ROSEBUD HOUSE MODEL

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PROJECT INFORMATION

NEW HOUSE PROJECT FOR OPEN SOURCE ECOLOGY

MULTIPLE LOCATIONS
KANSAS CITY AND ST. JOSEPH AREA

MARCIN JAKUBOWSKI

ISSUES & REVISIONS

#	DATE	DESCRIPTION
1	9/1/2022	STRUCTURAL REVIEW
2	9/21/2022	MARKUPS
3	9/29/2022	MARKUPS
4	10/21/2022	MARKUPS

DRAWN BY: MLR
CHECKED BY: SBA
ISSUED FOR:

SHEET TITLE
COVER SHEET

SHEET NUMBER
A101

GENERAL NOTES

GOVERNING BUILDING CODE: 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) AND ITS APPROPRIATE SUPPLEMENTS

DESIGN LOADS:

ROOF DEAD LOAD:	15 psf (INCLUDING 1.5" GRAVEL)
ROOF LIVE LOAD:	20 psf
FLOOR DEAD LOAD:	10 psf
FLOOR LIVE LOAD:	
BEDROOMS:	30 psf
ALL OTHER LIVING AREAS:	40 psf
WIND LOADS:	Vult = 115 MPH, EXPOSURE C
SEISMIC LOADS:	SITE CLASS "B"
ASSUMED ALLOWABLE SOIL BEARING PRESSURE	1,500 PSF

GENERAL:
1. FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN OR INFERRED BY THESE DRAWINGS.
2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS AND FOR COORDINATING ALL DIMENSIONS AND ELEVATIONS SHOWN WITH THE EXISTING CONDITIONS. IF ERRORS OR DISCREPANCIES IN THE DIMENSIONS OCCUR, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
3. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING AS REQUIRED DURING CONSTRUCTION TO ENSURE THE SAFETY OF ALL INDIVIDUALS INVOLVED.
4. ALL MECHANICAL, ELECTRICAL, AND PLUMBING ELEMENTS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE GOVERNING BUILDING CODE AND THE LOCAL MUNICIPALITY.
5. NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. HAS DESIGNED THE STRUCTURAL FLOOR FRAMING AND WALL BRACING SYSTEM OF THESE PLANS FOR THE CONSTRUCTION OF A RESIDENCE AT THE ADDRESS REFERENCED IN THE PLANS. NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. WILL NOT TAKE RESPONSIBILITY FOR ANY RE-USE OF ANY PORTION OF THE DESIGN, PLANS OR SPECIFICATIONS AT ANY OTHER PROPERTY OR ADDRESS WITHOUT OUR PRIOR WRITTEN CONSENT.

BUILDER'S PLANS:
THE TERM "BUILDER'S PLANS" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS. AS THE NAME IMPLIES, THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION AND A THOROUGH UNDERSTANDING OF THE INTERNATIONAL RESIDENTIAL CODE (IRC). THE CONTRACTOR WARRANTS TO NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C., THAT HE POSSESSES THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND DESIGN SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE USE OF PROFESSIONAL SERVICES. THE CONSTRUCTION DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TERMED "BUILDER'S PLANS" IN RECOGNITION OF THE CONTRACTOR'S SOPHISTICATION. ALTHOUGH NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. AND OUR CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, WE CANNOT GUARANTEE PERFECTION. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE "BUILDER'S PLANS" TO THE FIELD CONDITIONS ENCOUNTERED AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, DIMENSION AND QUANTITY. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. ARE UNAUTHORIZED. IT IS ALSO UNDERSTOOD THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR MEETING ALL APPLICABLE BUILDING CODES INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, AND PLUMBING CODE REQUIREMENTS (WHICH IS EXCLUDED FROM THESE PLANS). IN THE EVENT ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER FOR CONSTRUCTION OF ANY ASPECT OF THE PROJECT, NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. OR A QUALIFIED ARCHITECT/ENGINEER SHALL IMMEDIATELY BE RETAINED. FAILURE TO NOTIFY US OF THESE NEEDS OR OF CHANGES TO THE PLANS SHALL RELIEVE NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. OF ALL RESPONSIBILITIES OF THE CONSEQUENCES.

ARCHITECTURAL NOTES:
1. WATER RESISTIVE EXTERIOR WALL COVERING, FREE FROM HOLES AND BREAKS, SHALL BE APPLIED TO STUDS OR SHEATHING OF ALL EXTERIOR WALLS. WRAP SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SHALL BE IN COMPLIANCE WITH SECTION R703.2. AND R703.3
2. BUILDING SHALL COMPLY WITH IRC SECTION R802.5.2 FOR RAFTER AND CEILING JOIST CONNECTIONS.
3. "UFER" GROUND SHALL BE PROVIDED PER IRC SECTION E3608.1
4. GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 4 FEET MINIMUM FROM HOUSE BEFORE TOUCHING SOIL.

STAIR NOTES:
1. MAXIMUM RISER AT STAIRWAYS IS 7 3/4" AND MINIMUM TREAD IS 10" WITH A MINIMUM 6'-8" HEADROOM, PER IRC SECTION R311.7.
2. PLACE HANDRAILS ON ALL STAIRS AND/OR LEVELS THAT EXCEED 30" ABOVE THE FLOOR OR GRADE. RAILINGS TO BE MIN. 36" HIGH AND HAVE INTERMEDIATE RAILS THAT DO NOT ALLOW THE PASSAGE OF A 4" DIAMETER SPHERE AND SHALL COMPLY WITH IRC SECTIONS R311.7.8 & R312
3. ENCLOSE ACCESSIBLE SPACE BENEATH STAIRS SHALL HAVE WALLS AND THE UNDERSIDE OF THE STAIR AND LANDING PROTECTED WITH 1/2" GYPSUM BOARD ON ENCLOSURE SIDE PER SECTION R302.7.
4. STAIRWAYS CONSISTING OF 3 OR MORE RISERS SHALL HAVE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34" AND 38" ABOVE THE STAIR NOSINGS.
5. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1 1/4" MINIMUM TO 2" MAXIMUM OR OTHER APPROVED GRASPABLE SHAPER PER SECTION R311.7.8.5.
6. SPIRAL STAIRS SHALL BE CONSTRUCTED PER SECTION R311.7.10.1.

WINDOWS AND SAFETY GLAZING NOTES:
1. GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS: GLASS IN STORM DOORS; INDIVIDUAL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARCH OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS WITHIN 60" OF THE FLOOR; WALLS ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS AND WHIRLPOOLS; GLAZING IN FIXED OR OPERABLE PANELS EXCEEDING 9 SQ. FT. AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".
2. ALL WINDOWS SHALL MEET THE FALL PROTECTION REQUIREMENTS OF SECTION R312.2.

EMERGENCY EGRESS NOTES:
1. ALL SLEEPING ROOMS AND BASEMENT SHALL BE PROVIDED WITH PROPER EMERGENCY ESCAPE AND RESCUE OPENINGS PER IRC SECTION R310. PROVIDE (1) WINDOW IN EACH BEDROOM THAT HAS A MINIMUM OPERABLE AREA OF 5.7 SQ. FT. WITH A MINIMUM OPERABLE HEIGHT OF 24" AND WIDTH OF 21".
2. PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH ADDITIONAL FLOOR, INCLUDING BASEMENTS AND STAIRWAYS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM ACTIVATES ALL OTHERS AND BE HARD WIRED WITH A BATTERY BACKUP. PER IRC SECTION R314 AND NFPA 72.
3. CARBON MONOXIDE DETECTORS SHALL BE PROVIDED PER R315.

GARAGE:
1. GARAGE FLOORS SHALL SLOPE TOWARDS THE GARAGE DOORWAYS.
2. DOORS BETWEEN THE GARAGE AND THE DWELLING SHALL BE A MINIMUM 1 3/8" SOLID CORE OR HONEY COMBED STEEL DOOR OR A 20 MINUTE FIRE RATED DOOR.
3. THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS UNFINISHED ATTIC AREAS BY A MINIMUM 1/2" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. WHERE UNFINISHED ATTIC AREAS ARE PROVIDED ABOVE THE GARAGE, THE SUPPORTING COLUMNS AND BEAMS SHALL ALSO BE PROTECTED WITH 1/2"GYPSUM BOARD OR EQUIVALENT. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE THE FLOOR/CEILING ASSEMBLY SHALL BE PROTECTED WITH A MINIMUM 5/8" TYPE X GYPSUM BOARD ON THE GARAGE CEILING, SHALL COMPLY WITH IRC SECTION R309.
4. GARAGE DOOR AND FRAME (H-FRAME) FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM THE FLOOR TO CEILING ATTACHED WITH 1 3/4"x0.12" NAILS @ 7"oc STAGGERED WITH (7) 3 1/4"x0.102" NAILS THRU THE JAMB INTO THE HEADER, MINIMUM 2x8 HEADER FOR ATTACHMENT FOR COUNTER BALANCE SYSTEM.
5. BUILDING SHALL COMPLY WITH THE REQUIREMENTS FOR A SELF CLOSING DOOR BETWEEN RESIDENCE AND GARAGE.
6. GARAGE DOORS SHALL MEET THE REQUIREMENTS OF DASMA 115 MPH.

WOOD FRAMING NOTES:
1. ALL STRUCTURAL LUMBER (RAFTERS, CEILING JOISTS, PURLINS AND HEADERS) SHALL BE DOUGLAS FIR LARCH #2 OR BETTER UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL LOAD BEARING WALL STUDS AND PURLIN STRUTS SHALL BE DOUGLAS FIR STUD GRADE OR BETTER.
2. GLUE LAMINATED MEMBERS MARKED "LVL" (LAMINATED VENEER LUMBER) SHALL HAVE A MINIMUM ALLOWABLE BENDING STRESS (FB) OF 2950 PSI, A MINIMUM ALLOWABLE SHEAR STRESS (FV) OF 285 PSI, AND A MINIMUM MODULUS OF ELASTICITY (E) OF 2,000 KSI. ALL MANUFACTURER'S RECOMMENDATIONS FOR NAILING AND CONNECTIONS SHALL BE FOLLOWED.
3. FLOOR JOISTS: SEE IRC TABLE R502.3.1(1) AND R502.3.1(2) FOR SPAN, SIZE, SPACING, AND GRADE OF FLOOR JOISTS.
4. FLOOR JOISTS BELOW PARTITION WALLS RUNNING PARALLEL TO THE JOIST SPAN SHALL BE DOUBLED. ALL DOUBLED MEMBERS SHALL BE NAILED TOGETHER WITH 16d NAILS 16" ON CENTER IN TWO ROWS STAGGERED OR PER MANUFACTURER SPECS.
5. SOLID BLOCKING BETWEEN FLOOR JOISTS SHALL BE INSTALLED WHERE JOISTS BEAR ON TOP OF BEAMS OR HEADERS AND BELOW POINT LOADS. ALL SOLID BLOCKING AND RIM JOIST MATERIAL SHALL BE THE SAME SIZE AND GRADE AS THE JOISTS.
6. ALL FLOOR AND CEILING JOISTS THAT BUTT INTO THE SIDE OF A HEADER OR STEEL BEAM SHALL BE ANCHORED TO THE HEADER OR STEEL BEAM WITH STANDARD JOIST HANGERS.
7. ALL SUPPORTS FOR WOOD TRUSSES, RAFTERS AND PURLINS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, SHALL BEAR ON LOAD BEARING WALLS (WALLS LOCATED DIRECTLY ABOVE A BEAM LINE OR CONTINUOUS FOOTING)! ALL CONCENTRATED LOADS SHALL BE CARRIED THROUGH THE FLOOR SYSTEM THICKNESS WITH SOLID BLOCKING OR WITH 2x4 STUB COLUMNS (SQUASH BLOCKS) THAT TRANSFER THE LOAD DOWN TO THE SUPPORT WALL OR BEAM BELOW.
8. ALL NAILING NOT INDICATED ON THE DRAWINGS SHALL CONFORM TO THE NAILING SCHEDULE OF THE GOVERNING BUILDING CODE. SPACING, END DISTANCES AND EDGE DISTANCES OF NAILS AND SPIKES SHALL BE SUCH AS TO AVOID THE UNUSUAL SPLITTING OF THE WOOD.
9. ALL NON-LOADBEARING STUD WALLS IN THE BASEMENT SHALL BE PROVIDED WITH A 1" MINIMUM VERTICAL EXPANSION JOINT TO ALLOW FOR HEAVE IN THE FLOOR SLAB. WALLS SHALL NOT BE TIGHT BETWEEN THE SLAB AND THE FRAMING ABOVE!
10. SHEATHING FOR HORIZONTAL DIAPHRAGMS SHALL BE EXTERIOR GRADE, C/D, STRUCTURAL GROUP II OR BETTER. ROOF AND WALL FRAMING SHALL BE OF DOUGLAS FIR-LARCH OR SOUTHERN PINE. PROVIDE SOLID BLOCKING AT ALL PANEL EDGES UNLESS OTHERWISE NOTED. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.
11. ALL WOOD STRUCTURAL PANELS SHALL BE IDENTIFIED WITH THE APPROPRIATE GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION (APA) AND SHALL MEET THE REQUIREMENTS OF PRODUCT STANDARD PS-1.
12. WOOD STRUCTURAL PANELS SHALL BE SET WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND STAGGER END JOINTS 4'-0".
13. STANDARD WASHERS SHALL BE USED WITH ALL BOLTS FASTENING WOOD MEMBERS.
14. ALL SAWN LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
15. ROOF FRAMING - RIDGE BEAMS, VALLEY AND HIP RAFTERS SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 2" AND MINIMUM DEPTH NOT LESS THAN THE END CUT OF THE RAFTERS. HIP AND VALLEY RAFTERS SHALL BE SUPPORTED AT THE RIDGE BY A 2x6 "TEE" BRACE TO A BEARING PARTITION. WHERE ROOF BRACING IS USED TO PERMIT LONGER RAFTERS SPAN, USE 2x6 "TEE" BRACES AT 4'-0" O.C. WITH CONTINUOUS 2x6 PURLIN UNDER THE RAFTERS. BRACE RAFTERS TO BEARING PARTITIONS.
16. PROVIDE CONTINUOUS STRONG BACKS FOR CEILING JOIST SPANS 12'-0" OR GREATER.
17. CEILING JOISTS: SEE IRC TABLE R802.5(1) AND R805.5(2) FOR SPAN, SIZE, SPACING, AND GRADE OF CEILING JOISTS.
18. ROOF RAFTERS: SEE IRC TABLE R805.4.1(1) THRU R802.4.1(8) FOR SPAN, SIZE, SPACING, AND GRADE OF ROOF RAFTERS.
19. BRACE THE COMPRESSION FLANGE OF ALL BEAMS UNLESS NOTED OTHERWISE.
20. ALL BEAMS OR HEADERS THAT BEAR ON WOOD FRAMING SHALL BE SUPPORTED BY ANOTHER BEAM OR HEADER OR A BUILT-UP STUD COLUMN THE FULL WIDTH OF THE BEAM CONTINUOUS TO THE FOUNDATION OR OTHER STRUCTURAL FRAMING MEMBER, U.N.O.
21. ALL LIGHT GAGE METAL FRAMING ACCESSORIES NOTED SHALL BE AS MANUFACTURED BY "SIMPSON STRONG TIE" OR APPROVED EQUAL, ATTACH FRAMING ACCESSORIES TO WOOD FRAMING IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
22. PROVIDE HEADERS AS SHOWN ON PLAN, FOR HEADERS NOT MARKED REFERENCE TYPICAL BEARING WALL HEADER SCHEDULE.
23. FLOOR SHEATHING SHALL BE 3/4" TONGUE & GROOVE WOOD STRUCTURAL PANEL. GLUE & NAIL TO FLOOR JOISTS WITH 8d NAILS AT 6" O.C. AT ALL PANEL EDGES AND AT 12" O.C. AT INTERMEDIATE SUPPORTS.
24. ALL EXTERIOR WOOD WALL FRAMING SHALL BE 2x6 DOUG-FIR NO. 2 AT 16"oc, UNO.
25. ALL INTERIOR BEARING WALL FRAMING SHALL BE 2x4 DOUG-FIR NO. 2 AT 16"oc, UNO.
26. MULTIPLE STUD MEMBERS CALLED OUT FOR SUPPORT OF LVL BEAMS AND HEADERS SHALL BE CARRIED DOWN TO TOP OF FOUNDATIONS OR SUPPORT BEAM(S).

CONCRETE & REINFORCING NOTES:
1. CONCRETE STRENGTH SHALL MEET THE FOLLOWING MINIMUM 28 DAY STRENGTH REQUIREMENTS (IRC R402.2):
   a. 2,500 PSI FOR BASEMENT FLOOR SLABS ON UNDISTURBED GRADE.
   b. 3,000 PSI FOR FOOTINGS, FOUNDATION WALLS, AND OTHER VERTICAL CONCRETE.
   c. 3,500 PSI FOR CARPORT AND GARAGE FLOOR SLABS ON UNDISTURBED GRADE.
   d. 3,500 PSI FOR STRUCTURAL FLOOR SLABS.
2. CONCRETE SHALL BE 6%±1% AIR ENTRAINED FOR GARAGE SLABS AND FOR ALL LOCATIONS (FOOTINGS, WALLS, FLATWORK, ETC.) EXPOSED TO WEATHER.
3. CONCRETE SHALL HAVE A SLUMP OF 4" ± 1". THE SLUMP CAN BE INCREASED THROUGH THE USE OF APPROVED ADDITIVES (NOT WATER).
4. THE REINFORCING STEEL SHALL BE ASTM A615, GRADE 40 MINIMUM UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL BARS SHALL BE LAPPED A MINIMUM OF 48 BAR DIAMETERS AND/OR CORNER BARS SHALL BE PROVIDED AT ALL FOOTING AND WALL CORNERS, AND FOOTING STEPS.
5. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS (ACI 318):
   a. EARTH FORMED - 3"
   b. EXPOSED TO WEATHER - 1 1/2" FOR #5 BARS & SMALLER
   c. NOT EXPOSED TO WEATHER - 3/4" FOR SLABS.
6. NO WATER SHALL BE ADDED TO THE CONCRETE MIX AT THE SITE.
7. ADDITION OF CALCIUM CHLORIDE TO CONCRETE IS NOT PERMITTED.
8. NO ALUMINUM SHALL BE EMBEDDED/PLACED IN CONCRETE.
9. CONCRETE PLACED IN COLD WEATHER SHALL COMPLY WITH ACI 306. CONCRETE PLACED IN HOT WEATHER SHALL COMPLY WITH ACI 305.

FOUNDATION NOTES:
1. ALL FOUNDATIONS SHALL BEAR ON NATIVE, UNDISTURBED SOIL CAPABLE OF SUPPORTING 1,500 PSF UNLESS NOTED OTHERWISE, WITHOUT UNDUE SETTLEMENT OR HEAVING. THE CONTRACTOR SHALL RETAIN A QUALIFIED TESTING LAB (APPROVED BY THE OWNER) TO FIELD VERIFY THE ACTUAL SOIL BEARING CAPACITY.
2. ALL EXTERIOR FOOTINGS SHALL BEAR A MIN. OF 36" BELOW FINISHED GRADE.
3. IF THE EXISTING SITE TOPOGRAPHY OR SOIL CONDITIONS VARY FROM THE CONDITIONS SHOWN ON THE DRAWINGS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ARCHITECT/ENGINEER SO THAT A DESIGN THAT IS APPROPRIATE FOR THE SITE CAN BE GENERATED.
4. FOOTINGS SHALL BE POURED CONTINUOUS AT FOOTING STEPS (SOLID JUMPS).
5. ANY FILL THAT IS INSTALLED UNDER THE BASEMENT OR GARAGE FLOOR SLABS SHALL BE PROPERLY COMPACTED TO PREVENT SETTLEMENT OF THE FILL MATERIAL. PROPER COMPACTION IS WHERE THE SOIL IS PLACED IN 6" LIFTS AND EACH LIFT IS COMPACTED PRIOR TO INSTALLING MORE SOIL. THIS COMPACTED FILL SHALL THEN BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER. AT THE CONTRACTOR'S OPTION, A PROPERLY DESIGNED STRUCTURAL SLAB MAY BE INSTALLED OVER ANY FILL THAT HAS NOT BEEN PROPERLY COMPACTED. ALL EXTERIOR SLABS INSTALLED ADJACENT TO THE FOUNDATION SHALL BE DOWELED INTO THE FOUNDATION WITH #4 BARS AT 12" ON CENTER (GRADE 60 STEEL) DRILLED IN 6" MINIMUM AND EPOXIED.
6. CONTROL JOINTS IN THE FLOOR SLABS SHALL BE INSTALLED AS TO MINIMIZE THE AMOUNT OF RANDOM CRACKING (12' INTERVALS MAXIMUM). THESE JOINTS SHALL BE SAWCUT 1-1/4" DEEP WITHIN 8 HOURS OF POURING THE SLAB OR MAY BE TOOLED INTO THE SLAB WHEN POURED. SAWCUTS SHALL BE IN APPROXIMATE SQUARE PATTERN WITH MAXIMUM ASPECT RATIO OF 1-1/2 TO 1.
7. THE BUILDER SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE STEPS TO MINIMIZE THE EFFECTS OF EXPANSIVE SOIL ON THE FOUNDATION, SLABS, AND WOOD FRAMED PORTIONS OF THE HOUSE. THIS INCLUDES ISOLATING THE FLOOR SLAB AT ALL COLUMNS, INTERIOR BEARING WALLS, AND AT THE FOUNDATION WALLS WITH TWO LAYERS OF 15# FELT. PARTITION WALLS IN THE BASEMENT SHALL NOT BE CONSTRUCTED TIGHT AGAINST THE FRAMING ABOVE.
8. CONCRETE SLABS SHALL BE A MIN. OF 4" THICK OVER A MIN. OF 4" OF 1/2" TO 3/4" CLEAN, GRADED ROCK, U.N.O. OR IF SITE CONDITIONS REQUIRE OTHERWISE.
9. PROVIDE A MIN. 6-MIL POLYETHYLENE MOISTURE BARRIER OVER GRAVEL BASE UNDER FLOOR SLABS (NOT REQUIRED FOR GARAGE SLABS) PER SECTION R405.2.2. LAP JOINTS A MIN. OF 6".
10. ALL FOOTING AND SLAB REINFORCEMENT SHALL BE BLOCKED OFF SUBGRADE WITH CHAIRS OR CONCRETE BRICKS.

ENERGY REQUIREMENTS

1. THE BUILDING THERMAL ENVELOPE SHALL BE SEALED WITH AN AIR BARRIER PER IRC SECTION N1102.
2. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE SHALL BE IC-RATED, LEAKAGE RATED AND SEALED TO THE GYPSUM WALLBOARD AS REQUIRED PER N1102.
3. PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER N1103.1.1.
4. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2% AIR LEAKAGE RATE PER N1103.3.2.1.
5. BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE AS REQUIRED PER N1103.
6. BUILDING CAVITIES IN A THERMAL ENVELOPE WALL SHALL NOT BE USED AS RETURN AIR PLENUMS UNLESS THE REQUIRED INSULATION BARRIER IS MAINTAINED PER M1601.1.1.
7. HOT WATER PIPES SHALL BE INSULATED AS REQUIRED PER N1103.4.1.
8. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1505.2.
9. MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM AS REQUIRED PER M1503.6.
10. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE PER M1601.6.
11. MINIMUM MECHANICAL EFFICIENCY RATING FOR AC EQUIPMENT IS 13 SEER AS REQUIRED PER IRC.
12. MINIMUM MECHANICAL EFFICIENCY RATING FOR FORCED AIR FURNACE IS 78% AS REQUIRED PER IRC.

ABBREVIATIONS LEGEND

AB	ANCHOR BOLT	LBS	POUNDS
ACI	AMERICAN CONCRETE INSTITUTE	LONG	LONGITUDINAL
AFF	ABOVE FINISH FLOOR	MAX	MAXIMUM
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MECH	MECHANICAL
		MFR	MANUFACTURER
AISI	AMERICAN IRON AND STEEL INSTITUTE	MIN	MINIMUM
ARCH	ARCHITECTURAL	MISC	MISCELLANEOUS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MTL	METAL
		NO	NUMBER
AWS	AMERICAN WELDING SOCIETY	NS	NEAR SIDE
BFF	BELOW FINISH FLOOR	NTS	NOT TO SCALE
BFS	BOTTOM OF FOOTING STEP	OC	ON CENTER
BO	BOTTOM OF	OH	OPPOSITE HAND
BOS	BOTTOM OF STEEL	PAF	POWDER ACTUATED FASTENERS
BRG	BEARING	PCF	POUNDS PER CUBIC FEET
BWP	BRACED WALL PANEL	PL	PLATE
CIP	CAST-IN-PLACE CONCRETE	PLF	POUNDS PER LINEAR FOOT
CJ	CONTROL JOINT (WALL)	PSF	POUNDS PER SQUARE FOOT
CL	CENTER LINE	PSI	POUNDS PER SQUARE INCH
CLR	CLEAR	QTY	QUANTITY
COL	COLUMN	REF	REFERENCE
CONC	CONCRETE	REINF	REINFORCING
CONST	CONSTRUCTION	REQD	REQUIRED
CONT	CONTINUOUS	REV	REVERSE
DIA	DIAMETER	RO	ROUGH OPENING
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	SIM	SIMILAR
EL	ELEVATION	T&B	TOP AND BOTTOM
ELEC	ELECTRICAL	TFS	TOP OF FOOTING STEP
EQ	EQUAL	THK	THICK
EW	EACH WAY	TO	TOP OF
FDN	FOUNDATION	TOC	TOP OF CONCRETE
FF	FINISH FLOOR	TOF	TOP OF FOOTING
FS	FAR SIDE	TOP	TOP OF PAVING
FTG	FOOTING	TOS	TOP OF STEEL
GA	GAGE	TRANS	TRANSVERSE
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GYP BD	GYPSUM BOARD	UNO	UNLESS NOTED OTHERWISE
HORIZ	HORIZONTAL	VERT	VERTICAL
HSA	HEADED STUD ANCHOR	W	WIDTH
INFO	INFORMATION	WBM	WALL BRACE METHOD
JST	JOIST	WP	WORK POINT
JT	JOINT	WS	WALL STEP
KSI	KIPS PER SQUARE INCH	WWF	WELDED WIRE FABRIC

SYMBOLS LEGEND

ELEVATION DESCRIPTION — ELEVATION DESIGNATION
CUT SYMBOL
NO/SHEET — SECTION CUT
TYPE NO/SHEET — ELEVATION DETAIL
TYPE NO SHEET TYPE — BLOWUP DETAIL
WSP — WOOD STRUCTURAL PANEL
ABW — ALTERNATE BRACED WALL PANEL
PFH — PORTAL FRAME WITH HOLD-DOWNS
PFG — PORTAL FRAME AT GARAGE

1 — REVISION DESIGNATION
22 — PLAN NOTE SYMBOL
1 — SLAB JOINT DESIGNATION
100'-0" — SPOT ELEVATION
CONCRETE WALL
WOOD NON-LOAD BEARING STUD WALL
BRACED WALL PANEL
BRACED WALL LINE
WOOD STUD BEARING WALL

INSULATION AND FENESTRATION REQUIREMENTS - IRC TABLE N1102.1.2

THESE VALUES ARE BASED ON CLIMATE ZONE 4 PER IRC FIGURE N1101.7 OR TABLE N1101.7. REFERENCE IRC FOR DIFFERENT CLIMATE ZONE VALUES

COMPONENT		VALUE	
FENESTRATION		U ≤ TO 0.32	(b)
SKYLIGHT		U ≤ TO 0.55	(b)
GLAZED FENESTRATION SHGC		U ≤ TO 0.40	(b)(e)
CEILING		R-49	
CEILING WITH ATTIC SPACES (OVER 100% OF THE CEILING)		R-38	
CEILING- VAULTED (500 SQ.FT. OR 20% OF THE TOTAL INSULATED CEILING AREA, WHICHEVER IS LESS)		R-30	
WOOD FRAME WALL		R-20 OR R-13 + 5	(h)
MASS WALL		R-8 / R-13	(i)
FLOOR		R-19	
BASEMENT WALL		R-10 / R-13	(c)
SLAB (R VALUE/DEPTH)		R-10 / 2 FT	(d)
CRAWLSPACE WALL W/ FLOOR INSULATION		R-10 / R-13	(c)
DUCTS OUTSIDE OF THE	SUPPLY AND RETURN	R-8	
CONDITIONED SPACE	IN FLOOR & CEILING ASSEMBLY	R-6	

a. R VALUES ARE MINIMUMS. U - FACTORS AND SHGC ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.
b. THE FENESTRATION U - FACTOR EXCLUDES SKYLIGHTS. THE SHGC APPLIES TO ALL GLAZED FENESTRATION.
c. "10/13" MEANS R-10 CONTINUOUS INSULATION ON THE INTERIOR OR EXTERIOR OF THE HOME OR R-13 CAVITY INSULATION ON THE INTERIOR OF THE BASEMENT WALL.
d. R - 5 SHALL BE PROVIDED UNDER THE FULL SLAB AREA OF A HEATED SLAB IN ADDITION TO THE REQUIRED SLAB EDGE INSULATION R-VALUE FOR SLABS, AS INDICATED IN THE TABLE. THE SLAB EDGE INSULATION FOR HEATED SLABS SHALL NOT BE REQUIRED TO EXTEND BELOW THE SLAB.
e. THERE ARE NO SHGC REQUIREMENTS IN THE MARINE ZONE.
f. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.10 AND TABLE N1101.10.
g. ALTERNATIVELY, INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY PROVIDING NOT LESS THAN AN R-VALUE OF R-19.
h. FIRST VALUE IS CAVITY INSULATION, SECOND VALUE IS CONTINUOUS INSULATION . THEREFORE, AS AN EXAMPLE, "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 CONTINUOUS INSULATION.
i. MASS WALLS SHALL BE IN ACCORDANCE WITH SECTION N1102.2.5. THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF OF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.

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N&S JOB NUMBER: 2022-1691

STATE OF MISSOURI
SAMIR B. AWAD
NUMBER PE-2019025208
11/10/2022
PROFESSIONAL ENGINEER

PROJECT INFORMATION
NEW HOUSE PROJECT FOR OPEN SOURCE ECOLOGY
MULTIPLE LOCATIONS
KANSAS CITY AND ST. JOSEPH AREA
MARCIN JAKUBOWSKI

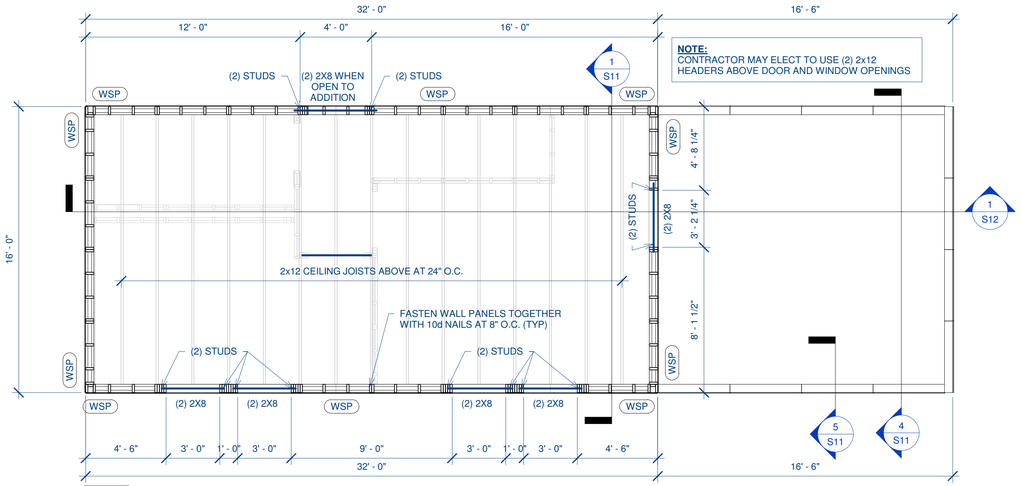
ISSUES & REVISIONS

#	DATE	DESCRIPTION
1	9/1/2022	STRUCTURAL REVIEW
2	9/21/2022	MARKUPS
3	9/29/2022	MARKUPS
4	10/21/2022	MARKUPS

DRAWN BY: MLR
CHECKED BY: SBA
ISSUED FOR:

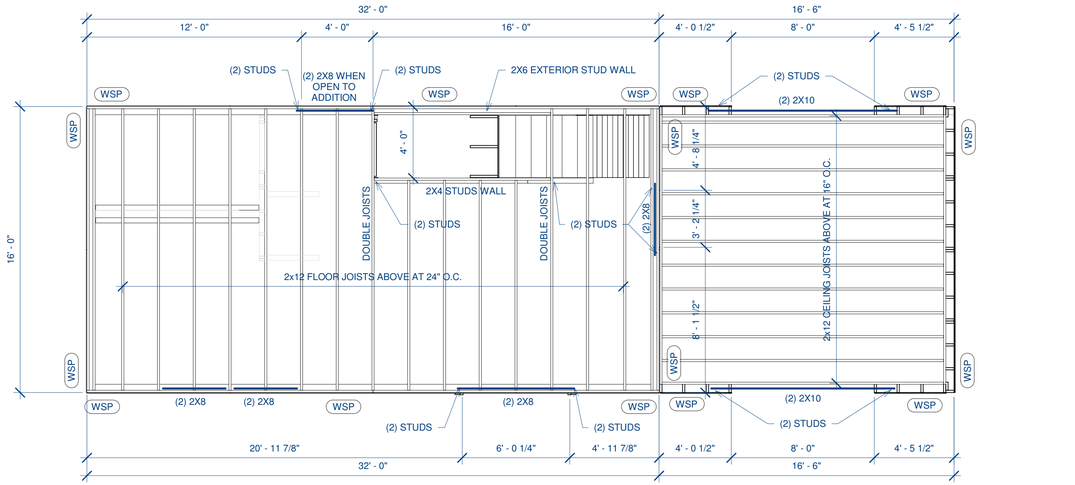
SHEET TITLE
GENERAL NOTES

SHEET NUMBER
S01



3 SECOND FLOOR PLAN AND FRAMING ABOVE

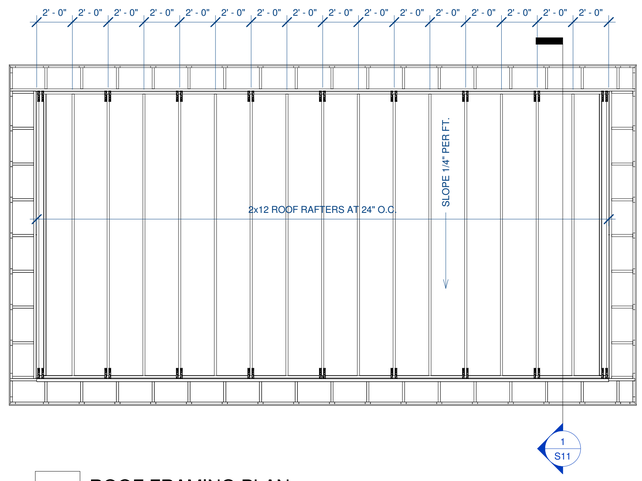
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR PLAN AND FRAMING ABOVE

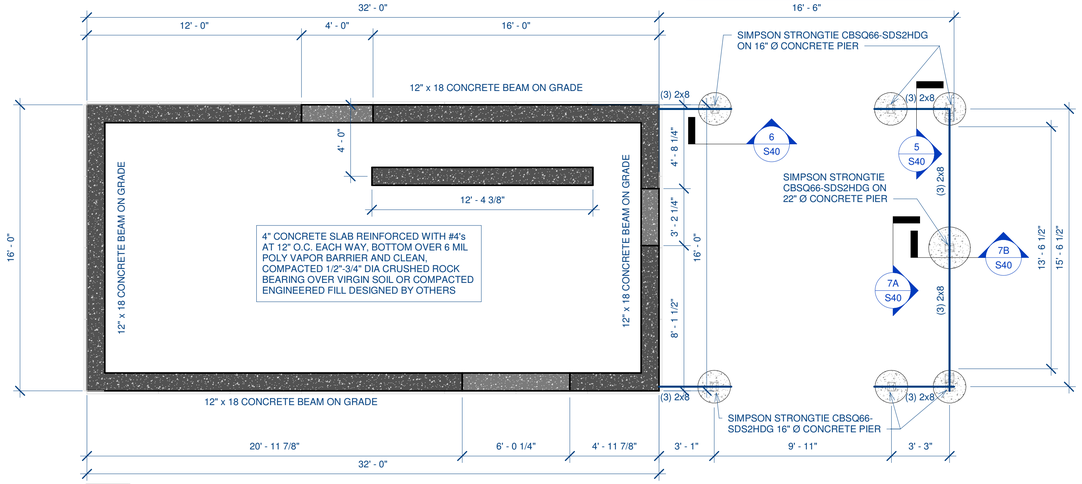
SCALE: 1/4" = 1'-0"

NOTE:
CONTRACTOR MAY ELECT TO USE (2) 2x12 HEADERS ABOVE DOOR AND WINDOW OPENINGS



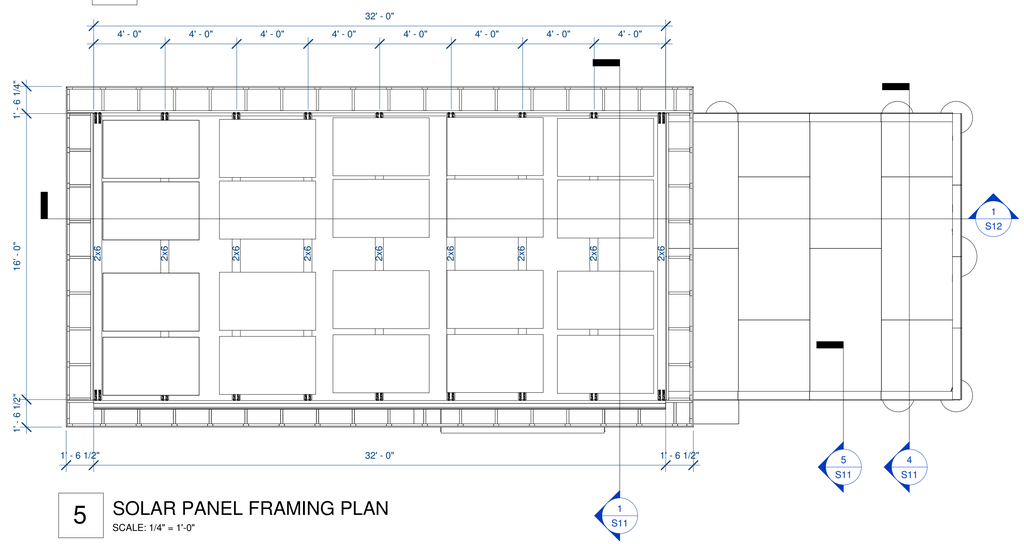
4 ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"



1 FOUNDATION PLAN AND FRAMING ABOVE

SCALE: 1/4" = 1'-0"



5 SOLAR PANEL FRAMING PLAN

SCALE: 1/4" = 1'-0"

ROOF FRAMING PLAN NOTES

NOTES ARE TYPICAL UNLESS NOTE NUMBER IS INSIDE OF CIRCLE, THEN THE NOTE REFERS TO A SPECIFIC LOCATION(S) MARKED ON THE PLAN.

1. PROVIDE 1/2" EXTERIOR GRADE PLYWOOD SHEATHING NAILED TO ROOF RAFTERS WITH 8d NAILS AT 6"oc AT PANEL EDGES AND 12"oc AT NON-PANEL EDGES.
2. PROVIDE ADDITIONAL DEPTH TO JOISTS AS REQUIRED TO PROVIDE 1" AIR GAP TO PREVENT CONDENSATION PLUS 12" INSULATION TO PROVIDE R-38 INSULATION VALUE TO VAULTED CEILING AREA WHERE SHOWN ON PLAN WITH CROSS HATCH.
3. ALL RIDGE MEMBERS SHALL BE 1" NOMINAL THICKNESS AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER. ALL VALLEY AND HIP MEMBERS SHALL BE 2" NOMINAL THICKNESS AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER.
4. HIP AND VALLEY MEMBERS SHALL BE SUPPORTED AT THE RIDGE WITH A 2x6 T-BRACE TO A BEARING WALL BELOW.
5. PROVIDE SOFFIT, RIDGE, AND GABLE END VENTS AS REQUIRED TO PROVIDE ADEQUATE VENTILATION FOR ROOF.
6. PROVIDE PROPER FLASHING AND BUILDING PAPER UNDER SHINGLES AS REQUIRED TO PROVIDE WATER TIGHT SEAL AT ALL ROOF PENETRATIONS, RIDGES, VALLEYS, HIPS AND/OR OTHER SLOPE CHANGES.
7. GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET MINIMUM FROM HOUSE BEFORE TOUCHING SOIL..
8. PROVIDE PROPER CEILING INSULATION AS REQUIRED BY GOVERNING BUILDING CODE.
9. PROVIDE OVER-BUILD FRAMING AS REQUIRED TO ACHIEVE THE DESIRED SLOPES/PROFILES.

FLOOR FRAMING PLANS NOTES

NOTES ARE TYPICAL UNLESS NOTE NUMBER IS INSIDE OF CIRCLE, THEN THE NOTE REFERS TO A SPECIFIC LOCATION(S) MARKED ON THE PLAN.

1. PROVIDE 3/4" TONGUE AND GROOVE WOOD STRUCTURAL PANEL SHEATHING FOR SUBFLOOR GLUED AND NAILED TO WOOD JOISTS WITH 8d NAILS AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT NON-PANEL EDGES.
2. ALL EXTERIOR WALL FRAMING SHALL BE 2x6 DOUG-FIR NO. 2 AT 16" O.C. U.N.O.
3. PROVIDE 1/2" EXTERIOR GRADE PLYWOOD SHEATHING NAILED TO WOOD STUDS WITH 8d NAILS AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT NON-PANEL EDGES.
4. ALL INTERIOR BEARING WALL FRAMING SHALL BE 2x4 DOUG-FIR NO. 2 AT 16" O.C.
5. DOUBLE FLOOR JOISTS UNDER ALL PARTITION WALLS RUNNING PARALLEL WITH JOISTS.
6. PROVIDE PROPER WALL INSULATION AS REQUIRED BY GOVERNING BUILDING CODE.
7. STAIRS SHALL HAVE A MAXIMUM RISE OF 7-3/4" AND MINIMUM TREAD OF 10". ALL RISERS AND TREADS TO BE EQUAL BETWEEN FLOORS.
8. PROVIDE WALL BRACING AS SHOWN ON PLAN.
9. PROVIDE HEADERS AS SHOWN ON PLAN, FOR HEADERS NOT MARKED REFERENCE TYPICAL BEARING WALL HEADER SCHEDULE.
10. FLOOR JOISTS: SEE IRC TABLE R502.3.1(1) AND R502.3.1(2) FOR SPAN, SIZE SPACING, AND GRADE OF FLOOR JOISTS.

TYPICAL BRACED WALL METHOD

WSP - WOOD STRUCTURAL PANEL; WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 7/16" FOR 16" STUD SPACING, FASTEN WITH 8d COMMON NAILS AT 4"oc ALONG EDGES AND 8"oc AT INTERMEDIATE SUPPORTS, WHERE SHOWN ON PLANS. UNLESS OTHERWISE NOTED, PANEL WIDTH = 4'-0".

PFH - PORTAL FRAME WITH HOLD-DOWNS; REF PORTAL FRAME WITH HOLD-DOWNS DETAIL

PFG - PORTAL FRAME AT GARAGE; REF PORTAL FRAME AT GARAGE DETAIL

LIB - LET-IN BRACE; REF LET-IN BRACE DETAIL.

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SHEET TITLE
FRAMING FLOOR PLANS

SHEET NUMBER
S10