   C. ALL HOLE SIZES AND SPACINGS.
   D. NUMBER AND TYPE OF BOLTS: WHERE BOLTS ARE SHOWN BUT NO NUMBER IS GIVEN THE CONNECTION HAS NOT BEEN COMPLETELY DETAILED.
   E. WHERE PARTIAL INFORMATION IS GIVEN, IT SHALL BE THE MINIMUM REQUIREMENT FOR THE CONNECTION.
   DESIGN CALCULATIONS, SIGNED AND SEALED BY FABRICATORS REGISTERED PROFESSIONAL ENGINEER, FOR ALL COLUMN, GIRDER, BEAM, AND BRACING CONNECTIONS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. CALCULATIONS SHALL BE REVIEWEDONLY FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. DESIGN CALCULATIONS MUST ACCOMPANY THE STEEL SHOP DRAWINGS IN ORDER FOR THE STEEL SUBMITTAL TO BE CONSIDERED COMPLETE. INCOMPLETE STEEL SHOP DRAWINGS WILL BE REJECTED AND RETURNED.
5. BEAM CONNECTIONS SHALL BE DESIGNED FOR A SERVICE SHEAR LOAD EQUAL TO ONE-HALF OF THE ALLOWABLE LOAD ON THE MEMBER, AS DEFINED IN THE ASD AISC <u>TABLES FOR ALLOWABLE LOADS ON BEAMS</u> OR THE REACTIONS SHOWN ON THE DRAWINGS, WHICHEVER IS LESS.
6. THE FRAME OF THE STEEL SKELETON SHALL BE CARRIED UP TRUE AND PLUMB AND TEMPORARY BOLTING AND BRACING SHALL BE INTRODUCED TO SAFELY CARRY ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED INCLUDING EQUIPMENT AND THE OPERATION OF SAME. INDIVIDUAL COLUMNS MUST BE BRACED BEFORE CONNECTIONS ARE MADE AND BRACING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY. NO FINAL BOLTING OR WELDING SHALL BE DONE UNTIL AS MUCH OF THE STRUCTURE AS WILL BE STIFFENED THEREBY HAS BEEN PROPERLY ALIGNED & PLUMBED.
7. ALL COLUMN BASE PLATES SHALL BE SET ON STEEL SHIMS TO TRUE LEVEL LINE. GENERAL CONTRACTOR SHALL RAM A NON-SHRINK GROUT SOLIDLY UNDER ENTIRE BASE PLATE AREA. PROVIDE 1" MINIMUM DEPTH NON-SHRINK GROUT BELOW PLATES (U.N.O.).
8. PROVIDE FULL HEIGHT SOLID MASONRY UNDER BEARING ENDS OF ALL STRUCTURAL STEEL. BEAMS AND LINTELS TO BEAR MINIMUM 8" ON MASONRY.
9. PROVIDE WALL ANCHORS 3/4"x1'-9" AT MASONRY BEARING ENDS AT ALL STRUCTURAL STEEL BEARING ON WALLS. SEE TYPICAL DETAIL.
10. ANCHOR BOLTS SHALL EXTEND INTO CONCRETE NOT LESS THAN 9" WHERE POSSIBLE PLUS 4"± HOOK AND SHALL BE HELD AT 2-1/2" MINIMUM FROM OUTSIDE FACE OF CONCRETE. ALL ANCHOR BOLTS SHAIBE HELD 1-1/2" FROM EDGE OF BASE PLATE WHERE POSSIBLE.
11. FOR ALL COMPOSITE BEAMS USING CONCRETE SLAB AS COMPRESSIVE FLANGE, THE BEAM-TO-BEAM AND BEAM-TO-COLUMN CONNECTION SHALL DEVELOP THE END REACTION OF THE CONNECTED COMPOSITE BEAM. THE END REACTION OF THE CONNECTED BEAM CAN BE OBTAINED BY MULTIPLYING THE SERVICE SHEAR LOAD EQUAL TO ONE-HALF THE ALLOWABLE LOAD ON THE MEMBER, AS DEFINED IN THE ASD AISC TABLES FOR ALLOWABLE LOADS ON BEAMS, BY THE FOLLOWING FACTORS:
    W12 OR LESS 2.3
    W14 AND W16 2.0
    W18 OR DEEPER 2.0
12. MEMBER FORCES ARE SHOWN ON THE DRAWINGS AS FOLLOWS:
    P = AXIAL FORCE IN KIPS (+) = TENSION (-) = COMPRESSION
    V = SHEAR IN KIPS
    R = BEAM REACTION IN KIPS
    M = MOMENT IN FOOT-KIPS
    T = TORSION IN FOOT-KIPS
    THESE FORCES HAVE BEEN REDUCED IN CONFORMANCE WITH CODE PROVISIONS RELATED TO TEMPORARY COMBINATIONS OF LOADINGS THAT INCLUDE WIND AND SEISMIC FORCES.
13. MOMENT CONNECTIONS:
    A. NONSEISMIC MOMENT CONNECTIONS ARE SHOWN AS OPEN TRIANGLE ON THE DRAWINGS, WHERE MOMENT MAGNITUDE IS NOT SHOWN, THE CONNECTION SHALL BE DESIGNED FOR THE FULL MOMENT CAPACITY OF THE BEAM.
14. THE MINIMUM PLATE THICKNESS SHALL BE 3/8", THE MINIMUM BOLT DIAMETER SHALL BE 3/4". THE MINIMUM WELD SHALL BE 3/16" AND THE MINIMUM DESIGN LOAD ON ANY CONNECTION SHALL BE 10k.
15. BOLTED CONNECTIONS:
    A. SLIP-CRITICAL TYPE CONNECTIONS OF A325-SC OR A490-SC BOLTS SHALL BE USED FOR ALL BOLTED CONNECTIONS OF BRACING MEMBERS, MOMENT CONNECTIONS, CANTILEVERS, AND AS SHOWN ON THE DRAWINGS. OVERSIZED AND LONG-SLOTTED HOLES ARE ALLOWED FOR SLIP CRITICAL CONNECTIONS.
    B. ALL OTHER BOLTED CONNECTIONS SHALL BE BEARING TYPE USING A325N OR A490N BOLTS. OVERSIZED HOLES AND LONG- SLOTTED HOLES ARE NOT ALLOWED UNLESS SHOWN ON THE DRAWINGS.
    C. A307 BOLTS MAY BE USED WHERE INDICATED ON THE DRAWINGS.
    D. PROTRUDING BOLTS HEADS, SHAFTS OR NUTS SHALL NOT EXTEND INTO NOR PROHIBIT THE APPLICATION OF ARCHITECTURAL FINISHES AND THEY SHALL NOT EXTEND INTO NOR PROHIBIT THE PLACEMENT OF STEEL DECKING TO THE CORRECT LINE AND ELEVATION.
    E. THE FABRICATOR IS RESPONSIBLE FOR VERIFYING THE TENSION CAPACITY OF AXIALLY LOADED MEMBERS AFTER A SECTION IS REDUCED FOR BOLT HOLES. MEMBER SIZE MAY BE INCREASED OR CONNECTION PLATES ADDED AS REQUIRED.
    F. SHOP DRAWINGS SHALL INDICATE THE TYPE OF BOLTS USED IN EACH CONNECTION AND THE ALLOWABLE VALUES USED FOR THE VARIOUS BOLT TYPES.
16. WELDED CONNECTIONS:
    A. ALL WELDING SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE" (AWS D.1- LATEST EDITION) PUBLISHED BY THE AMERICAN WELDING SOCIETY. ELECTRODES FOR WELDING SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 4.1.1. OF (AWS D.1.1.- LATEST EDITION). USE MINIMUM E70 ELECTRODES.
    B. ALL WELDING SHALL BE DONE ONLY BY OPERATORS WHO MEET THE QUALIFICATIONS AND TESTS PRESCRIBED IN THE STANDARD QUALIFICATIONS PROCEDURE OF THE AMERICAN WELDING SOCIETY.
    C. ALL GROOVE WELDS SHALL BE COMPLETE PENETRATION U.N.O.
17. SPLICING OF STEEL MEMBERS, UNLESS SHOWN ON THE DRAWINGS, IS PROHIBITED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
18. NO CHANGE IN SIZE OR POSITION OF THE STRUCTURAL ELEMENTS SHALL BE MADE AND HOLES, SLOTS, CUTS, ETC., ARE NOT PERMITTED THROUGH ANY MEMBER UNLESS THEY ARE DETAILED ON THE APPROVED SHOP DRAWINGS.
19. NO FINAL BOLTING OR WELDING SHALL BE MADE UNTIL AS MUCH OF THE STRUCTURE AS WILL BE STIFFENED THEREBY HAS BEEN PROPERLY ALIGNED.
20. UNLESS NOTED OTHERWISE, BEAMS SHALL BEAR 8" MINIMUM ON CONCRETE OR MASONRY. ANCHOR BEAMS TO MASONRY WITH A FLEXIBLE ANCHOR.
21. FABRICATE ALL BEAMS WITH THE MILL CAMBER UP.
22. BOLTING IN COMBINATION WITH WELDING SHALL NOT BE CONSIDERED AS SHARING THE STRESS AND WELDS SHALL BE PROVIDED TO CARRY THE ENTIRE STRESS FOR WHICH THE CONNECTION IS DESIGNED.
23. (1) ALL STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED ACCORDING TO ASTM A123. ELEMENTS INCLUDE LINTELS, GUARDRAIL SUPPORTS, GLAZING SUPPORTS, LOUVER SUPPORTS, AND OTHER ITEMS EXPOSED OR SUSCEPTIBLE TO MOISTURE.
24. BID SHALL INCLUDE AN ALLOWANCE FOR 200 LINEAR FEET OF FABRICATED AND ERECTED TYPICAL EDGE OF SLAB CONSTRUCTION FOR FLOOR OPENINGS NOT SHOWN IN DRAWINGS.
25. BID SHALL INCLUDE AN ALLOWANCE FOR (30) - 4" DIAMETER STIFFENED WEB PENETRATIONS TO BE PERFORMED IN THE FABRICATION SHOP. STIFFENERS SHALL BE 3/8" X 14" ON (4) SIDES, ONE SIDE OF BEAM. FINAL SIZES AND STIFFENER REQUIREMENTS WILL VARY.

POST-INSTALLED ANCHORS:

1. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI, INC.
   A. ANCHORAGE TO CONCRETE:
      1. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT Z-ROD PER ICC ESR-3187
      2. HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT (TE-CD OR TE-YD) WITH HAS-E THREADED ROD PER ICC ESR-3187
      3. HILTI HY-RE 500-SD EPOXY ADHESIVE ANCHORING SYSTEM WITH HAS-E THREADED ROD PER ICC ESR-2322 FOR SLOW CURE APPLICATIONS
   B. REBAR ANCHORING INTO CONCRETE:
      1. HILTI HIT HY-200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT WITH CONTINUOUSLY DEFORMED REBAR PER ICC ESR-3187
      2. HILTI HIT-RE 500-SD EPOXY ADHESIVE ANCHORING SYSTEM WITH CONTINUOUSLY DEFORMED REBAR PER ICC REBAR PER ICC ESR-2322
2. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
3. PREPARE SURFACES AND INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING OR AS RECOMMENDED BY THE MANUFACTURER.
4. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
5. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY HILTI FERROSCAN, GPR, X-RAY, OR OTHER PREAPPROVED MEANS.
6. ANCHORS WILL BE 3/4" DIA. x 6" EMBED ADHESIVE ANCHORS SPACED AT 12" O.C. UNLESS NOTED SPECIFICALLY IN THE DRAWING DETAILS.

EXISTING CONDITIONS:

1. BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING. PROVIDE NECESSARY MEANS AND METHODS TO ACCOMPLISH THE SPECIFIED WORK.
2. FIELD VERIFY ALL CONDITIONS, SIZES, SPACINGS AND DIMENSIONS OF EXISTING STRUCTURE PRIOR TO FABRICATION AND NEW CONSTRUCTION. CONTACT STRUCTURAL ENGINEER IF EXISTING CONDITIONS, ETC. VARY FROM THOSE SHOWN ON THESE DRAWINGS.
3. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY REMOVAL AND REPLACEMENT/RELOCATION OF ANY NON-STRUCTURAL ELEMENTS NECESSARY TO COMPLETE THE STRUCTURAL WORK. FOLLOW ALL APPLICABLE CODES AND REQUIREMENTS OF AFFECTED TRADES. PROVIDE FOR THIS REQUIREMENT IN THE BID.

MISCELLANEOUS:

1. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
2. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
3. NO CHANGE IN SIZE OF DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
4. OPENINGS 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.
5. VERIFY ELEVATOR PIT DIMENSIONS, LOCATIONS, LOADINGS AND DETAILS WITH SUPPLIERS PRIOR TO THE FABRICATIONS AND/OR INSTALLATION OF ANY MATERIAL.
6. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
7. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
8. UNLESS OTHERWISE NOTED, FIRE PROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATING REQUIREMENTS, FIRE PROOFING METHODS AND MATERIALS.
9. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
10. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD. EXPANSION JOINTS SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED TO ACCOMMODATE ANTICIPATED THERMAL MOVEMENT AFTER THE BUILDING IS COMPLETE.
11. THE CONTRACTOR SHALL INFORM THE STRUCTURAL ENGINEER IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
12. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS OR AMBIGUITIES, IN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.
13. THE DESIGN AND ENGINEERING OF SHORING NOTED ON THE DRAWINGS AND IN THE SPECIFICATIONS OR REQUIRED BY THE CONTRACTOR'S CONSTRUCTION METHODS, AS WELL AS ITS CONSTRUCTION, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. SHELF ANGLES SUPPORTING MASONRY SHALL BE FABRICATED IN LENGTHS OF 8 TO 12 FEET UNLESS SHOWN OTHERWISE. SHELF ANGLES SHOULD BE PLACED WITH A 1/4-1/2 INCH OPEN BUTT JOINT AT EACH END TO PROVIDE FOR THERMAL EXPANSION OF THE STEEL. BUTT JOINTS SHALL BE KEPT CLEAN OF MORTAR. ALL CORNERS OF THE HORIZONTAL LEGS OF ADJACENT ANGLES SHOULD BE MITERED TO PROVIDE CONTINUOUS SUPPORT FOR THE MASONRY AROUND THE CORNER.
15. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
16. IF THE CONTRACTOR WISHES TO PLACE CONSTRUCTION EQUIPMENT ON THE SLAB-ON-GRADE, ELEVATED STRUCTURAL SLABS OR ROOF, THE CONTRACTOR WILL BE REQUIRED TO SUBMIT CALCULATIONS SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF MISSOURI SHOWING THAT THE PROPOSED EQUIPMENT WILL NOT DAMAGE OR OVERSTRESS THE STRUCTURAL FRAMING MEMBERS, THIS INCLUDES, BUT NOT LIMITED TO HOISTS, LIFTS, SKID LOADERS, SCAFFOLDING, CONSTRUCTION MATERIALS, ETC.

SPECIAL INSPECTIONS: (1)

1. THE OWNER WILL EMPLOY THE SERVICE OF ONE OR MORE SPECIAL INSPECTORS TO PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR THE ITEMS LISTED IN THE SPECIAL INSPECTION REQUIREMENTS TABLES OF THE IBC 2009 BUILDING CODE CHAPTER 17.
2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL OF RECORD, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
3. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
   A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE, OR WAVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
   B. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE REGISTERED DESIGN PROFESSIONAL OF RECORD, AND THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, SUBMIT A COMPLETE LIST OF ALL OUTSTANDING DISCREPANCIES ON A WEEKLY BASIS TO THE OWNER, THE BUILDING OFFICIAL, AND THE REGISTERED DESIGN PROFESSIONAL OF RECORD, UNTIL ALL CORRECTIONS HAVE BEEN COMPLETED.
   C. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.
4. INSPECTION IS ALWAYS REQUIRED DURING THE PERFORMANCE OF WORK UNLESS OTHERWISE SPECIFIED. WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE OBSERVED IN ACCORDANCE WITH THE PROVISIONS OF THE IBC SECTION 1704, IT IS THE AGENT'S RESPONSIBILITY TO EMPLOY A SUFFICIENT NUMBER OF INSPECTORS TO ASSURE THAT ALL THE WORK IS INSPECTED IN ACCORDANCE WITH THOSE PROVISIONS.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SPECIAL INSPECTOR OF INSPECTION AGENCY AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION.
6. SPECIAL INSPECTION IS NOT A SUBSTITUTE FOR INSPECTION BY A CITY INSPECTOR.
7. SPECIALLY INSPECTED WORK THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE CITY INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE AT NO COST TO THE OWNER.
8. THE TESTING LABORATORY PROVIDING SERVICES FOR THE OWNER SHALL PROVIDE SPECIAL INSPECTION SERVICES ACCORDING TO THE TABLES PROVIDED IN THE IBC 2009 BUILDING CODE. SUCH SERVICES SHALL BE PERFORMED AS DEFINED IN IBC 2009, CHAPTER 17. THESE CODE REQUIRED INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS AND TESTS DEFINED IN THE SPECIFICATION. INSPECTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   A. REINFORCING STEEL PLACEMENT
   B. ANCHORS INSTALLED IN CONCRETE
   C. CONCRETE FORMWORK
   D. CONCRETE CONSTRUCTION
   E. STRUCTURAL STEEL, BOLTING, WELDING MATERIALS
   F. BOLTING OF STRUCTURAL STEEL
   G. WELDING OF STRUCTURAL STEEL AND REINFORCING STEEL
   H. SPRAY-APPLIED FIRE-RESISTIVE MATERIALS
   I. EXCAVATION AND FILL MATERIALS
   J. BEARING AND FRICTION CAPACITY
   K. CAST-IN-PLACE DEEP FOUNDATIONS

LEGEND

AFF	ABOVE FINISH FLOOR
@	AT
B/C	BOTTOM OF CONCRETE
B/F	BOTTOM OF FOOTING
CJ	CONTROL OR CONSTRUCTION JOINT
CMU	CONCRETE MASONRY UNITS
EJ	EXPANSION JOINT
EL	ELEVATION
FF	FINISH FLOOR
FTG	FOOTING
GB	GRADE BEAM
LVL	LAMINATED VENEER LUMBER
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
ML	MICRO-LAM
NTS	NOT TO SCALE
O.C.	ON CENTER
RTU	ROOF TOP UNIT
T/BS	TOP OF BRICK SHELF
T/C	TOP OF CONCRETE
T/F	TOP OF FOOTING
T/G	TOP GRADE BEAM
T/L	TOP OF LEDGE
T/M	TOP OF MASONRY
T/P	TOP OF PIER OR PILASTER
T/PC	TOP OF PILE CAP
T/S	TOP OF SLAB
T/STL	TOP OF STEEL
TS	TUBE STEEL
UNO	UNLESS NOTED OTHERWISE

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GENERAL NOTES

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