

FOOTINGS, WALLS, & BOND BEAMS

- CONCRETE MASONRY UNITS SHALL BE HOLLOW OR SOLID UNIT MASONRY IN ACCORDANCE WITH ASTM C 90 OR C 145 AND SHALL HAVE MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1900 PSI.
- MORTAR SHALL BE EITHER TYPE M OR S IN ACCORDANCE WITH ASTM C 270.
- GROUT SHALL HAVE A MAXIMUM COARSE AGGREGATE SIZE OF 3/8 INCH PLACED AT A 8 TO 11 INCH SLUMP AND HAVE MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C 1019, OR SHALL BE IN ACCORDANCE WITH ASTM C 476.
- CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- REINFORCING STEEL SHALL BE MINIMUM GRADE 40 AND IDENTIFIED IN ACCORDANCE WITH ASTM A 615, A 616, A 617, OR A 706.
- JOINT REINFORCEMENT, ANCHORS, TIES, AND WIRE FABRIC SHALL CONFORM TO THE FOLLOWING STANDARDS: ASTM A 82 FOR JOINT REINFORCEMENT AND WIRE ANCHORS AND TIES. ASTM A 36 FOR PLATE, HEADED AND BENT BAR ANCHORS. ASTM A 366 FOR SHEET METAL ANCHORS AND TIES.
- METAL ACCESSORIES FOR USE IN EXTERIOR WALL CONSTRUCTION AND NOT DIRECTLY EXPOSED TO THE WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153, CLASS B-2. METAL ACCESSORIES FOR USE IN INTERIOR WALL CONSTRUCTION SHALL BE MILL GALVANIZED IN ACCORDANCE WITH ASTM A 641, CLASS 1.
- ALL MORTAR JOINTS FOR HOLLOW UNIT MASONRY SHALL EXTEND THE FULL WIDTH OF FACE SHELLS.
- MORTAR JOINTS FOR SOLID MASONRY SHALL BE FULL HEAD AND BED JOINTS. BED JOINTS SHALL BE 3/8 INCH (N 1/8 INCH) THICK. HEAD JOINTS SHALL BE 3/8 INCH (+ 3/8 INCH OR - 1/4 INCH) THICK
- THE BED JOINT OF THE STARTING COURSE PLACED OVER FOOTINGS SHALL BE PERMITTED TO VARY IN THICKNESS FROM A MINIMUM OF 1/4 INCH TO A MAXIMUM OF 3/4 INCH.
- MASONRY WALLS SHALL BE RUNNING BOND OR STACK BOND CONSTRUCTION.
- WHEN MASONRY UNITS ARE LAID IN STACK BOND OR RUNNING BOND, A 9-GAGE (MINIMUM) HORIZONTAL JOINT REINFORCEMENT, IN ADDITION TO REQUIRED VERTICAL REINFORCEMENT, SHALL BE PLACED IN BED JOINTS AT NOT MORE THAN 16 INCHES ON CENTER.
- LONGITUDINAL WIRES OF JOINT REINFORCEMENT SHALL BE FULLY EMBEDDED IN MORTAR OR GROUT WITH MINIMUM COVER OF 5/8 INCH WHEN EXPOSED TO EARTH OR WEATHER AND 1/2 INCH WHEN NOT EXPOSED TO EARTH OR WEATHER.
- REINFORCING STEEL SHALL BE NO. 5 BARS.
- SPLICES SHALL BE LAP SPLICES.
- NONCONTACT LAP SPLICES MAY BE USED PROVIDED REINFORCING BARS ARE NOT SPACED FARTHER APART THAN 5 INCHES.
- SPLICE LENGTHS SHALL BE MINIMUM OF 25 INCHES.
- MASONRY SHALL BE BENT IN THE SHOP OR IN THE FIELD PROVIDED: ALL REINFORCEMENT SHALL BE BENT COLD, AND THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX BAR DIAMETERS, AND REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, EXCEPT WHERE BENDING IS NECESSARY TO ALIGN DOWEL BARS WITH A VERTICAL CELL. BARS PARTIALLY EMBEDDED IN CONCRETE SHALL BE PERMITTED TO BE BENT AT SLOPE OF NOT MORE THAN 1 INCH OF HORIZONTAL DISPLACEMENT TO 6 INCHES OF VERTICAL BAR LENGTH.
- FOR FOUNDATIONS MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE 3 INCHES.
- FOOTINGS FOR STEMWALL FOUNDATIONS SHALL BE A MINIMUM OF 16" THICK BY 24" WIDE, WITH THREE (3) #5 REINFORCING BARS.
- FOOTING FOR MONOLITHIC SLAB ON GRADE FOUNDATIONS SHALL BE A MINIMUM OF 16" THICK BY 24" WIDE, WITH THREE (3) #5 REINFORCING BARS.
- IN NARROW FOOTING WHERE INSUFFICIENT WIDTH IS AVAILABLE TO ACCOMMODATE A STANDARD 90 DEGREE HOOK AND PROVIDE THE REQUIRED CONCRETE COVER, THE HOOK SHALL BE ROTATED IN THE HORIZONTAL DIRECTION UNTIL THE HORIZONTAL REINFORCEMENT COVER IS ACHIEVED.
- FOR CAST-IN-PLACE TIE BEAMS THE MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE 1 1/2 INCHES.
- REINFORCEMENT BARS EMBEDDED IN GROUTED MASONRY CELLS SHALL HAVE A MINIMUM CLEAR DISTANCE OF 1/2 INCH BETWEEN REINFORCING BARS AND ANY FACE OF A CELL.
- REINFORCING BARS USED IN MASONRY WALLS SHALL HAVE A MASONRY COVER (INCLUDING GROUT) OR NOT LESS THAN 2 INCHES.
- CLEANOUT OPENINGS SHALL BE PROVIDED FOR CELLS CONTAINING SPLICED REINFORCEMENT WHEN THE GROUT POUR EXCEEDS 5 FEET IN HEIGHT.
- WHERE CLEANOUT OPENINGS ARE REQUIRED, AN OPENING SHALL BE PROVIDED IN THE BOTTOM COURSE OF THE MASONRY CELL TO BE FILLED.
- CLEANOUT OPENINGS SHALL HAVE MINIMUM AREA OF 12 SQUARE INCHES AND A MINIMUM OPENING DIMENSION OF 3 INCHES.
- MASONRY PROTRUSIONS EXTENDING 1/2 INCH OR MORE INTO CELLS OR CAVITIES TO BE GROUTED SHALL BE REMOVED FOR GROUT POURS OVER 5 FT.
- SPACES TO BE GROUTED SHALL BE FREE OF MORTAR DROPPINGS, DEBRIS, LOOSE AGGREGATES, AND ANY MATERIAL DELETERIOUS TO MASONRY GROUT. 31. A SOIL OR WASTE PIPE OF A BUILDING DRAIN PASSING UNDER A FOOTING OR THROUGH A FOUNDATION WALL SHALL BE PROVIDED WITH A RELIEVING ARCH, OR THERE SHALL BE BUILT INTO THE MASONRY WALL AN IRON PIPE SLEEVE TWO PIPE SIZES GREATER THAN THE PIPE PASSING THROUGH.
- THE TOP AND BOTTOM OF ALL FOOTINGS SHALL BE LEVEL. THE BOTTOM OF ALL FOOTINGS, EXCEPT MONOLITHIC SLAB-ON-GRADE INTERIOR FOOTINGS, SHALL BE A MINIMUM OF 12" BELOW FINISHED GROUND LINE.
- THE OUTER BAR OF FOUNDATION STEEL SHALL BE CONTINUOUS AROUND CORNERS USING CORNER BARS OR BY BENDING THE BAR IN ACCORDANCE WITH NOTES HEREIN, IN BOTH CASES, THE MINIMUM BAR LAP SHALL BE 25 INCHES.
- FOUNDATION STEMWALLS SHALL BE 10 INCHES THICK, AND SHALL HAVE SAME VERTICAL REINFORCING AS THE WALL ABOVE.
- FOOTING DOWELS BARS SHALL BE PROVIDED FOR ALL REQUIRED VERTICAL WALL REINFORCEMENT IN THE FOLLOWING LOCATION: AT ALL CORNERS, AT EACH SIDE OF EACH OPENING, AT ALL OTHER REQUIRED VERTICAL WALL REINFORCEMENT AT ALL HIP GIRDER BEARING POINTS.
- FOOTING DOWEL BARS AT EACH LOCATION SHALL BE SAME SIZE AND QUANTITY AS THE VERTICAL WALL REINFORCEMENT ABOVE.
- ALL FOOTING DOWEL BARS SHALL HAVE A STANDARD 90 DEGREE HOOK AND SHALL BE EMBEDDED A MIN. OF 6" INTO FOOTINGS.
- CONCRETE SLAB-ON-GRADE SHALL BE CAST IN PLACE AND SHALL BE 4 INCHES THICK MINIMUM. CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF NOT LESS THAN 2500 PSI AT 28 DAYS.
- THE MINIMUM THICKNESS OF EXTERIOR MASONRY WALLS SHALL BE 8 INCHES.
- A REINFORCED TIE BEAM SHALL BE PROVIDED AT THE TOP OF EACH EXTERIOR WALL.
- TIE BEAMS SHALL BE 8"X 16" HIGH CAST-IN-PLACE CONCRETE.
- TIE BEAM REINFORCEMENT SHALL BE FOUR NO. 5 BARS EXCEPT WHERE NOTED.
- REINFORCEMENT SHALL BE LOCATED IN THE TOP AND BOTTOM OF 16 INCH BOND BEAMS.
- REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS. SEE STRUCTURAL DETAILS.
- WHERE MORE THAN ONE BAR IS REQUIRED, ONLY ONE OF THE BARS MUST BE CONTINUOUS AROUND CORNERS.
- FOR VERTICAL REINFORCEMENT ONE NO. 5 BAR IN A GROUTED CELL SHALL BE PROVIDED IN EACH CORNER, INCLUDING INTERIOR CORNERS AND CORNERS CREATED BY CHANGES IN WALL DIRECTION BY OFFSETTING OF WALLS SUCH AS AT PROJECTED BAYS AND INSET PORCHES.
- FOR VERTICAL REINFORCEMENT ONE NO. 5 BAR SHALL BE PROVIDED ON EACH SIDE OF OPENINGS.
- IN ADDITION TO VERTICAL REINFORCEMENT AT CORNERS, AT OPENINGS, AND AT HIP GIRDER BEARING POINTS, VERTICAL REINFORCEMENT CONSISTING OF ONE NO. 5 BAR SHALL BE PROVIDED EVERY 6 FEET ON CENTER MAXIMUM.
- ALL VERTICAL WALL REINFORCEMENT SHALL BE TERMINATED IN THE BOND BEAM AT THE ROOF LEVEL WITH A STANDARD HOOK. THE HOOK MAY BE FORMED BY BENDING THE VERTICAL WALL REINFORCEMENT IN ACCORDANCE WITH NOTES HEREIN OR BY LAP SPLICING TO A STANDARD HOOK. THE HOOK SHALL EXTEND TO THE UPPER MOST HORIZONTAL REINFORCEMENT OF THE BOND BEAM AND SHALL BE EMBEDDED A MINIMUM OF 6 INCHES INTO THE BOND BEAM.. SEE STANDARD DETAILS.
- CONTINUOUS TIE BEAMS ACTING AS LINTELS SHALL BE 16 INCHES HIGH HAVE TOP AND BOTTOM REINFORCEMENT CONTINUOUS OVER THE WALL AND OPENING. THE AMOUNT OF REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS ADDITIONAL REINFORCEMENT IS REQUIRED DUE TO LARGE BEARING LOADS (I.E. HIP GIRDER BEARING POINTS).
- TIE BEAMS SHALL HAVE TOP AND BOTTOM REINFORCEMENT CONTINUOUS OVER OPENINGS.
- THE BEAMS WHICH HAVE ADDITIONAL REINFORCEMENT OVER OPENINGS WHICH IS IN ADDITION TO THAT REQUIRED OVER THE WALL SHALL EXTEND PAST THE OPENING A MINIMUM OF 24"
- A. OPENINGS UP TO 6'-0" SHALL HAVE FOUR (4) #5 BARS.
- B. OPENINGS FROM 6'-1" TO 8'-0" SHALL HAVE FIVE (5) BARS. TWO (2) TOP AND THREE (3) BOTTOM.
- C. OPENINGS FROM 8'-1" TO 12'-0" SHALL HAVE SIX (6) BARS. TWO (2) TOP AND FOUR (4) BOTTOM.
- D. OPENINGS FROM 12'-1" TO 16'-0" SHALL HAVE SEVEN (7) #5 BARS. TWO (2) TOP AND FIVE (5) BOTTOM, WITH #3 STIRRUPS AT 8" O.C., OR TWO (2) #3 TOP AND FOUR (4) #7 BOTTOM, WITH STIRRUPS AT 8" O.C.
54. STEMWALL FOUNDATION HEIGHT SHALL NOT EXCEED 3'-0" FROM FINISHED GRADE TO TOP OF MASONRY.
55. COLUMNS SHALL BE CONSTRUCTED OF STANDARD MASONRY UNITS.
56. MAXIMUM COLUMN HEIGHT (TO THE TOP OF THE BOND BEAM) SHALL BE 10 FT.
57. COLUMNS SHALL CONTAIN A MINIMUM OF FOUR VERTICAL BARS, ONE IN EACH CORNER.
 - A. VERTICAL COLUMN REINFORCEMENT SHALL BE FOUR NO. 3 BARS FOR 8X8 INCH COLUMNS AND FOUR NO. 5 BARS FOR ALL OTHER COLUMN SIZES.
 - B. CLEARANCE FROM THE VERTICAL BAR TO THE MASONRY FACE SHELL SHALL BE 1/2 INCH. MINIMUM COVER FOR CAST IN PLACE COLUMNS SHALL BE 1 1/2 INCHES OVER THE COLUMN TIES.
58. CONNECTION OF COLUMNS TO THE FOUNDATION BELOW AND TO THE BOND BEAM AT THE TOP SHALL BE AS FOLLOWS:
 - A. 8X8 INCH COLUMN: ONE NO. 5 STANDARD 90 DEGREE HOOK INTO THE SUPPORT AT THE BOTTOM AND INTO THE BOND BEAM AT THE TOP.
 - B. 8X16 INCH COLUMN: TWO NO. 5 STANDARD 90 DEGREE HOOKS (ONE IN EACH CELL) BOTH AT THE BOTTOM AND AT THE TOP.
 - C. 12X12 INCH COLUMN AND 16X16 INCH COLUMN: BOTTOM: FOUR NO. 5 STANDARD 90 DEGREE HOOKS (ONE AT EACH VERTICAL BAR) EXTENDING FROM THE FOUNDATION AND SPLICED WITH THE VERTICAL COLUMN REINFORCEMENT; TOP: FOR CORNER COLUMNS, THREE NO. 5 STANDARD 90 DEGREE HOOKS INTO THE BOND BEAM, MINIMUM, EACH SPLICED TO A VERTICAL COLUMN BAR. FOR COLUMN LOCATED OTHER THAN AT A CORNER, TWO NO. 5 STANDARD 90 DEGREE HOOK INTO THE BOND BEAM SHALL BE SPLICED TO SEPARATE VERTICAL COLUMN BARS.
59. LATERAL TIES OF A MINIMUM 1/4 INCH DIAMETER SHALL BE USED TO ENCLOSE VERTICAL COLUMN REINFORCEMENT AS FOLLOWS:
 - A. MAXIMUM VERTICAL SPACING OF LATERAL TIES SHALL BE 12"
 - B. LATERAL TIES MAY BE PLACED IN MORTAR JOINTS PROVIDED THEY ARE NOT LARGER THAN 1/4 INCH DIAMETER.
 - C. THE BOTTOM LATERAL TIES SHALL BE LOCATED VERTICAL NOT MORE THAN 1/2 A LATERAL TIE SPACING ABOVE THE TOP OF THE FOOTING.
 - D. THE TOP LATERAL TIE SHALL NOT BE MORE THAN 1/2 A LATERAL TIE SPACING BELOW THE LOWEST HORIZONTAL REINFORCEMENT IN THE BEAM ABOVE.
60. A STEMWALL FLOATING SLAB FOUNDATION SHALL NOT BE PERMITTED UNDER THE UNENCLOSED WALLS OF A BUILDING.
61. ALL CONCRETE IS TO MIXED, TRANSPORTED, AND PLACED IN ACCORDANCE WITH THE LATEST ACI SPECIFICATIONS AND RECOMMENDATIONS.
62. FOUNDATIONS HAVE BEEN DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF, AND THE EXISTING SOIL BEING A GRANULAR MATERIAL SHOULD POOR SOIL CONDITIONS BE FOUND IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEER PRIOR TO COMMENCING.
63. PROVIDE GRANULAR FILL, CLAY MATERIALS ARE UNACCEPTABLE. EXISTING SOIL UNDER FOOTING AND SLABS SHALL BE CLEAN AND COMPACTED TO 95% OF AASHTO T-99.
64. FILL SHALL BE PLACED AND COMPACTED IN ONE FOOT LIFTS.
65. A CONCRETE SLAB-ON-GRADE USED IN CONJUNCTION WITH EXTERIOR STEMWALL FOUNDATIONS SHALL HAVE: 6X6 NO. 10 WELDED WIRE FABRIC AT MID HEIGHT OR SYNTHETIC FIBER REINFORCEMENT IN THE SLAB AND THE SLAB SHALL BE KEVED INTO OR TIED TO THE FOUNDATION.
66. A DOUBLE LAYER OF WELDED WIRE FABRIC SHALL BE PROVIDED AROUND THE PERIMETER OF THE CONCRETE. SLAB A DISTANCE OF 3 FT. FROM THE EDGE.
67. WELDED WIRE FABRIC SHALL CONFIRM TO ASTM A-185 AND FREE OF OIL AND RUST. IT SHALL BE INSTALLED IN LENGTHS AS LONG AS POSSIBLE AND LAPPED A MINIMUM OF SIX INCHES. 68. PROVIDE (1) #5 ELECTRICAL GROUND TO FOUNDATION STEEL.
69. A 6 MIL MINIMUM POLYETHYLENE DAMPROOFING VAPOR BARRIER SHALL BE PROVIDED.
70. FILL SHALL BE TERMITTE TREATED AND A "CERTIFICATE FOR TERMITTE TREATMENT" IS REQUIRED ON THE PERMIT BOARD PURSUANT TO FBC SEC. 105.10.
71. ALL FOOTINGS SHALL BE A MINIMUM OF 12" BELOW FINISHED GRADE.
72. THE TOP OF SLAB SHALL BE A MINIMUM OF 8" ABOVE FINISHED GRADE FOR WOOD FRAME CONSTRUCTION.
73. THE TOP OF SLAB SHALL BE A MINIMUM OF 4" ABOVE FINISHED GRADE FOR MASONRY VENEER AND A MINIMUM OF 6" ELSEWHERE.

CONCRETE

SHALL MEET ALL THE REQUIREMENTS OF ACI 301-84 WITH TYPE I OR II CEMENT. MINIMUM 28 DAY STRENGTH - 3000PSI UNLESS NOTED OTHERWISE. CURBS, GUTTERS, WALKS, EXTERIOR SLABS, AND TRUCK RAMP: 4000PSI INTERIOR SLAB AT OFFICES AND SALES AREA: 3000 PSI NO ADMIXTURES WITHOUT APPROVAL. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED. CONCRETE SHALL NOT BE IN CONTACT WITH ALUMINIUM. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND EMBEDDED ITEMS. MAXIMUM SLUMP - 4". DO NOT TAMP SLABS. USE ROLLER BUG, VIBRATING SCREED OR BULL FLOAT TO FINISH. SEE SPECIFICATIONS FOR CURING. CAST SLABS ON GRADE IN ALTERNATE SECTIONS, UNLESS PERMANENT FORMS ARE USED. WAIT 48 HOURS BETWEEN ALL ADJACENT CONCRETE CASTINGS. REVIBRATE TOPS OF COLUMNS AND CAISSONS SOON AFTER PLACING CONCRETE, TO CLOSE PLASTIC SHRINKAGE CRACKS. MINIMUM STRENGTH FOR REMOVAL OF FORMS AND SHORING SHALL BE 70% OF SPECIFIED STRENGTH AT 28 DAYS. USE OF FLY ASH IS NOT PERMITTED FOR ANY CONCRETE USED IN SLABS.

MASONRY

REINFORCED MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH = 1500 PSI. MASONRY UNITS SHALL CONFORM TO ASTM C90. MORTAR SHALL CONFORM TO ASTM C270, TYPE S, 1800 PSI. GROUT SHALL CONFORM TO ASTM C476, 2000 PSI. MECHANICALLY VIBRATE GROUT IN VERTICAL SPACES IMMEDIATELY AFTER POURING AND AGAIN ABOUT 5 MINUTES LATER. MAXIMUM GROUT LIFT WITHOUT CLEANOUTS 60". STAY EACH END OF EACH VERTICAL REBAR USING SINGLE WIRE AND LOOP TYPE TIES. MAXIMUM VERTICAL SPACINGS OF TIES 8'-0". SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINTS. LOCATE AT 32 FEET MAXIMUM O.C. U.N.O., BUT NOT LESS THAN 2'-0" FROM A BEARING PLATE OR FROM A JAMB OF AN OPENING WIDER THAN 4'-0", U.N.O. BACKFILL AGAINST MASONRY WALLS IS NOT PERMITTED UNTIL SUFFICIENT LATERAL SUPPORT IS PROVIDED. MINIMUM VERTICAL REINFORCING TO BE # 5 @ 48" O.C. PROVIDE (2) NO. 3 BARS IN BED JOINT IMMEDIATELY ABOVE AND BELOW OPENINGS IN BEARING WALLS. EXTENDING 24" BEYOND EACH JAMB, FOR ALL OPENINGS LESS THAN 2'-0" IN SIZE. PROVIDE HORIZONTAL JOINT REINFORCEMENT ARE ANCHORED TO FLOORS. PLACE BARS AT ROOF AND FLOOR LINES CONTINUOUS THROUGH CONTROL JOINTS. (1) NO. 5 AT 16" O.C. IN ALL WALLS U.N.O. MASONRY WALLS HAVE BEEN DESIGNED TO SPAN VERTICALLY AS SIMPLE SPANS FROM FLOOR TO ROOF AND ARE DEPENDENT UPON THE COMPLETED ROOF STRUCTURE. METAL ROOF DECK, AND COMPLETION OF ALL MASONRY WALLS FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING ALL NECESSARY BRACING AS REQUIRED FOR CONSTRUCTION LOADS. FOR STABILITY, AND RESISTANCE TO WIND AND SEISMIC FORCES UNTIL THE ENTIRE STRUCTURE IS COMPLETE. THE SHORING SHALL NOT RELY ON ANY MOMENT RESISTANCE CAPACITY OF THE FOOTINGS.

CONCRETE FLOORS

- CONCRETE FLOORS SHALL BE CAST IN PLACE.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI AT 28 DAYS.
- THE TOP OF A MONOLITHIC SLAB-ON-GRADE SHALL BE AT LEAST 8 INCHES ABOVE FINISHED GRADE.
- THE SLAB SHALL BE 4 INCHES THICK.
- THE SLAB SHALL HAVE 6X8 NO. 10 WELDED WIRE FABRIC AT MID-HEIGHT OR SYNTHETIC FIBER REINFORCEMENT.
- A DOUBLE LAYER OF WELDED WIRE FABRIC SHALL BE PROVIDED AROUND THE PERIMETER OF THE SLAB OF A DISTANCE OF 3 FT. FROM THE EDGE. SEE DETAIL SHEETS.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND FREE OF OIL AND RUST. IT SHALL BE INSTALLED IN LENGTHS AS LONG AS POSSIBLE LAPPED A MINIMUM OF SIX INCHES.

STUCCO

APPLICATION OF STUCCO (PORTLAND CEMENT PLASTER) SHALL BE IN ACCORDANCE WITH ASTM C 926. APPLICATION OF PORTLAND_BASED STUCCO ON CMU AND/OR CONCRETE MUST BE A MINIMUM OF 1/2 INCH THICK FOR 2_COAT SYSTEM AND 5/8 INCH THICK FOR 3_COAT SYSTEM. STUCCO ON METAL LATH MUST BE A MINIMUM OF 7/8 INCH THICK.

STRUCTURAL STEEL

ASTM A-36, EXCEPT AS FOLLOWS: PIPE STEEL: ASTM A-53 GRADE B, OR A-501. TUBE STEEL: ASTM A-500 GRADE B. BOLTS AND PLAIN ANCHORS: ASTM A-307. LATEST AISC HANDBOOKS AND CODES APPLY. MINIMUM EMBEDMENT OF ALL BOLTS IN GROUT OR CONCRETE SHALL BE 8" WITH A 3" HOOK. WELDED ANCHORS AND SHEAR CONNECTORS SHALL BE COB APPROVED NELSON, KSM OR EQUAL. ALL STEEL FABRICATION SHALL BE BY AN APPROVED FABRICATOR. ALL STEEL BEARING TO BE ON A BOND BEAM, SOLID BLOCK CONCRETE OR STEEL DESIGNED FOR BEARING.

WELDING

ALL CONSTRUCTION AND TESTING PER AMERICAN WELDING SOCIETY CODES AND RECOMMENDATIONS. ALL WELDING SHALL BE DONE BY WELDERS HOLDING CURRENT VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN TYPE OF WELD CALLED FOR. WELDING RODS TO BE LOW HYDROGEN TYPE, E70. ALL BUT WELDED SPLICES IN MATERIAL THICKER THAN 5/16" SHALL BE INSPECTED BY AN INDEPENDENT TESTING LABORATORY, TO CERTIFY ALL SPLICES AS MEETING OR EXCEEDING STRENGTH OF MATERIAL SPLICED. TWO COPIES OF ALL TEST REPORTS AND A LETTER OF SUCH CERTIFICATION SHALL BE SUBMITTED TO THE ARCHITECT. ALL WELDING OF REINFORCING SHALL CONFORM TO THE STRUCTURAL WELDING CODES - REINFORCING STEEL". AWS D1-4.83. WELDS INDICATED MAY BE MADE IN SHOP OR FIELD WITH APPROVAL.

LIGHT GAUGE STUDS

- ALL MEMBERS SHALL BE FORMED FROM CORROSION-RESISTANT STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM A653-94 AND SHALL BE ZINC COATED MEETING ASTM A924. MINIMUM YIELD STRENGTH SHALL BE 33,000 PSI FOR ALL 20 GAUGE AND 18 GAUGE MEMBERS; AND 50,000 PSI FOR ALL 16 GAUGE, AND 12 GAUGE STUDS. PROPERTIES SHALL BE AS MANUFACTURED BY METAL STUD MANUFACTURERS ASSOCIATIONS PER I.C.B.O. NO. 4943 OR APPROVED EQUAL.
- STUDS SHALL BE A MINIMUM 20 GAUGE "C" SHAPE, 1-5/8" WIDE, OF THE DEPTHS AND SPACING SHOWN ON DRAWINGS. TRACKS SHALL BE 18 GA., WITH A MINIMUM FLANGE OF 1-1/4".
- BRIDGING SHALL BE COLD ROLLED CHANNEL, MINIMUM 1-1/2" DEEP WITH 9/16" FLANGE WIDTH. SPACE BRIDGING AT 4'-0" MAXIMUM O.C. VERTICALLY. DOUBLE UP STUDS AT ALL JAMBS. ALL CONNECTIONS SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
- SPLICE IN HEAVY GAUGE FRAMING MEMBERS, OTHER THAN RUNNER TRACK SHALL NOT BE PERMITTED. ANCHOR RUNNER TRACK TO CONCRETE WITH 0.177 O X 1-1/2" HILTI FASTNERS OR EQUAL AT 16" O.C. MAX.

FASTENERS & CONNECTORS

- APPROVED CONNECTORS, ANCHORS AND OTHER FASTENING DEVICES NOT INCLUDED IN THE 2020 7TH EDITION OF THE FLORIDA BUILDING CODE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- WHERE FASTENERS ARE NOT OTHERWISE SPECIFIED FASTENERS SHALL BE PROVIDED IN ACCORDANCE WITH THE 2020 7TH EDITION FLORIDA BUILDING CODE. NAILS, SCREWS, OR BOLTS SHALL BE ABLE TO RESIST THE FORCES IN THIS CODE.
- UNLESS OTHERWISE STATED, SIZES GIVEN FOR NAILS ARE COMMON WIRE NAILS. FOR EXAMPLE, 8D = 2 1/2 INCHES LONG X 0.131-INCH DIAMETER. SEE TABLE 12.3B, COLUMNS 2, 3, AND 4, IN THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION. METAL PLATES, CONNECTORS, SCREWS, BOLTS AND NAILS EXPOSED DIRECTLY TO THE WEATHER OR SUBJECT TO SALT CORROSION IN COASTAL AREAS, AS DETERMINED BY THE BUILDING OFFICIAL, SHALL BE STAINLESS STEEL, OR HOT DIPPED GALVANIZED AFTER THE FASTENER OR CONNECTOR IS FABRICATED TO FORM A ZINC COATING NOT LESS THAN 1 OZ PER SQ FT, OR HOT DIPPED GALVANIZED WITH A MINIMUM COATING OF 1.8 OZ PER SQ FT OF STEEL MEETING THE REQUIREMENTS OF ASTM A 90 TRIPLE SPOT TEST.

WOOD GENERAL

- ALL WOOD CONSTRUCTION SHALL COMPLY WITH THE LATEST NFPA AND AITC SPECIFICATIONS AND RECOMMENDATIONS.
- LUMBER STANDARD SHALL BE AMERICAN SOFTWOOD LUMBER STANDARD PS 20-70, S4S, 19% MOISTURE OR AS REQUIRED BY STRUCTURAL DESIGN.
- STRUCTURAL LUMBER (ROOF BEAMS, HEADERS, COLUMNS, EXTERIOR WALL STUDS TO BE SOUTHERN PINE NO. 2 KD 15 WITH A FB= 1,300 PSI E= 1,600,000 PSI, AND FV = 95 PSI.
- GLUE LAMINATED TIMBER SHALL CONFORM WITH ASTM D-3737 AND AITC 117. ROOF BEAMS SHALL BE DESIGNATED 24F-V1 OR 24F-E1.
- PLYWOOD FOR SHEATHING SHALL BE APA RATED SHEATHING AS PER PLANS AND SHALL BEAR THE APA MARK.
- WOOD IN CONTACT WITH CONCRETE, MASONRY AND/OR EXPOSED TO WEATHER SHALL BE PROTECTED OR PRESSURE TREATED IN ACCORDANCE WITH AITC-109.

EXTERIOR WALL FRAMING

- STUDS SHALL BE PLACED WITH THE WIDE FACE PERPENDICULAR TO THE WALL.
- HEADER BEAMS SHALL BE PROVIDED AND SIXED IN ACCORDANCE WITH THE 2020 7TH EDITION OF THE FLORIDA BUILDING CODE.
- THE MINIMUM NUMBER OF HEADER STUDS SUPPORTING EACH END OF A HEADER BEAM SHALL BE 2.
- THE MINIMUM NUMBER OF FULL-LENGTH WALL STUDS AT EACH END OF A HEADER BEAM SHALL BE 2 FOR OPENINGS OF 6 FEET OR LESS, AND 3 FEET FOR ALL OTHER OPENINGS.
- UPLIFT CONNECTORS SHALL BE PROVIDED AT THE TOP AND BOTTOM OF CRIPPLE STUDS, OF HEADER STUDS, AND AT LEAST ONE WALL STUD AT EACH SIDE OF OPENING.

CONNECTIONS FOR EXTERIOR WALL FRAMING

- FRAMING MEMBERS IN EXTERIOR WALL SYSTEMS SHALL BE FASTENED TOGETHER IN ACCORDANCE WITH THE 2020 7TH EDITION OF THE FLORIDA BUILDING CODE.
- UPLIFT CONNECTORS SHALL BE PROVIDED TO RESIST THE UPLIFT LOADS.
- UPLIFT LOAD RESISTANCE SHALL BE CONTINUOUS FROM ROOF TO FOUNDATION.
- STUDS SHALL BE CONNECTED TO PLATES AND PLATES TO FLOOR FRAMING WITH CONNECTORS DESIGNED, RATED, AND APPROVED FOR EACH INDIVIDUAL LOCATION AND CONDITION. SEE WINDLOAD CONNECTORS SCHEDULE.
- WHERE ANCHOR DOWN CONNECTORS OCCUR CONNECTORS REQUIRED FOR UPLIFT RESISTANCE MAY BE OMITTED.

EXTERIOR WALLS

- EXTERIOR WALL SEGMENTS SHALL NOT CONTAIN OPENINGS WHICH WHEN ADDED SQ FT) IN ANY INDIVIDUAL SEGMENT.
- EACH CORNER SHALL BE SHEATED FOR A LEAST 3 FEET AND MAY BE COUNTED AS MINIMUM LENGTH OF A SHEARWALL SEGMENT SHALL BE 2'-5". THE TOPS OF ALL S SHALL BE CONNECTED BY DRAG STRUTS.
- STUDS SHALL BE DOUBLED AT EACH END OF EACH SHEARWALL SEGMENT.
- JOINTS SHALL BE LAP-SPLICED. WITHIN THE CENTER THIRD OF A WALL LENGTH, T SPLICES SHALL BE CONNECTED WITH 14 1RD COMMON NAILS.
- PROVIDE BRIDGING/BLOCKING AT 4'-0" O.C. AT EXTERIOR WALL STUDS.

PLYWOOD SHEATHING USED FOR UPLIFT RESISTANCE

- PANELS SHALL BE 5/8" EXPOSURE 1 SHEATHING GRADE PLYWOOD AND SHALL BE INSTALLED AS FOLLOWS: PANELS SHALL BE INSTALLED WITH FACE GRAIN PARALLEL TO STUDS. ALL HORIZONTAL JOINTS SHALL OCCUR OVER FRAMING AND SHALL BE ATTACHED PER DETAIL SHEETS. FLATWISE BLOCKING SHALL BE USED AT ALL HORIZONTAL PANEL JOINTS. PANELS SHALL BE ATTACHED TO BOTTOM PLATES AND TOP MEMBER OF THE DOUBLE TOP PLATE. LOWEST PLATES SHALL BE ATTACHED TO FOUNDATION WITH BOLTS OR CONNECTORS OF SUFFICIENT CAPACITY TO RESIST THE UPLIFT FORCES DEVELOPED IN THE PLYWOOD SHEATHED WALLS. PANEL ATTACHMENT TO FRAMING SHALL BE AS ILLUSTRATED IN THE DETAIL SHEETS. WHERE WINDOWS AND DOORS INTERRUPT PLYWOOD SHEATHING, FRAMING ANCHORS OR CONNECTORS SHALL BE USED TO RESIST THE APPROPRIATE UPLIFT LOADS.

ANCHOR DOWN CONNECTORS

- EXTERIOR WALLS REQUIRE ANCHOR DOWNS TO RESIST OVERTURNING MOMENT.
- TWO STUDS AND ANCHOR DOWN ARE REQUIRED AT EACH END OF EACH SHEAR WALL SEGMENT.
- THE ANCHOR DOWN SHALL BE FASTENED THROUGH THE DOUBLED STUDS AND TO THE CONSTRUCTION BELOW IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. SEE WIND LOAD CONNECTORS SCHEDULE.

ROOF & TRUSS FRAMING SYSTEMS

- ROOF TRUSS FRAMING SHALL BE SPACED A MAXIMUM OF 24" O.C.
- TRUSSES SHALL BE NO. 2 SOUTHERN YELLOW PINE, UNLESS WHERE NOTED TO BE PRESSURE TREATED.
- UPLIFT CONNECTORS SHALL BE PROVIDED AT TRUSS BEARING TO RESIST THE UPLIFT LOADS.
- PROVIDE PRE-FABRICATED ROOF TRUSS LAYOUT DESIGNED BY A LICENSED FLORIDA ENGINEER.

ROOF SHEATHING

- ROOF SHEETING SHALL BE 15/32 INCH EXPOSURE 1 C-D SHEETING GRADE PLYWOOD (WOOD STRUCTURAL PANELS), OR EQUIVALENT.
- THE SHEETING SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL SHEETS.
- LONG DIMENSION SHALL BE PERPENDICULAR TO FRAMING AND END JOINTS SHALL BE STAGGERED.
- SHEATHING SHALL BE FASTENED TO ROOF FRAMING WITH 8D RING-SHANK NAILS AT 6 INCHES ON CENTER AT EDGES AND 6 INCHES ON CENTER AT INTERMEDIATE FRAMING. (PURSUANT TO THE 2020 7TH EDITION FLORIDA BUILDING CODE.) RING-SHANK NAILS SHALL HAVE THE FOLLOWING MINIMUM DIMENSIONS:
 - A. 0.113-INCH NOMINAL SHANK DIAMETER
 - B. RING DIAMETER OF 0.012 OVER SHANK DIAMETER
 - C. 16-20 RINGS PER INCH
 - D. 0.280 INCH FULL ROUND HEAD DIAMETER
 - E. 2 3/8-INCH NAIL LENGTH
- EXCEPTIONS: WHERE ROOF DIAPHRAGM REQUIREMENTS MAY NECESSITATE A CLOSER FASTENER SPACING.

FASTENERS & CONNECTORS

- APPROVED CONNECTORS, ANCHORS AND OTHER FASTENING DEVICES NOT INCLUDED IN THE 2020 7TH EDITION OF THE FLORIDA BUILDING CODE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- WHERE FASTENERS ARE NOT OTHERWISE SPECIFIED FASTENERS SHALL BE PROVIDED IN ACCORDANCE WITH THE 2020 7TH EDITION OF THE FLORIDA BUILDING CODE. NAILS, SCREWS, OR BOLTS SHALL BE ABLE TO RESIST THE FORCES IN THIS CODE.
- METAL PLATES, CONNECTORS, SCREWS, BOLTS AND NAILS EXPOSED DIRECTLY TO THE WEATHER OR SUBJECT TO SALT CORROSION IN COASTAL AREAS, AS DETERMINED BY THE BUILDING OFFICIAL, SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED AFTER THE FASTENER OR CONNECTOR IS FABRICATED TO FORM A ZINC COATING NOT LESS THAN 1 OZ PER SQ FT, OR HOT DIPPED GALVANIZED WITH A MINIMUM COATING OF 1.8 OZ PER SQ FT OF STEEL MEETING THE REQUIREMENTS OF ASTM A 90 TRIPLE SPOT TEST.

GENERAL

- LAND INVESTMENT SERVICES, INC. HAS NOT BEEN RETAINED TO PROVIDE, NOR ARE THEY RESPONSIBLE FOR, THE FIELD SUPERVISION, INSPECTION, OR CONSTRUCTION ADMINISTRATION OF THIS PROJECT.
- THIS BUILDING/STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2020 FLORIDA BUILDING CODE, 7TH EDITION, FOR DESIGN PRESSURES GENERATED BY A THREE SECOND GUST DESIGN WIND VELOCITY OF 150 MPH, (116 MPH FASTEST MILE WIND VELOCITY). STRUCTURAL CALCULATIONS; INCLUDING GRAVITY LOADS, AS NECESSARY TO CONFIRM COMPLIANCE WITH THE 2020 7TH EDITION FLORIDA BUILDING CODE, HAVE BEEN PERFORMED.
- THE OWNER, HIS AGENT, OR GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD SUPERVISION, CONSTRUCTION ADMINISTRATION, REVIEW AND APPROVAL OF ALL SHOP DRAWINGS, VERIFICATION ON-SITE OF ALL DIMENSIONS AND ELEVATIONS, AND STRICT COMPLIANCE WITH THESE CONSTRUCTION DOCUMENTS AS APPROVED BY LOCAL BUILDING DEPARTMENT, AND DESIGNED AND REVIEWED BY LIS ENGINEERING, LLC.
- THESE PLANS ARE NOT INTENDED TO BE MASTERED. THE REPETITIVE USE OF THESE PLANS FOR PERMITTING IS NOT APPROVED.
- ALL WINDOWS, DOORS, AND OTHER SUCH SYSTEMS, COMPONENTS AND CLADDING SHALL BE DESIGNED IN ACCORDANCE WITH THE 2020 FLORIDA BUILDING CODE 7TH EDITION FOR DESIGN PRESSURES SEC. 1609 GENERATED BY A THREE SECOND GUST DESIGN WIND VELOCITY OF 150 MPH, (116 MPH FASTEST MILE WIND VELOCITY). SEE "DESIGN PARAMETERS" FOR SPECIFIC PRESSURES.
- CONTRACTOR SHALL VERIFY IN FIELD ALL EXISTING CONDITIONS SHOWN ON DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING PRIOR TO CONSTRUCTION OF ANY DISCREPANCY BETWEEN PLANS AND ON-SITE DIMENSIONS AND ELEVATIONS.
- (1) ROOF DEAD LOAD = 30 PSF. DEAD LOAD AVAILABLE TO RESIST UPLIFT = 10 PSF (2) ROOF LIVE LOAD = 20 PSF (REDUCIBLE) (3) MECH- LOADS : SEE PLANS COORDINATE WITH CONTRACTOR.
- PROVIDE ALL TEMPORARY BRACING, SHORING, GUYING OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUB-CONTRACTORS PRIOR TO CONSTRUCTION.
- THE STRUCTURAL ENGINEER SHALL NOT HAVE CONTROL AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, FOR SAFETY PRECAUTION AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- UNLESS OTHERWISE NOTED, MINIMUM CONNECTION ELSEWHERE SHALL BE TWO 5/8" DIAM. BOLTS OR 1/4" FILLET WELD 4" LONG, USING 1/4" CONNECTION MATERIAL AND DETAILED TO MINIMIZE BENDING IN CONNECTION.
- EPOXY ANCHORS SHALL BE SET ADHESIVE BY SIMPSON ISBO #ER-5279 OR APPROVED EQUAL. THEIR CONVENIENCE, HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND HE SHALL COORDINATE ALL DETAILS.
- ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.
- UNLESS OTHERWISE NOTED, DETAILS ON STRUCTURAL DRAWINGS ARE TYPICAL AS INDICATED BY CUTS, REFERENCES OR TILES.
- VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

REVIEWED

For Code Compliance
City of Ocala Growth Management

BLD22-1101 09/07/22

ARCHITECTURE
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ROBERT WAYNE CASE
FLORIDA PE #4643

PLAN SET REVISIONS:

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CONTRACT DATE: .-. / .- / 2019

BUILDING TYPE: Kb 30-19

PLAN VERSION: 2018.A

SITE NUMBER:

ENTITY NUMBER:

STORE NUMBER:

LIS PROJECT: 2019-304

KFC

3615 W SILVER SPRINGS BLVD.
OCALA, FL



Kb 30-19

**STRUCTURAL
NOTES**

\$1.0

PLOT DATE: 03/29/2022

STRUCTURAL NOTES

N.T.S.

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