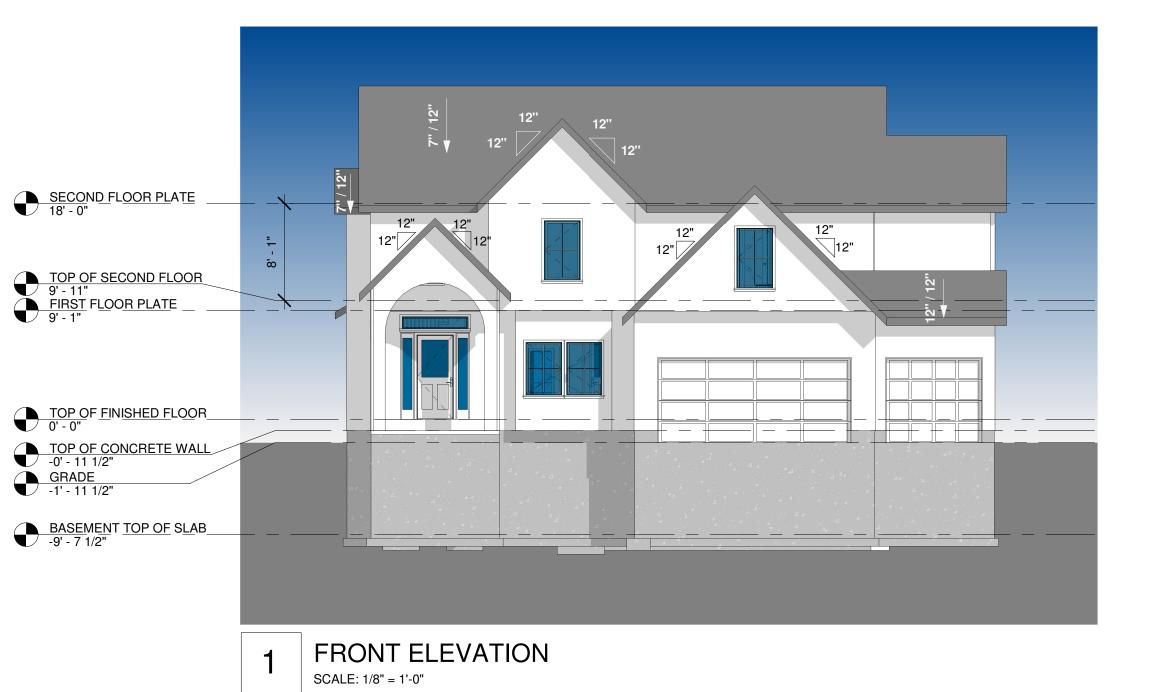




THE LEXINGTON II

SHEET INDEX			
Sheet	Sheet Name		
A100	COVER SHEET		
S100	FOUNDATION PLAN		
S101	FIRST FLOOR FRAMING PLAN		
S102	SECOND FLOOR FRAMING PLAN		
S103	ROOF FRAMING PLAN		
S500	GENERAL NOTES		
S501	DETAILS		
S502	DETAILS		
S503	DETAILS		
S504	DETAILS		
S505	DETAILS		

SQUARE FOOT	AGES
Name	Area
FIRST FLOOR	1217 SF
SECOND FLOOR	1493 SF
GARAGE	643 SF
UNFINISHED BASEMENT	1089 SF
	4442 SF



RELEASE FOR CONSTRUCTION DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI 08/01/2024 NORTONSCHMIDT Consulting Engineers 311 East 11th Avenue North Kansas City, MO 64116 Phone: (816) 421-4232 www.nortonschmidt.com N&S JOB NUMBER: 2023-1903

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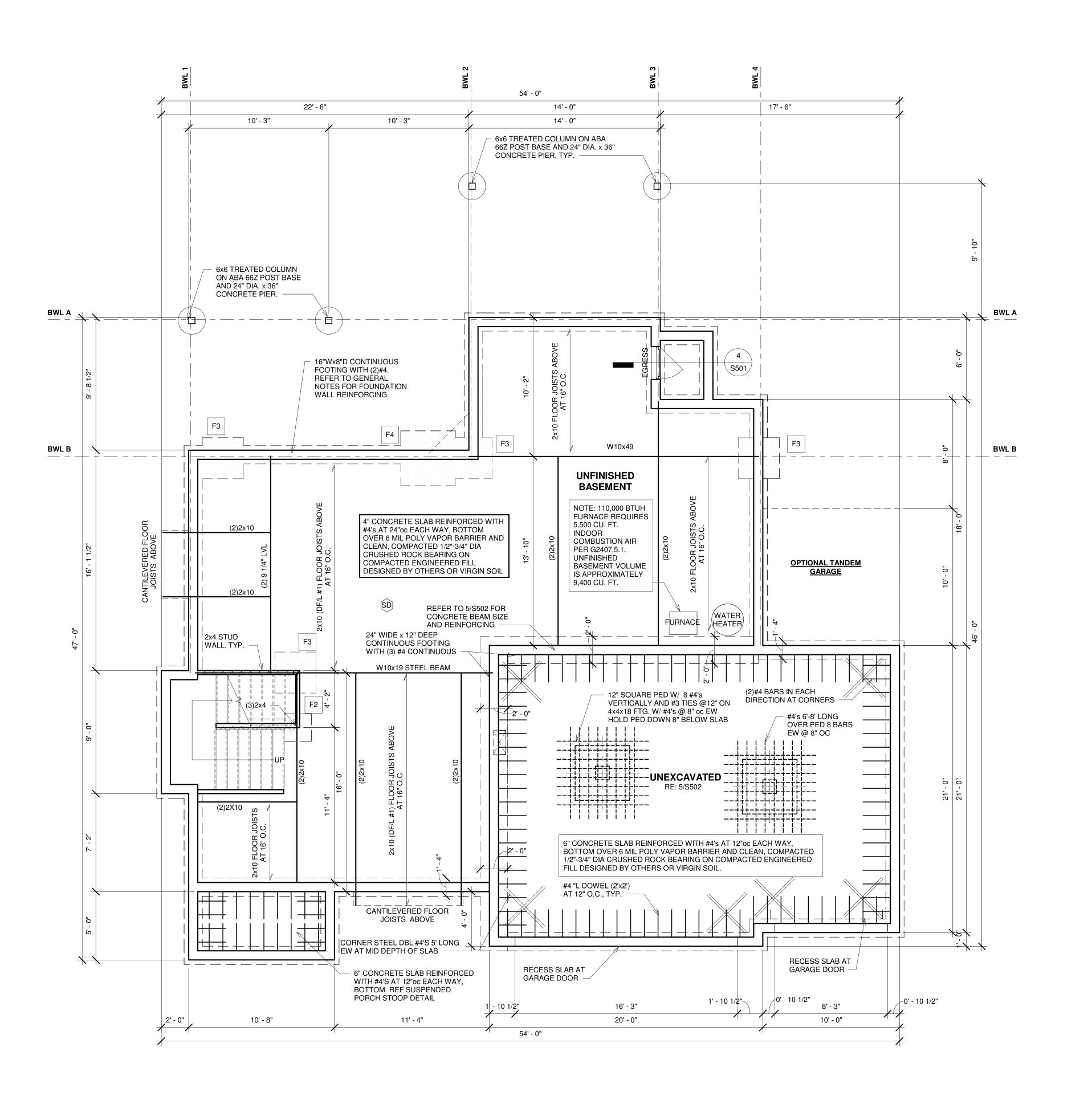
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COVER SHEET

SHEET NUMBER

A100



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.

CONCRETE SHALL HAVE A SLUMP OF 4" ± 1". THE SLUMP CAN BE INCREASED THROUGH THE USE OF APPROVED ADDITIVES (NOT WATER).

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.

MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS (ACI 318): a. EARTH FORMED - 3"

b. EXPOSED TO WEATHER - 1 1/2" FOR #5 BARS & SMALLER

NOT EXPOSED TO WEATHER - 3/4" FOR SLABS. NO WATER SHALL BE ADDED TO THE CONCRETE MIX AT THE SITE. ADDITION OF CALCIUM CHLORIDE TO CONCRETE IS NOT PERMITTED.

NO ALUMINUM SHALL BE EMBEDDED/PLACED IN CONCRETE. CONCRETE PLACED IN COLD WEATHER SHALL 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.

ALL EXTERIOR FOOTINGS SHALL BEAR A MIN. OF 36" BELOW FINISHED GRADE. 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.

FOOTINGS SHALL BE POURED CONTINUOUS AT FOOTING STEPS (SOLID JUMPS).
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. 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.

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

INSTALL CONTINUOUS DRAIN TILE (4" DIAMETER MINIMUM) AROUND THE PERIMETER OF THE ENTIRE LOWER LEVEL AND COVER THE TILE WITH FILTER FABRIC AND COURSE, CLEAN ROCK. INSTALL VERTICAL DRAINS TO PERIMETER DRAIN TILE AT ALL WINDOW WELLS. THE DRAIN TILE SHALL BE CONNECTED TO A 40 GALLON (MINIMUM) SUMP PIT WITH SUFFICIENT DEPTH FOR PROPER SUMP PUMP OPERATION, OR SHALL BE DRAINED BY GRAVITY TO DAYLIGHT AT LEAST 10' FROM THE FOUNDATION. FOUNDATION DRAINAGE SHALL ALSO BE IN ACCORDANCE WITH IRC SECTION R-406.1.

CONCRETE BASEMENT 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. MIN REINFORCING SHALL BE #4'S AT 24"OC OR EQUIVALENT.

PROVIDE A MIN. 6-MIL POLYETHYLENE MOISTURE BARRIER OVER GRAVEL BASE UNDER BASEMENT FLOOR SLABS (NOT REQUIRED FOR GARAGE SLABS) PER SECTION R405.2.2.

LAP JOINTS A MIN. OF 6". 11. ALL FOOTING AND SLAB REINFORCEMENT SHALL BE BLOCKED OFF SUBGRADE WITH CHAIRS OR CONCRETE BRICKS.

RESIDENTIAL BASEMENT WALL NOTES:

1. HORIZONTAL REINFORCING FOR CONC FOUND WALLS SHALL BE #4'S AT 24"oc. VERTICAL REBAR SPACING FOR CONCRETE FOUNDATION WALLS SHALL BE PER THE TABLE

	60 KSI REI	NFORCING	40KSI RE	INFORCING	
WALL THICK	8"	10"	8"	10"	
6' OR LESS	#4 @ 36"oc	#4 @ 36"oc	#4 @ 36"oc	#4 @ 36"oc	
7'	#4 @ 32"oc	#4 @ 36"oc	#4 @ 21"oc	#4 @ 36"oc	
8'	#4 @ 24"oc	#4 @ 36"oc	#4 @ 16"oc	#4 @ 36"oc	
9'	#4 @ 16"oc	#4 @ 20"oc	#4 @ 12"oc	#4 @ 16"oc	
10'	#4 @ 12"oc	#4 @16"oc	#4 @ 8"oc	#4 @ 12"oc	

a. MINIMUM REQUIREMENT FOR VERTICAL REBAR IN PLAIN CONCRETE WALLS IS #4 BARS

VERTICAL BARS SHALL BE CONTINUED TO WITHIN 4" OF THE TOP OF THE WALL. REBAR SHALL BE POSITIONED AT THE TENSION FACE OF THE WALL (2" FROM THE

INSIDE FACE. REINFORCEMENT SHALL LAP A MINIMUM OF 24" AT ENDS, SPLICES, AND AROUND CORNERS.

e. DESIGN BY A PROFESSIONAL ENGINEER IS REQUIRED FOR WALLS OVER 10' IN HEIGHT.

BARS SHALL LAP A MINIMUM OF 48 BAR DIAMETERS AT ENDS, SPLICES AND AROUND CORNERS. UNLESS OTHERWISE NOTED ON THESE DRAWINGS CONTINUOUS WALL FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS FOR 8" THICK WALLS, U.N.O. CONTINUOUS WALL FOOTINGS SHALL BE A MINIMUM OF 24" WIDE AND 12" DEEP WITH (2) #4 BARS CONTINUOUS FOR 12" THICK

4. INSTALL 1/2"Ø X 1'-2" LONG ANCHOR BOLTS (7" EMBEDMENT) AT 3'-0" O.C. AND WITHIN 12" OF THE END OF EACH SILL MEMBER. MINIMUM SILL PLATE TO BE 2X6 PRESSURE TREATED. THE TOPS OF ALL BASEMENT (LOWER LEVEL) FOUNDATION WALLS SHALL BE CONNECTED TO THE FLOOR JOISTS. NAIL EACH FLOOR JOIST END AND END WALL BLOCKING TO THE WOOD SILL PLATE PER THE IRC NAILING SCHEDULE. WHERE FLOOR JOISTS RUN

SPACES AT 2'-0" O.C. OVER THE ENTIRE LENGTH OF THE FLOOR JOISTS. WALLS SHALL BE FULL HEIGHT FROM FOOTING TO FLOOR FRAMING. NO WOOD FRAMED CRIPPLE WALLS EXCEPT AS SPECIFICALLY NOTED ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.

PARALLEL TO THE FOUNDATION WALLS, PROVIDE BLOCKING IN THE FIRST THREE JOIST

STRAIGHT WALLS MORE THAN 5 FEET TALL AND MORE THAN 16 FEET LONG SHALL BE PROVIDED WITH EXTERIOR BRACED RETURN WALLS. REF TYP DEADMAN DETAIL. FOUNDATION WALLS SHALL BE DESIGNED FOR AN EQUIVALENT FLUID PRESSURE (EFP) 60

PROVIDE STEEL SHIMS IN BEAM POCKETS TO LEVEL BEAMS. BEAM POCKETS SHALL BE GROUTED SOLID WITH 4,000 PSI NON-SHRINK GROUT AFTER BEAMS ARE LOADED WITH

FRAMING MEMBERS. 10. REINFORCE AROUND BEAM POCKETS BY BENDING TOP CONTINUOUS HORIZONTAL BAR BELOW BEAM POCKET OR INSTALL SEPARATE BENT BAR LAPPED AND TIED MINIMUM 24"

EACH SIDE. 11. PROVIDE TWO #4 X 4'-0" LONG DIAGONAL BARS AT THE CORNERS OF ALL OPENINGS IN CONCRETE WALLS AND AT FOOTING STEPS. ALSO PROVIDE 2 ADDITIONAL #4 ON ALL SIDES OF WALL OPENINGS. BARS SHALL BE 3'-0" LONGER THAN OPEN VERTICAL OR

HORIZONTAL DIMENSION.

12. FOUNDATION WALLS THAT RETAIN EARTH AND ENCLOSE INTERIOR SPACES AND FLOORS BELOW GRADE SHALL BE DAMP PROOFED FROM THE TOP OF THE FOOTING TO THE FINISHED GRADE WITH A BITUMINOUS COATING IN ACCORDANCE WITH SECTION R406.1. 13. INSULATION SHALL BE INSTALLED FOR ALL BASEMENT WALLS AS REQUIRED PER SECTION

14. ALL SITE RETAINING WALLS GREATER THAN 4'-0" IN HEIGHT SHALL REQUIRE A DESIGN BY A PROFESSIONAL ENGINEER. 15. A CONCRETE ENCASED GROUNDING ELECTRODE CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICE PER SECTION E3608.1.

	FOOTING SCHEDULE				
MARK	SIZE L x W x THK	REINFORCING (NO) SIZE LOCATION	TOF EL	COLUMN	
F1	2'-0" x 2'-0" x 1'-0"	(4) #4 EW BOTTOM	8" BELOW TOP OF SLAB	3"∅ STD STEEL PIPE COLUMN	
F2	2'-6" x 2'-6" x 1'-0"	(4) #4 EW BOTTOM	8" BELOW TOP OF SLAB	3"∅ STD STEEL PIPE COLUMN	
F3	3'-0" x 3'-0" x 1'-0"	(6) #4 EW BOTTOM	8" BELOW TOP OF SLAB	3"Ø STD STEEL PIPE COLUMN	
F4	4'-0" x 4'-0" x 1'-4"	(8) #4 EW BOTTOM	8" BELOW TOP OF SLAB	3"Ø STD STEEL PIPE COLUMN	



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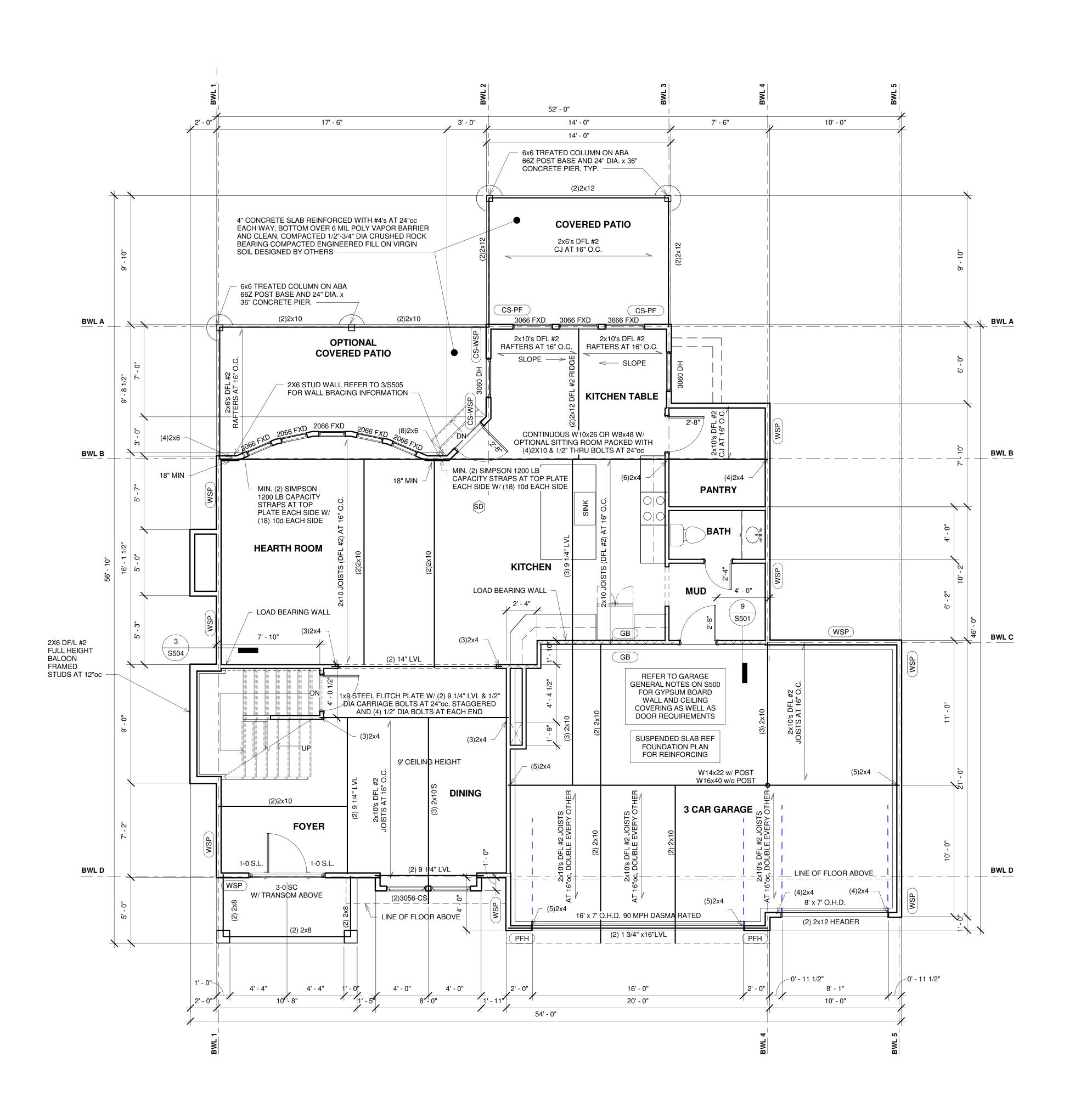
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SHEET TITLE FOUNDATION PLAN

SHEET NUMBER

AS NOTED FOR PLAN R

LEE'S SUMMIT, MISSOURI 08/01/2024



BRACED WALL METHODS

WSP - WOOD STRUCTURAL PANEL; WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" FOR 16" STUD SPACING, FASTEN WITH 6d COMMON NAILS (.131"Øx2" LONG) AT 6"oc ALONG EDGES AND 12"oc AT INTERMEDIATE SUPPORTS, WHERE SHOWN ON PLANS. UNLESS OTHERWISE NOTED, PANEL WIDTH = 4'-0".

CS-WSP - CONTINOUSLY SHEATHED WOOD STRUCTURAL PANEL; WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" FOR 16" STUD SPACING, FASTEN WITH 6d COMMON NAILS (.131" Øx2" LONG) AT 6"oc ALONG EDGES AND 12"oc AT INTERMEDIATE SUPPORTS, PLACED ON ALL SHEATHABLE SURFACES ON ONE SIDE OF THE BRACED WALL LINE INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS.

GB - GYPSUM BOARD; 1/2" GYPSUM BOARD WITH 13 GAGE, 1 3/8" LONG, 19/64" HEAD; 0.098" DIA, 1 3/8" LONG, ANNULAR-RINGED; 6d COOLER NAIL, 0.092" DIA, 1 7/8" LONG, 1/4" HEAD; OR GYPSUM BOARD NAIL, 0.0915" DIA, 1 7/8" LONG, 19/64' HEAD; TYPE W OR TYPE S SCREWS; AT 7"oc EDGES & 7"oc FIELD

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

ABW - ALTERNATE BRACED WALL; REF ALTERNATE BRACED WALL DETAIL

CS-PF - CONTINUOUSLY SHEATHED PORTAL FRAME; REF CONTINOUSLY SHEATHED PORTAL FRAME DETAIL

HPS - HARDBOARD PANEL SIDING; HARDBOARD PANEL SIDING WITH A 7/16" THICKNESS. FASTEN WITH 0.092" DIA, 0.225" DIA HEAD NAILS WITH LENGTH TO ACCOMMODATE 1 1/2" PENETRATION INTO STUDS AT 4"oc ALONG EDGES AND 8" AT INTERMEDIATE SUPPORTS.



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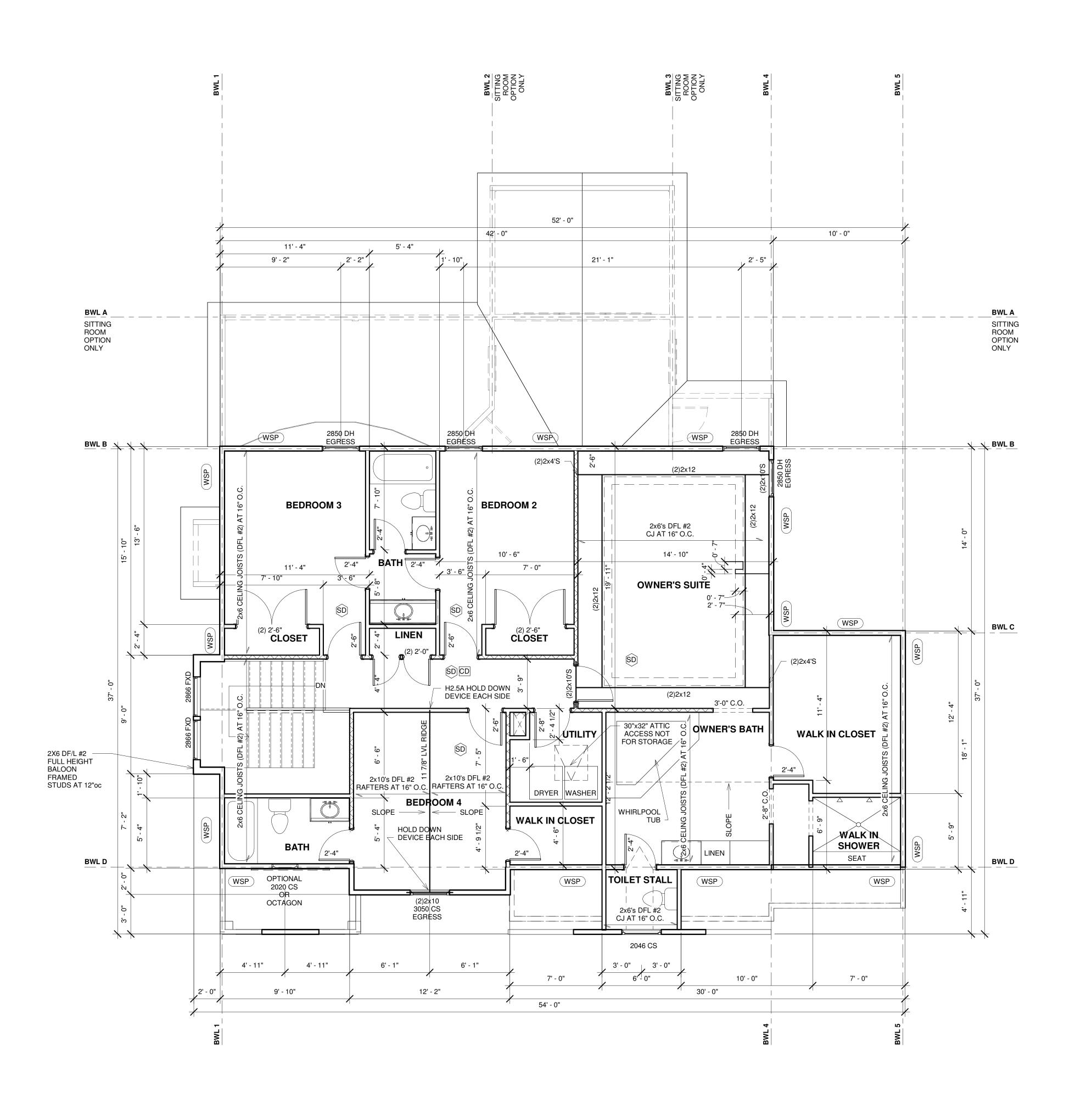
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SHEET TITLE
FIRST FLOOR
FRAMING PLAN

SHEET NUMBER

S101
RELEASE FOR CAS NOTED FOR

FIRST FLOOR FRAMING PLAN SCALE: 1/4" = 1'-0"



BRACED WALL METHODS

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SD CD SMOKE DETECTOR/CO COMBO



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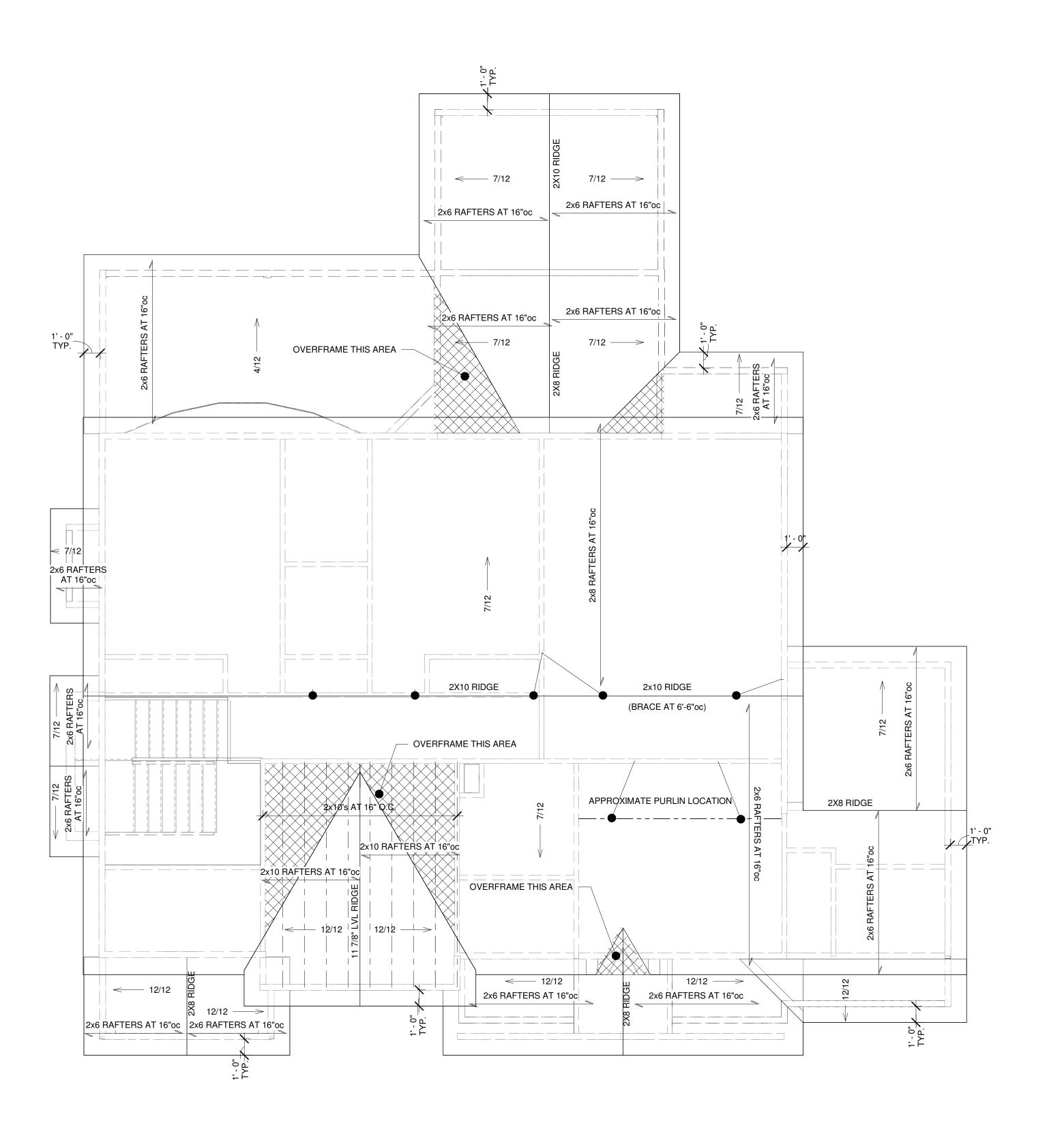
SECOND FLOOR FRAMING PLAN

SHEET NUMBER

S102
RELEASE FOR CONST

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/01/2024

SECOND FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"



ROOF FRAMING PLAN NOTES

- 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
- 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.
- 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.
- SUPPORTED AT THE RIDGE WITH A 2x6 T-BRACE
- TO A BEARING WALL BELOW. PROVIDE SOFFIT, RIDGE, AND GABLE END VENTS AS REQUIRED TO PROVIDE ADEQUATE
- PAPER UNDER SHINGLES AS REQUIRED TO PROVIDE WATER TIGHT SEAL AT ALL ROOF PENETRATIONS, RIDGES, VALLEYS, HIPS AND/OR
- GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET MINIMUM FROM
- HOUSE BEFORE TOUCHING SOIL. ALL GABLE END WALL FRAMING SHALL BE 2x4
- PROVIDE PROPER CEILING INSULATION AS

NOTES ARE TYPICAL UNLESS NOTE NUMBER IS INSIDE OF CIRCLE, THEN THE NOTE REFERS TO A SPECIFIC

LOCATION(S) MARKED ON THE PLAN. NON-PANEL EDGES.

ALL RIDGE MEMBERS SHALL BE 1" NOMINAL

HIP AND VALLEY MEMBERS SHALL BE

VENTILATION FOR ROOF. PROVIDE PROPER FLASHING AND BUILDING

OTHER SLOPE CHANGES.

DOUG-FIR NO. 2 AT 16"oc.

REQUIRED BY GOVERNING BUILDING CODE.

DATE DESCRIPTION 1 7/26/2024 City Comments

ISSUES & REVISIONS

NORTONSCHMID1 Consulting Engineers

> 311 East 11th Avenue North Kansas City, MO 64116 Phone: (816) 421-4232 www.nortonschmidt.com

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ROOF FRAMING PLAN

SHEET NUMBER

AS NOTED FOR PLAN RI LEE'S SUMMIT, MISSOURI 08/01/2024

RAFTERS TO BE 2x6 DF-L No. 2 AT 16" O.C.

HIP, VALLEY, AND RIDGE MEMBERS SHALL BE (1)2x8 DF-L No. 2 U.N.O. REF. 12/S503 FOR PURLING BRACING

GENERAL NOTES

ASSUMED ALLOWABLE SOIL BEARING PRESSURE

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

 ROOF LIVE LOAD: FLOOR DEAD LOA FLOOR LIVE LOAD BEDROOMS: ALL OTHER LIVING AREAS: 40 PSF WIND LOADS: VASD=90 MPH, EXPOSURE C SEISMIC LOADS: SITE CLASS "B"

- GENERAL:

 1. FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN OR INFERRED BY THESE 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

<u>BUILDER'S PLANS</u>:
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 SCOPE 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

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 1. WATER RESISTIVE EXTERIOR WALL COVERING FREE FROM HOLES AND BREAKS, SHALL BE APPLIED TO STUDY OF THE PROPERTY OF THE P SHEATHING OF ALL EXTERIOR WALLS. WRAP SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND
- SHALL BE IN COMPLIANCE WITH SECTION R703.2 BUILDING SHALL COMPLY WITH SECTIONS 802.3 AND 802.3.1 OF THE IRC FOR RAFTER AND CEILING JOIST CONNECTIONS. . "UFER" GROUND SHALL BE PROVIDED PER IRC SECTION 3608.1 . GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET

- STAIR NOTES:
 1. MAXIMUM RISER AT STAIRWAYS IS 7 3/4" AND MINIMUM TREAD IS 10" WITH A MINIMUM 6'-8" HEADROOM, PER IRC SEC.
- 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
- 3. ENCLOSE ACCESSIBLE SPACE BENEATH STAIRS SHALL 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 R311.7.8.3.
- 6. SPIRAL STAIRS SHALL BE CONSTRUCTED PER SECTION R311.7.10.11.

MINIMUM FROM HOUSE BEFORE TOUCHING SOIL.

ALL SLEEPING ROOMS AND BASEMENT SHALL BE PROVIDED WITH PROPER EMERGENCY ESCAPE AND RESCUE OPENINGS

- PER IRC SEC 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". 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 ACUATION OF ONE ALARM ACTIVATES ALL OTHERS AND BE HARD WIRED
- WITH A BATTERY BACKUP, PER IRC SEC. R314 AND NFPA 72. 3. CARBON MONOXIDE DETECTORS SHALL BE PROVIDED PER R315.

VINDOWS AND SAFETY GLAZING NOTES:
. 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

2. ALL WINDOWS SHALL MEET THE FALL PROTECTION REQUIREMENTS OF SECTION R312.2.

- 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 WITH A SELF-CLOSING AND SELF-LATCHING DEVICE. 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 SEC. 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 BUILDING SHALL COMPLY WITH THE REQUIREMENTS FOR A SELF CLOSING DOOR BETWEEN RESIDENCE AND GARAGE. GARAGE DOORS SHALL MEET THE REQUIREMENTS OF DASMA 90 MPH.

- STRUCTURAL STEEL:

 1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING: a. STRUCTURAL STEEL ASTM A992, FY = 50 KSI
 - MISCELLANEOUS STEE HOLLOW STRUCTURAL STEEL (HSS)____ ASTM A500, GRADE B
- ASTM A53, GRADE B (SCHED 40 MIN) d. STEEL PIPE
- 2. ALL BEAM CONNECTIONS SHALL BE DESIGNED BY THE STEEL FABRICATOR UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER UNLESS SPECIFIC CONNECTIONS ARE SHOWN ON THE DRAWINGS. CONNECTIONS SHALL BE DESIGNED TO 50% U.D.L. OR THE REACTION PROVIDED ON THE DRAWINGS, WHICH EVER IS GREATER. CONNECTIONS SHALL BE WELDED OR BOLTED PER AISC STEEL CONSTRUCTION MANUAL 13TH EDITION. BOLTS SHALL BE ASTM A325N.
- WELDING SHALL CONFORM TO THE LATEST PUBLICATION OF APPLICABLE CODES SET FORTH BY THE AMERICAN WELDING SOCIETY. NO UNAUTHORIZED WELDS WILL BE ACCEPTED.

ALL COLUMN ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 36.

PROVIDE 30# FELT BOND BREAK AROUND ALL STEEL COLUMNS WHERE IN CONTACT WITH SLAB-ON-GRADE. ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE. ALL STRUCTURAL STEEL SHALL HAVE ONE COAT OF RUST INHIBITIVE PRIMER CONFORMING TO SPECIFICATIONS. FIELD TOUCHUP ALL UNPAINTED AREAS AND WELD AREAS.

- 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 2600 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 3. 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
- 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
- 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. 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
- 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. 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!
 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

2X4 STUB COLUMNS (SQUASH BLOCKS) THAT TRANSFER THE LOAD DOWN TO THE SUPPORT WALL OR BEAM BELOW.

- EDGES UNLESS OHTERWISE NOTED. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS 10. 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.
- WOOD STRUCTURAL PANELS SHALL BE SET WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND STAGGER 12. STANDARD WASHERS SHALL BE USED WITH ALL BOLTS FASTENING WOOD MEMBERS.
- 13. ALL SAWN LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE 14. 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

- PROVIDE CONTINUOUS STRONG BACKS FOR CEILING JOIST SPANS 12'-0" OR GREATER. MAXIMUM FLOOR JOIST SPANS SHALL BE AS FOLLOWS FOR THE SIZE AND SPACING OF THE JOISTS INDICATED (40 PSF LIVE LOAD, 10 PSF DEAD LOAD): 2X8'S AT 16" O.C. - 12'-7"
- 2X10'S AT 12 O.C. 16'-10" 2X12'S AT 16" O.C. - 17'-10"
- CEILING JOISTS (C.J.'S) ARE DF/L #2, AT 16" O.C., WITH AN ALLOWABLE SPAN AS FOLLOWS, OR AS SHOWN ON PLANS: 2X6'S AT 16" O.C. - 12'-10"
- 2X8'S AT 16" O.C. 16'-3" 2X10'S AT 16" O.C. - 19'-10" 2X12'S AT 16" O.C. - 22'-0"

RAFTERS TO BEARING PARTITIONS

2X10'S AT 16" O.C. - 15'-5"

- 18. ROOF RAFTERS (R.R.'S) ARE DF/L #2, WITH AN ALLOWABLE RAFTER SPAN AS FOLLOWS:
- 2X6'S AT 24" O.C. 10'-0" 2X6'S AT 16" O.C. - 12'-0" 2X8'S AT 24" O.C. - 12'-4'
- 2X8'S AT 16" O.C. 15'-1"
- 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. 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
- 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. WOOD TRUSSES AND THEIR CONNECTIONS SHALL BE DESIGNED BY THE TRUSS MANUFACTURER FOR THE LOADS STIPULATED ON THE DRAWINGS. SHOP DRAWINGS AND CALCULATIONS WITH AN ENGINEER'S SEAL FOR THE STATE OF
- REQUIREMENTS OF THE GOVERNING BUILDING CODE. TEMPORARY STABILITY OF WOOD TRUSSES DURING ERECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN CONJUNCTION WITH ALL RECOMMENDATIONS OF THE MANUFACTURER. . WOOD TRUSSES <u>SHALL NOT</u> BE FIELD CUT.

MISSOURI SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION. CONNECTION PLATES SHALL MEET THE

- HE BUILDING THERMAL ENVELOPE SHALL BE SEALED WITH AN AIR BARRIER PER IRC SEC N1102. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE SHALL BE 9C-RATED, LEAKAGE RATED AND SEALED TO THE GYPSUM WALLBOARD AS REQUIRED PER N1102.4.4.
- PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER N1103.1.1. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2% AIR LEAKAGE RATE PER N1103.2.2
- BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE AS REQUIRED PER N1103.2.3. 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. HOT WATER PIPES SHALL BE INSULATED AS REQUIRED PER N1103.4.
- ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1507.2. MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM AS REQUIRED PER 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 REQ'D PER IRC.

INSULATION AND FENESTRATION REQUIREMENTS - IRC TABLE N1102.1.1:

FENESTRATION	U<=0.35 (b)
SKYLIGHT	U<=0.55 (b)
CEILING - FLAT	R-49
CEILING - VAULTED	R-38
WOOD FRAME WALL	R-13
MASS WALL	R-8/R-13 (i)
FLOOR OVER UNHEATED SPACE	R-19
FLOOR OVER OUTSIDE AIR	R-30
DUCTS OUTSIDE OF THE CONDITIONED SPACE	R-8
BASEMENT WALL	R-10/R-13 (c)
SLAB (R VALUE/DEPTH)	R-10/2ft (d)
CRAWLSPACE WALL W/ FLOOR INSULATION	R-10/R-13 (c)
CRAWLSPACE WALL W/O FLOOR INSULATION	R-19

- a. R VALUES ARE MINIMUMS. U FACTORS 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-VALYUE SPECIFIED IN THE TABLE
- THE FENESTRATION U FACTOR EXCLUDES SKYLIGHTS THE FIRST R VALUE APPLIES TO CONTINUOUS INSULATION, THE SECOND TO FRAMING CAVITY INSULATION; EITHER INSULATION MEETS THE REQUIREMENT. R - 5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R - VALUES FOR HEATED SLABS. INSULATION DEPTH SHALL BE THE
- DEPTH OF THE FOOTING OR 2 FEET WHICHEVER IS LESS IN ZONES 1 THROUGH 3 FOR HEATED SLABS. THERE ARE NO SHGC REQUIREMENTS IN THE MARINE ZONE.
- BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.10 AND TABLE
- OR INSULATION SUFFICIENT TO FILL THE CAVITY, R 19 MINIMUM. FIRST VALUE IS CAVITY INSULATION, SECOND IS CONTINUOUS INSULATION OR INSULATED SIDING, SO "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 CONTINUOUS INSULATION OR INSULATED SIDING. IF STRUCTURAL SHEATHING COVERS 40 PERCENT OR LESS OF THE EXTERIOR, CONTINUOUS INSULATION R-VALUE SHALL BE PERMITTED TO BE REDUCED BY NO
- MORE THAN R-3 IN THE LOCATIONS WHERE STRUCTURAL SHEATHING IS USED TO MAINTAIN A CONSISTENT TOTAL THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF OF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.

ABBREVIATIONS LEGEND

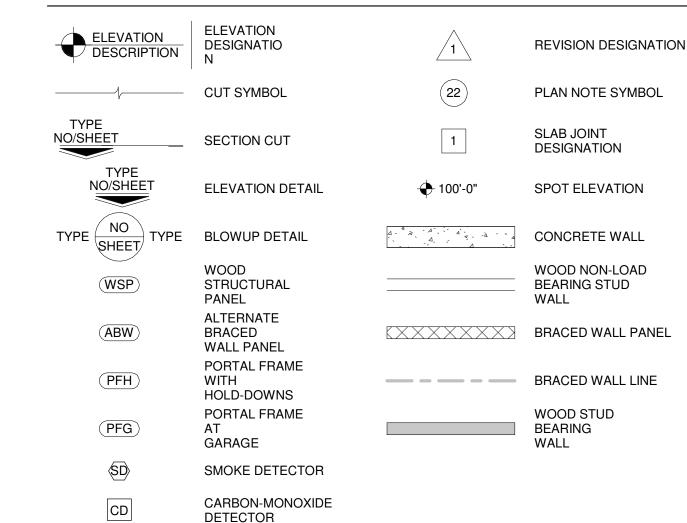
AB ACI AFF AISC AISI ARCH ASTM AWS BFF BOS BRG CIP CJ CCONC CONST CONT DIA EIFS ELEC EW FDN FF FS	ANCHOR BOLT AMERICAN CONCRETE INSTITUTE ABOVE FINISH FLOOR AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMERICAN IRON AND STEEL INSTITUTE ARCHITECTURAL AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERICAN WELDING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

SYMBOLS LEGEND

LONGITUDINAL

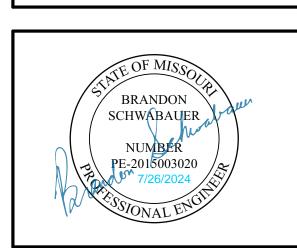
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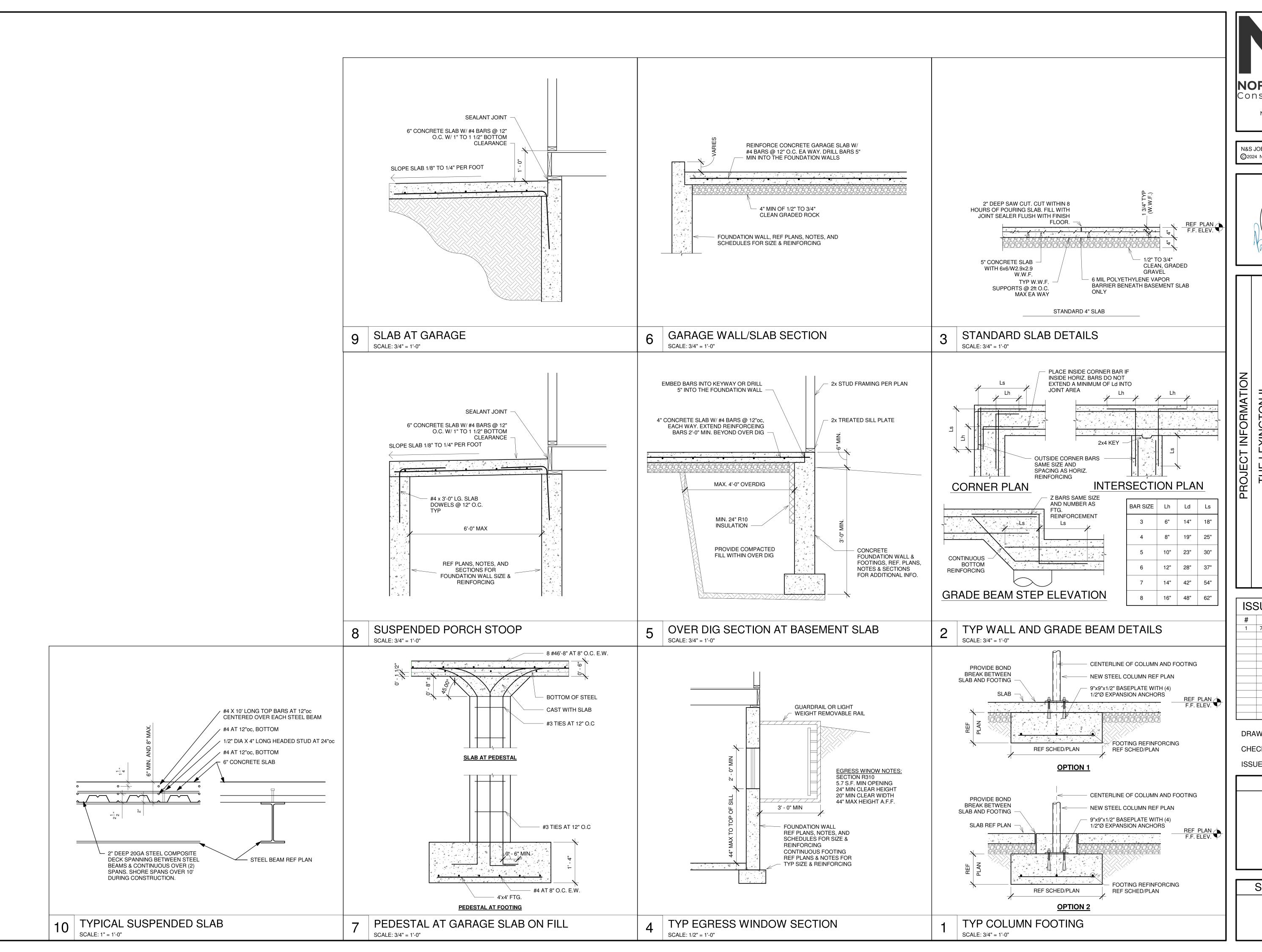
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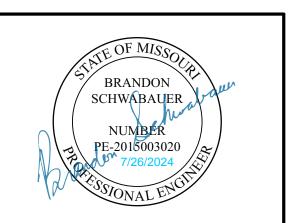
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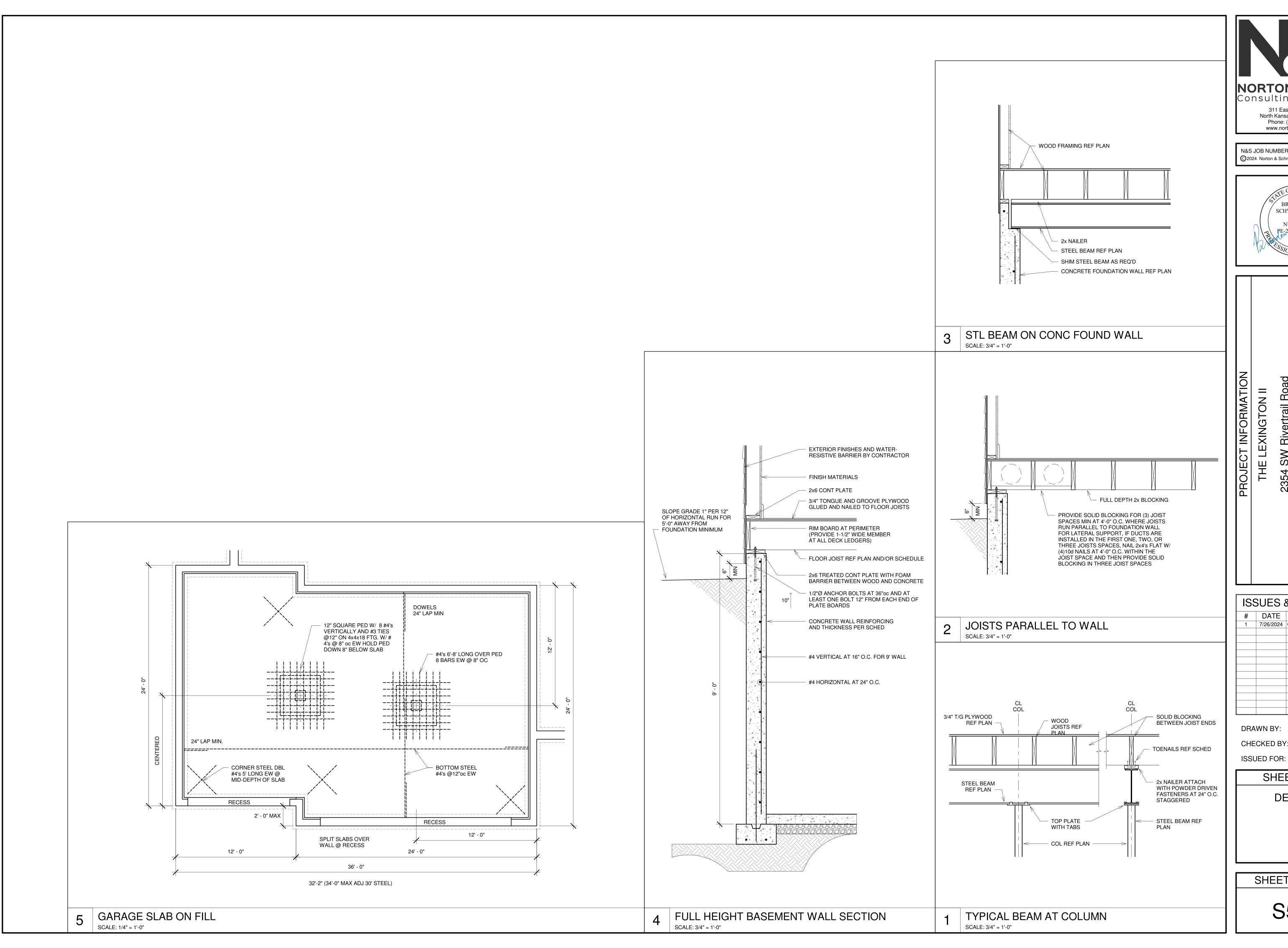
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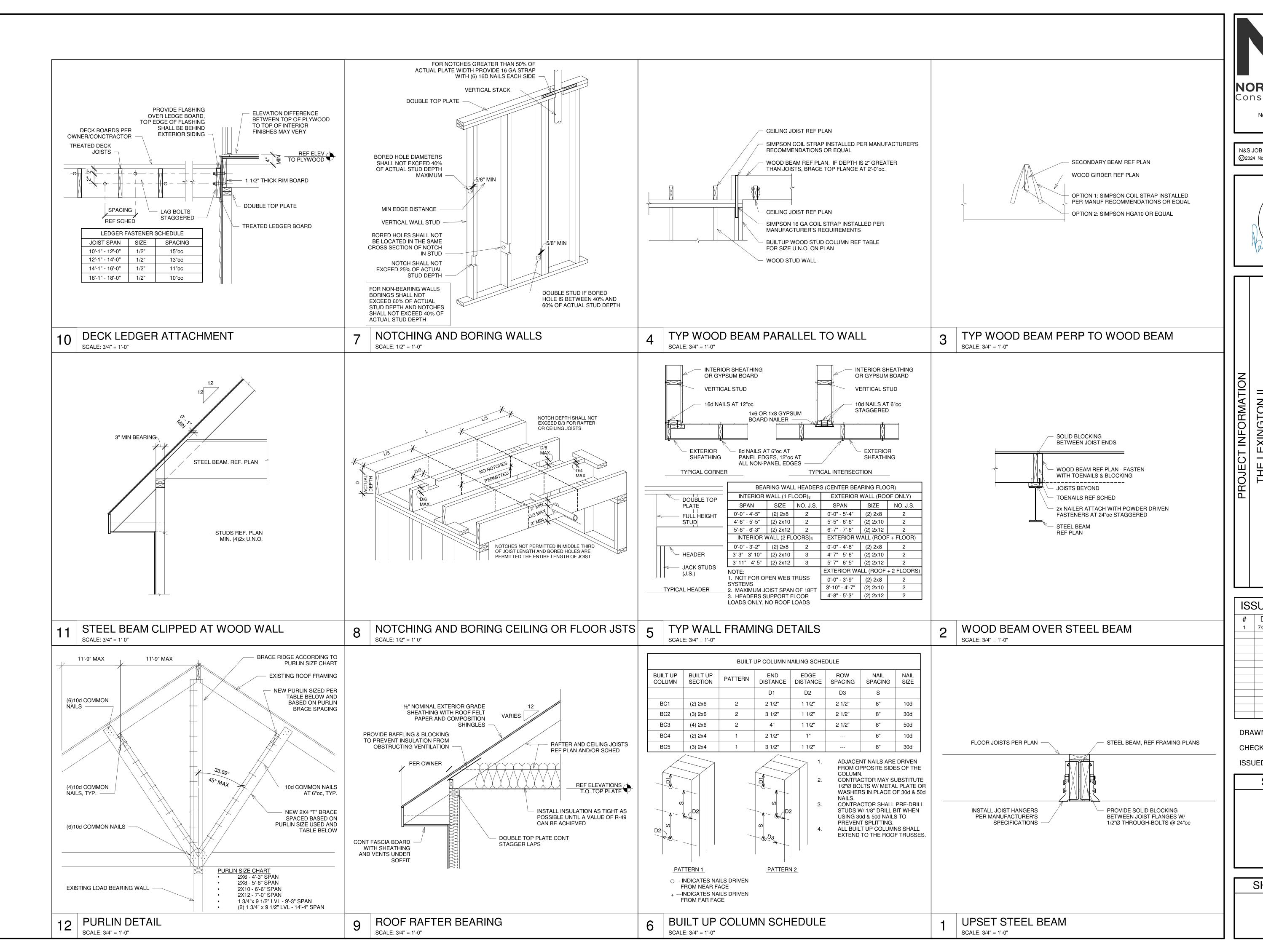
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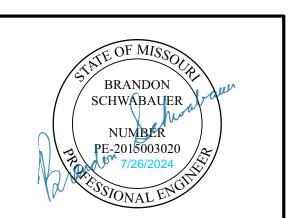
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TABLE R802.5.1(9) RAFTER/CEILING JOIST HEEL JOINT CONNECTIONS (a,b,c,d,e,f,g)

				141									
		GROUND SNOW LOAD (PSF)											
			30				50			70			
			ROOF SPAN (FEET)										
RAFTER	RAFTER	12	20	28	36	12	20	28	36	12	20	28	36
SLOPE	SPACING	REQUIRED NUMBER OF 16d COMMON NAILS(a,b) PER HEEL JOINT SPLICES (c,d,e,f)											
	12	4	6	8	11	5	8	12	15	6	11	15	20
3:12	16 24	5 7	8 11	11 16	14 21	6 9	11 16	15 23	20 30	8 12	14 21	20 30	26 39
4:12	12 16 24	3 4 5	5 6 9	6 8 12	8 11 16	4 5 7	6 8 12	9 12 17	11 15 22	5 6 9	8 11 16	12 15 23	15 20 29
5:12	12 16 24	3 3 4	4 5 7	5 7 10	7 9 13	3 4 6	5 7 10	7 9 14	9 12 18	4 5 7	7 9 13	9 12 18	12 16 23
7:12	12 16 24	3 3 3	3 4 5	4 5 7	5 6 9	3 3 4	4 5 7	5 7 10	7 9 13	3 4 5	5 6 9	7 9 13	9 11 17
9:12	12 16 24	3 3 3	3 3 4	3 4 6	4 5 7	3 3 3	3 4 6	4 5 8	5 7 10	3 3 4	4 5 7	5 7 10	7 9 13
12:12	12 16 24	3 3 3	3 3 3	3 3 4	3 4 6	3 3 3	3 3 4	3 4 6	4 5 8	3 3 3	3 4 6	4 5 8	5 7 10

- 40d BOX NAILS SHALL BE PERMITTED TO BE SUBSTITUTED FOR 16D COMMON NAILS.
- NAILING REQUIREMENTS SHALL BE PERMITTED TO BE REDUCED 25% IF NAILS ARE CLINCHED. HEEL JOINT CONNECTIONS ARE NOT REQUIRED WHEN THE RIDGE IS SUPPORTED BY A LOAD-BEARING WALL, HEADER, OR
- WHEN INTERMEDIATE SUPPORT OF THE RAFTER IS PROVIDED BY VERTICAL STRUTS OR PURLINS TO A LOAD-BEARING WALL, THE TABULATED HEEL JOINT CONNECTION REQUIREMENTS SHALL BE PERMITTED TO BE REDUCED PROPORTIONALLY TO THE REDUCTION IN SPAN.
- EQUIVALENT NAILING PATTERNS ARE REQUIRED FOR CEILING JOIST TO CEILING JOIST LAP SPLICES.
- WHEN RAFTER TIES ARE SUBSTITUTED FOR CEILING JOISTS, THE HEEL JOINT CONNECTION REQUIREMENT SHALL BE
- TAKEN AS THE TABULATED HEEL JOINT CONNECTION REQUIREMENT FOR TWO-THIRDS OF THE ACTUAL RAFTER-SLOPE. TABULATED HEEL JOINT CONNECTION REQUIREMENTS ASSUME THAT CEILING JOISTS OR RAFTER TIES ARE LOCATED AT THE BOTTOM OF THE ATTIC SPACE. WHEN CEILING JOISTS OR RAFTER TIES ARE LOCATED HIGHER IN THE ATTIC, HEEL JOINT CONNECTION REQUIREMENTS SHALL BE INCREASED BY THE FOLLOWING FACTORS:

Hc/Hr	HEEL JOINT CONNECTION ADJUSTMENT FACTOR
1/3	1.5
1/4	1.33
1/5	1.25
1/6	1.2
1/10 OR LESS	1.11

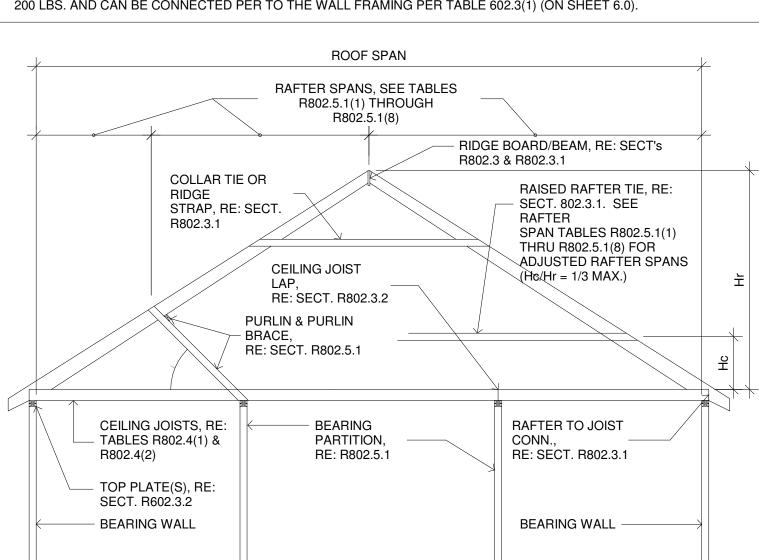
Hc= HEIGHT OF CEILING JOISTS OR RAFTER TIES MEASURED VERTICALLY ABOVE THE TOP OF THE RAFTER SUPPORT

Hr=HEIGHT OF ROOF RIDGE MEASURED VERTICALLY ABOVE THE TOP OF THE RAFTER SUPPORT WALLS.

ROOF RAFTER SCHEDULE							
GRADE	MEMBER SIZE / SPACING	MAX SPAN CEILING JSTS AT TOP PLATE	MAX SPAN	MAX SPAN ਮਮੁਮ _{ਜ਼} 0.20	MAX SPAN H선H _류 0.25	MAX SPAN HℓH _R 0.33	
#2 DF/L	2x6 / 16"oc	14'-1"	12'-8"	11'-8"	10'-8"	9'-5"	
#2 DF/L	2x8 / 16"oc	18'-2"	16'-4"	15'-1"	13'-9"	12'-2"	
#2 DF/L	2x10 / 16"oc	22'-3"	20'-0"	18'-5"	16'-10"	14'-10"	
#2 DF/L	2x12 / 16"oc	25'-9"	23'-2"	21'-4"	19'-7"	17'-3"	

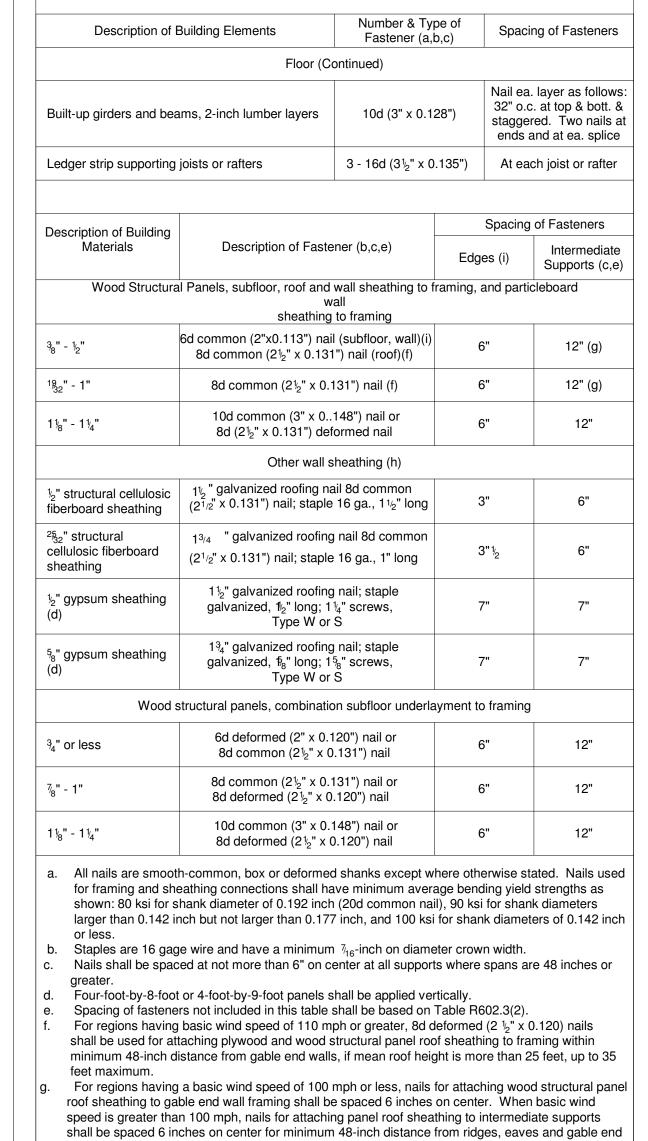
SPANS ABOVE ARE FOR ROOF LIVE LOAD OF 20 PSF AND DEAD LOAD OF 10 PSF WITH CEILINGS ATTACHED TO RAFTERS. RE: TABLES R802.5.1(1) THROUGH R802.5.1(8) FOR ADDITIONAL RAFTER SPAN INFORMATION.

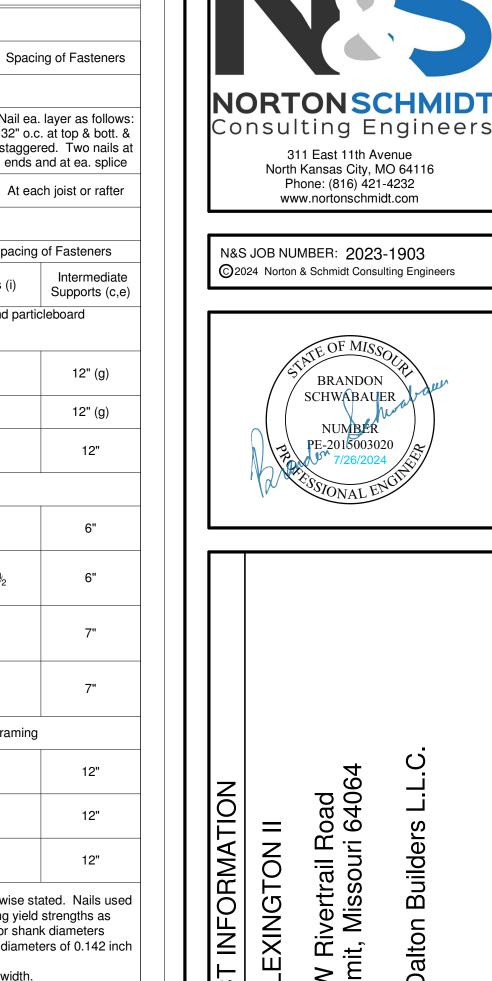
THE ROOF FRAMING ON THIS HOME UTILIZES RAFTERS SPACED AT 16" ON CENTER IN EXPOSURE B WITH A ROOF SPAN LESS THAN 42' ON IN 90 MPH WIND ZONE. THEREFORE THE UPLIFT FORCE ON THE RAFTER IS LESS THAN 200 LBS. AND CAN BE CONNECTED PER TO THE WALL FRAMING PER TABLE 602.3(1) (ON SHEET 6.0).



Description of Building Elements	Number & Type of Fastener (a,b,c)	Spacing of Fasteners
Ro	oof	
Blocking between joists or rafters to top plate, toe	3 - 8d (2½" x 0.113")	
Ceiling joists to plate, toe nail	3 - 8d (2½" x 0.113")	
Ceiling joist not attached to parallel rafter,	, -	
laps over partitions, face nail	3 - 10d (3" x 0.128")	
Collar tie to rafter, face nail, or 1 ¼" x 20 gage ridge strap	3 - 10d (3" x 0.128")	
Rafter or roof truss to plate, toe nail	3 - 16d box nails (3½" x 0.135") or 3 - 10d common nails (3" x 0.148")	2 toe nails on one side and 1 toe nail on opposit side of each rafter or trus
Roof rafters to ridge, valley or hip rafters:		
toe nail	4 - 16d (3½" x 0.135") 3 - 16d (3½" x 0.135")	
face nail W	/all	
Built-up studs	10d (3" x 0.128")	24" o.c.
Abutting studs at intersecting wall corners, face nai	16d (3 1/2" x 0.135")	12" o.c.
Built up header, two pieces with $\frac{1}{2}$ " spacer	16d (3½" x 0.135")	16" o.c. along ea. edge
Continued header, two pieces	16d (3½" x 0.135")	16" o.c. along ea. edge
Continuous header to stud, toe nail	4 - 8d (2½" x 0.113")	
Double studs, face nail	10d (3" x 0.128")	24" o.c.
	,	
Double top plates, face nail	10d (3" x 0.128")	24" o.c.
Double top plates, minimum 24" offset of end	8 - 16d (3½" x 0.135")	
joints, face nail in lapped area	40.1 (01.110.40511)	401
Sole plate to joist or blocking, face nail	16d (3½" x 0.135")	16" o.c.
Sole plate to joist or blocking at braced wall panels		16" o.c.
Stud to sole plate, toe nail	3 - 8d (2½" x 0.113") or 2 - 16d (3½" x 0.135")	
Top or sole plate to stud, end nail	2 - 16d (3½" x 0.135")	
Top plates, laps at corners and intersections, face nail	2 - 10d (3" x 0.128")	
1" brace to each stud and plate, face nail	2 - 8d (2½" x 0.113") 2 staples, 1¾"	
1" x 6" sheathing to each bearing, face nail	2 - 8d (2½" x 0.113") 2 staples, 1¾"	
1" x 8" sheathing to each bearing, face nail	2 - 8d (2½" x 0.113") 3 staples, 1¾"	
Wider than 1" x 8" sheathing to each bearing, face nail	3 - 8d (2½" x 0.113") 4 staples, 1¾"	
Fl	oor	
Joist to sill or girder, toe nail	3 - 8d (2½" x 0.113")	
Rim joist to top plate, toe nail (roof applications also)	8d (2½" x 0.113")	6" o.c.
Rim joist or blocking to sill plate, toe nail	8d (2½" x 0.113")	6" o.c.
1" X 6" subfloor or less to each joist, face nail	2 - 8d (2½" x 0.113") 2 staples, 1¾"	
2" subfloor to joist or girder, blind & face nail	2 - 16d (3½" x 0.135")	
2" planks (plan & beam - floor & roof)	2 - 16d (3½" x 0.135")	At each bearing

Description of E	Building Elements	Number & Typ Fastener (a,t		Spac	ing of Faster	
	Floor (Co	ontinued)				
Built-up girders and bea	ıms, 2-inch lumber layers	10d (3" x 0.12	28")	32" o.d stagge	. layer as fol c. at top & bored. Two na and at ea. sp	
Ledger strip supporting	joists or rafters	3 - 16d (3½" x 0	.135")	At ea	ch joist or ra	
				Spacino	of Fastener	
Description of Building Materials	Description of Faste	ner (b,c,e)	Edg	es (i)	Intermed Supports	
Wood Structura		wall sheathing to fi all to framing	raming, a	and parti		
3 ₈ " - ½"	6d common (2"x0.113") nai 8d common (2½" x 0.131		6)"	12" (g)	
¹⁹ 32" - 1"	8d common (2½" x 0.1	131") nail (f)	6)"	12" (g)	
11/8" - 11/4"	10d common (3" x 0 8d (2½" x 0.131") def	12"				
	Other wall s	heathing (h)				
1/2" structural cellulosic fiberboard sheathing	$1\frac{1}{2}$ " galvanized roofing na $(2^{1}/2$ " x 0.131") nail; staple	ail 8d common 16 ga., 11/2" long	3) "	6"	
² § ₂ " structural cellulosic fiberboard sheathing	. , ,	(2 ¹ / ₂ " x 0.131") nail; staple 16 ga., 1" long				
½" gypsum sheathing (d)	1½" galvanized roofing galvanized, ½" long; 1 Type W or	1/4" screws,	7	·"	7"	
$\frac{5}{8}$ " gypsum sheathing (d)	1¾" galvanized roofing nail; staple galvanized, f¾" long; 15¾" screws, 7" 7 Type W or S					
Wood s	structural panels, combination	on subfloor underla	yment to	framing	I	
3 ₄ " or less	6d deformed (2" x 0.120") nail or 8d common (2½" x 0.131") nail					
7 ₈ " - 1"	8d common (2½" x 0.131") nail or 8d deformed (2½" x 0.120") nail 6" 12"					
11/8" - 11/4"	10d common (3" x 0.148") nail or 8d deformed (2½" x 0.120") nail 6" 12"					
for framing and she shown: 80 ksi for s larger than 0.142 ir or less.	h-common, box or deformed eathing connections shall ha hank diameter of 0.192 inched hot not larger than 0.177 e wire and have a minimum	ave minimum avera a (20d common nai 7 inch, and 100 ksi	age benc l), 90 ksi for shan	ling yield for shar k diame	l strengths as nk diameters	



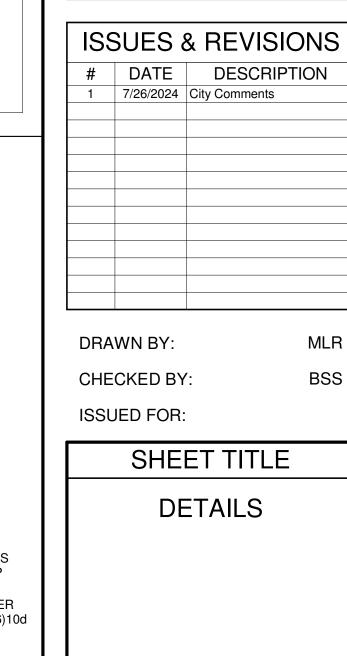


BRANDON

SCHWABAUER

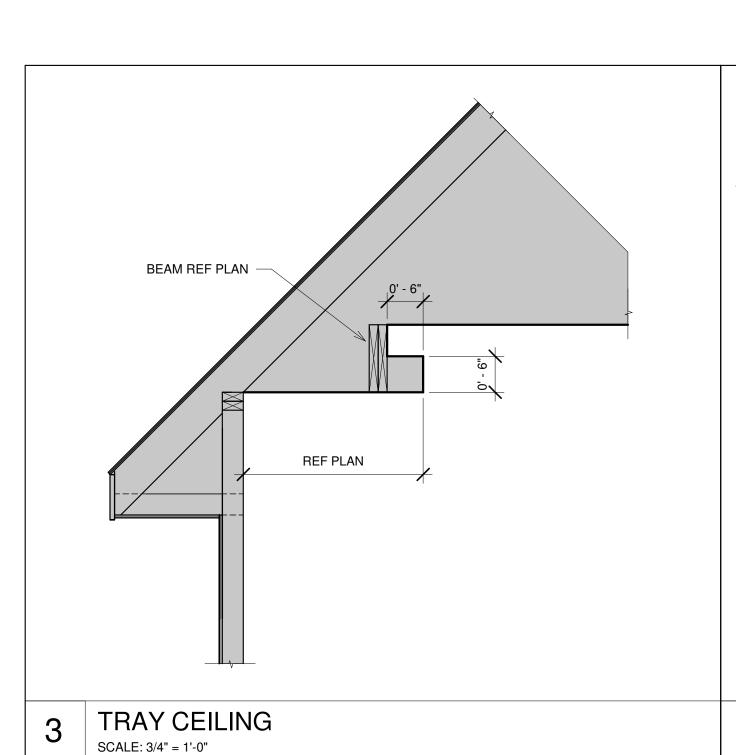
SW Rivertrail Road ımmit, Missouri 64064

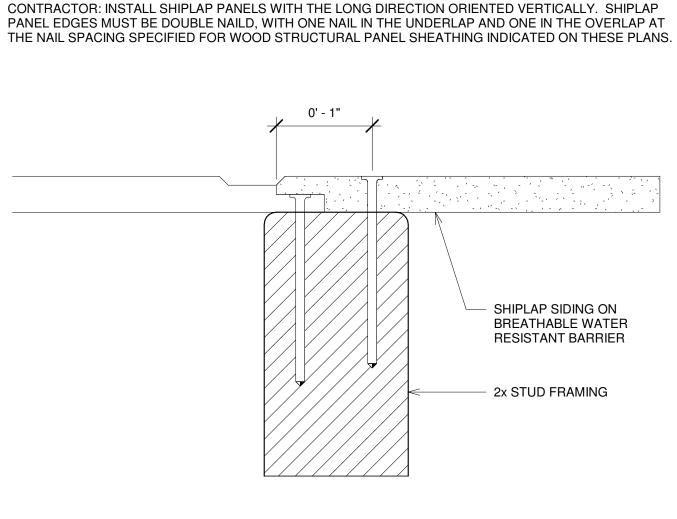
238 e's



SHEET NUMBER

LEE'S SUMMIT, MISSOURI 08/01/2024





2 VERTICAL SHIPLAP SIDING PANEL JOINT

DOUBLE RAFTERS AND CEILING JOISTS AT INTERSTECTION OF RIDGE AND HIP (8)10d COMMON NAILS AT EACH RAFTER TO JOIST CONNECTION. TOTAL OF (16)10d NAILS PER HEEL CONNECTION.

RAFTER/JOIST RIDGE SUPPORT

walls; and 4 inches on center to gable end wall framing.

253. Fiberboard sheathing shall conform to ASTM C 208.

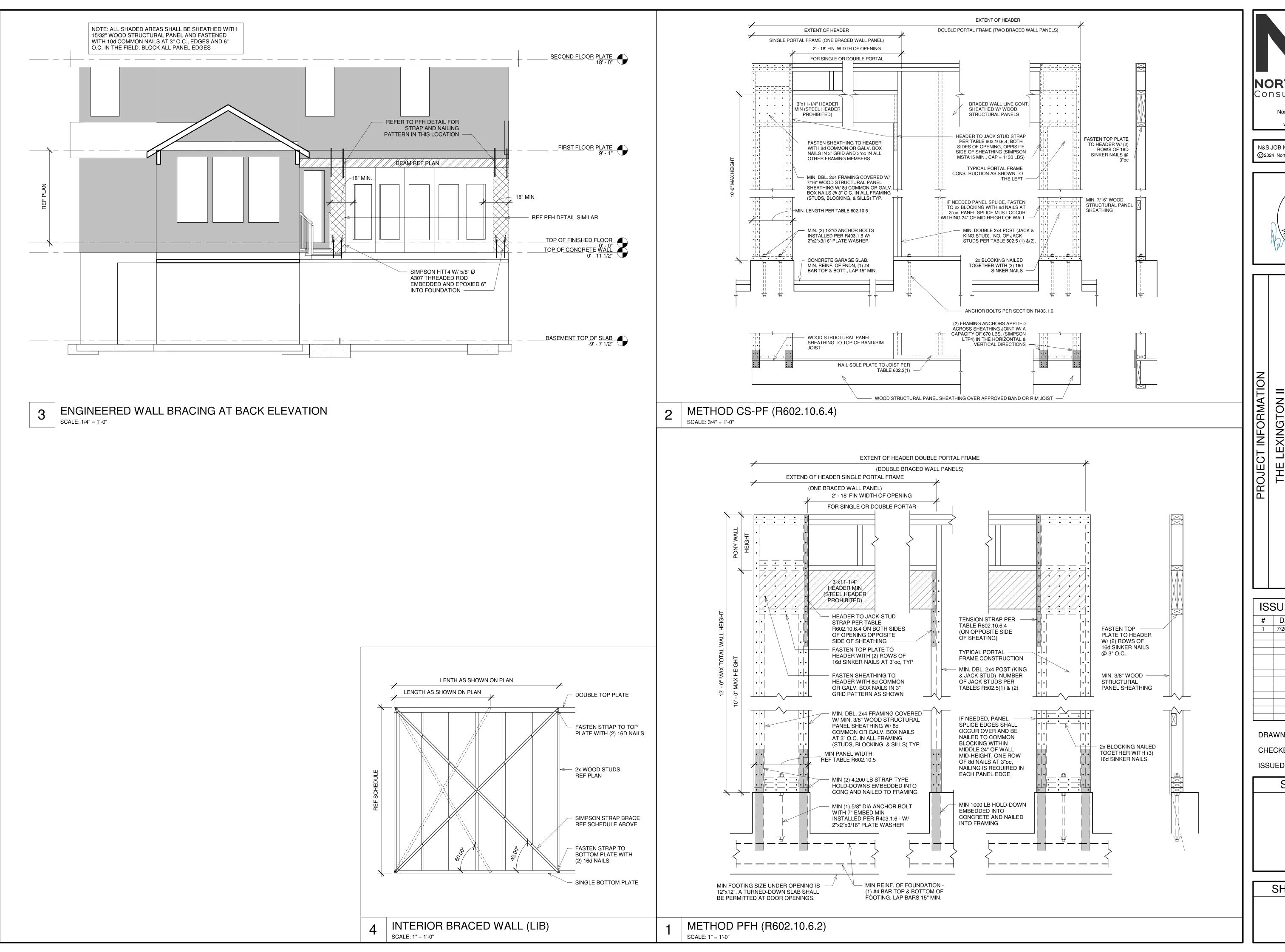
supported by framing members or solid blocking.

Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA

. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance

with this schedule. The toe nail on the opposite side of the rafter shall not be required.

.Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be



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SW Rivertrail Road ımmit, Missouri 6406 Dalton <u>හ</u> ග Q O McF

ISSUES & REVISIONS								
#	DATE	DESCRIPTION						
1	7/26/2024	City Comments						

DRAWN BY: CHECKED BY:

ISSUED FOR:

SHEET TITLE DETAILS

SHEET NUMBER

S505

AS NOTED FOR PLAN R LEE'S SUMMIT, MISSOURI 08/01/2024