

STRUCTURAL NOTES 130 (B) MPH 7 TO 12 12

STRUCTURAL NOTES.		
FOUNDATION.		
SOIL TO BE COMPACTED TO AT LEAST 95% OF MAX. DRY DENSITY AS DETERMINED BY ASTM-1557 (MODIFIED PROCTOR)		
CAST IN PLACE CONCRETE.		
1. ALL CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. SLUMP OF 4" PLUS OR MINUS 1" AND HAVE 2 TO 4 % AIR ENTRAINMENT AND A MAX. WATER / CEMENT RATIO OF 0.58		
2. ALL REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM-615 GRADE 60		
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 WWF SHALL BE LAPPED AT LEAST 8", AND CONTAIN AT LEAST ONE CROSS WIRE WITHIN THE 8."		
4. HOOKS SHALL BE PROVIDED AT DISCONTINUES ENDS OF ALL TOP BARS OF BEAMS.		
5. HORIZONTAL FOOTING BARS SHALL HAVE A 1'0" HOOK LENGTH OF CORNER BARS WITH A MIN. 2'0" LAP PROVIDED.		
6. MIN. LAP SPLICES ON ALL REINFORCING BAR SPLICES SHALL BE 40 BAR DIAMETERS TYP.		
7. CONCRETE COVER MIN 3" WHEN EXPOSED TO EARTH OR 1 1/2" TO FORM.		
MASONRY WALL CONST.		
1. HOLLOW LOAD BEARING UNITS SHALL BE NORMAL WEIGHT, GRADE N, TYPE 2, CONFORMING TO ASTM C90, WITH A MIN.NET COMPRESSIVE STRENGTH OF 1900 PSI (FM= 1500 PSI)		
2. MORTAR SHALL BE TYPE "M" OR "S" CONFORMING TO ASM C270		
3. ALL REINFORCING STEEL SHALL BE NEW DOMESTICDEFORMED BILLET STEEL CONFORMING TO ASTM-615 GRADE 60		
4. COARSE GROUT SHALL CONFORM TO ASTM C476 WITH A MAX. AGGREGATE SIZE OF 3/8" AND MIN. COMPRESSIVE STRENGTH OF 3000 PSI SLUMP 8"TO 11".		
5. VERTICAL REINFORCEMENT SHALL BE AS NOTED ON THE DRAWING WITH THE CELLS FILLED WITH COARSE GROUT.		
6. VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT THE TOP AND BOTTOM AND AT MAX. SPACING OF 192 BAR DIAMETERS. REINFORCEMENT SHALL BE PLACED IN CENTER OF THE MASONRY CELL TYPICAL UNLESS OTHER WISE NOTED.		
7. REINFORCING STEEL SHALL BE LAPPED A MIN. OF 40 BAR DIAMETER, UNLESS OTHERWISE NOTED ON THE DRAWING.		
NOTES: ICF BLOCK WALLS		
MAX SLUMP NOT GREATER THAN 6"		
MAX AGGREGATED SIZE NOT GREATER THAN 3/4"		
HORIZONTAL & VERTICAL WALL REINFORCEMENT SHALL BE PLACED WITHIN MIDDLE THIRD OF THE WALL.		
ALL REINFORCING STEEL SHALL BE GRADE 60		
CODES		
FLORIDA BUILDING CODES 2020 EDITION REQUIREMENTS FOR REINFORED CONCRETE (ACI 318) LATEST EDITION SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDING (ACI 301) LATEST EDITION NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION LATEST EDITION APA PLYWOOD DESIGN SPECIFICATION.		
LIVE LOADS		
ROOF 20 PSF		
RESIDENTIAL FLOOR, UNLESS OTHERWISE STATED 40 PSF		
BALCONIES (100 SQFT OR LESS ) 60 PSF		
STAIRS 40 PSF		
LIGHT PARTITIONS (DEAD LOADS): U.N.O 20 PSF		
RESIDENTIAL DECK 60 PSF		
WINDLOADS;(FBS) THESE DRAWINGS PREPARED USING FBC 2020 AND ASCE 7-16		
CONCRETE STRENGTH		
ALL CONCRETE UNLESS OTHERWISE INDICATED 3000PSI		
AT 28 DAYS		
PEA GRAVEL CONCRETE FOR MASONRY CELLS ONLY 3000PSI		
REINFORCING		
WIRE WELDED FABRIC SHALL CONFORM TO ASTM A 185		
ALL REINFORCING BARS ASTM A 615-GRADE 60		
ALL STIRRUPS AND TIES ASTM A 615-GRADE 60		
STRUCTURAL STEEL		
ALL BOLTS CAST IN CONCRETE ASTM 36 OR ASTM A307		
SHEATHING		
ROOF DECKING ; EXTERIOR CDX STRUCTURAL SHAEATHING OR OSB STRUCTRUAL SHEATING		
WALL SHEATHING ; EXTERIOR CDX STRUCTURAL SHEATHING OR OSB STRUCTURAL SHEATHING		
SOIL BEARING VALUE		
ASSUMED ALLOWABLE SOIL BEARING PRESSURE AFTER COMPACTION 2000 PSF		
SEE DRAWINGS FOR SPECIAL CONCENTRATED LOADS AS SPECIFIED . IF SOIL CONDITIONS IN THIS PROJECT DONT MEET OR EXCEED THE CAPACITY , THE CONTRACTOR WILL CONTACT AN ENGINEER PRIOR TO FOUNDATION POUR FOR VERIFICATION OF FOUNDATION DESIGN.		
SOIL TO BE COMPACTED TO AT LEAST 95% OF MAX DRY DENSITY AS DETERMINED BY ASTM-1557 (MODIFIED PROCTOR)		

- WOOD CONSTRUCTION
- WOOD CONST. SHALL CONFORM TO THE NFPA " NATIONAL DESIGN SPECIFICATION FOR WOOD CONST" LATEST EDITION.
  - ALL EXTERIOR WOOD STUD WALLS, BEARING WALLS, SHEARWALLS AND MISC. STRUCTURAL WOOD FRAMING MEMBERS (I.E. BLOCKING OR GABLE END BRACING) SHALL BE EITHER SOUTHERN PINE OR S.P.F. NUMBER 2 GRADE OR BETTER SHALL BE USED REGARDLESS OF SPECIES.
  - LVL'S SHALL HAVE A MINIMUM ALLOWABLE BENDING STRESS FB OF 2900 PSI BASIS OF DESIGN LP SOLID START LVL 2.0E 2900 FB
- PREFABRICATE WOOD TRUSSES
- ALL PREFABRICATE TRUSSES SHALL BE SECURELY FASTENED TO THEIR SUPPORTING WALLS OR BEAMS WITH HURRICANE CLIPS OR ANCHORS.
  - PREFABRICATE WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR STRESS GRADE LUMBER AND ITS FASTENERS" AS RECOMMENDED BY THE NFPA.
  - TRUSS MEMBERS AND CONNECTIONS SHALL BE PROPORTIONED (WITH A MAX. ALLOWABLE STRESS INCREASE FOR A LOAD DURATION OF 25% ) TO WITH STAND THE LIVE LOADS GIVEN IN THE NOTES AND TOTAL DEAD LOADS.
  - BRIDGING FOR PRE-ENGINEERED TRUSSES SHALL BE REQUIRED BY THE TRUSS MANF. UNLESS NOTED ON THE PLANS.
  - TRUSS ELEVATIONS AND SECTIONS ARE FOR GENERAL CONFIGURATION OF TRUSSES ONLY. WEB MEMBERS ARE NOT SHOWN BUT WILL BE DESIGNED BY THE TRUSS MANF.
  - DESIGN SPECIFICATION FOR LIGHT WEIGHT METAL PLATE CONNECTED WOOD TRUSSES PER THE TRUSS PLATE INSTITUTE TPI LATEST EDITION.
  - PRE-ENGINEERED WOOD TRUSSES SHALL BE DESIGNED BY THE MANF. IN ACCORDANCE WITH SPECIFIED LOADS AND GOVERNING CODES. SUBMITTALS SHALL INCLUDE TRUSS FRAMING PLANS AND DETAILS SHOWING MEMBER SIZES, BRACING, ANCHORAGE, CONNECTIONS, TRUSS LOCATIONS, PERMANENT BRACING AND /OR BRIDGING AS REQUIRED FOR ERECTION AND FOR THE PERMANENT STRUCTURE. EACH SUBMITTAL SHALL BE SIGNED AND SEALED BY FLORIDA REGISTERED PROFESSIONAL ENGINEER. SUBMIT 3 COPIES FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. ONE SIGNED AND SEALED COPY OF TRUSS ENGINEERING SUBMITTAL TO BE SENT TO THE STRUCTURAL ENGINEER PRIOR TO FABRICATION . FOR VERIFICATION OF LOADS AND CONNECTORS SPECIFIED ON DRAWING.
  - THE TRUSS MANF. SHALL DETERMINE ALL SPANS WORKING POINTS, BEARING POINTS, AND SIMILAR CONDITIONS. TRUSS SHOP DRAWINGS SHALL SHOW ALL TRUSSES ALL BRACING MEMBERS, AND ALL TRUSS TO TRUSS HANGERS.

- UPLIFT CONNECTORS
- UPLIFT CONNECTIONS SUCH AS HURRICANE CLIPS , TRUSS ANCHORS AND ANCHOR BOLTS ARE ONLY REQUIRED ON MEMBERS IN WALL THAT ARE EXPOSED TO UPLIFT FORCES. INTERIOR LOAD BEARING WALLS ARE NOT ALWAYS EXPOSED TO UPLIFT FORCES. THE MEMBERS OF THESE WALLS MAY NOT NEED TO HAVE CONNECTORS APPLIED. CONSULT THE TRUSS MANF. FOR THE LOCATION OF THESE WALLS.

- FIELD REPAIR NOTES
- MISSED LINTEL STRAPS FOR MASONRY CONST. MAY BE SUBSTITUTED WITH (1) SIMPSON MTSM16 TWIST STRAP WITH (4) 1/4" X 2 1/4" DIAM. TAPCONS THE BOND BEAM BLOCK AND (7) 10D TO THE TRUSS FOR UPLIFT OF 860 LBS. OR LESS USE (2) FOR 1720 LBS. OR LESS OTHER MAY BE SUBSTITUTED ON CASE BY CASE BASES.
  - MISSED J-BOLTS FOR WOOD BEARING WALLS MAY BE SUBSTITUTED WITH 1/2" DIAM. ANCHOR BOLTS SET IN 3/4" DIAM,X 6" DEEP UNITEK PROPOXY 300 ADHESIVE BINDER FOLLOWING ALL MANF. RECOMMENDATIONS ( OR 1/2"x6" RAWL STUD EXPANSION ANCHOR)
  - DRILL 3/4" DIAM. HOLE 6" DEEP AT THE LOCATION OF MISSING REBAR , AND INSTALL 32" LONG #5 REBAR INTO EPOXY FILLED HOLE USE A 2 PART EMBEDDMENT EPOXY (SIMPSON EPOXY TIE SET OR HILTI 2 PART EMBEDDMENT EPOXY) MIXED AS PER MANF. INSTRUCTIONS ASSURE ALL DUST AND DEBRIS FROM DRILLING IS REMOVED FROM THE HOLE USING COMPRESSED AIR BEFORE APPLYING EPOXY TO HOLE. ALLOW THE EPOXY TO CURE ACCORDING TO MANF. RECOMMENDATION. THEN FILL CELL IN THE NORMAL WAY DURING POUR
  - HURRICANE STRAPS MAY BE SUBSTITUTED WITH A STRAP OF GREATER HOLD DOWN VALUE OR GREATER UPLIFT VALUE IN THE FIELD WITHOUT VERIFICATION PROVIDED ALL MANF. INSTALLATION INSTRUCTIONS WERE FOLLOWED.
  - FOR MORTAR JOINTS LESS THAN 1/4" PROVIDE (1) #5 REBAR VERT. IN CONC. FILLED CELL EACH SIDE OF JOINT (BAR DOESN'T HAVE TO BE CONT. TO FOOTING).

NOTE: THE CAPACITIES OF THE TRUSS CONNECTORS SPECIFIED SHALL BE VERIFIED BY THE CONTRACTOR TO EXCEED THE LOADS IN THE SIGNED AND SEALED TRUSS ENGINEERING SUBMITTAL

COORDINATION BETWEEN BUILDING STRUCTURAL ENGINEER AND TRUSS ENGINEER/FABRICATOR
THE DESIGN LOADS FOR THE SUPPORTING SUBSTRUCTURE ( BEARING WALLS, JACKS STUDS UNDER HEADERS AND GIRDERS TRUSSES, PORCH HEADER BEAMS, ETC) RESULTING FROM THE ROOF LOADS ARE DEPENDENT ON THE TRUSS MANUFACTURE'S FINAL LAYOUT AND DESIGN. THEREROE, THE STRUCTURAL ENGINEER-OF-RECORD SHALL BE PROVIDED WITH A SIGNED/SEALED SET OF THE TRUSS ENGINEERING PACKAGE PRIOR TO THE APPLICATION FOR A BUILDING PERMIT BY THE OWNER/ CONTRACTOR. IN ORDER TO ALLOW THE STRUCTURAL ENGINEER-OF-RECORD TO VERIFY THAT THE SUBSTRUCTURE LOADING CONDITIONS AND DESIGN ARE IN CONFORMANCE AND COMPATIBLE WITH THE TRUSS MANUFACTURE'S FINAL LAYOUT AND DESIGN.

- ELECTRICAL NOTES
- ELECTRICAL OUTLET HEIGHTS AS MEASURED FROM FIN. FLOOR TO CENTER OF BOX TO BE 12"

KITCHEN	44"
BATHROOM	39"
LAUNDRYROOM	36"
WATERPROOF G	12"
GARAGE GEN. RANGE	42"
	2"
  - ALL TRIM PLATES & DEVICES TO BE GANGED , WHERE POSSIBLE
  - ELECTRICAL SWITCHES TO BE AT 42"
  - ELECTRICAL PLAN IS FOR BID ONLY. ALL WORK SHALL BE DONE ACCORDANCE WITH THE LATEST EDITION OF THE N.E.C. BY A LICENSED ELECTRICIAN, WHO SHALL BE RESPONSIBLE FOR THE INSTALLATION & SIZING OF ALL ELECTRICAL WIRING AND ACCESSORIES.
  - SMOKE DETECTORS WILL BE IN ACCORDANCE WITH FLORIDA BUILDING CODE.
  - PROVIDE ARC FAULT INTERRUPTERS IN ALL BEDROOMS AS PER N.E.C.

NOTICE TO BUILDER

IT IS THE INTENT OF THIS DESIGNER THAT THESE PLANS ARE ACCURATE AND ARE CLEAR ENOUGH FOR THE LICENSED CONTRACTOR TO CONSTRUCT THIS PROJECT IN THE EVENT THAT SOMETHING IS UNCLEAR OR NEEDS CLARIFICATION STOP AND CALL THE DESIGNER LISTED ON THIS PAGE. IT IS THE RESPONSIBILITY OF THE LICENSED CONTRACTOR THAT IS CONSTRUCTING THIS PROJECT TO REVIEW THESE PLANS BEFORE CONSTRUCTION AND IF NEEDED COORDINATE WITH THE DESIGNER OF ANY CORRECTIONS TO BE MADE BEFORE CONSTRUCTION BEGINS.

GENERAL NOTES

THE FOLLOWING SHALL COMPLY WITH THE F.B.C.

PORCHES AND BALCONIES SECTION R312

HANDRAILS-SECTION R311 R311.5.6

GUARDRAILS-SECTION R312.2

STAIRS-SECTION R311 R311.2

CHIMNEY & FIREPLACE SECTION R1001 R1002 SECTION R1003 R1004

EGRESS WINDOWS SECTION R310 310.1.1

GARAGE SEPARATION SECTION R309 R309.2

- ALL OPENINGS SHALL COMPLY WITH F.B.C. WIND LOADS AS STATED BELOW ATTACHMENT OF WINDOWS , DOORS, SLIDING GLASSDOORS, AND OVER HEAD GARAGE DOORS ARE TO BE DELEGATED TO THE MANF. OF THESE ITEMS THE MANF. OF THESE ITEMS WILL SUBMIT ATTACHMENTS TO CONTRACTOR OF RECORD FOR REVIEW PRIOR TO INSTALLATION
- ALL DOORS ARE 6'8" OTHERWISE NOTED
- ALL SHOWER ENCLOSURES TO BE TEMPERED GLASS
- ALL WINDOWS WITHIN 24" OF DOORS TO BE TEMPERED GLASS
- ALL ROOMS TO BE ARC FAULT PROTECTED
- MUST HAVE SMOKE DETECTORS IN EACH BEDROOM AND OUTSIDE EACH SLEEPING AREA. AND COMBINATION CARBONMONOXIDE AND SMOKE DETECTORS IF GARAGE IS ATTACHED TO HOUSE
- HVAC MUST PROVIDE BALANCED AIR
- EGRESS WINDOWS MIN. 24" HIGH BY 20" WIDE BUT MUST HAVE MIN. 5 SQ FT CLEAR OPENING FIRST FLOOR 5.7 SQ FT SECOND FLOOR.
- HANDRAILS REQUIRED WHEN DECK IS 30" ABOVE GRADE
- TOP OF HANDRAIL IS TO BE BETWEEN 34" TO 38" ABOVE DECK SPINDLES SPACED WITH 4" OPENING MAX.
- ALL RECEPTACLES TO TAMPER PROOF PER CODE 406.11

FOUNDATION NOTES

4" THICK SLAB W 6"X6" 1Q/10 GA W.W.M OVER 6 MIL VAPOR BARRIER ON TERMITE TREATED, WELL COMPACTED CLEAN FILL

8" C.M.U. STEMWALL W/ (1) #5 REBAR VERTICAL FILLED CELL W/ CONCRETE AT ALL CORNERS AND 6" OC, MAX.

10"x20" CONT. CONCRETE STEMWALL FOOTING W (2) #5 REBAR CONT.

THICKEN EDGE OF MONO SLAB TO 12"x16" W/(2) #5 REBAR CONT.@ PORCHES

THICKEN EDGE OF MONO SLAB TO 12"x20" W / (2) # 5 REBAR CONT.

STEEL COMPOSITE FLOOR DECK NOTES

- STEEL DECK SHALL BE TYPE 1 1/2" DEEP COMPOSITE FORM DECK OF 20GA STEEL SHEETS CONFORMING TO ASTM A-653 GALVANIZED G60 FINISH DESIGN BASED ON VULCRAFT 1.5VLR-36 COMPOSITE DECK
- THE DECK SHALL BE CAPABLE OF SUPPORTING A UNIFORMLY DISTRIBUTED TOTAL LOAD OF 175 PSF OVER 3 SPANS
- THE DECK SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH THE "SPECIFICATIONS FOR DESIGN OF LIGHT GAGE COLD/FORMED STEEL STRUCTURAL MEMBERS" AND CONFORM TO THE STEEL DECK INSTITUTES RECOMMENDED SPECIFICATIONS

4. DECK UNITS SHALL BE ERECTED AND ANCHORED IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS AND ERECTION DRAWINGS.

5. SHOP DRAWINGS SHALL IDENTIFY THE SPECIFIC PROJECT. SHALL LIST ALL DESIGN CRITERIA AND SHALL BNE SUBMITTED TO DESIGN PROFESSIONAL FOR REVIEW./

6. FLOOR SHALL HAVE A TOTAL SLAB DEPTH OF 4 1/2" CONCRETE SHALL BE 3000 PSI LIGHT WEIGHT CONCRETE AND REINFORCED W 6X6-W2.9KW2.9 WWF PLACED 1" BELOW THE TOP OF SLAB

STEEL JOIST

1. MANUFACTURE AND ERECT STEEL JOIST AND BRIDING PER SPECIFICATIONS OF THE STEEL JOICE INSTITUTE AND GENERAL NOTE NO.13. DESIGN ALL FLOOR JOISTS FOR 2000 LBS LOAD ACTING OVER 2.5FTX2.5FT AREA

2. ALL STEEL ROOF JOIST AND BRIDGING SHALL BE DESIGNED FOR A UPLIFT USING THE COMPONENTS AND CLADDING LOAD DIAGRAMS WITH A MAXIMUM DEAD LOAD OF 10 PSF AND PONDING PER SPECIFICATIONS OF THE STEEL JOICE INSTITUTE. PROVIDE BRIDGING AT FIRST BOTTOM CHORD PANEL AT EACH END OF JOIST FOR UPLIFT

3. WELD EACH SIDE OF EACH JOIST TO JOIST GIRDER, BEARING PLATE OR BEAMS PER JOIST DESIGNER

4. CONTINUE ALL BRIDING TO ALL STRUCTURAL MEMBERS PARELLEL TO JOISTS PROVIDE LINES OF BRIDGING PER SJI REQUIREMENTS. OR AS SHOWN, WHICH EVER IS GREATER. SECURELY WELD ALL BRIDING TO TOP AND BOTTOM OF ADJACENT JOISTS AND BEAMS WELD CROSS-BRIDGING AT INTERSECTIONS.

5. SHOP DRAWINGS AND MANUFACTURERS LIBERTURE SHALL IDENTIFY THE SPECIFIC PROJECT. SHALL LIST ALL DESIGN CRITERIA, SHALL SHOW ALL JOIST LOCATION INFORMATION AND SHOW ALL DETAILS NECESSARY FOR PROPER ERECTION.SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND IMPRESSED SEAL OF SPECIALTY ENGINEER WHO PREPARED THOS SHOP DRAWINGS SHALL BE SUMITTED TO THE ENGINEER OF RECORD FOR APPROVAL

RIVERS ENGINEERING, LLC  
GREGORY P. RIVERS, PE. FL #35800  
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STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE 2020 FLORIDA BUILDING CODE.  
SIGNATURE/SEAL ON ANY SHEET IS VALID ONLY FOR THE STRUCTURAL DESIGN, OR TO INDICATE CONFORMANCE WITH THE STRUCTURAL THIS ITEM HAS BEEN DIGITALLY SEALED BY GREG P RIVERS PE ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND SIGNATURE MUST BE VERIFIED ON ANY ELETRONIC COPIES



Gregory P Rivers  
Digitally signed by Gregory P Rivers  
Date: 2023.09.05 08:17:15 -0400



DATE-9-1-23

REVISED

DRAWING#

SCALE-NA

DRAWN BY- JASON HEMENWAY 352-493-9613/221-2467

APPROVED

SHEET 1 OF 7

FIRST FLOOR HEATED SQFT-1936  
BONUS ROOM SQFT-224  
GARAGE SQFT-1067  
COVERED PORCH -  
TOTAL SQFT-3227

DRAWN FOR-DON WALLACE  
COUNTY -COLUMBIA  
CONTRACTOR -SELF