



NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
1229 SW CORINTHIAN LANE,  
LEE'S SUMMIT, MISSOURI

DRAWING RELEASE LOG  
05/07/2025 PERMIT SET

REVISIONS  
1 07.30.25 RESPONSE TO CITY COMMENTS

JOB NO. DATE  
**762924** **05.07.2025**  
DRAWN BY  
**CEE / TAH / MLM**  
PERMIT SET

SHEET NAME  
**COVER SHEET**

SHEET NO.  
**1**

**SITE GENERAL NOTES**

- A. UNDERGROUND UTILITIES SHOWN ARE AS LOCATED BY THE RESPECTIVE UTILITIES FOR THE SURVEYOR AND SHOULD BE VERIFIED PRIOR TO EXCAVATION.
- B. THE BUILDER SHALL COORDINATE UTILITY ROUTING/ CONNECTIONS WITH THE AHJ. SUBMIT PROPOSED LOCATIONS TO ARCHITECT FOR REVIEW AND COORDINATION FOR IMPACTS TO THE DESIGN.
- C. REFER TO SURVEY FOR EXISTING SITE CONDITIONS.
- D. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE DRAWINGS, VISIT THE SITE TO EXAMINE EXISTING CONDITIONS AND FAMILIARIZE THEMSELVES WITH CONDITIONS WHICH MAY AFFECT THE PROPOSED WORK.
- E. TERMITE PRE-TREATMENT SHALL BE PROVIDED BY CHEMICALLY TREATING PRIOR TO POURING GARAGE AND BASEMENT FLOOR SLABS. UPON COMPLETION OF CONSTRUCTION, THE SOIL AROUND THE PERIMETER OF THE HOUSE SHALL THEN BE TREATED. A MINIMUM 5 YEAR RENEWABLE WARRANTY SHALL BE PROVIDED.
- F. DOWNSPOUTS TO CONNECT TO AN UNDERGROUND DRAIN PIPE AND DRAIN TO DAYLIGHT.
- G. SOD SHALL BE CERTIFIED TURFGRASS SOD COMPLYING WITH ASPA SPECIFICATIONS FOR MACHINE-CUT THICKNESS, SIZE, STRENGTH, MOISTURE CONTENT, MOWED HEIGHT AND FREE OF WEEDS AND UNDESIRABLE NATIVE GRASSES. SOD SHALL BE A BLEND OF NOT LESS THAN THREE IMPROVED KENTUCKY BLUEGRASS (POSPARATENSIS) VARIETIES, A NATIVE MIXTURE OF HOUNDDOG, REBEL OR FALCON, FINE LEAFED TALL FESCUE (FESTUCA ARUNDINACEA), AND RYE (LOLIUM JULIFLORUM AND PERENE DOMESTICA) OR AS RECOMMENDED BY STATE LAND-GRANT COLLEGE. IT SHALL BE A MIX OF 20% KENTUCKY BLUEGRASS, 70% FINE LEAFED TALL FESCUE AND 10% RYE OR AS RECOMMENDED BY STATE LAND-GRANT COLLEGE. SOD SHALL BE WELL ROOTED, 2 YEAR OLD STOCK, HARVESTED IN ROLLS, FERTILIZED 2-3 WEEKS PRIOR TO CUTTING. ALL SOD SHALL BE MACHINE CUT AND VIGOROUSLY GROWING (NOT DORMANT), MAXIMUM TIME FROM STRIPPING TO PLANTING SHALL BE 24 HOURS.

**EXCAVATION/ GRADING GENERAL NOTES**

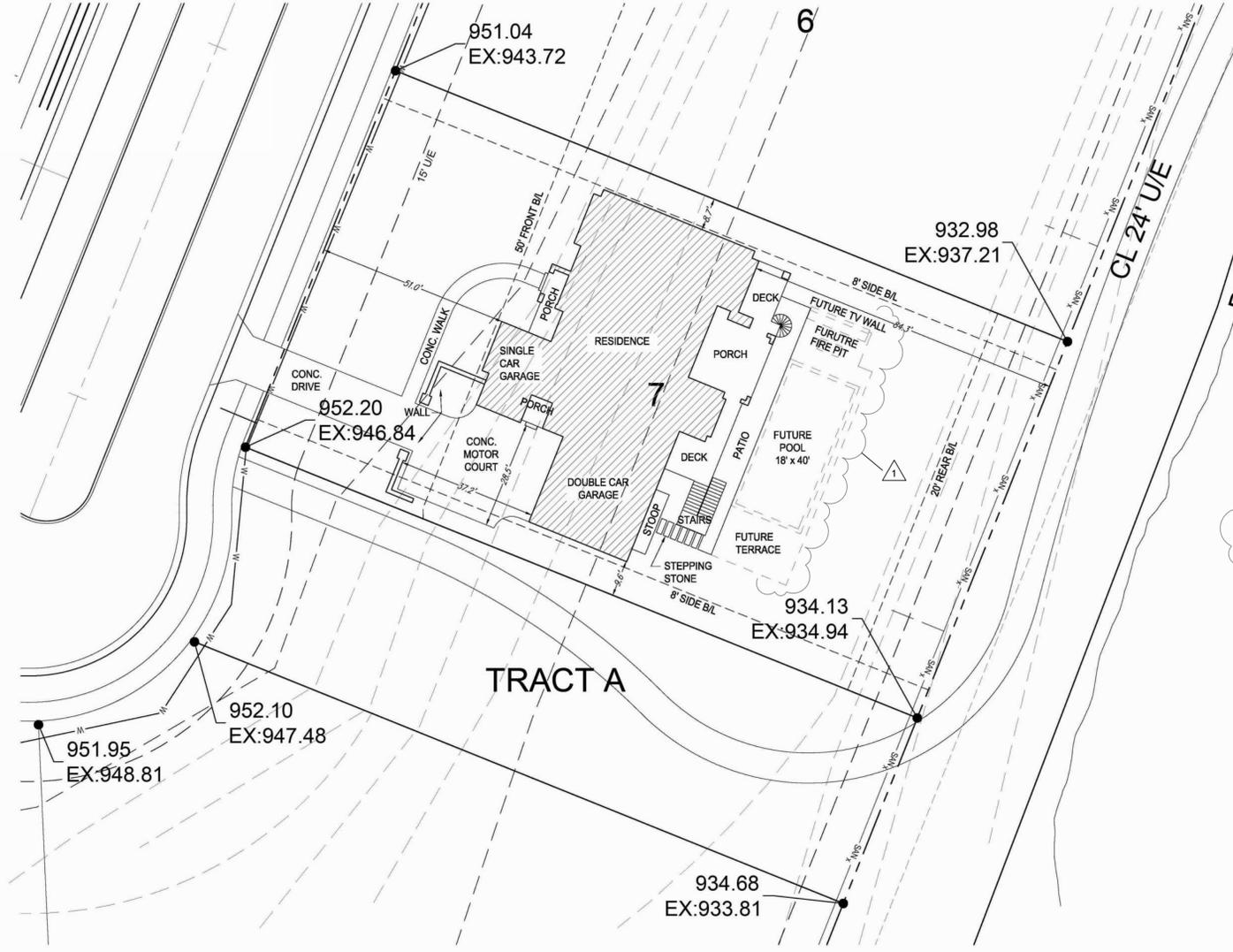
- SOIL DISCLAIMER:  
SOIL BEARING CAPACITY, THE SUITABILITY OF THE SOIL TO SUPPORT THE STRUCTURE, AND SUBSURFACE WATER MANAGEMENT IS THE SPECIALTY OF GEOTECHNICAL ENGINEERS AND NSPJ DOES NOT PERFORM GEOTECHNICAL ENGINEERING. NSPJ RECOMMENDS THAT THE OWNER OR CONTRACTOR CONSULT WITH A LICENSED GEOTECHNICAL ENGINEER AND PROVIDE A COPY OF ALL GEOTECHNICAL REPORTS OR FINDINGS TO NSPJ. IF A GEOTECHNICAL REPORT IS NOT PROVIDED TO NSPJ DURING THE DESIGN OF THE HOME, THE SOIL WILL BE ASSUMED TO BE CAPABLE OF SUPPORTING THE BEARING CAPACITY AS OUTLINED IN THE IRC AND DEFINED BY THE LOCAL AHJ.
- A. ALL FOOTINGS SHALL EXTEND BELOW A FROST LINE OF 36" WITH UNIFORM BEARING ON UNDISTURBED SOIL CAPABLE OF SUPPORTING A MIN. OF 1,500 P.S.F. OR AS DEFINED BY THE STRUCTURAL OR GEOTECHNICAL ENGINEER (RE: 2018 IRC SECTION R403)
- B. IF THERE WILL BE 6" OR MORE OF CUT OR FILL UNDER ANY EXISTING TREE'S DRIP-LINE, AN ARBORIST SHALL BE RETAINED (UPON OWNER APPROVAL) TO INVESTIGATE AND SUPERVISE NECESSARY PROTECTIVE MEASURES.
- C. REMOVE AND DISPOSE OF ALL VEGETATION AND FOREIGN MATERIAL WITHIN THE EXCAVATION AREA. STOCK PILE ALL TOP SOIL FOR FINAL GRADING OF PLANTED OR SODDED AREAS.
- D. STOCK PILE DIRT FOR FILL AND BACKFILL. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ANY EXCESS EXCAVATION MATERIALS AND FOR OBTAINING AND SUPPLYING ADDITIONAL FILL MATERIAL, IF REQUIRED.
- E. THE SITE SHALL BE EXCAVATED AND FILLED AS REQUIRED TO THE PROPER ELEVATIONS FOR FOOTINGS AND FOR THE SUBGRADE FOR SLABS WITH GRANULAR FILL. FINAL GRADING SHALL BE TO GRADES INDICATED. FOOTING DEPTHS ARE MINIMUMS IN RELATION TO FINISH GRADING. FOUNDATION WALL HEIGHTS MAY VARY IN HEIGHT DUE TO GEOTECHNICAL ENGINEER'S ON-SITE RECOMMENDATIONS.
- F. THE CONTRACTOR SHALL EXERCISE CARE AND CAUTION WHEN BACKFILLING TO PREVENT WALL CRACKS/ DAMAGE. BACKFILL AROUND BASEMENT WALLS SHALL NOT BE PLACED UNTIL THE BASEMENT FLOOR SLAB IS INSTALLED. WHEN BACKFILLING PRIOR TO THE FIRST FLOOR FLOOR FRAMING BEING CONSTRUCTED, DO NOT EXCEED 7' OF BACKFILL. IF THE FIRST FLOOR FLOOR FRAMING IS INSTALLED, THE WALL CAN BE BACKFILLED TO THE FINAL GRADE INDICATED.
- G. BACKFILL AROUND THE FOUNDATION WITH WASHED GRAVEL OR CLEAN CRUSHED ROCK AT LEAST ONE SIEVE SIZE LARGER THAN THE DRAIN PIPE PERFORATIONS TO A POINT NOT LESS THAN 2' BELOW FINISHED GRADE. ENCASE BOTTOM, DIRT SIDE AND TOP OF BACKFILL WITH NON-WOVEN GEOTEXTILE FABRIC. AS AN ALTERNATIVE TO THE CRUSHED ROCK, A MANUFACTURED GEO-COMPOSITE SHEET DRAIN SUCH AS MIRAFI G100N, CONTECH C-DRAIN, OR EQUIVALENT, MAY BE USED IN CONJUNCTION WITH THE PERFORATED PIPE.
- H. USE EXCAVATED SOIL MATERIAL (FREE OF ROCK, ORGANIC MATERIAL AND CONSTRUCTION MATERIAL) FOR FINAL GRADING BELOW DRIVES AND EXTERIOR AND INTERIOR SLABS PLACED IN 8" LAYERS AND COMPACTED TO 95% MAXIMUM DENSITY OR AS DIRECTED BY THE GEOTECHNICAL OR STRUCTURAL ENGINEER.
- I. PERVIOUS SURFACES SHALL SLOPE AWAY FROM THE STRUCTURE 6" MIN. IN 10'. IF THIS SLOPE IS NOT POSSIBLE, CONSTRUCT DRAINS OR SWALES TO ENSURE DRAINAGE AWAY FROM STRUCTURE. IMPERVIOUS SURFACES WITHIN 10' OF THE BUILDING FOUNDATION SHALL SLOPE 1/8" FT. MIN. OR AS REQUIRED TO AVOID PONDING AND HAVE POSITIVE DRAINAGE. (R401.3)
- J. PROVIDE 6" MIN. CLEARANCE BETWEEN BOTTOM OF SIDING AND FINISH GRADE. PROVIDE 4" MIN. CLEARANCE BETWEEN THIN-MASONRY VENEER AND GRADE. PROVIDE 2" MINIMUM CLEARANCE BETWEEN SIDING OR THIN-MASONRY VENEER AND PAVEMENT OR DECK. CONFIRM REQUIRED CLEARANCES WITH SIDING OR THIN-MASONRY VENEER MANUFACTURER. (R404.1.6)

**EXTERIOR CONCRETE FLATWORK**

- A. MAINTAIN SOIL MOISTURE CONTENT EQUIVALENT TO WHAT EXISTED AT THE TIME OF EXCAVATION TO MINIMIZE DIFFERENTIAL SETTLEMENT OR DISPLACEMENT.
- B. TYPICAL EXTERIOR SLAB: 4" CONC. SLAB REINF. WITH #4 BARS AT 24" O.C. E.W. OR 6x6-2.9/2.9 W.W.F. OVER 4" OF 3/4" CLEAN GRAVEL. PROVIDE 1 1/2" MIN. COVER FOR REINFORCING. EXPOSED EXTERIOR SLABS SHALL RECEIVE A LIGHT BROOM FINISH WITH TROVELED BORDERS.
- C. EXTERIOR, ON-GRADE SLABS WITH BRICK OR STONE PAVERS: 4" CONC. SLAB REINF. WITH #4 BARS AT 24" O.C. E.W. OR 6x6-2.9/2.9 W.W.F. OVER 4" OF 3/4" CLEAN GRAVEL. ALL SLABS SHALL BE RECESSED 4" TO ACCOMMODATE BRICK OR STONE PAVERS IN A FULL MORTAR SETTING BED.
- D. CONCRETE STAIRS SHALL BE 6" THICK MIN. AND REINFORCED WITH #4s @ 8" O.C. EACH WAY AND ONE AT NOSING OR AS REQUIRED BY STRUCTURAL.
- E. ALL CONCRETE FOR EXTERIOR FLATWORK SHALL BE AIR ENTRAINED 5%-7%. SLUMP LIMITATION SHALL BE 1" TO 4" FOR SLABS AND 3" TO 6" FOR ALL OTHER WORK. INCREASED SLUMP IS PERMISSIBLE WITH THE USE OF AN APPROVED WATER REDUCING ADDITIVE.
- F. PROVIDE EXPANSION AND TOOLED CONTROL JOINTS AS REQUIRED. CONTRACTOR SHALL SKETCH PROPOSED LOCATIONS FOR ARCHITECT REVIEW. FOR SIDEWALKS, LOCATE CONTROL JOINTS AT DISTANCES THAT EQUAL THE WIDTH OF THE WALK, IN EXTERIOR DRIVES, PATIOS, ETC. PLACE 15'-0" O.C. MAXIMUM. CONTROL JOINTS SHOULD ALSO BE IN LOCATIONS WHERE CONFIGURATION OF WALKS, DRIVES, ETC. CHANGE. EXPANSION JOINTS SHOULD BE IN LOCATIONS WHERE CONCRETE SLABS ARE RESTRAINED BY CURBS, WALLS, ETC.
- G. CONCRETE SLABS SHALL SLOPE AN 1/8" FT. MIN. AWAY FROM THE HOUSE. CONCRETE SLABS WHICH POND WATER SHALL BE REMOVED AND REPLACED BY THE SUBCONTRACTOR AT HIS EXPENSE.

**STANDARD ABBREVIATIONS:**

#	POUND OR NUMBER	CAB	CABINET	DH	DOUBLE HUNG	FFE	FINISH FLOOR ELEVATION	HM	HOLLOW METAL	MEMB	MEMBRANE	PROP	PROPERTY	SQ	SQUARE	UNO	UNLESS NOTED OTHERWISE
&	AND	CANT	CANTILEVER	DIA	DIAMETER	FIN	FINISH / FINISHED	HORIZ	HORIZONTAL	MEP	MECHANICAL, ELECTRICAL, AND PLUMBING	QT	QUARRY TILE	SS	STAINLESS STEEL	UNON	UNLESS OTHERWISE NOTED
1R1SH	ONE ROD, ONE SHELF	CCD	CONSTRUCTION CHANGE DIRECTIVE	DISP	DISPOSAL	FIXT	FIXTURE	HR	HANDRAIL	MFR	MANUFACTURER	QTB	QUARRY TILE BASE	ST	STREET	VAN	VANITY
2R2SH	TWO RODS, TWO SHELVES	CF	CUBIC FEET	DN	DOWN	FLASH	FLASHING	HR	HOUR	MICRO	MICROWAVE	QTY	QUANTITY	STD	STANDARD	VB	VAPOR BARRIER
±	PLUS OR MINUS	CFM	CUBIC FEET PER MINUTE	DP	DEEP	FLR	FLOOR	HT	HEIGHT	MIN	MINIMUM	R	RADIUS	STL	STEEL	VENT	VENTILATION
@	AT	CHAM	CHAMFER	DR	DOOR	FLRG	FLOORING	HVAC	HEATING, VENTILATION, AIR CONDITIONING	MIR	MIRROR	RD	ROOF DRAIN	STOR	STORAGE	VER	VERIFY
A/C	AIR CONDITIONER / CONDITIONING	CIP	CAST IN PLACE	DS	DOWNSPOUT	FLUOR	FLUORESCENT	IBC	INTERNATIONAL BUILDING CODE	MTL	METAL	RE	REFERENCE	STRUC	STRUCTURAL / STRUCTURE	VERT	VERTICAL
ABV	ABOVE	CJ	CONTROL JOINT	DTL	DETAIL	FRP	FIBERGLASS REINFORCED PLASTIC PANEL	IN	INCH	MO	MASONRY OPENING	REC	RECESSED	SUBFLR	SUB FLOOR	VIF	VERIFY IN FIELD
ACT	ACOUSTICAL CEILING TILE	CL	CENTER LINE	DW	DISHWASHER	FRZR	FREEZER	INSUL	INSULATION	MTD	MOUNTED	REF	REFRIGERATOR	SUSP	SUSPENDED	VOL	VOLUME
ADA	AMERICANS WITH DISABILITY ACT	CLG	CEILING	DWG	DRAWING	FT	FOOT/FEET	INT	INTERIOR	N.A.	NOT APPLICABLE	REINF	REINFORCE/ED-ING	SYS	SYSTEM	INR	VAPOR RETARDER
AFF	ABOVE FINISH FLOOR	CLO	CLOSET	EA	EACH	FTG	FOOTING	IRC	INTERNATIONAL RESIDENTIAL CODE	N.S.F.	NET SQUARE FOOTAGE	REQD	REQUIRE / REQUIRED	T	TOILET	W	WASHER
AHJ	AUTHORITY HAVING JURISDICTION	CLR	CLEAR	EIFS	EXTERIOR INSUL AND FINISH SYSTEM	FURN	FURNITURE	JAN	JANITOR	RH	NON-COMBUSTIBLE	ROB	ROBE HOOK	T&G	TONGUE AND GROOVE	W	WIDTH/WIDE
AHU	AIR HANDLING UNIT	CM	CARBON MONOXIDE DETECTOR	EJ	EXPANSION JOINT	FUT	FUTURE	LCD	LIQUID CRYSTAL DISPLAY	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	RM	ROOM	T/	TOP OF	WI	WITH
AIA	AMERICAN INSTITUTE OF ARCHITECTS	CMU	CONCRETE MASONRY UNIT	ELECT	ELECTRICAL	FV	FIELD VERIFY	LED	LIGHT EMITTING DIODE	NO.	NUMBER	RO	ROUGH OPENING	TW	TOP OF WALL	W/C	WHEELCHAIR
ALT	ALTERNATE	CO	CASED OPENING	ELEV	ELEVATION	G.S.F.	GROSS SQUARE FOOTAGE	LEED	LEADERSHIP IN ENVIRONMENTAL DESIGN	NOM	NOMINAL	RD	ROUND	TB	TOWEL BAR	W/O	WITHOUT
ALUM	ALUMINUM	COL	COLUMN	ELEVTR	ELEVATOR	GAL	GALLON/GALLONS	LLH	LONG LEG HORIZONTAL	NTS	NOT TO SCALE	RUBR	RUBBER	TBD	TO BE DETERMINED	WC	WATERCLOSET
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	CONC	CONCRETE	ENG	ENGINEER	GALV	GALVANIZED	LLV	LONG LEG VERTICAL	OCFI	OWNER FURNISHED CONTRACTOR INSTALLED	S.M.	SHEET METAL	TEMP	TEMPORARY	WD	WOOD
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	CONSTR	CONSTRUCTION	ENR	ENTRANCE	GB	GRAB BAR	LOC	LOCATION	OH	OPPOSITE HAND	SCHED	SCHEDULE	TEMP	TEMPERATURE	WH	WATER HEATER
B/	BOTTOM OF	CONT	CONTINUE / CONTINUOUS	EQ	EQUAL	GC	GENERAL CONTRACTOR	LVL	LEVEL	OHD	OVERHEAD	SD	SMOKE DETECTOR	THRU	THROUGH	WI	WROUGHT IRON
BD	BOARD	CONTR	CONTRACT / CONTRACTOR	EQUIP	EQUIPMENT	GEN	GENERAL	LVR	LOUVER	OPG	OPENING	SECT	SECTION	TOS	TOP OF SLAB	W/C	WALK-IN CLOSET
BLDG	BUILDING	CORD	CORDINATE	EXCAV	EXCAVATE/RD/HON	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	LWRD	LOWERED	OPP	OPPOSITE	SF	STOREFRONT	TP	TOILET PAPER DISPENSER	WIN	WINDOW
BLK	BLOCK	CORR	CORRIDOR	EXH	EXHAUST / EXHAUST HOOD	GR	GROUND FAULT INTERRUPTER	LN	LINE	P.T.	POST TENSION	SF	SQUARE FOOT/FEET	TR	TOWEL RING	WK	WORK
BLKG	BLKG	CRPT	CARPET	EXIST	EXISTING	GL	GLASS / GLAZING	MACH	MACHINE	PER	PERIMETER	SH	SINGLE HUNG	TR	TREAD	WM	WALL MOUNT
BM	BEAM	CSMT	CASEMENT	EXP	EXPOSED	GR	GRADE	MAINT	MAINTENANCE	PERF	PERFORATED	SHLV	SHELVES	TUB	BATHTUB	WP	WATERPROOF / WATERPROOFING
BOT	BOTTOM	CTOP	COUNTERTOP	EXT	EXTERIOR	GWB	GYPSPUM WALL BOARD	MATL	MATERIAL	PERP	PERPENDICULAR	SHTG	SHEATHING	TV	TELEVISION	WT	WEIGHT
BRG	BEARING	D	DRYER	F.E.	FIRE EXTINGUISHER	GYP BD	GYPSPUM BOARD	MAX	MAXIMUM	PL	PLATE LINE	SHWR	SHOWER	TYP	TYPICAL		
BSMT	BASEMENT	DBL	DOUBLE	FD	FLOOR DRAIN	HDR	HEADER	MDF	MEDIUM DENSITY FIBERBOARD	PLBG	PLUMBING	SIM	SIMILAR	UC	UNDERCOUNTER		
BTWN	BETWEEN	DEMO	DEMOLITION	FDB	FLOOR DRAIN	HDW	HARDWARE	MDF	MEDIUM DENSITY FIBERBOARD	PNLG	PANELING	SPEC	SPECIFICATIONS	UL	UNDERWRITERS LABORATORY		
		DEPT	DEPARTMENT	FDN	FOUNDATION	HDWD	HARD WOOD	MECH	MECHANICAL	PR	PAIR						



**ARCHITECTURAL SITE PLAN**  
SCALE 1" = 20'-0"

DESCRIPTION:  
LOT 7, LUMBERMAN'S ROW, A SUBDIVISION AS RECORDED IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI.

ZONING:  
R-1

ARCHITECTURAL PLOT PLAN:  
PLOT PLAN BASED ON SURVEY PROVIDED BY SCHLEGEL  
14920 WEST 107TH STREET  
LENEXA, KANSAS 66215  
PH: 913-492-5158



RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/05/2025 10:15:24

- DEFERRED SUBMITTALS**
- SUSPENDED CORE SLAB
  - JOIST LAYOUT
  - PREFABRICATED SPIRAL STAIRCASE
- FINISHED AREAS**
- LOWER LEVEL = 2,178 SF  
MAIN LEVEL = 2,755 SF  
UPPER LEVEL = 1,325 SF
- TOTAL = 6,258 SF  
UNFINISHED = 1,195 SF  
GARAGE = 1,000 SF  
ENTRY PORCH = 110 SF  
SIDE PORCH = 43 SF  
REAR DECK = 757 SF  
COVERED PATIO = 700 SF

- BUILDING CODES**
- ALL CONSTRUCTION SHALL COMPLY WITH:  
2018 INTERNATIONAL BUILDING CODE  
2018 INTERNATIONAL RESIDENTIAL CODE  
2018 INTERNATIONAL PLUMBING CODE  
2018 INTERNATIONAL MECHANICAL CODE  
2018 INTERNATIONAL FUEL GAS CODE  
2018 INTERNATIONAL ENERGY CONSERVATION CODE  
2017 NATIONAL ELECTRIC CODE  
2018 INTERNATIONAL EXISTING BUILDING CODE  
2018 SWIMMING POOL AND SPA CODE  
2018 PROPERTY MAINTENANCE CODE  
2018 INTERNATIONAL FIRE CODE  
AS ADOPTED BY THE CITY OF LEE'S SUMMIT, MISSOURI

**SHEET DIRECTORY:**

1	COVER SHEET
2	GENERAL NOTES
3	FOUNDATION PLAN
3a	FOUNDATION PLAN
3b	BASEMENT FRAMING PLAN
4	FIRST FLOOR PLAN
4a	FIRST FLOOR FRAMING PLAN
5	SECOND FLOOR PLAN
5a	SECOND FLOOR FRAMING PLAN
6	ROOF PLAN
7	FRONT & LEFT ELEVATIONS
8	REAR & RIGHT SIDE ELEVATIONS
9	INTERIOR ELEVATIONS
S1.0	GENERAL NOTES
S2.0	FOUNDATION DETAILS
S2.1	FOUNDATION DETAILS
S3.0	FRAMING DETAILS
S3.1	FRAMING DETAILS
S3.2	FRAMING DETAILS
S4.0	GENERAL BRACED WALL DETAILS
S4.1	GENERAL BRACED WALL DETAILS
S4.2	SHEAR WALL DETAILS

GENERAL REQUIREMENTS

- A. THE CONTRACT DOCUMENTS, INCLUDING, BUT NOT LIMITED TO, THE DRAWINGS, NOTES AND SPECIFICATIONS, SHALL BE IN THE ENGLISH LANGUAGE. THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL BE RESPONSIBLE TO TAKE ALL ACTIONS NECESSARY (INCLUDING, BUT NOT LIMITED TO, THE USE OF INTERPRETERS) TO ENSURE THAT THEIR EMPLOYEES ARE ABLE TO READ AND UNDERSTAND THE CONTRACT DOCUMENTS, WHICH ARE DRAFTED IN THE ENGLISH LANGUAGE. THE CONTRACTOR SHALL DESIGNATE IN WRITING BEFORE STARTING WORK ON THE PROJECT, A COMPETENT, ENGLISH-SPEAKING SUPERINTENDENT CAPABLE OF READING AND THOROUGHLY UNDERSTANDING THE CONTRACT DOCUMENTS, AND THOROUGHLY EXPERIENCED IN THE TYPE OF CONSTRUCTION BEING PERFORMED.
B. DUTY OF COOPERATION: RELEASE OF THESE DOCUMENTS REQUIRES FURTHER COOPERATION AMONG THE OWNER, THEIR CONTRACTOR AND THE ARCHITECT TO ACHIEVE PROJECT SUCCESS. DESIGN AND CONSTRUCTION ARE VERY COMPLEX. ALTHOUGH THE ARCHITECT AND THEIR CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, THEY CANNOT GUARANTEE PERFECTION. COMMUNICATION IN WRITING DRAWN FORM IS CHALLENGING AND IMPERFECT. ALTHOUGH EFFORT IS MADE TO DO SO, EVERY CORRECTION CANNOT BE ANTICIPATED. ANY AMBIGUITY, DISCREPANCY OR OMISSION DISCOVERED BY THE USE OF THESE DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT FOR CLARIFICATION. A FAILURE TO COOPERATE BY A SIMPLE NOTICE TO THE ARCHITECT SHALL RELIEVE THE ARCHITECT FROM RESPONSIBILITY FOR ALL CONSEQUENCES. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF THE ARCHITECT ARE UNAUTHORIZED, AND SHALL RELIEVE THE ARCHITECT OF RESPONSIBILITY FOR ALL CONSEQUENCES ARISING OUT OF SUCH CHANGES. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS.
C. THE CONTRACTOR HAS REPRESENTED THAT IT IS CAPABLE OF BUILDING RESIDENTIAL PROJECTS FROM A SET OF "BUILDERS PLANS" IN COMPLIANCE WITH RESIDENTIAL BUILDING CODES AND JURISDICTIONAL REQUIREMENTS. THE OWNER AND ARCHITECT ARE ENTITLED TO RELY UPON THE COMPETENCY AND EXPERTISE OF THE CONTRACTOR. THUS, THE ARCHITECT'S DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT WILL CONTAIN LESS DETAIL THAN DRAWINGS AND SPECIFICATIONS PREPARED FOR A COMMERCIAL PROJECT. ALSO, IN PERFORMING THE CONSTRUCTION, THE CONTRACTOR SHALL FOLLOW APPLICABLE INDUSTRY STANDARDS AND MANUFACTURERS' GUIDELINES AND IMPLEMENT EFFECTIVE AND WHOLESIC INCLUDING WATER VAPOR MANAGEMENT STRATEGIES.
D. ALL WORK INCLUDING ALL MATERIALS AND WORKMANSHIP, SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE LAWS, CODES, ORDINANCES, AND STANDARDS OF ALL LOCAL, STATE AND NATIONAL JURISDICTIONS. ALL SUBCONTRACTORS SHALL BE HELD RESPONSIBLE FOR ANY VIOLATIONS OF APPLICABLE REQUIREMENTS. FOR ANY CHANGES TO THE PROJECT DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.
E. ALL MANUFACTURED ITEMS, MATERIALS, AND EQUIPMENT SHALL BE INSTALLED, ERECTED, APPLIED, USED, CONDITIONED, ADJUSTED, AND CLEANED IN ACCORDANCE WITH THE CURRENT DIRECTIONS, INSTRUCTIONS, AND RECOMMENDATIONS OF THE MANUFACTURER AND WITH CURRENT PRINTED STANDARDS SPECIFICATIONS WHICH ARE ISSUED AND RECOMMENDED BY ORGANIZED ASSOCIATIONS OF MANUFACTURERS, CRAFTS AND TRADES.
F. DO NOT SCALE DRAWINGS. REFER TO WRITTEN DIMENSIONS.
G. COORDINATION OF ALL TRADES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
H. EACH TRADE OR CRAFT CERTIFIES THAT PRECEDING WORK IS ACCEPTABLE WHEN THAT TRADE OR CRAFT COMMENCES ITS OWN WORK ON THE PROJECT.
I. WINDOW SIZES AND WINDOWS ARE OVERALL FRAME SIZES IN INCHES. REFERENCE DOORS AND WINDOWS SECTION FOR ADDITIONAL WINDOW NOTES.
J. INTERIOR DIMENSIONS ARE TO CENTER OF WALL UNLESS OTHERWISE INDICATED.
K. EXTERIOR DIMENSIONS:
• FOR PANEL SIDING APPLIED DIRECTLY TO THE STUDS: DIMENSION IS TO OUTSIDE FACE OF STUD
• FOR STUCCO, THIN STONE/BRICK VENEER AND LAP SIDING: DIMENSION IS TO OUTSIDE FACE OF SHEATHING
• FOR CONCRETE WALLS: DIMENSION IS TO OUTSIDE FACE OF WALL
K. TRIMWORK, CABINETRY, COUNTERTOPS, LIGHTING, AND FINISHES (WALL, FLOOR AND CEILING) TO BE COORDINATED WITH OWNER/OWNER REPRESENTATIVE UNLESS NOTED OTHERWISE.
SHOP DRAWINGS
L. THE BUILDER SHALL SUBMIT THE FOLLOWING SHOP DRAWINGS/ PRODUCT DATA FOR ARCHITECT REVIEW:
• HOLLOW-CORE PRE-CAST CONCRETE FLOOR PANELS
• JOIST FLOOR TRUSSES
• ROOF TRUSSES
• WINDOW DOOR ORDER
• ARCHITECTURAL WOODWORK.
N. BY SUBMITTING SHOP DRAWINGS/ PRODUCT DATA TO THE ARCHITECT, THE BUILDER REPRESENTS THAT THEY HAVE
• REVIEWED AND APPROVED THEM
• DETERMINED AND VERIFIED MATERIALS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA RELATED THERETO, OR WILL DO SO
• CHECKED AND COORDINATED THE INFORMATION CONTAINED WITHIN SUCH SUBMITTALS WITH THE REQUIREMENTS OF THE PROJECT.
O. ALLOW 5 WORKING DAYS MINIMUM FOR QUELTING AND REVIEWING SHOP DRAWINGS

MASONRY

- A. ALL EXTERIOR AND INTERIOR STONE SHALL BE SELECTED BY THE OWNER AND SHALL BE SOLID, DURABLE AND NON-SLOUGHING. VENEER TO BE LAID UP SOLID AND ANCHORED TO SHEATHING WITH METAL TIES (1 PER 1.50 FT.). WINDOW SILLS AND STONE CAPS SHALL BE OF STONE WITH SLOPED AND BEAD CONDITIONS AS INDICATED. ALL JOINTS TO BE FILLED SOLID AND BRUSHED TO BE SLIGHTLY CONCAVE. SAMPLE WALL SECTION SHALL BE LAID UP ON SITE FOR OWNER AND ARCHITECT'S APPROVAL.
B. IF USED AT INTERIOR, THIN STONE VENEER SHALL BE SELECTED BY THE OWNER (ARCHITECT AND APPROVED BY THE OWNER), INSTALLATION SHALL BE IN ACCORDANCE WITH THE THIN STONE MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS AND THE MASONRY VENEER MANUFACTURERS ASSOCIATION GUIDELINES.
C. THIN STONE VENEER SHALL BE INSTALLED OVER MINIMUM 1/2" THICK CEMENT PLASTER SCRATCH COAT INSTALLED WITH MINIMUM 1/8" (2.00) YD. CORROSION RESISTANT, PAPER BACKED, SELF-FLURRING DIAMOND MESH METAL LATH COMPLYING WITH ASTM C847 AND SHALL BE FASTENED THROUGH THE SHEATHING TO THE WALL FRAMING IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS FOR FRAMING IN SECTION 7.10 OF ASTM C1183 AND THE IRC. SCRATCH COAT SHALL BE INSTALLED OVER 1/4" THICK KENIC DRINKAL RAINSCREEN OVER WRB APPLIED TO OSB SHEATHING OR DIRECTLY OVER ZIP SYSTEM WALL SHEATHING, COMPLETE WITH CASING BEADS AND WEEP SCREEDS.
D. PROVIDE REGLETS, STAINLESS STEEL MESH WEEPS AND FLASHINGS AS INDICATED AND REQUIRED. WEEPS TO BE 6" MIN. ABOVE GRADE UNLESS NOTED OTHERWISE.
E. PROVIDE IN WALL AND THRU WALL FLASHINGS AS REQUIRED, NERVASTRAL SEAL-PRUF, H. D. FLASHINGS, OR EQUAL.
F. FURNISH AND INSTALL ALL STEEL ANGLE LINTELS AS INDICATED.
G. MASONRY FIREPLACES SHALL BE BUILT PER DRAWINGS AND IN STRICT ACCORDANCE WITH THE CODE. ALL FLUES SHALL BE LINED WITH CLAY FLE TILES. MASONRY FIREPLACES SHALL BE COMPLETE WITH FIREBRICK LINED FIREBOXES, DAMPERS, GAS LOG LIGHTERS AND A REINFORCED CONCRETE HEARTH SLAB UNLESS NOTED OTHERWISE. THE REINFORCED CONCRETE HEARTH SLABS SHALL BE 10" THICK OF SIZES INDICATED ON THE DRAWINGS REINFORCED WITH #4s @ 10" O.C. EACH WAY.
H. PROVIDE "VESTAL" MODEL NO. AC, ASH CADDY IF AN ASH DUMP IS NOT PROVIDED.
I. FINAL CLEANING OF MORTAR SHALL BE COMPLETED USING FINE BRUSHES AND MILD SOAP POWDER AND WATER SOLUTION THOROUGHLY RINSED WITH CLEAN POTABLE WATER. USE NO ACIDS.
J. EXTERIOR WALLS AS INDICATED ON DRAWINGS, SHALL RECEIVE 5-PART STUCCO ON PAPER-BACKED METAL LATH OVER SHINGLE-LAPPED 158 FLEET OVER STUCCO WRAP TYPE W.R.B. OVERLAP METAL LATH TO PREVENT SEAMS FROM TELEGRAPHING THROUGH THE STUCCO. INSTALL TRADITIONAL 3-COAT (3/4" TO 1" THICK) STUCCO. THE SCRATCH COAT SHALL FULLY ENCAPSULATE LATH. THE TOP COAT SHALL BE AN ELASTOMERIC COATING WITH INTEGRAL COLOR. TO BE SELECTED BY THE OWNER. PROVIDE J-STYLE TERMINATION PROFILES AT ALL CONTROL JOINTS AND J STYLE WEEP-TYPE TERMINATION PROFILES PLUS COMPATIBLE FLASHING AT ALL HORIZONTAL TERMINATIONS, WHERE SHOWN IN THE ELEVATIONS. ALL JOINT REVEALS TO BE 1/4" FOR INSTALLATION OF FOAM BACKER-ROD & COLOR MATCHED POLYURETHANE CAULKING CAPABLE OF +/- 50% MOVEMENT. CONTROL JOINTS NO MORE THAN 12'-0" APART HORIZONTAL & VERTICAL OR WHERE SHOWN IN ELEVATION.

METALS

- A. PROVIDE ALL STRUCTURAL STEEL PER STRUCTURAL DRAWINGS. ALL STRUCTURAL STEEL SHALL CONFORM TO CURRENT AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STEEL FOR BUILDINGS. STEEL PLATES, CHANNELS AND ANGLES SHALL COMPLY WITH ASTM STANDARDS. STEEL WIDE FLANGE BEAMS SHALL COMPLY WITH ASTM A992 STANDARDS. STEEL PIPE SHALL COMPLY WITH ASTM A53 STANDARDS AND HOLLOW STRUCTURAL STEEL (HSS) SHALL COMPLY WITH ASTM A500 STANDARDS.
B. FURNISH AND INSTALL ALL STRUCTURAL STEEL BEAMS, PLATES, COLUMNS, ANGLES, BEAM CONNECTIONS, PLATES AND BOLTS AS INDICATED AND/OR REQUIRED.
C. STEEL COLUMNS SHALL BE 3/12 STD. STEEL PIPE (I.N.O.). PROVIDE 3/8" BASE AND TOP PLATES WELDED TO COLUMNS. COLUMNS SHALL EXTEND THROUGH SLABS AND BEAR DIRECTLY ON FOOTINGS OR FOUNDATIONS.
D. ALL STEEL LINTELS REQUIRED FOR FIREPLACE CONSTRUCTION SHALL BE FURNISHED AND INSTALLED BY THE MASONRY CONTRACTOR.
E. ALL ITEMS SHALL BE FABRICATED IN/SO FAR AS POSSIBLE IN THE SHOP AND ERECTED PLUMB, STRAIGHT AND TRUE COMPLETE WITH BOLTS, PLATES, AND SLEEVES.
F. ALL STEEL SHALL RECEIVE ONE COAT OF GOOD RUST INHIBITIVE PRIMER IN THE SHOP AND SHALL BE TOUCHED UP IN THE FIELD AFTER ERECTION.
G. IRON WORK INCLUDING BALCONIES, GRATES AND RAILINGS SHALL BE FABRICATED OF COMPONENTS AS SHOWN WITH ALL WELDS AND JOINTS GROUND SMOOTH. FINAL DESIGNS SHALL BE COORDINATED AND SELECTED BY THE OWNER. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE ARCHITECT.
H. FORMED METAL WALL PANELS SHALL BE ASTM A653/A653M METAL-COATED STEEL SHEET OR ASTM B268 ALUMINUM SHEET PANELS AS SELECTED BY THE OWNER WITH THE FOLLOWING PERFORMANCE REQUIREMENTS:
1. AIR INFILTRATION: AIR LEAKAGE OF NOT MORE THAN 0.08 CFMSQ. FT. WHEN TESTED ACCORDING TO ASTM E283 AT THE TEST-PRESSURE DIFFERENCE OF 6.24 LBFSQ. FT.
2. WATER PENETRATION UNDER STATIC PRESSURE: NO WATER PENETRATION WHEN TESTED ACCORDING TO ASTM E331 AT THE TEST-PRESSURE DIFFERENCE OF 6.24 LBFSQ. FT.
3. THERMAL MOVEMENT: ALLOW FOR THERMAL MOVEMENT FROM AMBIENT AND SURFACE TEMPERATURE CHANGES BY PREVENTING BUCKLING, OPENING OF JOINTS, OVERSTRESSING OF COMPONENTS, FAILURE OF JOINT SEALANTS, FAILURE OF CONNECTIONS, AND OTHER DETRIMENTAL EFFECTS. BASE CALCULATIONS ON SURFACE TEMPERATURES OF MATERIALS DUE TO BOTH SOLAR HEAT GAIN AND NIGHT-TIME-SKY HEAT LOSS.
a. TEMPERATURE CHANGE RANGE: 120 DEG F (67 DEG C), AMBIENT; 180 DEG F (100 DEG C), MATERIAL SURFACES.
FINISH SHALL BE AAMA 2605 FLUOROPOLYMER FINISH CONTAINING NOT LESS THAN 70 PERCENT POLYVINYLIDENE FLUORIDE (PVDF) RESIN BY WEIGHT IN BOTH COLOR COAT AND CLEAR TOPCOAT.
INSTALLATION SHALL BE IN STRICT CONFORMANCE TO MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS WITH CONCEALED FASTENERS.
I. CARPENTRY
A. PROVIDE FRAMING LUMBER AND MATERIAL AS SPECIFIED AND NOTED IN THE STRUCTURAL DRAWINGS.
B. SUBFLOOR SHALL BE PER STRUCTURAL, INSTALLED PERPENDICULAR ACROSS JOISTS OVER A CONTINUOUS BEAD OF EXTERIOR ADHESIVE AND FASTENED IN ACCORDANCE WITH THE BUILDING CODE. SUBFLOORS SHALL BE SEALED W/ ONE COAT OF ROLL-ON WATER REPELLANT SEALER AT THE COMPLETION OF THAT LEVEL'S INSTALLATION & BEFORE INTERIOR WALL FRAMING IS STARTED. CONFIRM COMPATIBILITY OF SEALER WITH SUB-FLOOR TO PREVENT VOIDING WARRANTY.
C. EXTERIOR WALL SHEATHING SHALL BE PER STRUCTURAL. ALL EXTERIOR WALL SHEATHING SHALL BE FASTENED IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
D. ROOF SHEATHING SHALL BE PER STRUCTURAL. INSTALLED WITH 1/4" CLIPS AT UNSUPPORTED JOISTS, INSTALLED PERPENDICULAR ACROSS RAFTERS AND FASTENED IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
E. EXTERIOR TRIM WORK SHALL BE SMART TRIM WITH S4S OF THE SIZES INDICATED ON THE DRAWINGS.
F. EXTERIOR SOFFITS SHALL BE VENTED FIBER CEMENT
G. ALL HEAVY TIMBER BEAMS, FURLINS, COLUMNS SHALL BE CEDAR WITH S4S FINISH OF THE SIZES INDICATED.
H. EXTERIOR, TRIM-WRAPPED COLUMNS SHALL BE TREATED SOUTHERN YELLOW PINE, SIZED AS INDICATED ON THE DRAWINGS.
I. IF ROOF TRUSSES ARE USED, PROVIDE ENGINEER SEALED SHOP DRAWINGS FOR THE ARCHITECT AND STRUCTURAL ENGINEERS REVIEW PRIOR TO FABRICATION. THE BUILDER SHALL COORDINATE ALL REQUIRED HVAC RUNS IN THE TRUSSES.
J. CARPENTRY METHODS SHALL BE AS SPECIFIED AND NOTED ON THE DRAWINGS.
K. MIDSILLS BELOW RIM BOARDS SHALL BE 2x6. MIDSILLS BELOW WALLS MOUNTED DIRECTLY TO THE FOUNDATION WITHOUT AN INTERVENING FLOOR SHALL MATCH THE WIDTH OF THE WALL. MIDSILLS SHALL BE PRESSURE TREATED, DECAY AND TERMITES RESISTANT LUMBER IN ACCORDANCE WITH "AWPA" STANDARDS, SET OVER SILL SEALER (1" MIN WIDTH).
L. EXTERIOR STUDS SHALL BE 2x6s @ 16" O.C. INTERIOR NON-BEARING WALLS 10' OR LESS SHALL BE 2x4s @ 16" O.C. EXCEPT WHERE NOTED OTHERWISE. INTERIOR WALLS AT POCKET DOORS AND WHERE NEEDED TO ACCOMMODATE PLUMBING SHALL BE 2x6s @ 16" O.C. INTERIOR, NON-BEARING WALLS GREATER THAN 10' TALL SHALL BE 2x6 @ 16" O.C. OR 2x4 LSL STUDS AT 16" O.C. TO A MAXIMUM OF 14' TALL. U.O.D. WALLS SHALL HAVE A SINGLE SILE AND DOUBLE TOP PLATES. PROVIDE JACK AND KING STUDS AT OPENINGS AS REQUIRED BY THE STRUCTURAL ENGINEER. STUDS SHALL BE STUD-GRADE OR BETTER.
M. JOISTS SHALL BE TYPE, SIZE, SPECIES AND SPACING AS INDICATED ON THE DRAWINGS. DOUBLED AND BLOCKED SPANS AS PER IRC R202.4 UNDER PARALLEL BEARING PARTITIONS AND PARALLEL PARTITIONS.
N. BRIDGING FOR 2X JOISTS SHALL BE 1x4S OR EQUAL WITH SPACING NOT TO EXCEED 8'-0" ON CENTER. BRIDGING FOR ENGINEERED, MANUFACTURED JOISTS SHALL CONFORM TO THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
O. CUTTING, DRILLING & NOTCHING OF SOLID SAWN FRAMING MEMBERS SHALL CONFORM TO IRC SECTION R502.8. PENETRATIONS IN ENGINEERED WOOD FLOOR JOISTS SHALL BE ONLY AS DIRECTED BY MANUFACTURER.
P. WOOD BEAMS SHALL BE ENGINEERED WOOD OR SOLID SAWN TIMBERS AS INDICATED ON THE STRUCTURAL DRAWINGS, SET TRUE, PLUMB, AND LEVEL. CAREFULLY FITTED TO PROVIDE TIGHT JOINTS AT CONNECTIONS AND ALL POINTS OF BEAM BEARING.
Q. PROVIDE SOLID BLOCKING (STUD WALL THICKNESS X WIDTH OF BEAM/HEADER (OR AS DIRECTED BY STRUCTURAL ENGINEER)) UNDER ALL STRUCTURAL BEAMS CONTINUOUS TO FOUNDATION OR STRUCTURE BELOW.
R. EXTERIOR MILLWORK SHALL BE SET TRUE, PLUMB, LEVEL AND WINDOWS INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS DIRECTIONS.
S. HEAVY TIMBER WORK SHALL BE SET PLUMB, TRUE AND LEVEL, CAREFULLY FITTED FOR TIGHT JOINTS AND SECURELY ANCHORED AND SOLID BLOCKED TO STRUCTURE.
T. EXTERIOR TRIM SHALL BE CAREFULLY FITTED AND SECURELY FASTENED IN PLACE. CAREFULLY MITER JOINTS FOR ALL EXTERIOR MOLDINGS.
U. INTERIOR MILLWORK SHALL BE SET TRUE, PLUMB AND LEVEL. MITER JOINTS REQUIRED FOR ALL CASINGS AND RUNNING TRIM, CAREFULLY FIT.
V. MILL SHALL VERIFY FIELD DIMENSIONS BEFORE COMMENCING ANY CABINETRY WORK. CABINETRY SHALL BE CAREFULLY FITTED AND SECURELY FASTENED IN PLACE PER MANUFACTURERS AND APPLICABLE INDUSTRY STANDARDS.
W. STAIRWAYS SHALL HAVE THE NUMBER OF RISERS AND TREADS AS INDICATED ON THE DRAWINGS. RISER HEIGHT SHALL BE AS DETERMINED BY THE NUMBER OF RISERS INDICATED (7-3/4" MAX.). TREAD DEPTH SHALL BE AS NOTED ON THE PLAN (10" MIN.) FROM NOSING TO NOSING. HEAD CLEARANCE AT STAIRWELLS SHALL BE 6'-8" MIN. STAR WIDTH SHALL BE AS INDICATED ON THE DRAWINGS AND NOT LESS THAN 36".
X. PROVIDE OWNER SELECTED HANDRAILS AND GUARDRAILS FOR ALL STAIRS. SUBMIT PRODUCT LITERATURE/ SHOP DRAWINGS FOR ARCHITECT REVIEW.
Y. PROVIDE ATTIC ACCESS AS INDICATED ON PLANS. THE R.O. SHALL NOT BE LESS THAN 32" BY 26" WITH 36" MIN. CLEARANCE ABOVE THE OPENING. WHERE

MECHANICAL EQUIPMENT IS LOCATED IN THE ATTIC. PROVIDE A 30" BY 30" MIN. OPENING WITH 48" MIN. CLEARANCE ABOVE THE ACCESS OPENING. REFER TO IRC R807.1 FOR MINIMUM REQUIRED SIZES AND CLEARANCES IF RECOMMENDED SIZES CANNOT BE OBTAINED.
Z. PROVIDE FIREBLOCKING TO CUT OFF BOTH VERTICAL AND HORIZONTAL CONCEALED DRAFT OPENINGS AND TO FORM A FIRE BARRIER BETWEEN STORES AND BETWEEN TOP STORY AND THE ROOF SPACE. REFER TO THE BUILDING FOR MORE DETAILED REQUIREMENTS AND ALLOWABLE FIREBLOCKING MATERIAL.
AA. PROVIDE DRAFT STOPPING WHERE THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF A FLOOR-CEILING ASSEMBLY SO THAT THE CONCEALED AREA DOES NOT EXCEED 1,000 S.F. (E.G. WHEN FLOOR TRUSSES ARE USED, WHEN SUSPENDED GYPSUM CEILINGS ARE INSTALLED, ETC.) REFER TO THE BUILDING CODE FOR MORE DETAILED REQUIREMENTS AND ALLOWABLE DRAFTSTOP MATERIAL.
AC. WOOD PRESERVATIVE: COMPLY WITH AMERICAN WOOD PROTECTION ASSOCIATION STANDARD (AWPA) U1- LATEST EDITION.
THERMAL AND MOISTURE PROTECTION
4. INSULATION AND PENETRATION REQUIREMENTS FOR CLIMATE ZONE 4 (REFER TO IBCO TABLE R402.1.2 AND LOCAL AHJ FOR EXCEPTIONS AND CLARIFICATIONS)
FENESTRATION U-FACTOR: 0.32
SIGHT U-FACTOR: 0.55
GLAZED FENESTRATION SHGC: 0.40
CEILING R-VALUE: 48
WOOD FRAME WALL R-VALUE: 20 FOR CAVITY INSULATION OR 13 CAVITY + 5 CONTINUOUS INSULATION
MASS WALL R-VALUE: 8 OR 13 IF MORE THAN HALF OF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.
FLOOR R-VALUE: 19
BASEMENT WALL R-VALUE: 10 CONTINUOUS INTERIOR OR EXTERIOR INSULATION OR 13 FOR INTERIOR CAVITY WALL INSULATION.
SLAB R-VALUE & DEPTH: R10, 2FT (SEE CODE FOR DETAILS. IF SLAB IS HEATED)
CRAWL SPACE WALL R-VALUE: 10 CONTINUOUS INTERIOR OR EXTERIOR INSULATION OR 13 FOR INTERIOR CAVITY WALL INSULATION.
INSULATION FOR CAVITY SPACES IN WOOD FRAMED FLOORS, WALLS & CEILINGS BETWEEN CONDITIONED & UNCONDITIONED SPACES SHALL BE CONTRACTOR CHOICE TO MEET OR EXCEED REQUIRED INSULATION VALUES
B. INSULATION SHALL BE INSTALLED AT THE THICKNESS REQUIRED TO ACHIEVE THE R-VALUES LISTED ON THE TABLE ABOVE.
C. IF BATT INSULATION IS USED TO INSULATE VAULTED CEILINGS, PROVIDE Baffles ON THE UNDERSIDE OF THE ROOF SHEATHING TO PROVIDE CONTINUOUS AIR FLOW FROM THE EAVE TO THE RIDGE VENT.
D. INSTALL Baffles AT THE TRANSITION FROM EAVES AND ATTICS TO PREVENT INSULATION FROM BLOCKING THE AIR FLOW FROM THE EAVE TO THE VENTILATED ATTIC.
E. PROVIDE 1 1/2" RIGID INSULATION ON INTERIOR FACE OF FOUNDATION WALLS OR TRENCH FOOTINGS, BELOW CONCRETE FLOOR SLAB, AT WALK-OUT LOWER LEVEL AREAS.
F. IN THE BASEMENT AND AT SECOND FLOOR, INSTALL CODE REQUIRED INSULATION (R-19 MIN.) AT PERIMETER RIM JOISTS OF FLOOR ABOVE.
G. INTERIOR WALLS AROUND ALL BATHROOMS SHALL BE ACOUSTICALLY INSULATED WITH 3" MIN. MINERAL WOOL SOUND INSULATION.
H. PROVIDE 2" FOAM SOUND INSULATION WRAP AROUND ALL SOIL LINES ABOVE SLAB.
I. PROVIDE 26 ga. PREFINISHED GALVANIZED SHEET METAL FLASHINGS OVER ALL WINDOWS AND EXTERIOR DOORS.
J. PROVIDE VENT AND SHEET METAL WALL CAP AT DRYER LOCATION.
K. WEATHERSTRIP DOORS AS REQUIRED AND CAULK ALL JOINTS AND PENETRATIONS
L. EXTERIOR WALLS SHALL RECEIVE ONE LAYER OF DUPOINT TYVEK "STUCCO WRAP" INSTALLED PER THE MANUFACTURERS SPECIFICATIONS.
M. PROVIDE SEALANT AT ALL JOINTS BETWEEN DISSIMILAR MATERIALS. ALL PENETRATIONS IN EXTERIOR WALLS TO BE CHINKED FULL OF INSULATION OR SEALED WITH SPRAY FOAM. SEAL EXTERIOR FAS WITH SEALANT.
N. AT STONE PAVERS OVER FULL MORTAR BED- PROVIDE WR MEADOWS MEL-DRAIN DRAINAGE MAT OVER WR MEADOWS HYDROLASTIC 30L MINIMUM 12x14L DRY THICKNESS WITH REINFORCED FIBER HCR OR APPROVED EQUAL. INSTALL PER MANUF. SPEC. EXTEND WATERPROOFING UP ALL ADJOINING VERTICAL SURFACES MIN. 6" ABOVE FINISH PAVING. LAP WRB OVER WATERPROOFING GRE TERMINATE ON WALL PER ZIP MANUF. REQUIREMENTS. GROUT TO BE EPOXY TYPE.
DOORS AND WINDOWS
A. DOORS BETWEEN THE GARAGE AND THE DWELLING SHALL BE A MIN. 1 3/4" SOLID CORE DOOR OR A 20-MINUTE FIRE RATED DOOR AND SHALL BE SELF-CLOSING.
B. ENTRY DOORS SHALL BE OF SIZE AND STYLE INDICATED WITH SPECIES SELECTED BY OWNER.
C. ALL WINDOW & DOOR OPTIONS SHALL BE SELECTED BY THE BUILDER. THE PRODUCT SUPPLIER SHALL IDENTIFY AND SUPPLY SAFETY GLAZING LOCATIONS REQUIRED BY CODE AND MEET APPLICABLE WINDOW EGRESS REQUIREMENTS. THE BUILDER SHALL PROVIDE ARCHITECT WITH WINDOW AND DOOR ORDER FOR REVIEW.
D. ALL INTERIOR DOORS SHALL BE THE SIZES INDICATED, DOOR MATERIALS, SPECIES, STYLE & FINISH SHALL BE AS SELECTED BY THE OWNER.
E. WINDOWS SHALL HAVE OPENING LIMITERS AT LOCATIONS REQUIRED BY CODE.
F. OVERHEAD DOORS SHALL MEET THE WIND LOAD REQUIRED BY CODE AND A.H.J. PROVIDE OVERHEAD DOOR LIFTS AND CONTROLS AS APPROVED BY THE OWNER. OVERHEAD DOOR PANEL SHALL BE INSULATED AS SELECTED BY THE BUILDER TO ACHIEVE THE LOOK SHOWN ON THE DRAWINGS AND AS APPROVED BY OWNER.
G. EXTERIOR DOORS DOORS LEADING INTO THE DWELLING FROM THE GARAGE, SHALL INCORPORATE THE SECURITY PROVISIONS REQUIRED BY IRC R629 AND THE A.H.J.
FINISHES
A. PROVIDE 1/2" GYPSUM BOARD ON ALL INTERIOR FACES OF EXTERIOR WALLS, BOTH FACES OF INTERIOR WALLS, AND ALL CEILINGS. PROVIDE 1/2" WATER-RESISTANT GYPSUM BOARD ON WALLS AND CEILINGS OF WET ROOMS (E.G. BATHS, LAUNDRY, DRESSING, ETC.). PROVIDE 5/8" TYPE-X GYPSUM BOARD ON GARAGE SIDE OF WALLS AND CEILINGS SEPARATING THE GARAGE FROM ALL LIVING SPACES. COVER ALL BEAMS IN THE GARAGE WITH 5/8" TYPE-X GYPSUM BOARD.
B. WOOD "Y" JOISTS SHOULD BE PROTECTED WITH 1/2" GYPSUM BOARD, 5/8" WOOD STRUCTURAL PANEL, CEILING OR OTHER APPROVED MEANS BY AHJ UNLESS PROTECTED BY A FIRE SPRINKLER SYSTEM.
C. ALL CEILINGS SHALL BE FINISHED FOR PAINTING, NOT SPRAY TEXTURING.
D. ENGINEERED HARDWOOD FLOOR OVER A CONCRETE SLAB SHALL BE PLACED ON 3/4" OSB ABOVE DRYCORE FLOOR ASSEMBLY INSTALL PER MANUFACTURERS SPECIFICATIONS. OR
ENGINEERED HARDWOOD FLOOR OVER A CONCRETE SLAB SHALL BE PLACED ON 3/4" ADVANTEDGE SUB-FLOOR ON MINIRADN 2000.
E. THE CONTRACTOR SHALL FURNISH THE OWNER WITH SAMPLES OF ALL FINISH MATERIAL AND COLORS AS MAY BE REQUIRED FOR OWNER APPROVAL.
ELECTRICAL
A. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE FOR CONSTRUCTION SITE AND LOAD CALCULATIONS FOR LOCAL UTILITY CO.
B. ELECTRICAL CONTRACTOR SHALL VERIFY SOURCE OF ELECTRICAL SERVICE AND

EQUIPMENT

- A. PROVIDE AND INSTALL ALL APPLIANCES AND EQUIPMENT AS NOTED ON PLANS AND AS SELECTED BY THE OWNER IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS, CODES, AND ORDINANCES.
C. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL U.L. LISTED MAIN LOAD CENTERS AND CIRCUIT BREAKERS PROPERLY SIZED ACCORDING TO LOAD CALCULATIONS. BREAKERS SHALL BE PROPERLY IDENTIFIED WITH THEIR DESIGNATED USE AND LOAD CENTERS SHALL HAVE 20% SPARE CIRCUITS ?
D. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE DISTRIBUTION WIRING SYSTEM TO ALL EQUIPMENT, FIXTURES, RECEPTACLES, SWITCHES, DAMPERS AND CONTROLS. GFCI CIRCUITS SHALL BE PROVIDED AT ALL WET LOCATIONS (I.E. KITCHEN, LAUNDRY, BATHROOMS, GARAGE AND OUTDOOR RECEPTACLES.
E. ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND ORDINANCES.
F. SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS SHALL MEET THE REQUIREMENTS OF NFPA 72 AND SHALL BE INTERCONNECTED, POWERED BY THE BUILDING POWER WITH A BATTERY BACKUP SYSTEM. SMOKE DETECTORS SHALL BE INSTALLED IN EACH SLEEPING ROOM, IMMEDIATELY OUTSIDE OF EACH SLEEPING ROOM, IN EACH MECHANICAL ROOM AND AT THE STAIRWAYS). CARBON MONOXIDE DETECTORS SHALL BE INSTALLED OUTSIDE SEPARATE BEDROOM AREAS, ON EVERY LEVEL OF A DWELLING, IMMEDIATELY OUTSIDE OF EACH SLEEPING ROOM, IN EACH MECHANICAL ROOM AND AT THE STAIRWAYS).
G. PROVIDE ONE 40 AMP MINIMUM CIRCUIT MARKED FOR ELECTRIC VEHICLE IN THE GARAGE IF REQUESTED BY THE AUTHORITY HAVING JURISDICTION OR IF REQUESTED BY THE HOMEOWNER.
H. PROVIDE OUTLET IN ATTIC NEXT TO RADON VENT PIPE FOR FUTURE RADON FAN IF NEEDED IN THE FUTURE.
I. PROVIDE 4"X26" ALCURAF, SEE-THROUGH, WOOD-BURNING FIREPLACE OR APPROVED EQUAL. PROVIDE GAS STARTER TO FIREPLACE.
PLUMBING
A. CONSIDER REVIEWING THE SURVEY TO SEE FLOW LINE OF THE SEWER AT THE STREET RELATIVE TO BASEMENT FLOOR ELEVATION TO DETERMINE WHETHER A SEWER ELECTOR PUMP WILL BE REQUIRED.
B. PROVIDE SUMP PUMP IN SUMP PIT IF FOUNDATION DRAIN LINES CANNOT BE DRAINED.
C. THE CONTRACTOR SHALL FURNISH AND INSTALL SERVICE LINE, METER AND PIT WITH A 1" TYPE "K", UNDERGROUND, WATER SERVICE LINE FROM MAIN TO METER. METER SHALL BE PURCHASED BY OWNER. WATER LINE SHALL BE A MINIMUM OF 42" WEDGE GRADE.
D. WATER DISTRIBUTION SYSTEM IN THE HOUSE SHALL BE FURNISHED AND INSTALLED COMPLETE, INCLUDING ASTM F 877, PEAX TUBING FOR HOT AND COLD WATER LINES TO ALL FIXTURES WITH HOT & COLD WATER MANIFOLDS AND WASHERSLESS CUT-OFF VALVES AT ALL FIXTURES. PROVIDE PRESSURE REDUCING VALVES AS REQUIRED.
E. DRAIN, WASTE AND VENT SYSTEM FOR HOUSE SHALL BE FURNISHED AND INSTALLED COMPLETE. DWV LINES SHALL BE ABS PIPE CONFORMING TO SCHEDULE 40 ASTM F 88 OR 40 CURVED. PROVIDE AND INSTALL CLEANOUTS AS REQUIRED TO FACILITATE CLEANING OF LINES. ALL PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED, COMPLETE WITH ALL PLUMBING SUPPLY FITTINGS AS REQUIRED, BY THE SUBCONTRACTOR AS SELECTED BY OWNER. INSTALLATION OF ALL FIXTURES SHALL BE COMPLETE AND IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS, CODES, AND ORDINANCES.
F. ALL PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED, COMPLETE WITH ALL PLUMBING SUPPLY FITTINGS AS REQUIRED AND IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS, CODES, AND ORDINANCES.
G. FURNISH AND INSTALL WASHING MACHINE SUPPLY AND DRAINS, SPACE-SAVER, SRF-1 DRIP OR EQUAL.
H. FURNISH AND INSTALL FROSTPROOF SILLCOCKS AND COORDINATE LOCATIONS WITH THE OWNER. ALL PLUMBING ON OUTSIDE WALLS AND/OR CRAWL SPACES SHALL RUN ON WARM SIDE OF INSULATION AND SHALL BE WRAPPED WITH PIPE INSULATION.
I. FURNISH AND INSTALL FLOOR DRAINS AS INDICATED OR REQUESTED. INTERIOR FLOOR DRAINS SHALL BE HOOKED TO THE WASTE PIPING.
J. RUN PLUMBING VENTS THROUGH ROOF PER CODE. LOCATE ON BACK SIDE OF HOUSE TO CONCEAL FROM STREET VIEW. ALL PLUMBING VENTS SHALL BE CONSOLIDATED AS MUCH AS POSSIBLE IN ORDER TO REDUCE PENETRATIONS THROUGH THE ROOF.
K. PROVIDE RECESSED ICE MAKER SHUT OFF VALVE AT ICE MAKER LOCATIONS.
L. COORDINATE PASSIVE RADON VENT PIPE INSTALLATION TO UNDER-SLAB FOOTING DRAIN LINES PER FOUNDATION WATERPROOFING/ DRAINAGE NOTES AND EPA PUBLICATION "BUILDING RADON OUT".
HVAC
A. HVAC SYSTEM SHALL BE PER BUILDER, CODE AND APPLICABLE TRADE STANDARDS.
B. EQUIPMENT SHALL BE SIZED TO MAINTAIN AN INTERIOR TEMPERATURE OF 70 DEGREES F.D.B. AT AN EXTERIOR DESIGN TEMPERATURE OF -10 DEGREES F.D.B.; AND SHALL MAINTAIN AN INTERIOR TEMPERATURE OF 75 DEGREES F.D.B. AT AN EXTERIOR DESIGN TEMPERATURE OF 100 DEGREES F.D.B.
C. NOT USED.
D. SHEET METAL WORK SHALL BE FOR COMPLETE SUPPLY AND RETURN SYSTEMS INCLUDING DUCT WORK, GRILLES, REGISTERS, AND DAMPERS REQUIRED FOR UNIFORM AIR FLOW AND DISTRIBUTION. SYSTEM SHALL BE TESTED AND BALANCED TO GIVE EVEN AIR FLOWS. ALL SUPPLY DUCTS IN THE ATTIC SHALL BE INSULATED WITH 1" THREE LB. DENSITY DUCT LINER.
E. VENTS SHALL BE CODE APPROVED AND SHALL BE FURNISHED AND INSTALLED FOR ALL EXHAUST FANS, EQUIPMENT AND APPLIANCES INCLUDING OVEN, COOKTOP AND OWNER'S CLOTHES DRYER, INCLUDING WEATHER CAP.
F. ALL VENTS AND COMBUSTION AIR DUCTS SHALL BE COMPLETE WITH WEATHER CAPS AND OR ROOF JACKS AS REQUIRED.
G. ALL HVAC SHAFTS PENETRATING THROUGH FLOOR AND CEILING FRAMING SHALL BE DRAFTSTOPPED PER LOCAL CODES.
H. ADJUSTMENTS SHALL INCLUDE TESTING AND BALANCING THE HVAC SYSTEM. EQUIPMENT SHALL BE LEVELLED AND ALL DAMPERS, VIBRATIONS, AND POPS SHALL BE REMOVED FROM ALL DUCTS, HOUSINGS, CONTROL DEVICES AND EQUIPMENT.
I. CUTTING & NOTCHING OF JOISTS & STUDS TO RECEIVE PIPING AND DUCT WORK SHALL CONFORM TO IRC SECTIONS R502.8 & R602.8.
J. PRECAST OR PREFABRICATED CONDENSER PADS SHALL BE INSTALLED LEVEL BY THE HVAC CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR RELEVELING ANY OUT OF LEVEL PADS AT THE END OF THE FIRST YEAR AFTER INSTALLATION.
K. MANUFACTURERS GUARANTEES AND WARRANTIES ON ALL EQUIPMENT SHALL BE DELIVERED TO THE OWNER AND INSTRUCTIONS GIVEN ON THE OPERATION OF ALL EQUIPMENT, AT THE COMPLETION OF THE PROJECT.
L. ALL MATERIALS AND WORKMANSHIP SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE SHEET METAL CONTRACTORS NATIONAL ASSOCIATION, INC. AS SET FORTH IN THE CURRENT EDITION OF STANDARD PRACTICES IN SHEET METAL WORK MANUALS #1 AND #2.
M. THE MECHANICAL CONTRACTOR SHALL GUARANTEE THE PERFORMANCE OF THE INSTALLED HEATING AND COOLING EQUIPMENT. EQUIPMENT SHALL BE CAPABLE OF MAINTAINING THE SPECIFIED TEMPERATURES AND THE DUCT SYSTEM SHALL DELIVER UNIFORM, BALANCED AIR FLOWS.
P. AIR DUCTS PASSING THROUGH FIRE RESISTIVE CONSTRUCTION MUST BE 26 GAUGE SHEET METAL OR INCORPORATE A FIRE DAMPER. IF THE AIR DUCTS HAVE OPENINGS INTO THE GARAGE, A FIRE DAMPER IS REQUIRED.
Q. CONTRACTOR/SUBCONTRACTOR SHALL SUBMIT A SKETCH LAYOUT SHOWING DUCT RUNS THAT WOULD AFFECT ANY CEILING HEIGHTS PRIOR TO FABRICATION.
R. ALL BATHROOMS SHALL HAVE EXHAUST FANS VENTED DIRECTLY TO THE OUTSIDE WITH THE VENTILATION RATE OF 50 CFM FOR INTERMITTENT VENTILATION AND 20 CFM FOR CONTINUOUS VENTILATION.
ELECTRICAL
A. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE FOR CONSTRUCTION SITE AND LOAD CALCULATIONS FOR LOCAL UTILITY CO.
B. ELECTRICAL CONTRACTOR SHALL VERIFY SOURCE OF ELECTRICAL SERVICE AND

- PROVIDE COMPLETE UNDERGROUND SERVICE FROM ELECTRICAL SUPPLY TO METER AT HOUSE. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH THE LOCAL UTILITY.
C. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL U.L. LISTED MAIN LOAD CENTERS AND CIRCUIT BREAKERS PROPERLY SIZED ACCORDING TO LOAD CALCULATIONS. BREAKERS SHALL BE PROPERLY IDENTIFIED WITH THEIR DESIGNATED USE AND LOAD CENTERS SHALL HAVE 20% SPARE CIRCUITS ?
D. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE DISTRIBUTION WIRING SYSTEM TO ALL EQUIPMENT, FIXTURES, RECEPTACLES, SWITCHES, DAMPERS AND CONTROLS. GFCI CIRCUITS SHALL BE PROVIDED AT ALL WET LOCATIONS (I.E. KITCHEN, LAUNDRY, BATHROOMS, GARAGE AND OUTDOOR RECEPTACLES.
E. ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND ORDINANCES.
F. SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS SHALL MEET THE REQUIREMENTS OF NFPA 72 AND SHALL BE INTERCONNECTED, POWERED BY THE BUILDING POWER WITH A BATTERY BACKUP SYSTEM. SMOKE DETECTORS SHALL BE INSTALLED IN EACH SLEEPING ROOM, IMMEDIATELY OUTSIDE OF EACH SLEEPING ROOM, IN EACH MECHANICAL ROOM AND AT THE STAIRWAYS). CARBON MONOXIDE DETECTORS SHALL BE INSTALLED OUTSIDE SEPARATE BEDROOM AREAS, ON EVERY LEVEL OF A DWELLING, IMMEDIATELY OUTSIDE OF EACH SLEEPING ROOM, IN EACH MECHANICAL ROOM AND AT THE STAIRWAYS).
G. PROVIDE ONE 40 AMP MINIMUM CIRCUIT MARKED FOR ELECTRIC VEHICLE IN THE GARAGE IF REQUESTED BY THE AUTHORITY HAVING JURISDICTION OR IF REQUESTED BY THE HOMEOWNER.
H. PROVIDE OUTLET IN ATTIC NEXT TO RADON VENT PIPE FOR FUTURE RADON FAN IF NEEDED IN THE FUTURE.
I. PROVIDE 4"X26" ALCURAF, SEE-THROUGH, WOOD-BURNING FIREPLACE OR APPROVED EQUAL. PROVIDE GAS STARTER TO FIREPLACE.
PLUMBING
A. CONSIDER REVIEWING THE SURVEY TO SEE FLOW LINE OF THE SEWER AT THE STREET RELATIVE TO BASEMENT FLOOR ELEVATION TO DETERMINE WHETHER A SEWER ELECTOR PUMP WILL BE REQUIRED.
B. PROVIDE SUMP PUMP IN SUMP PIT IF FOUNDATION DRAIN LINES CANNOT BE DRAINED.
C. THE CONTRACTOR SHALL FURNISH AND INSTALL SERVICE LINE, METER AND PIT WITH A 1" TYPE "K", UNDERGROUND, WATER SERVICE LINE FROM MAIN TO METER. METER SHALL BE PURCHASED BY OWNER. WATER LINE SHALL BE A MINIMUM OF 42" WEDGE GRADE.
D. WATER DISTRIBUTION SYSTEM IN THE HOUSE SHALL BE FURNISHED AND INSTALLED COMPLETE, INCLUDING ASTM F 877, PEAX TUBING FOR HOT AND COLD WATER LINES TO ALL FIXTURES WITH HOT & COLD WATER MANIFOLDS AND WASHERSLESS CUT-OFF VALVES AT ALL FIXTURES. PROVIDE PRESSURE REDUCING VALVES AS REQUIRED.
E. DRAIN, WASTE AND VENT SYSTEM FOR HOUSE SHALL BE FURNISHED AND INSTALLED COMPLETE. DWV LINES SHALL BE ABS PIPE CONFORMING TO SCHEDULE 40 ASTM F 88 OR 40 CURVED. PROVIDE AND INSTALL CLEANOUTS AS REQUIRED TO FACILITATE CLEANING OF LINES. ALL PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED, COMPLETE WITH ALL PLUMBING SUPPLY FITTINGS AS REQUIRED, BY THE SUBCONTRACTOR AS SELECTED BY OWNER. INSTALLATION OF ALL FIXTURES SHALL BE COMPLETE AND IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS, CODES, AND ORDINANCES.
F. ALL PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED, COMPLETE WITH ALL PLUMBING SUPPLY FITTINGS AS REQUIRED AND IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS, CODES, AND ORDINANCES.
G. FURNISH AND INSTALL WASHING MACHINE SUPPLY AND DRAINS, SPACE-SAVER, SRF-1 DRIP OR EQUAL.
H. FURNISH AND INSTALL FROSTPROOF SILLCOCKS AND COORDINATE LOCATIONS WITH THE OWNER. ALL PLUMBING ON OUTSIDE WALLS AND/OR CRAWL SPACES SHALL RUN ON WARM SIDE OF INSULATION AND SHALL BE WRAPPED WITH PIPE INSULATION.
I. FURNISH AND INSTALL FLOOR DRAINS AS INDICATED OR REQUESTED. INTERIOR FLOOR DRAINS SHALL BE HOOKED TO THE WASTE PIPING.
J. RUN PLUMBING VENTS THROUGH ROOF PER CODE. LOCATE ON BACK SIDE OF HOUSE TO CONCEAL FROM STREET VIEW. ALL PLUMBING VENTS SHALL BE CONSOLIDATED AS MUCH AS POSSIBLE IN ORDER TO REDUCE PENETRATIONS THROUGH THE ROOF.
K. PROVIDE RECESSED ICE MAKER SHUT OFF VALVE AT ICE MAKER LOCATIONS.
L. COORDINATE PASSIVE RADON VENT PIPE INSTALLATION TO UNDER-SLAB FOOTING DRAIN LINES PER FOUNDATION WATERPROOFING/ DRAINAGE NOTES AND EPA PUBLICATION "BUILDING RADON OUT".
HVAC
A. HVAC SYSTEM SHALL BE PER BUILDER, CODE AND APPLICABLE TRADE STANDARDS.
B. EQUIPMENT SHALL BE SIZED TO MAINTAIN AN INTERIOR TEMPERATURE OF 70 DEGREES F.D.B. AT AN EXTERIOR DESIGN TEMPERATURE OF -10 DEGREES F.D.B.; AND SHALL MAINTAIN AN INTERIOR TEMPERATURE OF 75 DEGREES F.D.B. AT AN EXTERIOR DESIGN TEMPERATURE OF 100 DEGREES F.D.B.
C. NOT USED.
D. SHEET METAL WORK SHALL BE FOR COMPLETE SUPPLY AND RETURN SYSTEMS INCLUDING DUCT WORK, GRILLES, REGISTERS, AND DAMPERS REQUIRED FOR UNIFORM AIR FLOW AND DISTRIBUTION. SYSTEM SHALL BE TESTED AND BALANCED TO GIVE EVEN AIR FLOWS. ALL SUPPLY DUCTS IN THE ATTIC SHALL BE INSULATED WITH 1" THREE LB. DENSITY DUCT LINER.
E. VENTS SHALL BE CODE APPROVED AND SHALL BE FURNISHED AND INSTALLED FOR ALL EXHAUST FANS, EQUIPMENT AND APPLIANCES INCLUDING OVEN, COOKTOP AND OWNER'S CLOTHES DRYER, INCLUDING WEATHER CAP.
F. ALL VENTS AND COMBUSTION AIR DUCTS SHALL BE COMPLETE WITH WEATHER CAPS AND OR ROOF JACKS AS REQUIRED.
G. ALL HVAC SHAFTS PENETRATING THROUGH FLOOR AND CEILING FRAMING SHALL BE DRAFTSTOPPED PER LOCAL CODES.
H. ADJUSTMENTS SHALL INCLUDE TESTING AND BALANCING THE HVAC SYSTEM. EQUIPMENT SHALL BE LEVELLED AND ALL DAMPERS, VIBRATIONS, AND POPS SHALL BE REMOVED FROM ALL DUCTS, HOUSINGS, CONTROL DEVICES AND EQUIPMENT.
I. CUTTING & NOTCHING OF JOISTS & STUDS TO RECEIVE PIPING AND DUCT WORK SHALL CONFORM TO IRC SECTIONS R502.8 & R602.8.
J. PRECAST OR PREFABRICATED CONDENSER PADS SHALL BE INSTALLED LEVEL BY THE HVAC CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR RELEVELING ANY OUT OF LEVEL PADS AT THE END OF THE FIRST YEAR AFTER INSTALLATION.
K. MANUFACTURERS GUARANTEES AND WARRANTIES ON ALL EQUIPMENT SHALL BE DELIVERED TO THE OWNER AND INSTRUCTIONS GIVEN ON THE OPERATION OF ALL EQUIPMENT, AT THE COMPLETION OF THE PROJECT.
L. ALL MATERIALS AND WORKMANSHIP SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE SHEET METAL CONTRACTORS NATIONAL ASSOCIATION, INC. AS SET FORTH IN THE CURRENT EDITION OF STANDARD PRACTICES IN SHEET METAL WORK MANUALS #1 AND #2.
M. THE MECHANICAL CONTRACTOR SHALL GUARANTEE THE PERFORMANCE OF THE INSTALLED HEATING AND COOLING EQUIPMENT. EQUIPMENT SHALL BE CAPABLE OF MAINTAINING THE SPECIFIED TEMPERATURES AND THE DUCT SYSTEM SHALL DELIVER UNIFORM, BALANCED AIR FLOWS.
P. AIR DUCTS PASSING THROUGH FIRE RESISTIVE CONSTRUCTION MUST BE 26 GAUGE SHEET METAL OR INCORPORATE A FIRE DAMPER. IF THE AIR DUCTS HAVE OPENINGS INTO THE GARAGE, A FIRE DAMPER IS REQUIRED.
Q. CONTRACTOR/SUBCONTRACTOR SHALL SUBMIT A SKETCH LAYOUT SHOWING DUCT RUNS THAT WOULD AFFECT ANY CEILING HEIGHTS PRIOR TO FABRICATION.
R. ALL BATHROOMS SHALL HAVE EXHAUST FANS VENTED DIRECTLY TO THE OUTSIDE WITH THE VENTILATION RATE OF 50 CFM FOR INTERMITTENT VENTILATION AND 20 CFM FOR CONTINUOUS VENTILATION.
ELECTRICAL
A. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE FOR CONSTRUCTION SITE AND LOAD CALCULATIONS FOR LOCAL UTILITY CO.
B. ELECTRICAL CONTRACTOR SHALL VERIFY SOURCE OF ELECTRICAL SERVICE AND

FOUNDATION GENERAL NOTES

A. ITALICIZED NOTES ON THE DRAWINGS ARE BY THE STRUCTURAL ENGINEER.

B. SOIL DISCLAIMER: SOIL BEARING CAPACITY, THE SUITABILITY OF THE SOIL TO SUPPORT THE STRUCTURE, AND SUBSURFACE WATER MANAGEMENT IS THE SPECIALTY OF GEOTECHNICAL ENGINEERS AND NSPJ DOES NOT PERFORM GEOTECHNICAL ENGINEERING. NSPJ RECOMMENDS THAT THE OWNER OR CONTRACTOR CONSULT WITH A LICENSED GEOTECHNICAL ENGINEER AND PROVIDE A COPY OF ALL GEOTECHNICAL REPORTS OR FINDINGS TO NSPJ. IF A GEOTECHNICAL REPORT IS NOT PROVIDED TO NSPJ DURING THE DESIGN OF THE HOME, THE SOIL WILL BE ASSUMED TO BE CAPABLE OF SUPPORTING THE BEARING CAPACITY AS OUTLINED IN THE IRC AND DEFINED BY THE LOCAL AHJ.

CONCRETE WALLS
A. ALL FOOTINGS SHALL EXTEND BELOW A FROST LINE OF 36" WITH UNIFORM BEARING ON UNDISTURBED SOIL CAPABLE OF SUPPORTING A MIN. OF 1,500 P.S.F. OR AS DEFINED BY THE STRUCTURAL OR GEOTECHNICAL ENGINEER (RE .2018 IRC SECTION R403).
B. NOT USED.

C. MAINTAIN SOIL MOISTURE CONTENT EQUIVALENT TO WHAT EXISTED AT THE TIME OF EXCAVATION TO MINIMIZE PROBLEMS WITH DIFFERENTIAL SETTLEMENT OR DISPLACEMENT UNLESS DIRECTED OTHERWISE BY THE GEOTECHNICAL OR STRUCTURAL ENGINEER.

D. REFER TO STRUCTURAL NOTES FOR CONCRETE STRENGTH, SLUMP REQUIREMENTS, REINFORCING SIZE, SPACING AND GRADE, ANCHOR BOLT SPACING, COVER REQUIREMENTS, ETC.

E. NARROW STEM WALLS BLOCKED OUT AT TOP OF WALL: 4" WIDE SHALL NOT EXCEED 12" HIGH AND 6" WIDE SHALL NOT EXCEED 2'-0" HIGH UNLESS NOTED OTHERWISE BY THE STRUCTURAL ENGINEER.

F. ALL OPENINGS OR PENETRATIONS THROUGH CONCRETE FOUNDATION WALLS SHALL BE BLOCKED OUT OR SLEEVED PRIOR TO POURING OF CONCRETE.

G. AN ACCESSIBLE CONNECTION POINT SHALL BE PROVIDED TO A 20 FOOT CONCRETE-ENCASED ELECTRODE (FOOTING REBAR) FOR THE ELECTRICAL SERVICE GROUNDING ELECTRODE CONDUCTOR (UFER GROUND), CONTRACTOR TO COORDINATE LOCATION.

H. PROVIDE WATERSTOPS BETWEEN CONCRETE POURS WHERE NEEDED TO PREVENT WATER INTRUSION.

FLATWORK

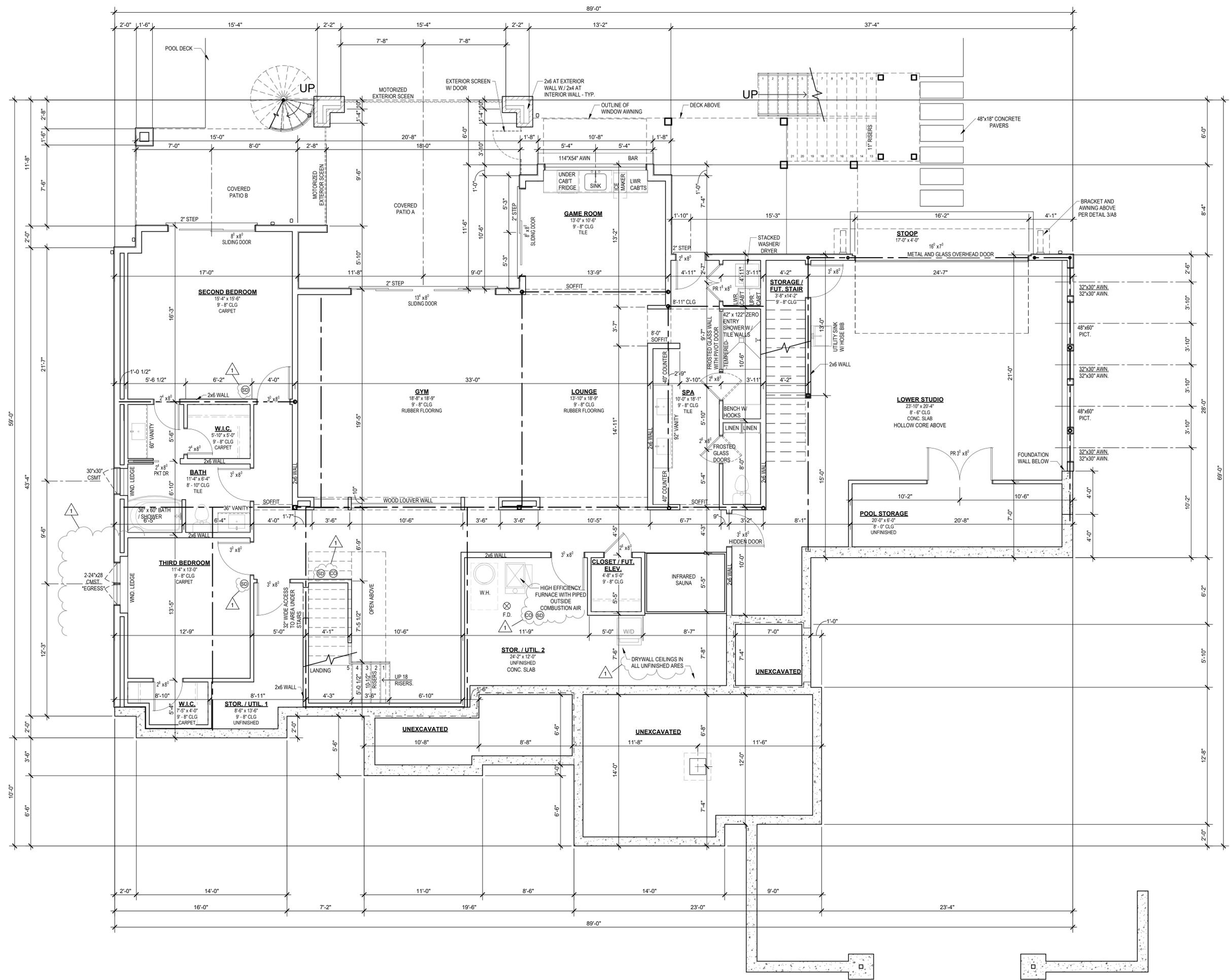
A. NON-STRUCTURAL SLABS OVER LESS THAN 24" OF FILL: 4" CONC. SLAB REIN. WITH 6x6-2 1/2" I.W.F. OR #4s @ 18" O.C. EACH WAY OVER 10 MIL "STEGO" VAPOR BARRIER OVER 4" CRUSHED ROCK. PROVIDE SMOOTH STEEL TROWEL FINISH UNLESS NOTED OTHERWISE.

B. PROVIDE CONTROL JOINTS CUT IN BASEMENT SLAB UNDER ALL STEEL BEAM AND HEADER LINES. LIMIT CONTROLLED AREAS TO NOT MORE THAN 625 S.F. NOR GREATER THAN 25'-0" ON ANY SIDE.

C. PROVIDE EXPANSION JOINTS AS BOND BREAKER BETWEEN WALLS AND OTHER RESTRAINING CONSTRUCTION. ISOLATE BASEMENT COLUMNS FROM THE REST OF THE CONCRETE SLAB.

WATERPROOFING/DRAINAGE

A. WATERPROOFING



NEW RESIDENCE FOR:

# METCALF RESIDENCE

1229 SW CORINTHIAN LANE,  
LEE'S SUMMIT, MISSOURI

DRAWING RELEASE LOG  
05.07.2025 PERMIT SET

REVISIONS

1	07.30.25	RESPONSE TO CITY COMMENTS
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**FINISHED AREAS**  
LOWER LEVEL = 2,178 SF  
MAIN LEVEL = 2,756 SF  
UPPER LEVEL = 1,325 SF

TOTAL = 6,259 SF  
UNFINISHED = 1,196 SF  
GARAGE = 1,000 SF  
ENTRY PORCH = 110 SF  
SIDE PORCH = 43 SF  
REAR DECK = 757 SF  
COVERED PATIO = 700 SF

JOB NO. **762924** DATE **05.07.2025**  
DRAWN BY **CEE / TAH / MLM**  
PERMIT SET

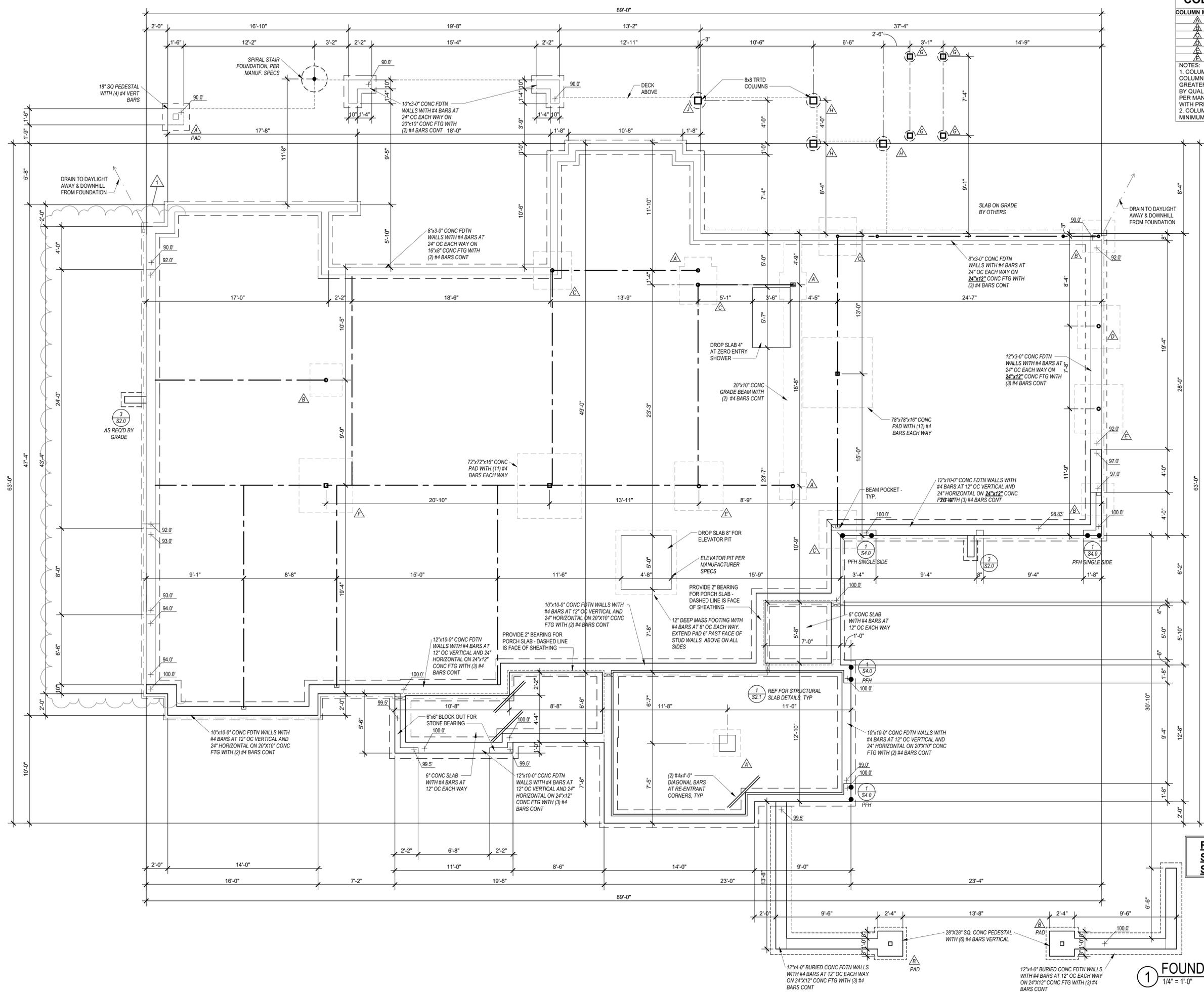
SHEET NAME  
**BASEMENT PLAN**

SHEET NO.

**1 LOWER FLOOR PLAN**  
1/4" = 1'-0"

**3** RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/05/2025 10:15:24

ARCH D 24' x 36'



### COLUMN AND PIER PAD SCHEDULE

COLUMN MARK	PAD SIZE	REINFORCING	COLUMN SIZE
△	30"x30"x12"	(4) #4 BARS E-W	3" SCH 40 (3.5" OD)
△	36"x36"x12"	(4) #4 BARS E-W	3" SCH 40 (3.5" OD)
△	42"x42"x12"	(5) #4 BARS E-W	3" SCH 40 (3.5" OD)
△	48"x48"x12"	(6) #4 BARS E-W	3 1/2" SCH 40 (4" OD)
△	54"x54"x16"	(8) #4 BARS E-W	REF PLAN
△	60"x60"x16"	(10) #4 BARS E-W	REF PLAN

NOTES:  
 1. COLUMN AND PIER PAD SIZES SHOWN ARE FOR MAXIMUM ADJUSTABLE COLUMN HEIGHT OF 9'-1". REQUIRE SEPARATE ENGINEERED DESIGN IF GREATER THAN 9'-1" TALL. COLUMNS SIZED AS QUWIK-ADJUST COLUMN, BY QUALITY WAY PRODUCTS, LLC. REFER TO SAFE LOADING CAPACITIES PER MANUF. SPECS, OR SUBSTITUTION TO ANOTHER PRODUCT ONLY WITH PRIOR APPROVAL BY APEX ENGINEERS.  
 2. COLUMN AND PIER PAD SIZES SHOWN ARE BASED ON AN ASSUMED MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF.

### PIER SCHEDULE

MARK	COL SIZE	PIER DIA
△	6x6	12"
△	6x6	16"
△	6x6	18"
△	6x6	24"
△	6x6	28"

NOTES:  
 1. ALL PIERS TO BEAR ON ORIGINAL, UNDISTURBED SOIL OF 2,000 PSF BEARING CAPACITY OR FILL COMPACTED AND TESTED TO CONFORM TO THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.  
 2. PIERS SHALL EXTEND BELOW THE FROST LINE. MIN DEPTH OF 36" BELOW GRADE.  
 3. POST SHALL BE TREATED OR CEDAR WITH SIMPSON ABU66 POST BASE.

### DETAIL REFERENCES

- 1 S2.0 TYPICAL FOUNDATION WALL DETAIL
- 2 S2.0 TYPICAL "UNRESTRAINED" FOUNDATION WALL DETAIL
- 3 S2.0 TYPICAL DEAD MAN DETAIL
- 4 S2.0 FOUNDATION WALL JUMP DETAIL
- 5 S2.0 COLUMN PAD DETAIL
- 1 S2.1 TYPICAL STRUCTURAL GARAGE SLAB PLAN
- 2 S2.1 STRUCTURAL GARAGE SLAB PIER PAD DETAIL
- 3 S2.1 STRUCTURAL GARAGE SLAB/WALL SECTION
- 6 S2.1 TYPICAL OVERDIG DETAIL AT BASEMENT SLAB
- 1 S4.0 ALTERNATE BRACED WALL PANEL DETAIL
- 1 S4.1 APA NARROW WALL BRACING METHOD WITHOUT HOLD-DOWNS
- ALT COLUMN AND PIER PAD SCHEDULE (SHEET S2.0)

### REFERENCE GENERAL NOTES AND SPECIFICATIONS FOR EXPANSIVE SOILS DISCLAIMER



NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
 1229 SW CORINTHIAN LANE,  
 LEE'S SUMMIT, MISSOURI

DRAWING RELEASE LOG  
 05.07.2025 PERMIT SET

REVISIONS	RESPONSE TO CITY COMMENTS
1 07.30.25	

JOB NO. 762924 DATE 05.07.2025  
 DRAWN BY Author  
 PERMIT SET

SHEET NAME FOUNDATION PLAN

SHEET NO.

**3a** RELEASE FOR CONSTRUCTION  
 NOTED ON PLANS REVIEW  
 DEVELOPMENT SERVICES  
 LEE'S SUMMIT, MISSOURI  
 08/05/2025 10:15:24

1 FOUNDATION PLAN  
 1/4" = 1'-0"

7/30/2025 11:46:22 AM

BRACED WALL METHODOLOGY  
CONTINUOUS EXTERIOR SHEATHING PER WSP METHOD (BELOW)  
UNLESS OTHERWISE NOTED ON THE PLAN

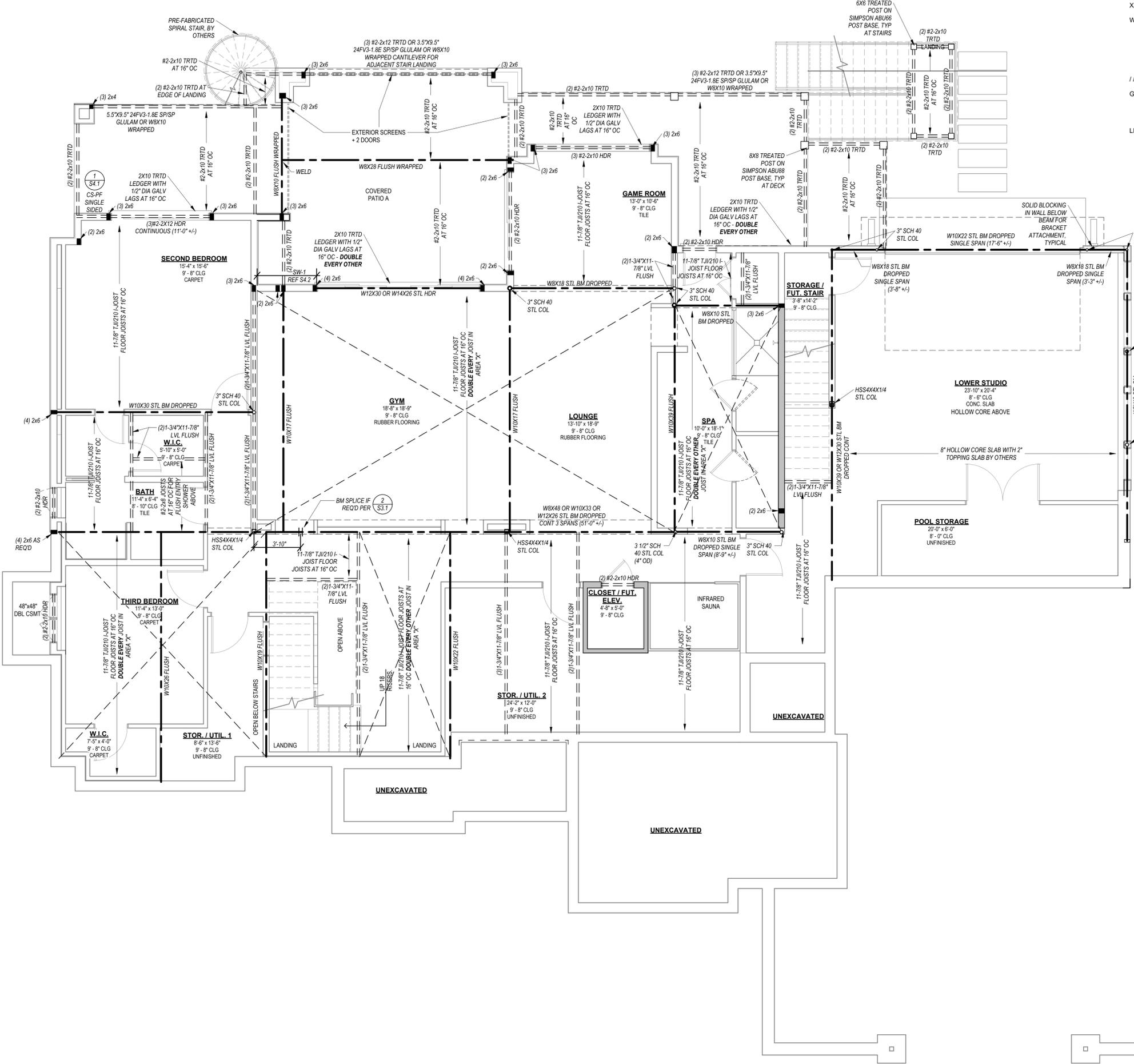
XXXX EXTERIOR BRACED WALLS:  
WSP METHOD: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN 7/16" WITH MINIMUM SPAN RATING OF 24/16 FOR 24" OC SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN FIELD.  
(NOTE: FRAMING MEMBERS 16" OC MAX, UNBLOCKED, AND WITH SHEATHING APPLIED DIRECTLY TO (REF. MEMBERS))

IIII INTERIOR BRACED WALLS (REF 2- S4.0):  
GB METHOD: 1/2" MIN GYPSUM BOARD OVER STUDS SPACED 24" MAX FASTENED WITH NO 6 - 1 1/4" TYPE 'W' OR 'S' DRYWALL SCREWS AT 7" OC EDGES AND FIELD (MIN 4'-0" SECTION FOR BOTH SIDES)  
OR  
LIB METHOD: 1x4 WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA TYPE WB (OR EQUAL) STL X-BRACES AT 45° TO 60° ANGLES, MAXIMUM 16" OC STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.

STRUCTURAL NOTES:  
- ALL UNMARKED HEADERS  
MIN (2) #2-2x10  
- ALL HEADERS AND BEAMS MIN  
#2 GRADE DFLL (OR EQUIV)  
- [Symbol] = BEARING WALL  
- XXXXXXXX = 4'-0" LONG PANEL, UNO

DEFERRED JOIST SUBMITTAL:  
- JOIST DESIGN SHALL BE SUBMITTED TO APEX ENGINEERS, INC. FOR REVIEW PRIOR TO CONSTRUCTION AND INSTALLATION OF JOISTS  
- JOIST DESIGNER/MANUFACTURER SHALL FOLLOW ASSUMED JOIST DIRECTIONS AS CLOSELY AS POSSIBLE TO CONFORM WITH HOUSE STRUCTURE AS A WHOLE  
- IF DEVIATIONS FROM ASSUMED JOIST DESIGN ARE REQUIRED, MANUF. SHALL CONTACT APEX

DEFERRED CORE SLAB SUBMITTAL:  
- CORE SLAB DESIGN, BEARING THE SEAL OF LICENSED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED TO APEX ENGINEERS, INC. FOR REVIEW PRIOR TO FABRICATION AND INSTALLATION OF CORE SLABS.  
- CORE SLAB DESIGNER/MANUFACTURER SHALL FOLLOW ASSUMED CORE SLAB DESIGN DIRECTIONS AS CLOSELY AS POSSIBLE TO CONFORM WITH HOUSE STRUCTURE AS A WHOLE AND SHALL PROVIDE VERIFICATION THAT CORE SLABS HAVE BEEN DESIGNED FOR TOPPING SLAB THICKNESS(S) AS NOTED ON THE CONTRACT DOCUMENTS.  
- IF DEVIATIONS FROM ASSUMED DESIGN ARE REQUIRED, MANUF. SHALL CONTACT APEX ENGINEERS, INC.  
- CORE SLAB INSTALLATION AND TOPPING SLAB FORMWORK SHALL BE INSPECTED PRIOR TO PLACEMENT OF TOPPING SLAB. INSPECTION SHALL BE PERFORMED BY APEX ENGINEERS, INC. OR OTHER CERTIFIED 3RD PARTY INSPECTION AGENCY.



NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
1229 SW CORINTHIAN LANE,  
LEE'S SUMMIT, MISSOURI  
DRAWING RELEASE LOG

REVISIONS

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LOWER LEVEL = 2,178 SF  
MAIN LEVEL = 2,756 SF  
UPPER LEVEL = 1,325 SF  
  
TOTAL = 6,258 SF  
UNFINISHED = 1,196 SF  
GARAGE = 1,000 SF  
ENTRY PORCH = 110 SF  
SIDE PORCH = 43 SF  
REAR DECK = 757 SF  
COVERED PATIO = 700 SF

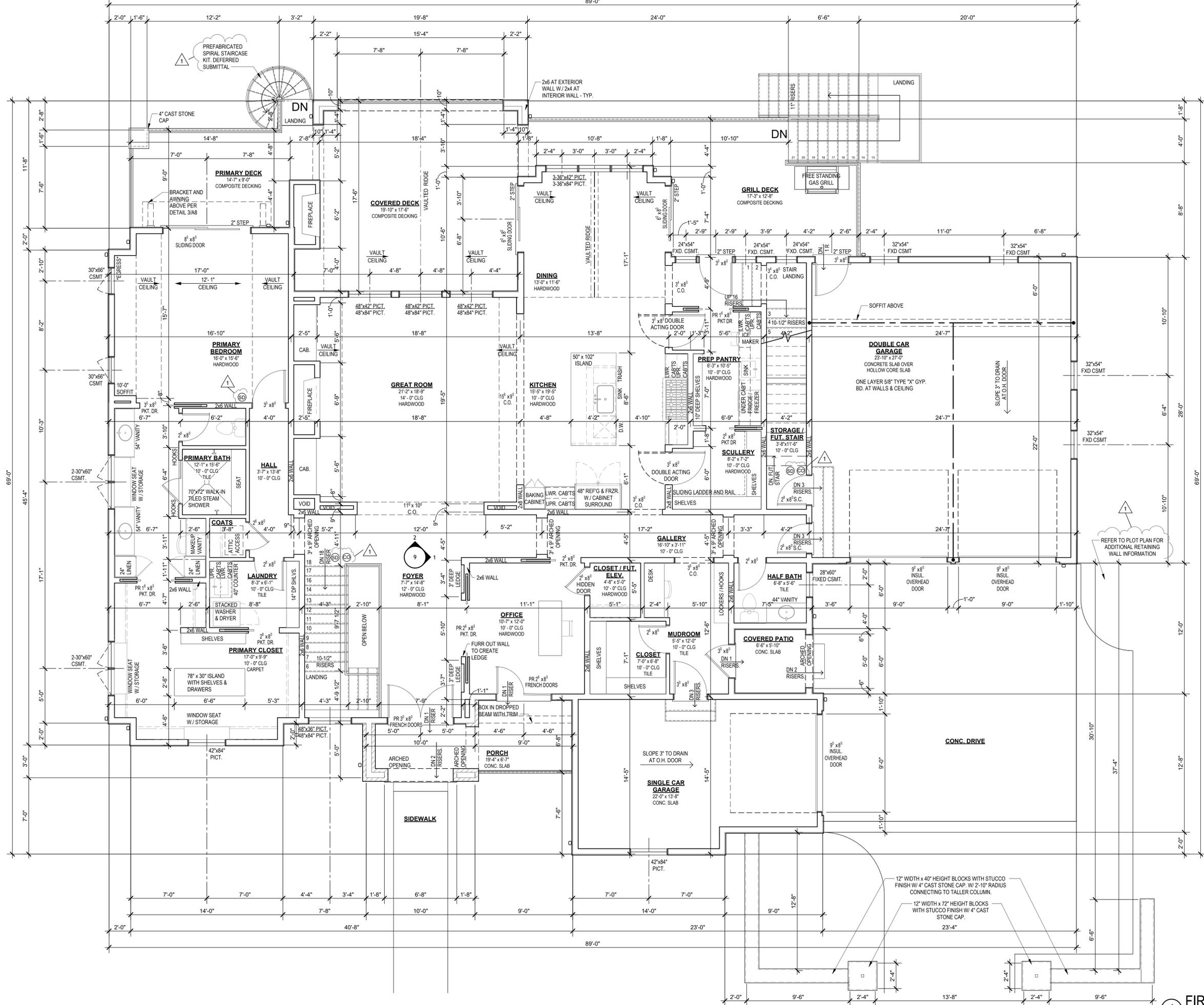
JOB NO. DATE  
**762924** 05.07.2025  
DRAWN BY  
CEE / TAH / MLM  
PERMIT SET

SHEET NAME  
BASEMENT FRAMING PLAN

SHEET NO.

1 LOWER FLOOR FRAMING PLAN  
1/4" = 1'-0"

3b RELEASE FOR CONSTRUCTION  
NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/05/2025 10:15:24



NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
1229 SW CORINTHIAN LANE,  
LEES SUMMIT, MISSOURI

DRAWING RELEASE LOG  
05.07.2025 PERMIT SET

REVISIONS

1	07.30.25	RESPONSE TO CITY COMMENTS
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JOB NO. **762924** DATE **05.07.2025**  
DRAWN BY **CEE / TAH / MLM**  
**PERMIT SET**

SHEET NAME  
**FIRST FLOOR PLAN**

SHEET NO.  
**4**

RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEES SUMMIT, MISSOURI  
08/05/2025 10:15:24

**1** FIRST FLOOR PLAN  
1/4" = 1'-0"

ARCH D 24' x 36'

BRACED WALL METHODOLOGY  
CONTINUOUS EXTERIOR SHEATHING PER WSP METHOD (BELOW)  
UNLESS OTHERWISE NOTED ON THE PLAN



ARCHITECTURE  
LANDSCAPE  
ARCHITECTURE

P. 913.831.1415  
NSPJARCH.COM

9415 NALL AVE., #300  
PRAIRIE VILLAGE,  
KANSAS, 66207

XXXX EXTERIOR BRACED WALLS:

WSP METHOD: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN 7/16" WITH MINIMUM SPAN RATING OF 24/16 FOR 24" OC SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN FIELD  
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///// INTERIOR BRACED WALLS (REF 2- S4.0):

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OR

LIB METHOD: 1x4 WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA TYPE WB (OR EQUAL) STL X-BRACE(S) AT 45° TO 60° ANGLES, MAXIMUM 16" OC STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.

STRUCTURAL NOTES:

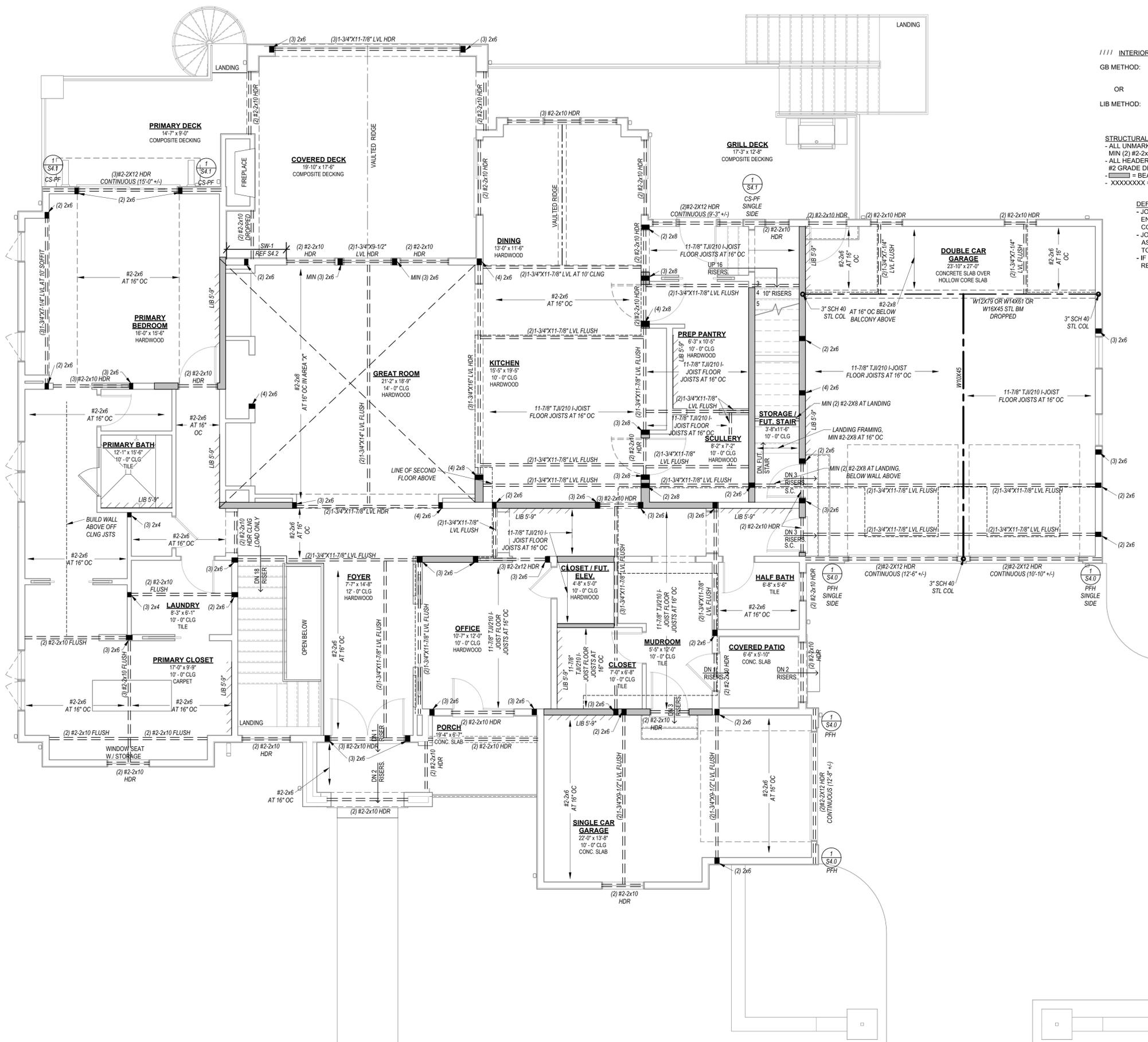
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- IF DEVIATIONS FROM ASSUMED JOIST DESIGN ARE REQUIRED, MANUF. SHALL CONTACT APEX



APEX ENGINEERS, INC.  
1855 LOCUST ST  
KANSAS CITY, MO 64108  
816.421.3222  
STRUCTURAL DESIGN REVIEW  
KANSAS ENGINEERING LICENSE: E-992  
MISSOURI ENGINEERING LICENSE: 200004673



NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
1229 SW CORINTHIAN LANE,  
LEE'S SUMMIT, MISSOURI

DRAWING RELEASE LOG

REVISIONS

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PERMIT SET

SHEET NAME  
FIRST FLOOR FRAMING  
PLAN  
SHEET NO.

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

4a  
PLEASE FOR CONSTRUCTION  
NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/05/2025 10:15:24

5/7/2025 1:22:26 PM



NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
1229 SW CORINTHIAN LANE,  
LEE'S SUMMIT, MISSOURI

DRAWING RELEASE LOG  
05.07.2025 PERMIT SET

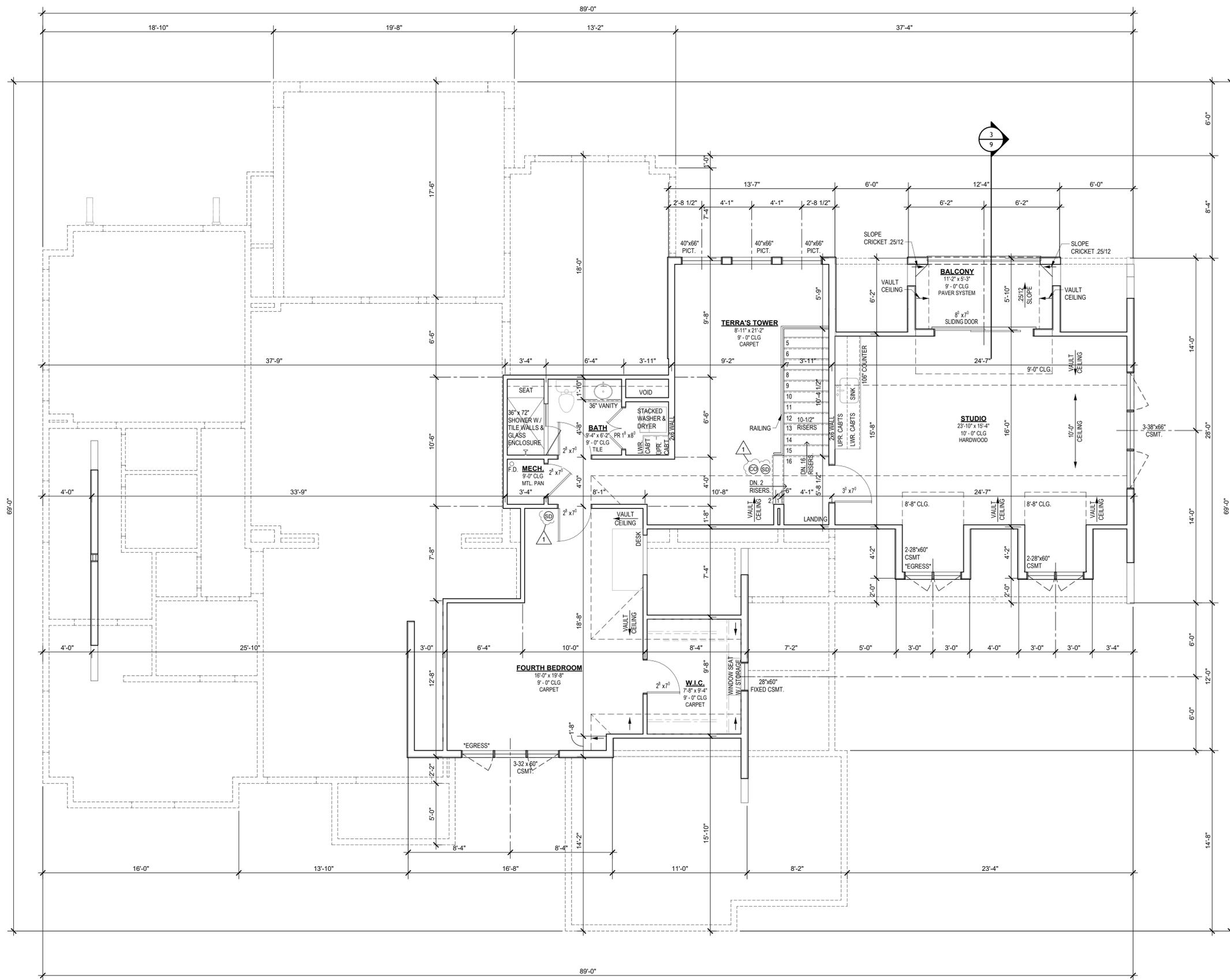
REVISIONS
1 07.30.25 RESPONSE TO CITY COMMENTS

JOB NO. **762924** DATE **05.07.2025**  
DRAWN BY **CEE / TAH / MLM**  
PERMIT SET

SHEET NAME  
**SECOND FLOOR PLAN**

SHEET NO.

**5**  
RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/05/2025 10:15:24



**FINISHED AREAS**

LOWER LEVEL = 2,178 SF  
MAIN LEVEL = 2,755 SF  
UPPER LEVEL = 1,325 SF

TOTAL = 6,258 SF  
UNFINISHED = 1,195 SF  
GARAGE = 1,000 SF  
ENTRY PORCH = 110 SF  
REAR DECK = 757 SF  
COVERED PATIO = 700 SF

1 SECOND FLOOR PLAN  
1/4" = 1'-0"



**5**

RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/05/2025 10:15:24

XXXX EXTERIOR BRACED WALLS:

WSP METHOD: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN 7/16" WITH MINIMUM SPAN RATING OF 24/16 FOR 24" OC SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN FIELD.  
(NOTE: FRAMING MEMBERS 16" OC MAX, UNBLOCKED, AND WITH SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS)

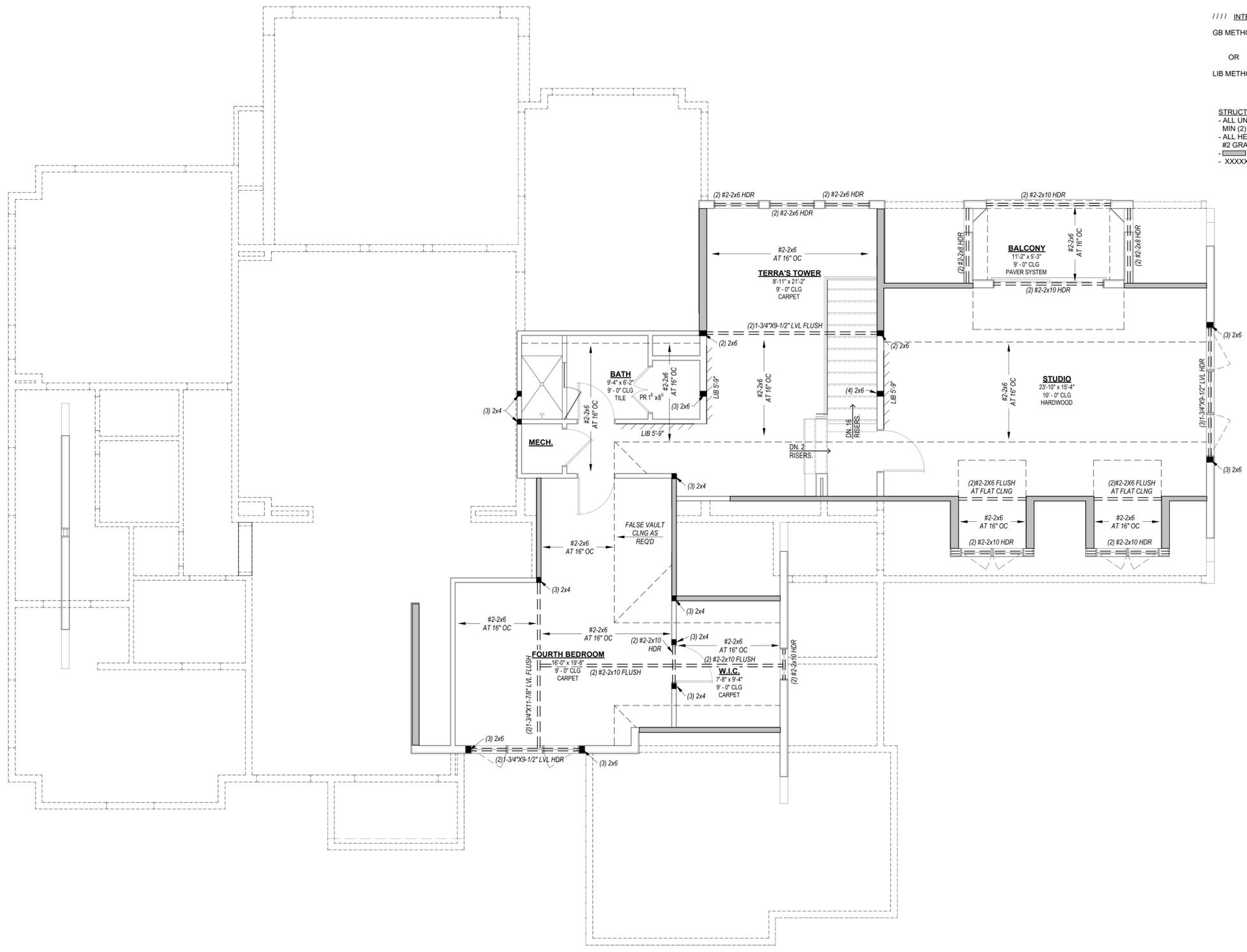
///// INTERIOR BRACED WALLS (REF 2-S4.0):

GB METHOD: 1/2" MIN GYPSUM BOARD OVER STUDS SPACED 24" MAX FASTENED WITH No 6 - 1 1/4" TYPE 'W' OR 'S' DRYWALL SCREWS AT 7" OC EDGES AND FIELD (MIN 4'-0" SECTION FOR BOTH SIDES.)  
OR

LIB METHOD: 1x4 WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA TYPE WB (OR EQUAL) STL X-BRACE(S) AT 45° TO 60° ANGLES, MAXIMUM 16" OC STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.

STRUCTURAL NOTES:

- ALL UNMARKED HEADERS
- MIN (2) #2-2x10
- ALL HEADERS AND BEAMS MIN
- #2 GRADE DFIL (OR EQUIV)
- [Symbol] = BEARING WALL
- XXXXXXXX = 4'-0" LONG PANEL, UNO



NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
 1229 SW CORINTHIAN LANE,  
 LEE'S SUMMIT, MISSOURI  
 DRAWING RELEASE LOG

△ REVISIONS

FINISHED AREAS

LOWER LEVEL = 2,178 SF  
 MAIN LEVEL = 2,756 SF  
 UPPER LEVEL = 1,325 SF

TOTAL = 6,259 SF  
 UNFINISHED = 1,196 SF  
 GARAGE = 1,000 SF  
 ENTRY PORCH = 110 SF  
 SIDE PORCH = 43 SF  
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 COVERED PATIO = 700 SF

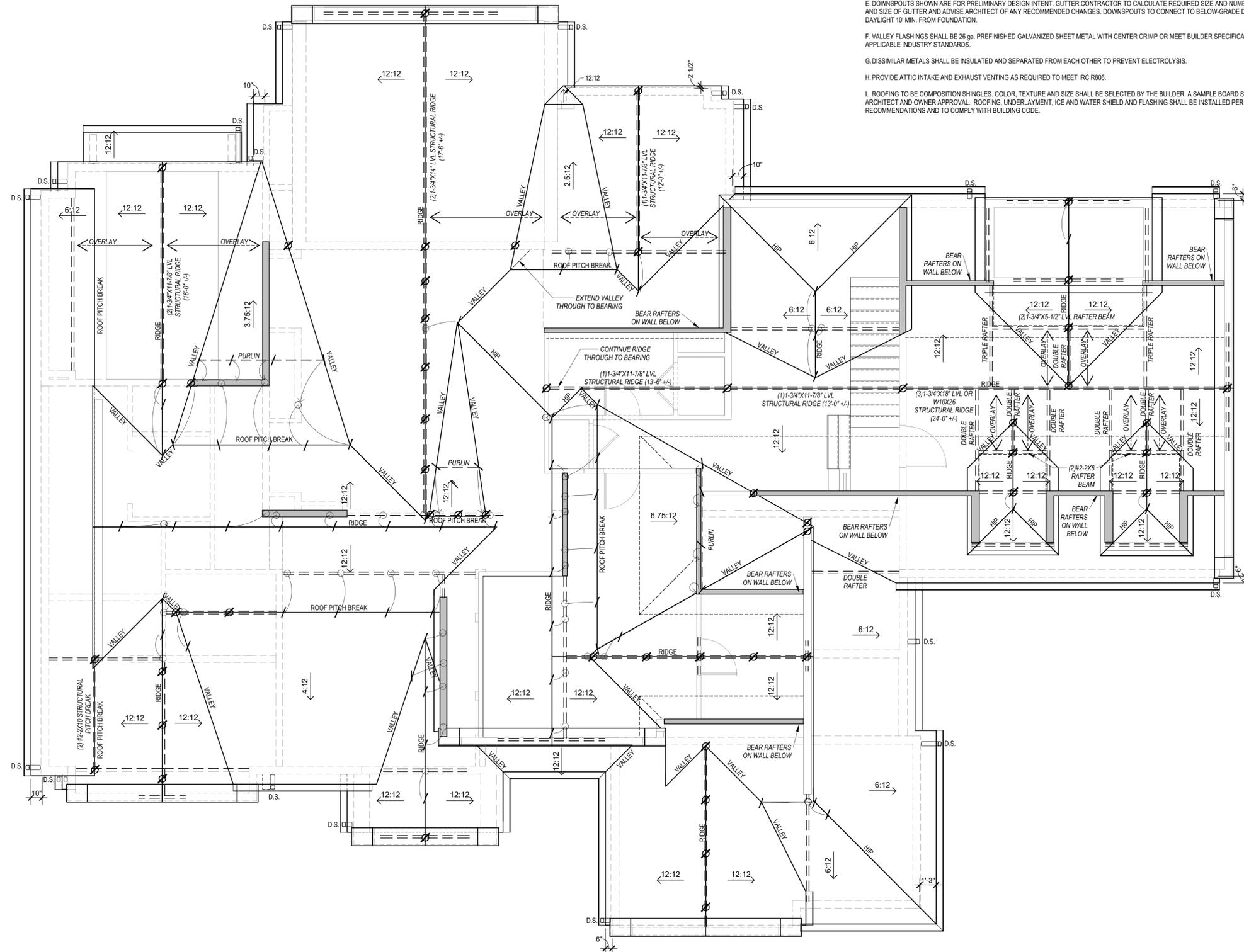
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**762924** **05.07.2025**  
 DRAWN BY  
**CEE / TAH / MLM**  
 PERMIT SET

SHEET NAME  
**SECOND FLOOR FRAMING PLAN**  
 SHEET NO.

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

5a  
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 NOTED ON PLANS REVIEW  
 DEVELOPMENT SERVICES  
 LEE'S SUMMIT, MISSOURI  
 08/05/2025 10:15:24

ARCH D 24' x 36'



**ROOF GENERAL NOTES**

A. FLASHING TO BE INSTALLED PER SMACNA RESIDENTIAL SHEET METAL GUIDE.

B. PROVIDE 26 ga. PREFINISHED GALVANIZED SHEET METAL FLASHING AT ROOF EAVES AND RAKES OR TO MEET CODE, APPLICABLE INDUSTRY AND MANUFACTURER'S STANDARDS, SMACNA AND BUILDER SPECIFICATIONS.

C. PROVIDE FLASHINGS AND COUNTERFLASHINGS AT CHIMNEYS AND OTHER VERTICAL SURFACES ABUTTING ROOFS, AS WELL AS ALL ROOF PENETRATIONS AND CRICKETS WITH 26 ga. PREFINISHED GALVANIZED SHEET METAL, OR TO MEET CODE, APPLICABLE INDUSTRY AND MANUFACTURER'S STANDARDS, SMACNA AND BUILDER SPECIFICATIONS.

D. GUTTERS SHALL MEET BUILDER SPECIFICATIONS, CODE AND APPLICABLE INDUSTRY STANDARDS.

E. DOWNSPOUTS SHOWN ARE FOR PRELIMINARY DESIGN INTENT. GUTTER CONTRACTOR TO CALCULATE REQUIRED SIZE AND NUMBER OF DOWNSPOUTS AND SIZE OF GUTTER AND ADVISE ARCHITECT OF ANY RECOMMENDED CHANGES. DOWNSPOUTS TO CONNECT TO BELOW-GRADE DRAIN PIPE AND DAYLIGHT 10' MIN. FROM FOUNDATION.

F. VALLEY FLASHINGS SHALL BE 26 ga. PREFINISHED GALVANIZED SHEET METAL WITH CENTER CRIMP OR MEET BUILDER SPECIFICATIONS, CODE AND APPLICABLE INDUSTRY STANDARDS.

G. DISSIMILAR METALS SHALL BE INSULATED AND SEPARATED FROM EACH OTHER TO PREVENT ELECTROLYSIS.

H. PROVIDE ATTIC INTAKE AND EXHAUST VENTING AS REQUIRED TO MEET IRC R806.

I. ROOFING TO BE COMPOSITION SHINGLES. COLOR, TEXTURE AND SIZE SHALL BE SELECTED BY THE BUILDER. A SAMPLE BOARD SHALL BE LAID-UP FOR ARCHITECT AND OWNER APPROVAL. ROOFING, UNDERLAYMENT, ICE AND WATER SHIELD AND FLASHING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND TO COMPLY WITH BUILDING CODE.

**ROOF FRAMING NOTES**

ROOF DESIGNED FOR LIGHT ROOF COVERING  
30psf TOTAL LOAD [10psf DL, 20 psf LL (SL)]

ROOF SYSTEM IS DESIGNED TO MEET REQUIREMENTS OF IRC 802

\*RAFTERS (HEM-FIR, DOUG-FIR, OR EQUAL);  
SEE SPAN CHARTS BELOW

CODE MINIMUM		
RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	AT 24" OC	11'-11"
#2-2x6	AT 16" OC	14'-7"
#2-2x8	AT 24" OC	15'-1"
#2-2x8	AT 16" OC	18'-5"
#2-2x10	AT 24" OC	18'-5"
#2-2x10	AT 16" OC	22'-6"

NOTE: CODE MINIMUM ALLOWS FOR RAFTER DEFLECTION OF L/360 TOTAL LOAD

HIGHER PERFORMANCE		
RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	AT 24" OC	10'-7"
#2-2x6	AT 16" OC	12'-0"
#2-2x8	AT 24" OC	13'-11"
#2-2x8	AT 16" OC	15'-10"
#2-2x10	AT 24" OC	17'-8"
#2-2x10	AT 16" OC	20'-1"

APEX ENGINEERS, INC. RECOMMENDED DEFLECTION = L/360 LIVE LOAD, L/240 TOTAL LOAD

\*RIDGE BOARDS ARE (UNLESS OTHERWISE NOTED)  
#2-2x10 UP TO 9:12 PITCH  
#2-2x12 OVER 9:12 PITCH

\*ALL HIP AND VALLEYS ARE (UNLESS OTHERWISE NOTED)  
#2-2x10 UP TO 9:12 PITCH  
#2-2x12 OVER 9:12 PITCH

\*PURLINS ARE 2x6 MIN  
-PURLIN STRUTS ARE AT 4'-0" OC  
-PURLIN STRUTS SHALL BE INSTALLED AT NOT LESS THAN A 45 DEGREE ANGLE WITH THE HORIZONTAL  
-ALL PURLIN STRUTS SHALL HAVE A MAX UNBRACED LENGTH OF 8'-0"  
-PURLIN STRUTS SHALL BE CONSTRUCTED IN A "T" CONFIGURATION AND PER THE FOLLOWING CHART:

PURLIN STRUT	MAX PURLIN STRUT LENGTH
(2) 2x4	8'-0"
(1) 2x4 AND (1) 2x6	12'-0"
(1) 2x4 AND (1) 2x8	20'-0"
(2) 2x6 AND (1) 2x8	30'-0"
CONSULT ARCH ENGR	>30'-0"

**1. THIS IS AN ENGINEERED ROOF STRUCTURE DESIGNED FOR COMPLIANCE WITH IRC 802.3, BUILD AS SHOWN WITH NO DEVIATIONS.**

**2. ALL HIP AND VALLEYS ARE DESIGNED TO BE CONTROLLED BY BENDING.**

**3. SHEAR AT BEARING WITH MIN 5 1/2" DEPTH DOES NOT CONTROL DESIGN. FOR VALLEYS REF 4/S3.2**

**nspj ARCHITECTS**  
ARCHITECTURE LANDSCAPE ARCHITECTURE  
P. 913.831.1415  
NSPJARCH.COM  
9415 NALL AVE., #300  
PRAIRIE VILLAGE, KANSAS, 66207

STATE OF MISSOURI  
JASON J. BRONKHORST  
PE 2013006491  
2025.05.07  
PROFESSIONAL ENGINEER

APEX ENGINEERS, INC.  
1835 LOCUST ST  
KANSAS CITY, MO 64108  
816.421.3222  
STRUCTURAL DESIGN REVIEW  
KANSAS ENGINEERING LICENSE: E-992  
MISSOURI ENGINEERING LICENSE: 200304873

NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
1229 SW CORINTHIAN LANE,  
LEE'S SUMMIT, MISSOURI

DRAWING RELEASE LOG

STATE OF MISSOURI  
CLAYTON D. EVANS  
PE 2013006491  
2025.05.07  
PROFESSIONAL ENGINEER

REVISIONS

JOB NO. DATE  
762924 05.07.2025

DRAWN BY  
CEE / TAH / MLM

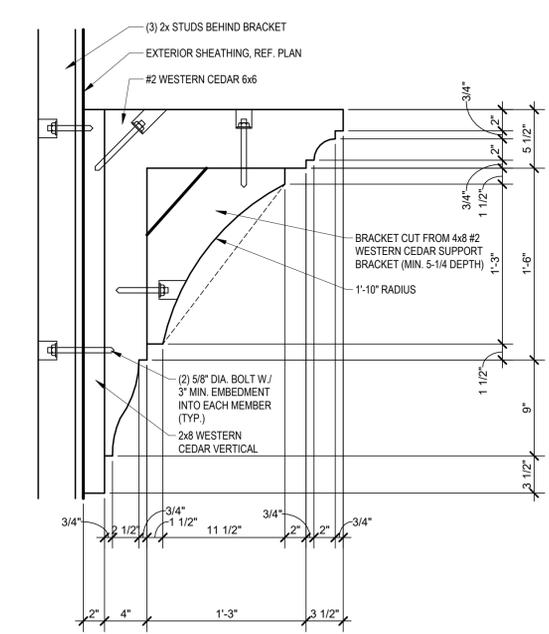
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ROOF PLAN

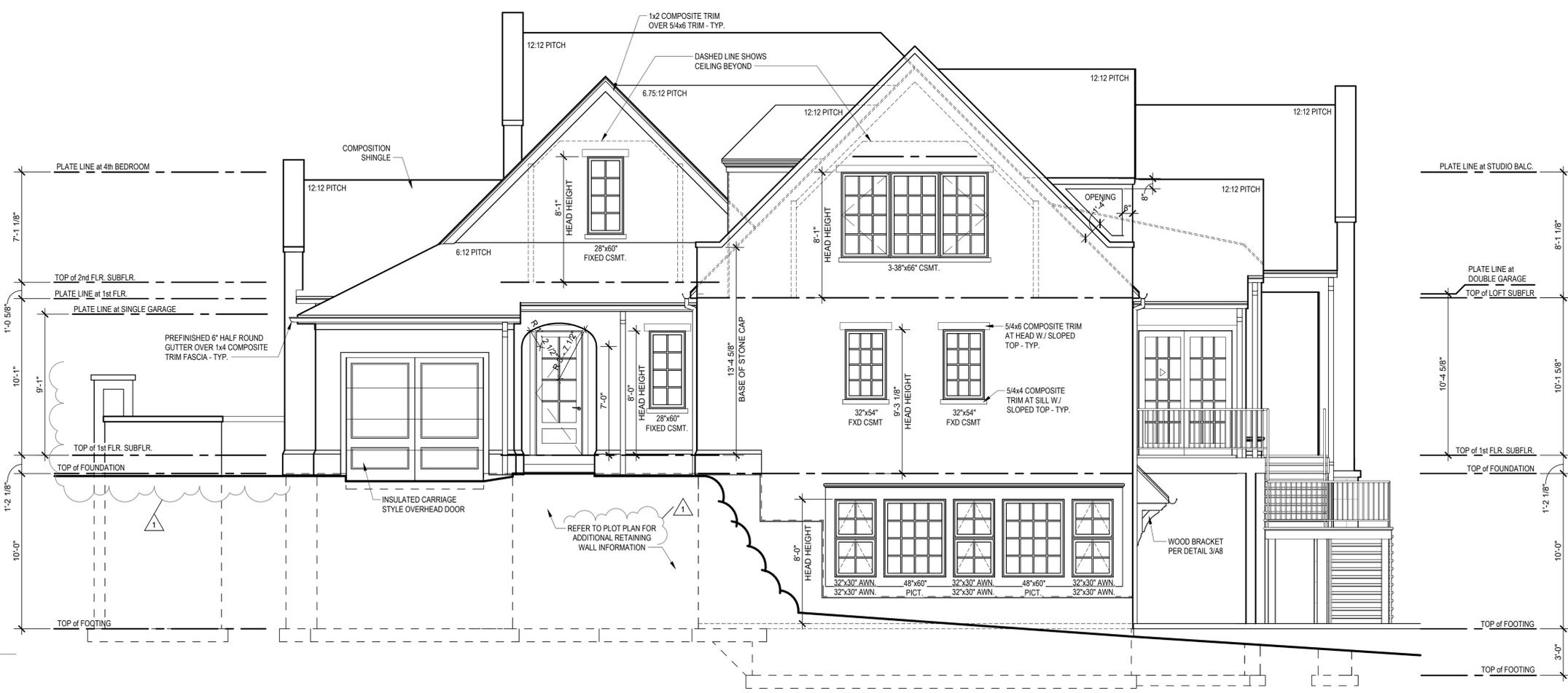
SHEET NO.

5/7/2025 1:22:29 PM





3 BRACKET DETAIL 1 1/2" = 1'-0"



2 RIGHT ELEVATION 1/4" = 1'-0"



1 REAR ELEVATION 1/4" = 1'-0"

NEW RESIDENCE FOR: METCALF RESIDENCE 1229 SW CORINTHIAN LANE, LEE'S SUMMIT, MISSOURI

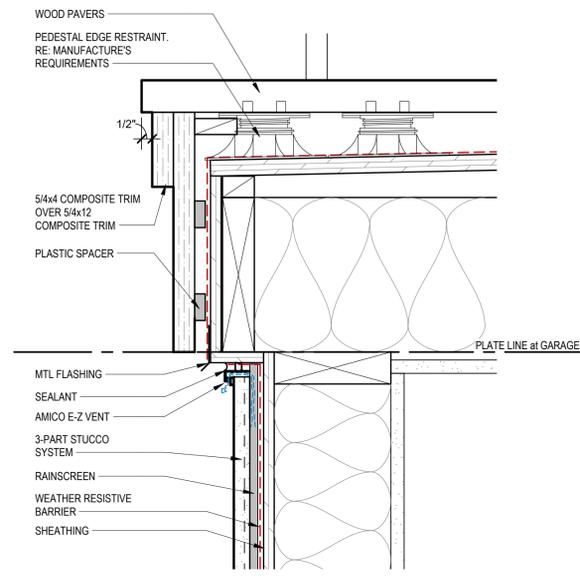
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REVISIONS table with 1 revision: 07.30.25 RESPONSE TO CITY COMMENTS

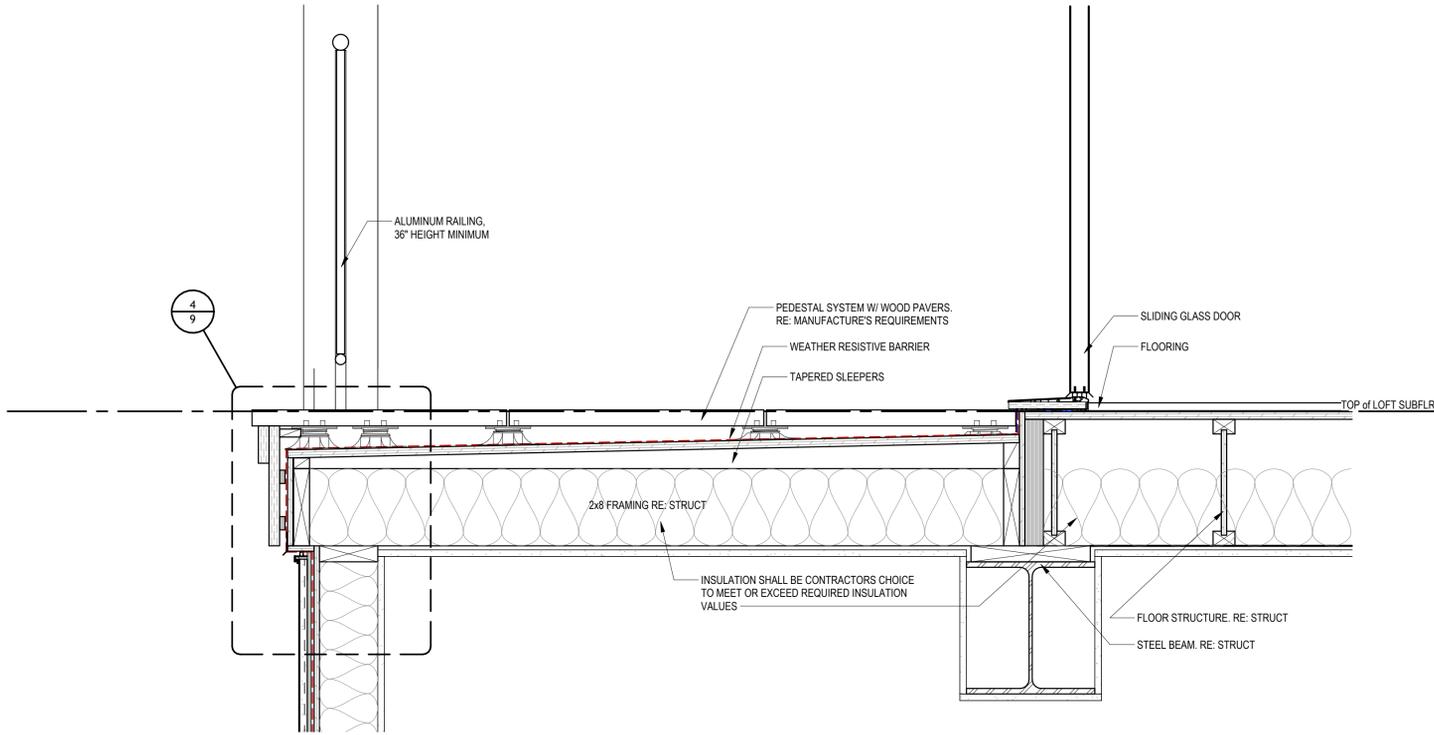
JOB NO. 762924 DATE 05.07.2025 DRAWN BY CEE / TAH / MLM PERMIT SET

SHEET NAME REAR & RIGHT SIDE ELEVATIONS SHEET NO. 8

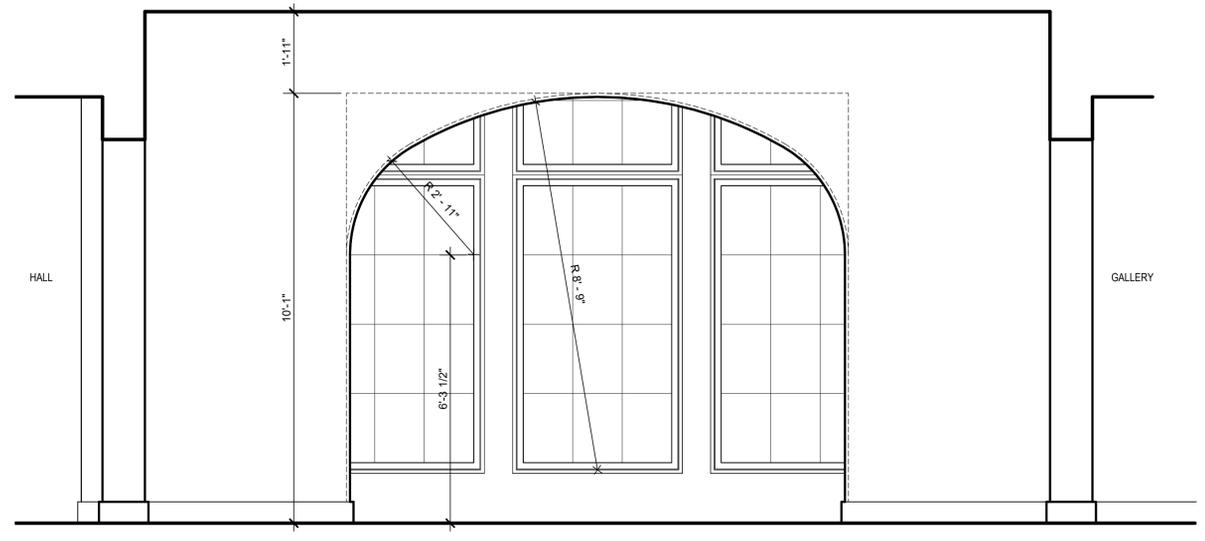
RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI 08/05/2025 10:15:24



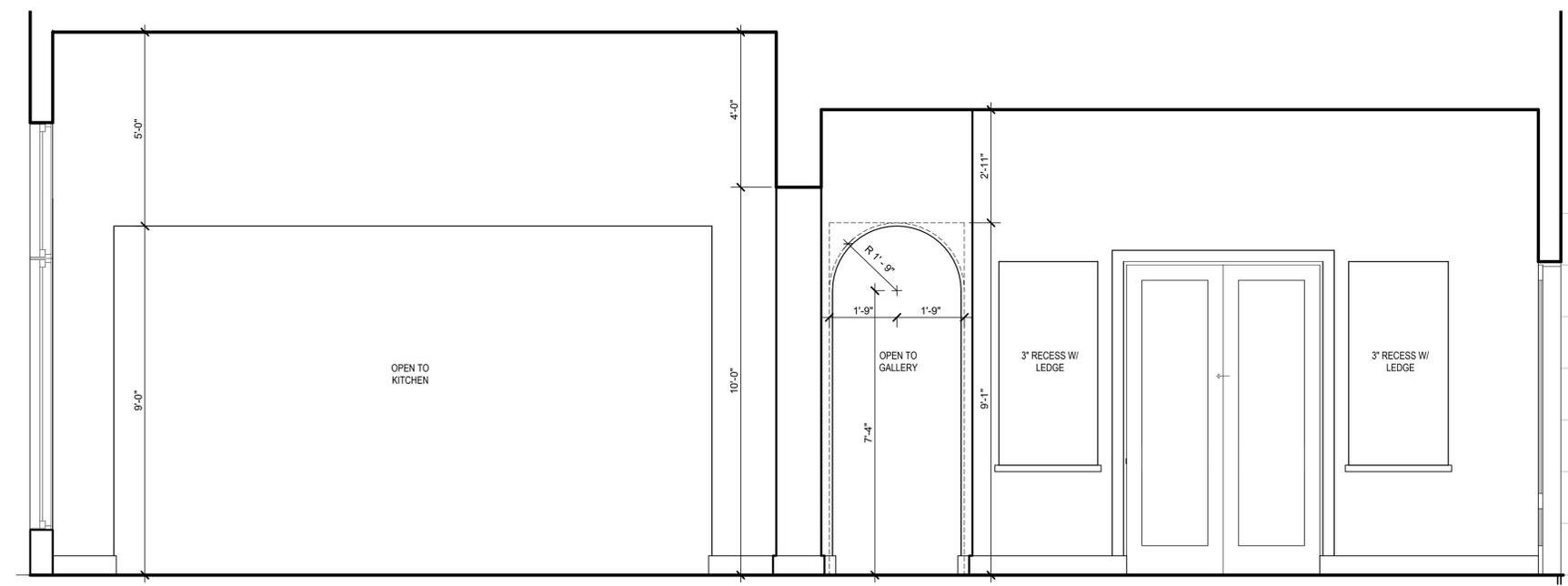
④ ENLARGED BALCONY DETAIL  
3" = 1'-0"



③ Second Floor Balcony  
1 1/2" = 1'-0"



② GREAT ROOM  
1/2" = 1'-0"



① KITCHEN ELEVATION  
1/2" = 1'-0"

NEW RESIDENCE FOR:  
**METCALF RESIDENCE**  
1229 SW CORINTHIAN LANE,  
LEE'S SUMMIT, MISSOURI

DRAWING RELEASE LOG

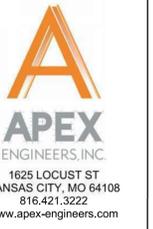
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JOB NO. 762924 DATE 05.07.2025  
DRAWN BY CEE / TAH / MLM  
PERMIT SET

SHEET NAME  
INTERIOR ELEVATIONS

SHEET NO.

**9** RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/05/2025 10:15:24



STRUCTURAL DESIGN REVIEW  
KANSAS ENGINEERING LICENSE: E-592  
MISSOURI ENGINEERING LICENSE: 20250507

PROJECT: RESIDENCE  
METCALF  
1229 SW CORINTHIAN LN  
LEES SUMMIT, MO  
NSPJ ARCHITECTS

PROJECT #: 25-0087  
DRAWN BY: L.L.B.  
CHECKED BY: BDC  
SUBMITTAL DATE: 2025.05.07

DATE	COMMENTS
#	

SHEET: GENERAL NOTES

10  
RELEASED FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES  
LEES SUMMIT, MISSOURI  
08/05/2025 10:15:25

**GENERAL**

1. PLANS SHALL COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE WITH AMENDMENTS AS ADOPTED BY THE GOVERNING JURISDICTION. IF ANY CHANGES OR DEVIATIONS FROM THE PLANS ARE MADE DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY THE APPROPRIATE AUTHORITY AND ENGINEER OF RECORD, EITHER (OR BOTH) OF WHOM MAY REQUIRE REVISED DRAWINGS OR CALCULATIONS AT ITS DISCRETION.  
2. REDUCTION, ALTERATION, OR RE-USE BY ANY METHOD OF ALL OR PORTIONS OF THESE STRUCTURAL PLANS OR VARIATIONS THEREOF WITHOUT WRITTEN PERMISSION FROM APEX ENGINEERS, INC IS STRICTLY PROHIBITED. THE DRAWINGS AND DETAILS OF THIS SHEET SET, BEING INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF APEX ENGINEERS, INC. AN UNSEALED VERSION OF THESE DRAWINGS OR APEX ENGINEERS LOGO AND/OR TITLE BLOCK, SHALL BE CONSIDERED AN UNAUTHORIZED REPRODUCTION.  
3. WHERE DISCREPANCIES EXIST BETWEEN THE STANDARD COMMENTS, NOTES FROM THE DESIGN PROFESSIONAL OR THE CODE, THE MOST RESTRICTIVE SHALL APPLY. THE DWELLING SHALL COMPLY WITH THE FOLLOWING LOAD CONDITIONS:

AREA	MIN DEAD LOAD	MIN LIVE LOAD
EXTERIOR BALCONIES	10 PSF	60 PSF
DECKS	10 PSF	40 PSF
CEILING JOISTS/ATTICS NO STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE 3:12 OR LESS	5 PSF	10 PSF
CEILING JOISTS/ATTICS WITHOUT STORAGE - SCUTTLE ACCESS ONLY ROOF SLOPE OVER 3:12 OR LESS	10 PSF	10 PSF
CEILING JOISTS/ATTICS WITH STORAGE - DOOR/STAIR DOWN LADDER ACCESS	10 PSF	20 PSF
ROOMS - NON-SLEEPING	10 PSF	40 PSF
ROOMS - SLEEPING	10 PSF	30 PSF
ROOF - LIGHT ROOF COVERING	10 PSF	20 PSF
ROOF - HEAVY ROOF COVERING CONCRETE/TILES/SLATE	20 PSF	20 PSF

NOTE: HEAVY ROOF COVERING WILL NOT BE INSTALLED OR USED IN THE DESIGN CALCULATIONS UNLESS IT IS SPECIFICALLY NOTED ON THE PLANS THAT THE DESIGN IS FOR HEAVY ROOF COVERINGS.

**FOUNDATIONS**

1. THE FOUNDATION DESIGN SHALL BE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2000 PSF, UNLESS OTHERWISE INDICATED ON THE PLANS OR IF MODIFIED BY AN ENGINEERING REPORT BASED ON ACTUAL SITE CONDITIONS.  
2. REFERENCE CONCRETE SCHEDULE, THIS SHEET, FOR APPLICABLE FOUNDATION CONCRETE MIX DESIGNS.  
3. FOOTINGS SHALL EXTEND BELOW THE FROST LINE; MINIMUM DEPTH 36 INCHES BELOW GRADE.  
4. UNLESS OTHERWISE NOTED ON THE PLANS OR IF SITE CONDITIONS REQUIRE OTHERWISE, FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS.  
5. COLUMN PADS SHALL BE A MINIMUM 30"x30"x12" WITH (4) #4 BARS EACH WAY UNLESS NOTED OTHERWISE.  
6. UNLESS NOTED OTHERWISE ON THE PLANS, FOUNDATION WALLS SHALL BE MINIMUM 8" THICK X 8'-0" (OR 9'-0") TALL AND REINFORCED PER DETAIL 1-S2.0 (AND 2-S2.0 WHERE APPLICABLE). FOUNDATION WALLS GREATER THAN 10'-0" TALL REQUIRE A SEPARATE ENGINEERED DESIGN. PROVIDE A 2'-0" LONG INTERIOR OR EXTERIOR DEAD-MAN FOR ANY STRAIGHT WALL PANELS EXCEEDING 20'-0" IN LENGTH (REF 3-S2.0).  
7. REINFORCEMENT SHALL BE MINIMUM GRADE 40 UNLESS NOTED OTHERWISE. REINFORCEMENT SHALL LAP A MINIMUM OF 24" AT ENDS, SPLICES, AND AROUND CORNERS.  
8. FOUNDATION WALLS SHALL BE BACKFILLED WITH A CLEAN LEAN CLAY (OR BETTER) LOW VOLUME CHANGE MATERIAL. ON-SITE MATERIAL MAY BE USED IF DEEMED ACCEPTABLE BY THE GEOTECHNICAL ENGINEER OF RECORD.  
9. FOUNDATION WALLS WILL NOT ACHIEVE FULL STRENGTH UNTIL THE BASEMENT FLOOR IS LAID AND THE FIRST FLOOR IS PROPERLY PLACED. IF BACKFILLING THE INTERIOR OF THE FOUNDATION WALL WITH GREATER THAN 8" OF EARTHEN FILL OR 24" OF GRANULAR FILL, A STRUCTURAL BASEMENT SLAB, OR ALTERNATE ENGINEERED SOLUTION (i.e. ENGINEERED FILL) WILL BE REQUIRED.  
10. WATER JUMPS OR STEPS IN ELEVATION OCCUR FOUNDATION WALLS AND FOOTINGS SHALL BE FORMED CONTINUOUS AND POURED PER DETAIL 4-S2.0.  
11. CONCRETE FLOOR SLABS SHALL BE A MINIMUM 4" THICK OVER A MINIMUM 4" BASE OF 1/2" OR 3/4" CLEAN GRADED ROCK, UNLESS NOTED OTHERWISE OR IF SITE CONDITIONS REQUIRE OTHERWISE.  
12. PROVIDE A MINIMUM 4" PERFORATED DRAIN AROUND USABLE MOISTURE BARRIER OVER POLYETHYLENE MOISTURE BARRIER OVER POLYETHYLENE MOISTURE BARRIER OVER POLYETHYLENE MOISTURE BARRIER OVER POURUS GRAVEL BASE UNDER BASEMENT FLOOR SLAB PER R405.2.2 LAP JOINTS MINIMUM 6" (NOT REQUIRED FOR GARAGE SLABS OR DETACHED ACCESSORY BUILDINGS).  
13. FOR A STRUCTURAL REINFORCED CONCRETE FLOOR OVER A USABLE AREA, SUCH AS A GARGE FLOOR LOCATED OVER A STORAGE AREA, SUBMIT SEALED ENGINEERED DETAILS AND CALCULATIONS.  
14. GARAGE SLABS AND BASEMENT OVERDIGS SUPPORTED BY FILL CONSISTING OF MORE THAN 24" OF GRANULAR FILL OR 8" OF EARTH SHALL BE REINFORCED PER DETAILS 1-S2.1 AND 6-2.1 RESPECTIVELY. WHERE THE LIMITATIONS OF DETAILS 1-S2.1 AND 6-S2.1 ARE NOT MET, A SEPARATE ENGINEERED DESIGN SHALL BE REQUIRED.  
15. BASEMENT FOUNDATION SILL PLATES SHALL BE BOLTED TO THE FOUNDATION WITH A MINIMUM OF 1/2" ANCHOR BOLTS EMBEDDED AT LEAST 7" INTO THE CONCRETE AND SPACED NOT MORE THAN 3'-0" ON CENTER AND WITHIN 12" OF EACH END PIECE.  
16. FOUNDATION WALLS SHALL BE DAMP-PROOFED PER IRC SECTION R406.  
17. PROVIDE A MINIMUM 4" PERFORATED DRAIN AROUND USABLE SPACE BELOW GRADE AND OTHER EQUIVALENT MATERIALS PER IRC SECTION R405.1. THE PIP SHALL BE PLACED ON A MINIMUM OF 2" OF WASHED GRAVEL OR CRUSHED ROCK AND COVERED WITH NOT LESS THAN 6". THE DRAIN SHALL DAYLIGHT TO THE EXTERIOR BELOW THE FLOOR LEVEL OR TERMINATE IN A MINIMUM 24" DIAMETER OR 20" SQUARE SUMP PIT EXTENDING A MINIMUM 24" BELOW THE BOTTOM OF BASEMENT FLOOR.  
18. INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB.  
19. INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING, SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE.  
20. ALL EARTH RETAINING STRUCTURES ON THE SITE GREATER THAN 4'-0" TALL (EXCLUDING CONCRETE FOUNDATION WALLS RESTRAINED AT BOTH TOP AND BOTTOM) SHALL REQUIRE A SEPARATE ENGINEERED DESIGN (i.e. RETAINING WALLS, WING WALLS, ETC.).  
21. INSULATION SHALL BE INSTALLED FOR ALL BASEMENT WALLS AS REQUIRED PER N1102.2.8.  
22. A CONCRETE ENCASED GROUNDING ELECTRODE CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICES PER E3608.1.  
23. ANY GEOTECHNICAL IMPROVEMENT METHODS AND/OR STRUCTURAL SOLUTIONS (SUCH AS DRILLED PIERS) EMPLOYED TO ADDRESS UNACCEPTABLE SUBGRADE CONDITIONS SHALL BE SUBMITTED TO COR AS ENGINEERED SHOP DRAWINGS FOR REVIEW AND APPROVAL.

**EXPANSIVE SOILS DISCLAIMER:**  
THESE PLANS HAVE BEEN PREPARED BASED ON A PRESUMPTIVE ALLOWABLE BEARING CAPACITY AS ALLOWED BY IRC CODE AND THE LOCAL ENFORCING JURISDICTION.  
APEX ENGINEERS, INC. (APEX) RECOMMENDS THAT ALL FOOTING EXCAVATIONS BE EVALUATED BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF ANY FOUNDATION ELEMENTS. GEOTECHNICAL INVESTIGATION AND/OR TESTING IS NOT A SERVICE PROVIDED OR OFFERED BY APEX.  
APEX HAS NOT BEEN RETAINED TO DETERMINE THE EXPANSIVE SOIL CHARACTERISTICS OF THE SUBGRADE SOIL AND THEREFORE CANNOT BE HELD RESPONSIBLE FOR THE VOLUMETRIC CHANGES OF THE SOIL (INCLUDING BELOW THE BASEMENT SLAB). BY USE OF THESE PLANS WITHOUT AN ACCOMPANYING GEOTECHNICAL ENGINEERING REPORT, APEX SHALL NOT BE HELD LIABLE FOR ANY FUTURE MOVEMENT AND/OR DIFFERENTIAL MOVEMENT OF THE PROPOSED STRUCTURE AND THE POSSIBLE DAMAGE THAT MAY BE CAUSED AS A RESULT OF SUCH MOVEMENT. DAMAGE FROM EXPANSIVE SOILS AND/OR SETTLEMENT CAN RESULT IN AMONGST OTHER THINGS, THE FOLLOWING: BASEMENT SLAB HEAVE, SHTRETCK CRACKS, WINDOWS AND DOOR BECOMING OUT OF PLUMB AND STICKING AND/OR NOT OPENING, DAMAGE TO TILE, MOULDING, AND OTHER COSMETIC FINISHES.

**EMERGENCY EGRESS AND RESCUE**

1. PROVIDE ONE WINDOW FROM EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 SQUARE FEET WITH A MINIMUM OPENABLE HEIGHT OF 24 INCHES AND WIDTH OF 20 INCHES.  
2. BASEMENT EGRESS TO MEET THE REQUIREMENTS OF IRC SECTION 310.  
3. SMOKE ALARMS SHALL BE INSTALLED AS REQUIRED PER IRC 2018 SECTION R314.  
4. PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA, ON EACH FLOOR INCLUDING BASEMENTS AND HABITABLE ATTICS, AND NOT LESS THAN 3'-0" HORIZONTALLY FROM DOOR OR OPENING OF A BATHROOM THAT CONTAINS A BATHTUB OR SHOWER. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING.  
5. CARBON MONOXIDE ALARMS SHALL BE INSTALLED AS REQUIRED PER IRC 2018 SECTION R315.  
6. CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA, WHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED WITHIN THE BEDROOM.

**FRAMING GENERAL**

1. ALL LUMBER SIZES ARE FOR DOUGLAS FIR-LARCH UNLESS NOTED OTHERWISE.  
2. ALL HEADERS TO BE MIN (2) #2-2x10 UNLESS NOTED OTHERWISE.  
3. BLOCK CANTILEVERS, DOORJAMBS, AND OVER BEAMS.  
4. ALL HEADERS TO BEAR ON A MINIMUM OF (2) 2x4 STUD POSTS UNLESS NOTED OTHERWISE.  
5. INTERIOR NON-BEARING WALLS, OTHER THAN THOSE RESTING DIRECTLY ON THE FOOTING SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE.  
6. WHERE JOISTS RUN PARALLEL TO FOUNDATION WALLS, SOLID BLOCKING FOR A MINIMUM OF (2) JOIST SPACES BE PROVIDED TO A MAXIMUM OF 2'-0" CENTERS TO TRANSFER LATERAL LOADS ON THE WALL TO THE FLOOR DIAPHRAGM. THE BLOCKING SHALL BE SECURELY NAILED TO THE JOISTS AND FLOORING. NAIL JOISTS AND BLOCKING TO SILL PLATE WITH (3) 10d NAILS (IRC SECTION R602.3.(1)).  
7. IF DUCTS ARE INSTALLED IN THE FIRST JOIST SPACE(S), NAIL 2x4s FLAT AT 2'-0" CENTERS WITHIN THE JOIST SPACE(S) AND THEN PROVIDE SOLID BLOCKING, INSTALLED UPRIGHT, IN THE NEXT TWO JOIST SPACES. SECURE THE 2x4s TO THE SILL PLATE WITH (4) 10d NAILS.  
8. ALL SILLS AND HEADERS SUPPORTED ON CONCRETE OR MASONRY AND FURRING ATTACHED TO CONCRETE OR MASONRY SHALL BE OF DECAY RESISTANT MATERIALS.  
9. JOISTS UNDER BEARING PARTITIONS SHALL BE DOUBLED AND COMPLY WITH IRC SECTION R602.4.  
10. JOISTS FRAMING FROM OPPOSITE SIDES OVER BEARING SUPPORTS SHALL LAP A MINIMUM 3" AND SHALL BE NAILED TOGETHER WITH A MINIMUM 10d FACE NAILS.  
11. JOISTS FRAMING INTO A WOOD GIRDER OR BEAM SHALL BE SUPPORTED BY APPROVED FRAMING ANCHORS OR MINIMUM 2"x2" LEDGER STRIPS.  
12. FRAMING OF OPENINGS - HEADERS AND TRIMMERS SHALL BE OF SUFFICIENT CROSS SECTION TO SUPPORT THE FLOOR FRAMING. TRIMMER JOISTS SHALL BE DOUBLED WHEN THE HEADER IS SUPPORTED MORE THAN 3'-0" FROM THE TRIMMER JOIST BEARING. WHEN THE HEADER SPAN EXCEEDS 4'-0", THE HEADER AND TRIMMER SHALL BE DOUBLED.  
13. JOISTS AT SUPPORTS SHALL BE SUPPORTED Laterally AT THE ENDS BY FULL-DEPTH SOLID BLOCKING NOT LESS THAN 2" NOMINAL THICKNESS OR BY ATTACHMENT TO A HEADER, BAND OR RIM JOIST OR TO AN ADJOINING STUD OR OTHERWISE PROVIDED WITH LATERAL SUPPORT TO PREVENT ROTATION.  
14. WATER-RESISTIVE BARRIER SHALL BE PROVIDED OVER ALL EXTERIOR WALLS, ONE LAYER OF NO. 15 ASPHALT FELT OR ANY OTHER BARRIER THAT MEETS ASTM D226 TYPE 1 FELT. (R703.2)  
15. WHERE CEILING JOISTS ARE NOT INSTALLED CONNECTED TO THE RAFTERS AT THE TOP PLATE AND/OR WHERE CEILING JOISTS ARE NOT INSTALLED PARALLEL TO THE RAFTERS, RAFTER TIES SHALL BE INSTALLED IN THE LOWER 1/3 OF THE ATTIC SPACE AND IN ACCORDANCE WITH TABLE 1-S1.1.  
16. COLLAR TIES SHALL BE PROVIDED IN THE UPPER 1/3 OF THE ATTIC SPACE IN ACCORDANCE WITH TABLE 1-S1.0.

**ENERGY REQUIREMENTS**

1. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE SHALL BE IC-RATED, LEAKAGE RATED, AND SEALED TO THE GYPSUM WALLBOARD AS REQUIRED PER N1102.4.5.  
2. PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER N1103.1.1.  
3. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2% AIR LEAKAGE RATE PER N1103.3.2.  
4. BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS PER N1103.3.5  
5. HOT WATER PIPES SHALL BE INSULATED AS REQUIRED PER N1103.4.  
6. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1501.1.  
7. MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM AS REQUIRED PER M1503.6.  
8. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE PER M1601.6.

**ENERGY CONSERVATION**

THE ENERGY EFFICIENCY OF THE DWELLING SHALL COMPLY WITH THE FOLLOWING TABLE(S) (WHERE THERE ARE DISCREPANCIES BETWEEN THIS TABLE AND THE PLANS, THE MOST RESTRICTIVE SHALL APPLY). IF TABLE 1 IS NOT COMPLETED AND ACCOMPANIED BY RESCHECK CALCULATIONS, THEN TABLE 2 SHALL BE APPLIED.

TABLE 1 - ResCheck COMPLIANCE SOFTWARE (FILL IN APPLICABLE VALUES FROM ResCheck CALCS.)

BUILDING ELEMENT	MIN VALUE
WALLS - FRAME	R-
WALLS - BASEMENT	R-
FLOORS - UNCONDITIONED SPACE	R-
FLOORS - OVER OUTSIDE AIR	R-
FLOORS - CRAWL SPACE	R-
SLAB - PERIMETER	R-
CEILING - FLAT	R-
CEILING - CATHEDRAL	R-
DOORS - GLASS	U-
DOORS - SOLID	U-
WINDOWS - OPERABLE	U-
WINDOWS - FIXED	U-
WINDOWS - OTHER	U-
FURNACE	AFUE-
AIR CONDITIONER	SEER-

NOTE: FOR USE WITH TABLE 1 A ResCheck COMPLIANCE FORM MUST BE SUBMITTED WITH PLANS.

TABLE 2 - PRESCRIPTIVE ENVELOPE (MIN PRESCRIPTIVE APPROACH ACCEPTABLE FOR ANY DWELLING.)

BUILDING ELEMENT	MIN VALUE
CEILING - FLAT	R-49
CEILING - CATHEDRAL**	R-30
CEILING - CATHEDRAL	R-38
FLOORS - UNCONDITIONED SPACED	R-19
FLOORS - OVER OUTSIDE AIR	R-30
WALLS - BASEMENT	R-10 (CONT) OR R-13 (CAVITY)
CONCRETE SLAB ON GRADE	R-10 (FOR 2FT)
SKYLIGHTS	U=0.55
WALLS - EXTERIOR (2x4)	R-13 (CAVITY) + R-5 (CONT)
WALLS - EXTERIOR (2x6)	R-20
WALLS - CRAWL SPACE	R-19
GLAZING*	U<=0.32
GLAZING*	SHGF<=0.40

NOTE:  
TABLE 2 PER IRC TABLE N1102.1.2  
\*DEFAULT U-FACTOR FOR DOUBLE PANE, ARGON FILLED LOW-E TREATMENT IS U=0.35  
\*\*LIMITED TO AREAS LESS THAN 500 SQ-FT OR 20% OF CEILING AREA.

**DEFERRED SUBMITTALS**

1. THE ARCHITECT OR ENGINEER OF RECORD SHALL LIST THE DEFERRED SUBMITTALS ON THE PLANS FOR REVIEW BY THE BUILDING OFFICIAL. DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN THE GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. DEFERRED SUBMITTALS ARE DEFINED AS THOSE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF THE APPLICATION AND THAT ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITH A SPECIFIED PERIOD. DEFERRAL OF ANY SUBMITTAL ITEMS SHALL HAVE THE PRIOR APPROVAL OF THE BUILDING OFFICIAL.  
2. DEFERRED SUBMITTAL ITEMS (WHEN APPLICABLE):  
A. TRUSSES  
B. JOISTS  
C. GUARDRAILS AND HANDRAILS  
D. STEEL FABRICATED STAIRS  
E. PRE-MANUFACTURED CANOPIES AND AWNINGS  
F. PRECAST HOLLOW CORE SLABS  
G. GROUND IMPROVEMENT AND/OR STRUCTURAL FOUNDATION SOLUTIONS (SUCH AS DRILLED PIERS)

**CONCRETE SCHEDULE**

MINIMUM STRUCTURAL CONCRETE COVER	COVER
FORMED SURFACES EXPOSED TO GROUND OR WEATHER	2"
UNFORMED SURFACE IN CONTACT WITH THE GROUND	3"
WALLS AND SLABS NOT EXPOSED TO GROUND OR WEATHER	1"
INTERIOR BEAMS AND COLUMNS (TO TIES OF STIRRUPS)	1 1/2"

EPOXY GROUTING APPLICATIONS					
THREADED ROD ANCHORS	HILTI HIT-HY 200 A OR SIMPONS SET XP	REINFORCING BARS	HILTI HIT-HY 200 R OR SIMPONS SET XP		
CONCRETE USE	28 DAY STRENGTH	CEMENT TYPE	W/C RATIO	SLUMP LIMIT (in.)	% AIR ENTRAINMENT
FOOTINGS/PIERS	3000 psi	N/A	0.55 (MAX)	5" (+/-1")	6% +/- 1%
FOUNDATION WALLS	3500 psi	N/A	0.50 (MAX)	4" (+/-1")	6% +/- 1%
INTERIOR SLABS	4000 psi	N/A	0.50 (MAX)	3" (+/-1")	3% MAX
SUSPENDED SLABS	4000 psi	N/A	0.50 (MAX)	3" (+/-1")	3% MAX

**GLAZING**

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 OPENABLE 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 ENLOSING 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 OPENABLE PANELS EXCEEDING 9 SQUARE FEET AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".

**SHEATHING AND FRAMING FASTENING SCHEDULE**

BUILDING COMPONENT	MATERIAL	FASTENING
ROOF SHEATHING <sup>1</sup>	7/16" PLYWOOD	16 GA X 1-3/4" STAPLES AT 3" OC EDGES AND 6" OC IN FIELD
	1x4 #3 FURRING	1/2" CROWN STAPLES
FLOOR SHEATHING <sup>1</sup>	3/4" T&G YELLOW PINE PLYWOOD APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED	8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN THE FIELD 14 GA X 2" STAPLES AT 4" OC EDGES AND 8" OC IN THE FIELD 12.5 GA X 1-1/2" RING OR SCREW SHANK NAILS AT 6" OC EDGES AND 8" OC IN THE FIELD
CEILING COVERING <sup>1</sup>	1/2" GYPSUM SHEATHING	7" OC NAILED / 12" OC SCREWED WITH 13 GA, 1-3/8" LONG, 19/64" HEAD, 0.098 DIA, 1-1/4" LONG, ANG-RINGED, 5d COOLER NAIL, 0.086 DIA, 1-5/8" LONG, 15/64" HEAD; OR GYP BD NAIL, 0.086 DIA, 1-5/8" LONG, 9/32" HEAD
INTERIOR WALL COVERING <sup>1</sup>	1/2" GYPSUM SHEATHING	8d COMMON NAILS: 1-5/8" GALVANIZED STAPLES, 1-1/4" SCREWS, TYPE W OR S AT 4" OC EDGES AND 8" OC IN THE FIELD
EXTERIOR WALL SHEATHING	MIN 3/8" APA RATED SHEATHING	8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN THE FIELD
CONVENTIONAL WOOD FRAMED WALLS		*SUPPORTING 2 FLOORS, ROOF, AND CEILING OR LESS. *HEIGHT: 10'-0" OR LESS *SIZE: NOM 2x4 (NOM 2x6 WHEN SUPPORTING 2 FLOORS, CEILING, AND ROOF) *SPECIES: DOUG-FIR, HEM-FIR, SOUTH PINE, SPRUCE-PINE-FIR *MAXIMUM SPACING 16" OC *STUDS 10' LENGTH OR LESS SHALL BE #3 STANDARD, OR STUD GRADE *STUDS OVER 10' LENGTH SHALL BE MIN #2 GRADE
CONVENTIONAL WOOD HEADER FRAMING	PER PLAN	*TOE NAIL HEADERS TO WALL STUDS WITH (4) 8d NAILS AT EACH END. *FACE NAIL DOUBLE PIECE HEADERS WITH 16d NAILS AT 16" CENTERS ALONG EACH EDGE.
RAFTER TIES <sup>2</sup>	MIN 2x4 MEMBERS AT EACH RAFTER	REF TABLE R602.5.2
COLLAR TIES	MIN 1x4 MEMBERS AT 48" OC	FACENAIL TO RAFTERS IN UPPER 1/3 OF ATTIC SPACE WITH (3) 10d NAILS AT EACH

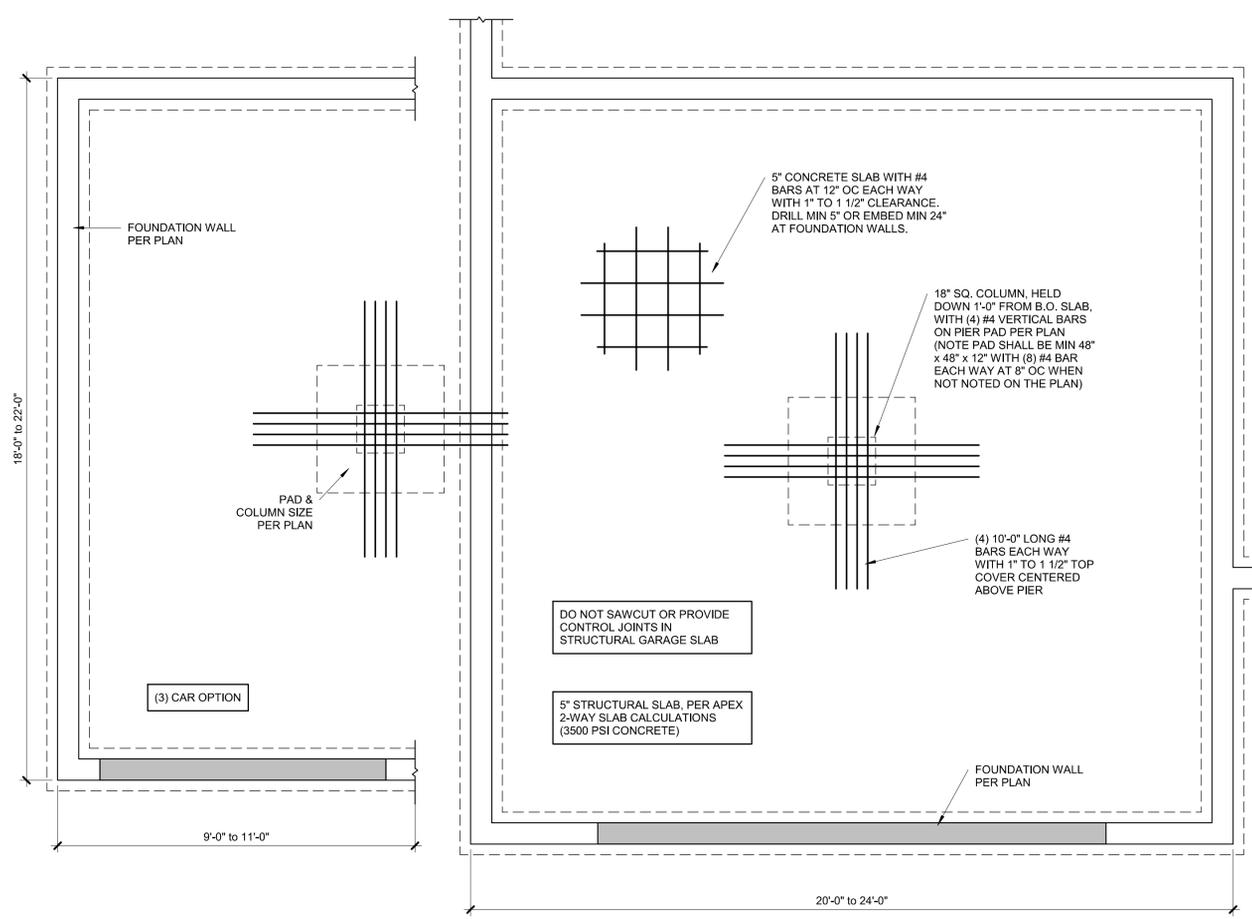
1. NOTE: ALL SHEATHING MATERIALS TO BE APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED.  
2. RAFTER TIES SHALL NOT BE REQUIRED WHEN A STRUCTURAL RIDGE HAS BEEN PROVIDED AND ADEQUATELY DESIGNED (AS IN A FULLY VAULTED ROOM). SUCH SHALL BE NOTED AS "STRUCTURAL" ON THE PLAN.

BUILDING COMPONENT	FASTEN TO	FASTEN WITH
RAFTERS	TO RIDGE/VALLEY/HIP RAFTERS	TOENAIL WITH (4) 16d ENDNAIL WITH (3) 16d
	TO PLATE	TOENAIL WITH (2) 16d
CEILING JOISTS	TO TOP PLATE	TOENAIL WITH (3) 8d AT EACH END
	WHERE CEILING JOISTS RUN PARALLEL TO RAFTERS FACENAIL TO RAFTERS WITH (3) 10d MIN	
FLOOR JOISTS	TO SILL OR GIRDER	TOENAIL WITH: (3) 8d COMMON; (3) 3"x0.131"; (4) 3"x0.128"
	TO RIM JOIST	ENDNAIL WITH: (3) 16d COMMON; (4) 3"x0.131"; (4) 3"x0.128"
BRACED WALL PANELS PIED TO FRAMING MEMBERS ABOVE/BELOW: PARALLEL TO FRAMING MEMBERS ABOVE/BELOW:	TO FRAMING MEMBER	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131"
	TO FRAMING AND BLOCKING AT 16" OC	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131" AND AT EACH BLOCK: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131" AND AT EACH BLOCK: (3) 8d COMMON; 3"x0.131"

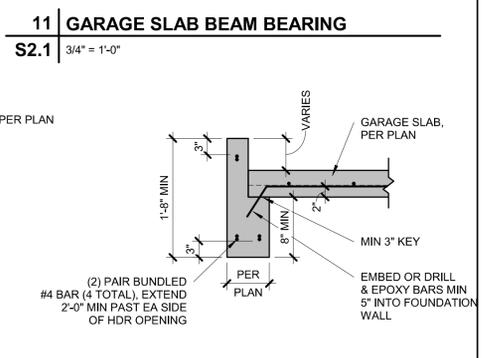
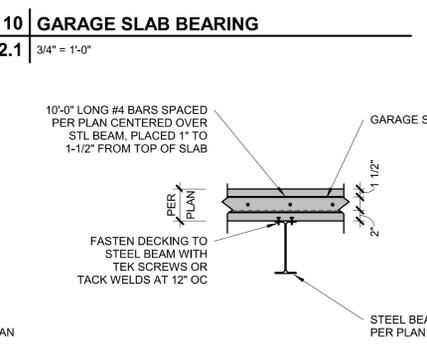
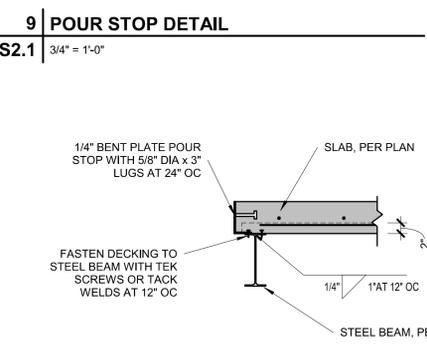
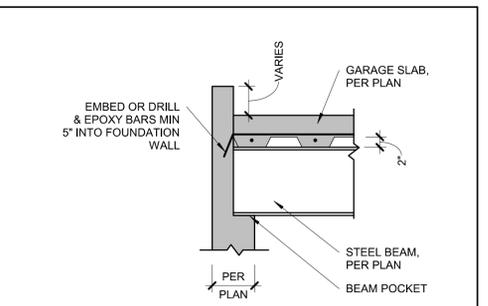
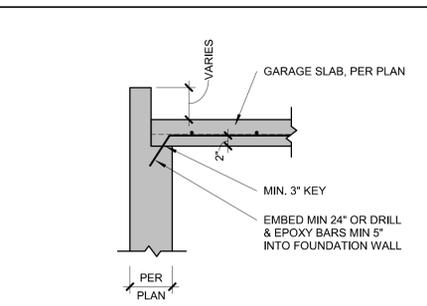
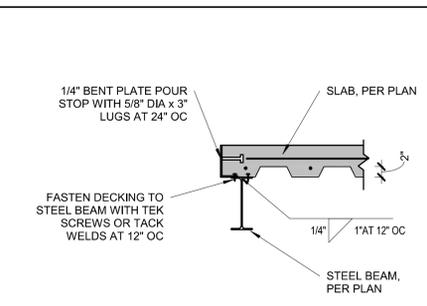
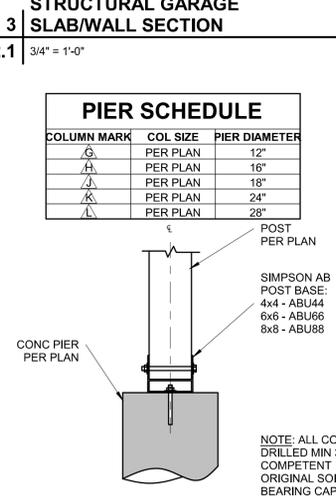
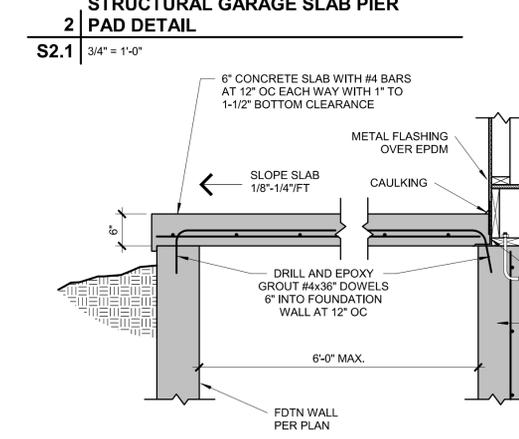
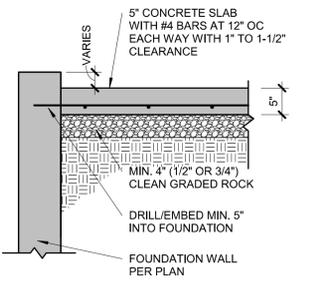
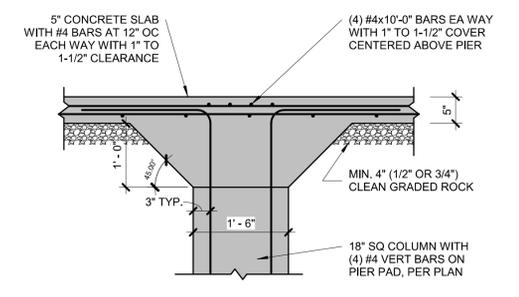
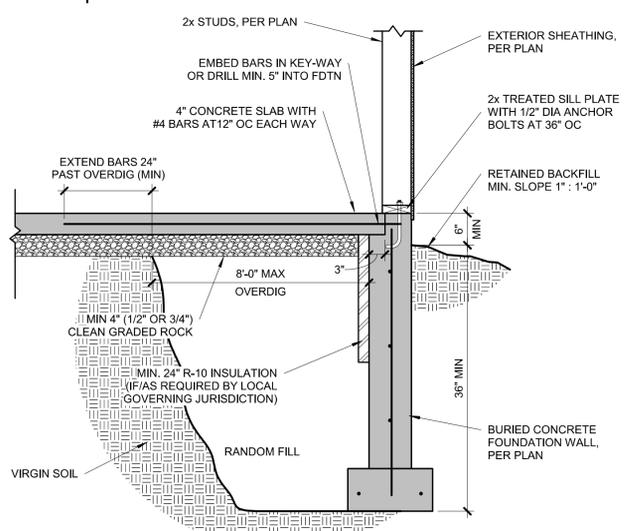
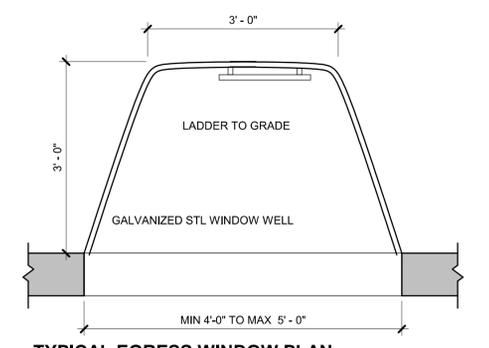
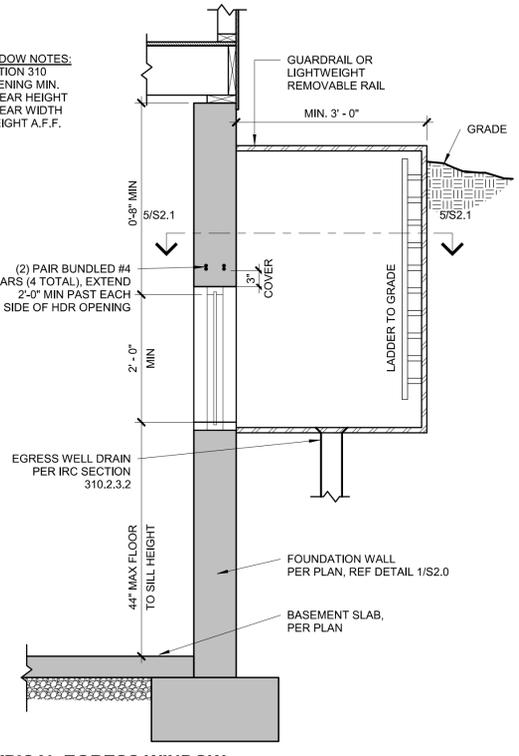
NOTE: MEMBER THICKNESS AND FASTENING LISTED IN THIS SCHEDULE ARE MINIMUM IRC REQUIREMENTS. SPECIFIC PROJECT REQUIREMENTS NOTED WITHIN THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, IF REQUIRED BY APEX ENGINEERS DESIGN NEEDING TO BE MORE STRINGENT, SHALL BE FOLLOWED.

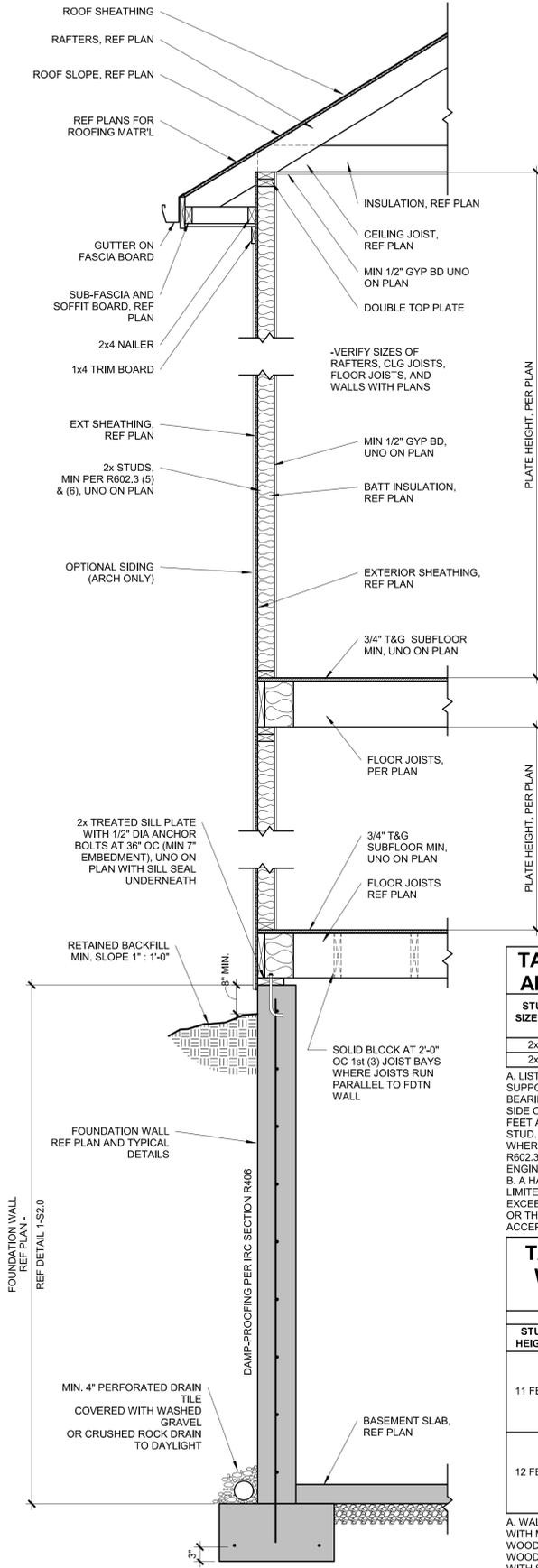


DATE	COMMENTS



**EGRESS WINDOW NOTES:**  
PER IRC SECTION 310  
1. 5.7 S.F. OPENING MIN.  
2. 24" MIN. CLEAR HEIGHT  
3. 20" MIN. CLEAR WIDTH  
4. 44" MAX HEIGHT A.F.F.





**TABLE R602.3 (5) - SIZE, HEIGHT, AND SPACING OF WOOD STUDS**

STUD SIZE (IN)	LATERALLY UNSUPPORTED STUD HEIGHT*	STRUCTURE SUPPORTED		
		ROOF ONLY	ROOF AND (1) FLOOR	ROOF AND (2) FLOORS
2x4	10 FEET	24" OC	16" OC	N/A
2x6	10 FEET	24" OC	24" OC	16" OC

A. LISTED HEIGHTS ARE DISTANCES BETWEEN POINTS OF LATERAL SUPPORT PLACED PERPENDICULAR TO THE PLANE OF THE WALL. BEARING WALLS SHALL BE SHEATHED ON NOT LESS THAN ONE SIDE OR BRIDGING SHALL BE INSTALLED NOT GREATER THAN 4 FEET APART MEASURED VERTICALLY FROM EITHER END OF THE STUD. INCREASES IN UNSUPPORTED HEIGHT ARE PERMITTED WHERE IN THE COMPLIANCE WITH EXCEPTION 2 OF SECTION R602.3.1 OR DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.

B. A HABITABLE ATTIC ASSEMBLY SUPPORTED BY 2x4 STUDS IS LIMITED TO A ROOF SPAN OF 32 FEET. WHERE THE ROOF SPAN EXCEEDS 32 FEET, THE WALL STUDS SHALL BE INCREASED TO 2x6 OR THE STUDS SHALL BE DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.

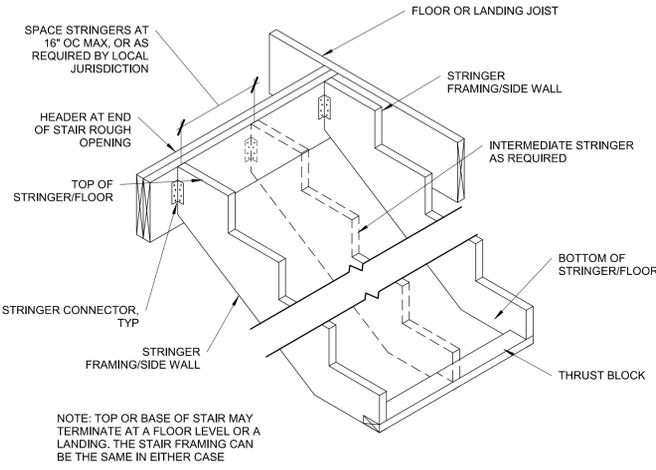
**TABLE R602.3 (6) - ALTERNATE WOOD BEARING WALL STUD SIZE, HEIGHT AND SPACING**

ULTIMATE DESIGN WIND SPEED = 115 MPH

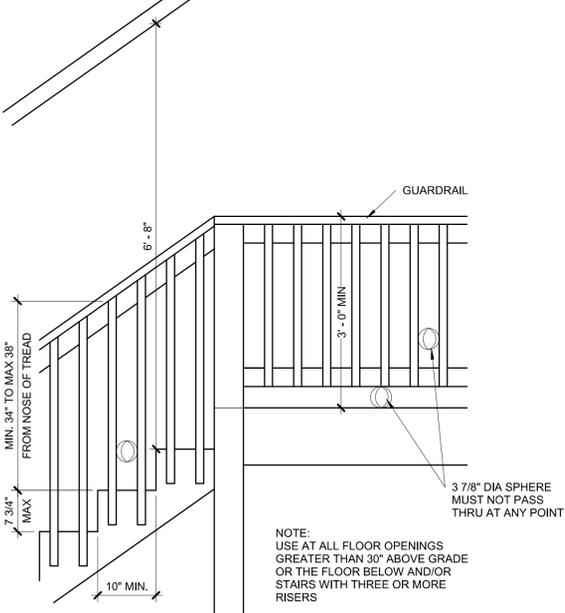
STUD HEIGHT	SUPPORTING	STUD SPACING		MAX ROOF/FLOOR SPAN	
		12 FEET	24 FEET	12 FEET	24 FEET
11 FEET	ROOF ONLY	12 IN	2x4	2x4	2x4
		16 IN	2x4	2x4	2x4
	ROOF AND ONE FLOOR	24 IN	2x6	2x6	2x6
		12 IN	2x4	2x6	2x6
12 FEET	ROOF ONLY	12 IN	2x4	2x4	2x4
		16 IN	2x4	2x6	2x6
	ROOF AND ONE FLOOR	24 IN	2x6	2x6	2x6
		12 IN	2x4	2x6	2x6

A. WALL STUDS NOT EXCEEDING 16" OC SHALL BE SHEATHED WITH MINIMUM 1/2" GYPSUM BOARD ON THE INTERIOR AND 3/8" WOOD STRUCTURAL PANEL SHEATHING ON THE EXTERIOR. WOOD STRUCTURAL PANEL SHEATHING SHALL BE ATTACHED WITH 8d (2.5" x 0.131") NAILS NOT GREATER THAN 6" OC ALONG PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS, AND ALL PANEL JOINTS SHALL OCCUR OVER STUDS OR BLOCKINGS.

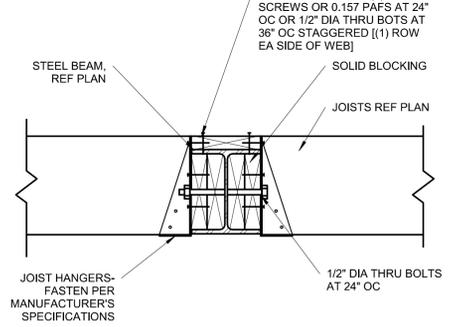
B. THE MAXIMUM SPAN IS APPLICABLE TO BOTH SINGLE AND MULTIPLE SPAN ROOF AND FLOOR CONDITIONS. THE ROOF ASSEMBLY SHALL NOT CONTAIN A HABITABLE ATTIC.



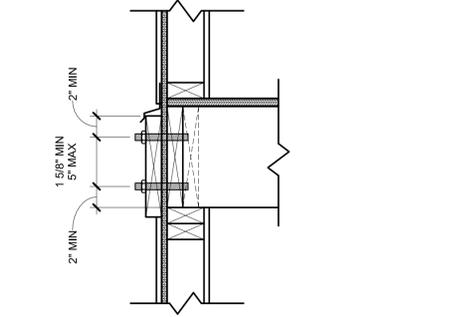
**11 TYPICAL STRINGER DETAIL**  
S3.0 3/4" = 1'-0"



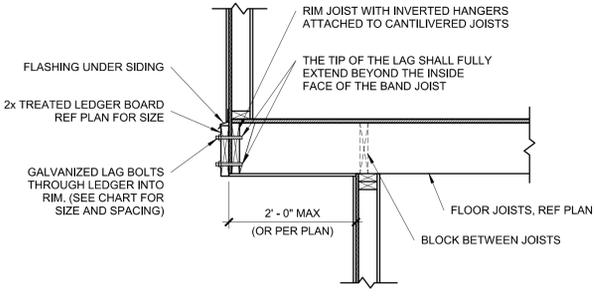
**10 TYPICAL STAIR/RAIL DETAIL**  
S3.0 3/4" = 1'-0"



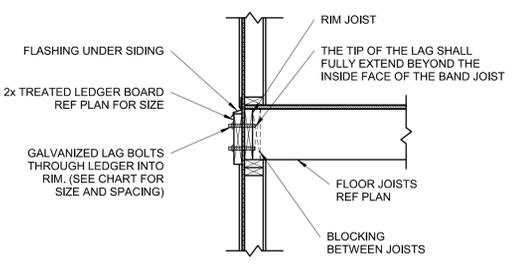
**9 UPSET STEEL BEAM/JOIST CONNECTION**  
S3.0 1 1/2" = 1'-0"



**8 LEDGER FASTENER PLACEMENT**  
S3.0 1 1/2" = 1'-0"



**7 TYPICAL CANTILEVER FRAMING WITH DECK ATTACHMENT**  
S3.0 3/4" = 1'-0"

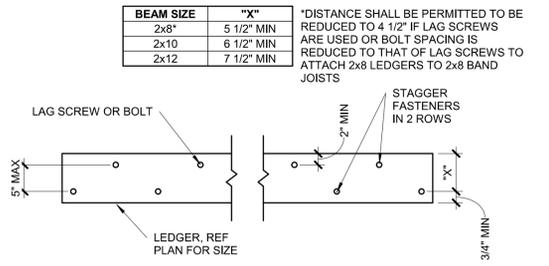


**DECK LEDGER ATTACHMENT CHART**

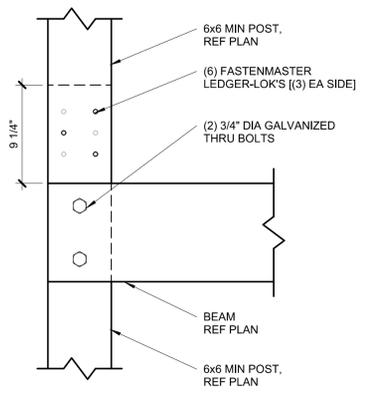
DECK JOIST SPAN	1/2" DIA LAG SPACING	EQUIVALENT SPACING FOR 16" OC JOIST BAYS
UP TO 10'-0"	16" OC	N/A
10'-1" TO 12'-0"	15" OC	16" OC DBL EVERY OTHER
12'-1" TO 14'-0"	13" OC	16" OC DBL EVERY OTHER
14'-1" TO 16'-0"	11" OC	16" OC DBL EVERY JOIST BAY
16'-1" TO 18'-0"	10" OC	16" OC DBL EVERY JOIST BAY

NOTE: CHART IS APPLICABLE ONLY WHEN DECK IS SHOWN ON APPROVED PLAN.

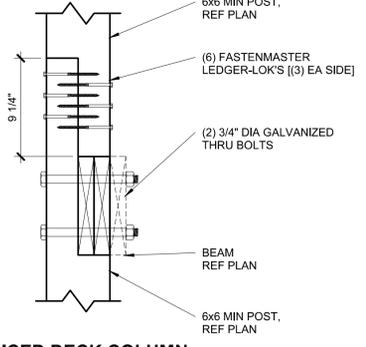
**6 TYPICAL LEDGER ATTACHMENT**  
S3.0 3/4" = 1'-0"



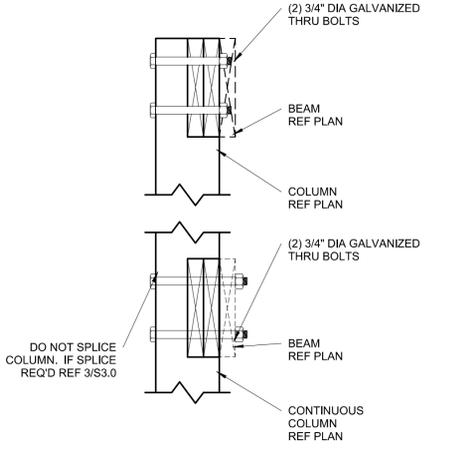
**5 TYPICAL LEDGER BOLT SPACING**  
S3.0 3/4" = 1'-0"



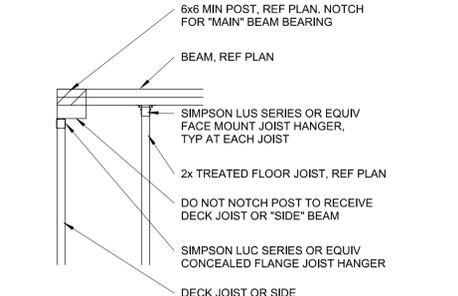
**4 SPLICED DECK COLUMN CONNECTION**  
S3.0 1 1/2" = 1'-0"



**3 SPLICED DECK COLUMN CONNECTION**  
S3.0 1 1/2" = 1'-0"



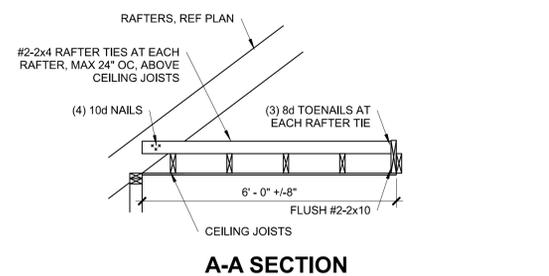
**2 DECK BEAM/COLUMN CONNECTION**  
S3.0 1 1/2" = 1'-0"



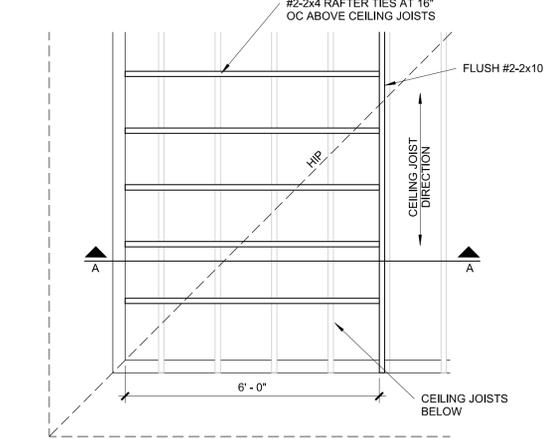
**1 DECK BEAM/COLUMN CORNER CONDITION**  
S3.0 3/4" = 1'-0"



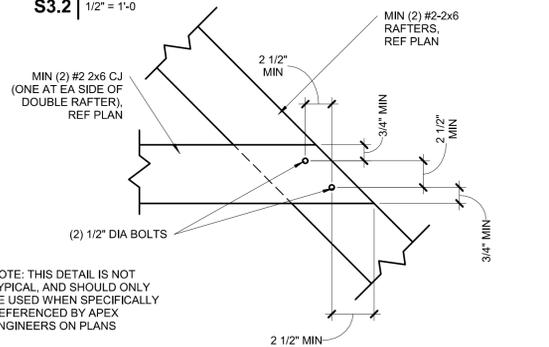
DATE	COMMENTS



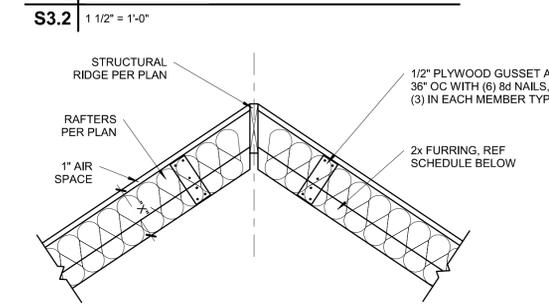
**A-A SECTION**



**3 ROOF WITH PERP CEILING JOISTS**



**2 BOLTED RAFTER HIP CONNECTION**



FURR OUT SCHEDULE		
RAFTER SIZE	R-30C INSULATION (X=9 1/4")	R-38C INSULATION (X=11 1/4")
2x6	2x6	2x8
2x8	2x4	2x6
2x10	NOT REQUIRED	2x4
2x12	NOT REQUIRED	REQUIRED

- NOTES:  
1. ALL VAULTED RAFTERS SHALL BE #2-2x6 DF-L, MINIMUM, AT 16" OC, PER SPAN CHART, UNLESS NOTED OTHERWISE.  
2. ALL VAULTS SHALL BE FURRED DOWN WITH 2x FRAMING TO THE REQUIRED DEPTH OF INSULATION, PLUS 1" AIR SPACE.  
3. R-30C INSULATION = 8 1/4" THICK  
4. R-38C INSULATION = 10 1/4" THICK  
5. INSULATION REQUIREMENTS MAY BE REDUCED TO R30 IF ROOF/CEILING ASSEMBLY DOES NOT ALLOW SUFFICIENT SPACE BUT IS LIMITED TO VAULTED CEILING AREAS THAT ARE LESS THAN 500 SQUARE FEET OR 20 PERCENT OF THE TOTAL INSULATED CEILING AREA, WHICHEVER IS LESS. (PER N1102.2.2)

**1 VAULTED RAFTER INSULATION FURR OUT**

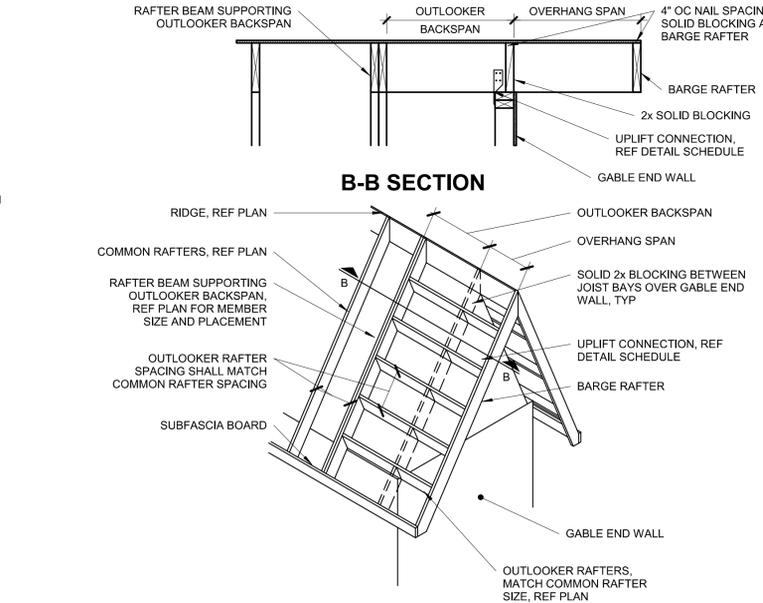
**S3.2 3/4" = 1'-0"**

OVERHANG SPAN	MIN BACKSPAN LENGTH
≤1'-0"	1'-0"
1'-1" to 2'-0"	EQUALS OVERHANG SPAN
≥2'-1"	OVERHANG SPAN x 2

NOTES:  
-CHART IS ONLY APPLICABLE IF NO RAFTER BEAM SHOWN ON PLAN.  
-CONTACT EOR IF OVERHANG LENGTH EXCEEDS CHART OPTIONS.  
-ALTERNATE, REF BARGE RAFTER DETAIL FOR OVERHANGS 1'-0" OR LESS.

**UPLIFT CONNECTION SCHEDULE**

OVERHANG SPAN: 1'-1" TO 1'-9"			
RAFTER SPACING	UPLIFT CONNECTOR	EXPOSURE B	EXPOSURE C
12" OC	SIMPSON H2.5A	(1) AT 24" OC	(1) AT 24" OC
16" OC	SIMPSON H2.5A	(1) AT 32" OC	(1) AT 16" OC
24" OC	SIMPSON H2.5A	(1) AT 24" OC	(1) AT 24" OC
OVERHANG SPAN: 1'-10" TO 2'-6"			
RAFTER SPACING	UPLIFT CONNECTOR	EXPOSURE B	EXPOSURE C
12" OC	SIMPSON H2.5A	(1) AT 12" OC	(1) AT 12" OC
16" OC	SIMPSON H2.5A	(1) AT 16" OC	(2) AT 16" OC
24" OC	SIMPSON H2.5A	(2) AT 24" OC	(2) AT 24" OC
OVERHANG SPAN: 2'-7" TO 3'-9"			
RAFTER SPACING	UPLIFT CONNECTOR	EXPOSURE B	EXPOSURE C
12" OC	SIMPSON H2.5A	(2) AT 12" OC	(2) AT 12" OC
16" OC	SIMPSON H2.5A	(2) AT 16" OC	(2) AT 16" OC
24" OC	SIMPSON H2.5A	(2) AT 24" OC	N/A



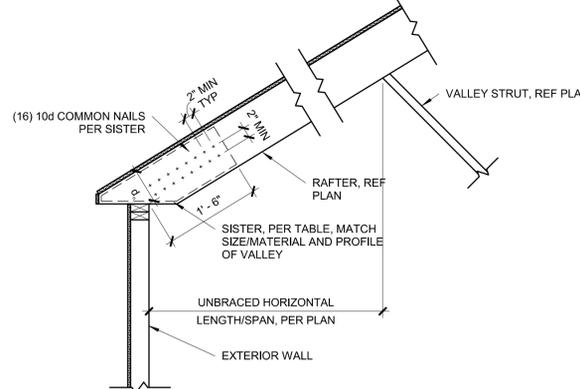
**5 OUTLOOKER RAFTERS ROOF FRAMING**

**S3.2 NOT TO SCALE**

**REQUIRED NUMBER OF SISTER PLIES**

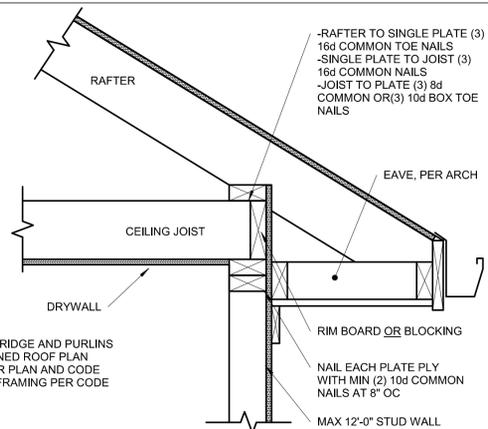
LIGHT ROOF						
# OF SISTER PLIES	2x VALLEY			LVL VALLEY		
	2x6	2x8	2x10	2x6	2x8	2x10
0	4'-8"	6'-2"	7'-11"	8'-8"	11'-5"	14'-7"
1	9'-5"	-	-	1	-	-
2	-	N/A	N/A	2	N/A	N/A
HEAVY ROOF						
# OF SISTER PLIES	2x VALLEY			LVL VALLEY		
	2x6	2x8	2x10	2x6	2x8	2x10
0	3'-6"	4'-7"	5'-11"	6'-6"	8'-7"	10'-11"
1	7'-1"	9'-3"	-	1	13'-1"	-
2	-	-	N/A	2	-	N/A

- \*VALLEYS OF A LENGTH GREATER THAN THAT FOUND IN THE CELL ABOVE ARE CONTROLLED BY BENDING. APPLY THE NUMBER OF SISTER PLIES CORRESPONDING TO THIS ROW.  
1. THIS TABLE IS INTENDED TO BE USED IN CONJUNCTION WITH THE STAMPED, ENGINEERED PLANS AS THEY ARE DRAWN BY APEX. BRACING LOCATIONS SHALL DETERMINE HORIZONTAL UNSUPPORTED SPAN FROM VALLEY BEARING AND BE USED TO DETERMINE THE NUMBER OF SISTERS REQUIRED. BRACING LOCATIONS ARE NOT TO BE INFERRED USING THIS TABLE.  
2. TABLE VALUES ARE BASED ON A DEPTH OF MEMBER REMAINING, d, EQUAL TO THE DEPTH OF THE RAFTERS. IF d IS OBSERVED TO BE LESS THAN THE DEPTH OF THE RAFTER, THE VALLEY WILL NEED TO BE EITHER REPLACED OR ANALYZED BY APEX.  
3. TABLE VALUES ARE VALID FOR TAPERED CUTS ONLY. REF DETAIL 4/S3.2.  
4. IF MULTI-PLY VALLEY IS SPECIFIED ON PLAN TREAT EACH ADDITIONAL PLY AS A SISTER PLY WHEN LOOKING UP MAX SPAN.  
5. MAX 14'-0" HORIZONTAL RAFTER SPAN IN BOTH DIRECTIONS FROM VALLEY.  
6. ALL HIPs ARE DESIGNED TO BE CONTROLLED BY BENDING. SHEAR AT BEARING WITH MIN 5 1/2" DEPTH DOES NOT CONTROL DESIGN.



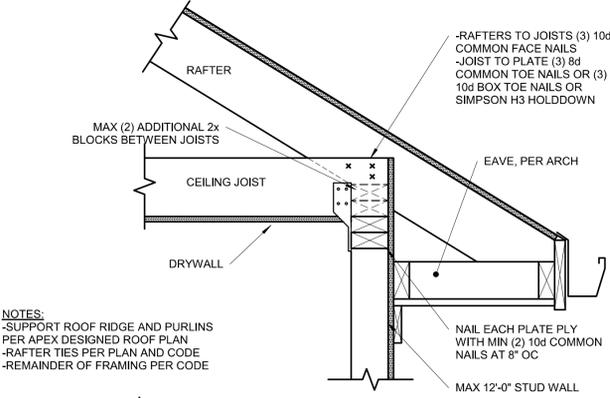
**4 TAPERED VALLEY**

**S3.2 3/4" = 1'-0"**



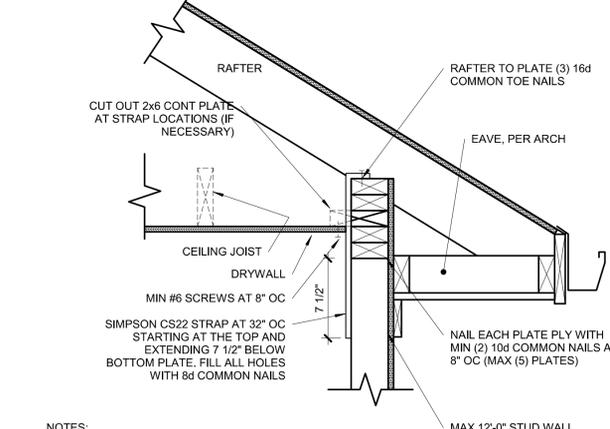
**9 OPTIONAL RAFTER BEARING**

**S3.2 1 1/2" = 1'-0"**



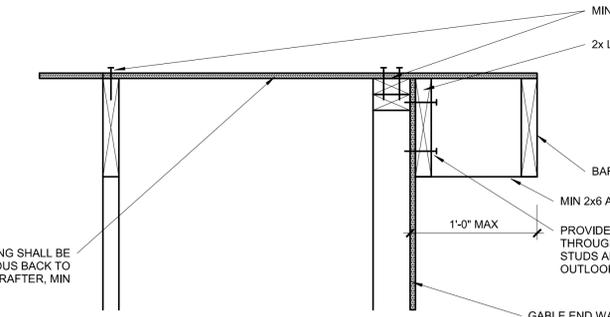
**8 OPTIONAL RAFTER BEARING**

**S3.2 1 1/2" = 1'-0"**



**7 OPTIONAL RAFTER BEARING**

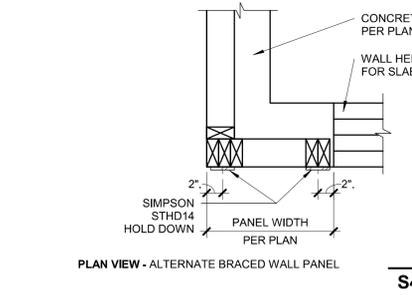
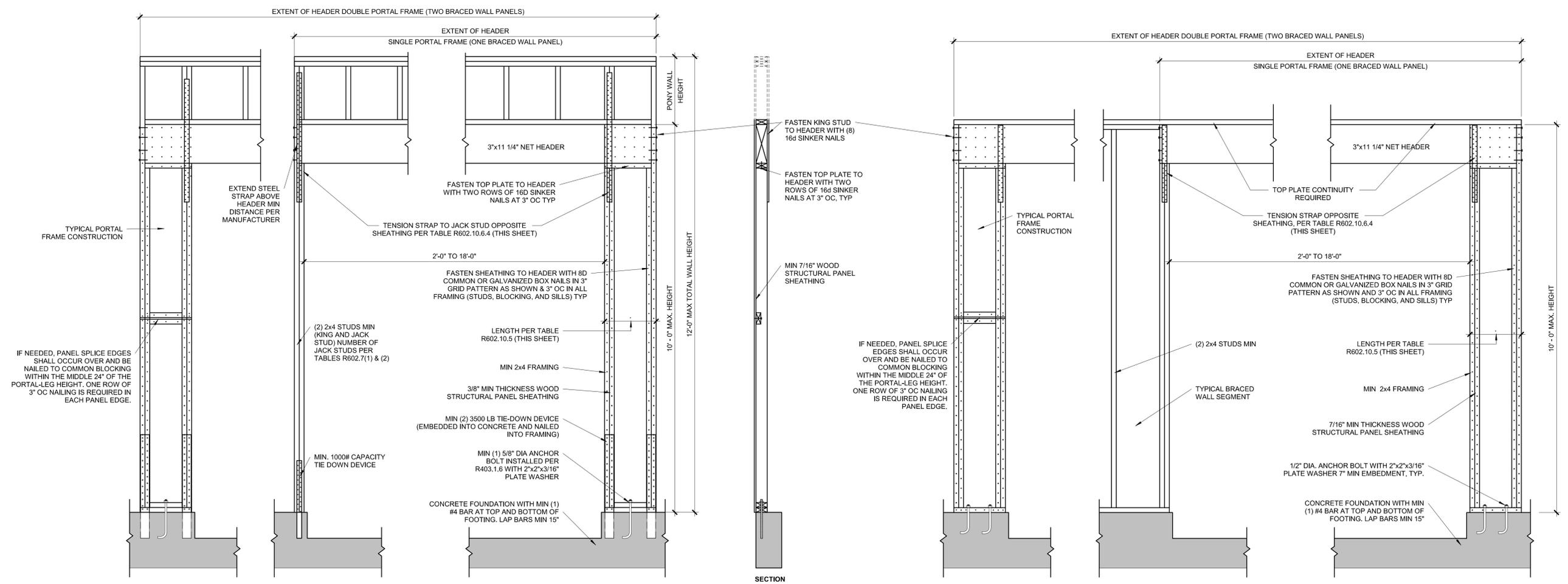
**S3.2 1 1/2" = 1'-0"**



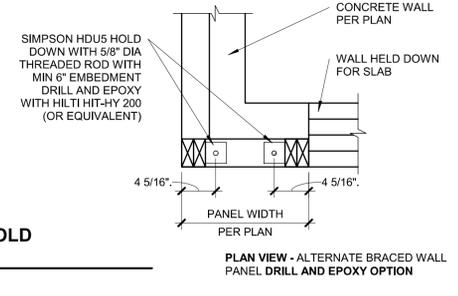
**6 OPTIONAL OVERHANG 1'-0" OR LESS**

**S3.2 1 1/2" = 1'-0"**

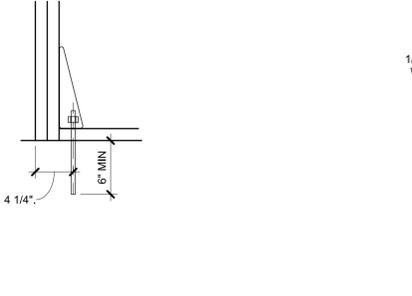
SHEATHING SHALL BE CONTINUOUS BACK TO FIRST RAFTER, MIN



**1 PORTAL FRAME WITH HOLD DOWNS (METHOD PFG)**  
**S4.0** 3/4" = 1'-0" (PER IRC R602.10.6.2)



**PLAN VIEW - ALTERNATE BRACED WALL PANEL DRILL AND EPOXY OPTION**



**PLAN VIEW - APA NARROW WALL BRACING METHOD WITHOUT HOLD-DOWNS**

**PORTAL FRAME AT GARAGE DOOR WITHOUT HOLD DOWNS (METHOD PFG)**  
**S4.0** ALT 3/4" = 1'-0" (ALT ALLOWED AT GARAGE DOOR ONLY) (PER IRC R602.10.6.3)

**TABLE R602.10.5 (PARTIAL)**

MINIMUM LENGTH OF BRACED WALL PANELS

METHOD	MIN LENGTH (INCHES)				
	8 FEET	9 FEET	10 FEET	11 FEET	12 FEET
SUPPORTING ROOF ONLY	16	16	16	16	16
ONE STORY AND ROOF	24	24	24	24	24
PFG	24	27	30	30	30

NOTE: MAX HEADER HEIGHT IS 10'-0", BUT WALL HEIGHT SHALL BE PERMITTED TO BE INCREASED TO 12'-0" WITH PONY WALL

**TABLE R602.10.6.4**

TENSION CAPACITY STRAP TABLE

MIN WALL STUD FRAMING NOMINAL SIZE AND GRADE	MAX PONY WALL HEIGHT (FEET)	MAX TOTAL WALL HEIGHT (FEET)	MAX OPENING WIDTH (FEET)	TENSION STRAP CAPACITY REQ (LBS)
2x4 #2 GRADE	0	10	18	1,000
			9	1,000
			16	1,025
	1	10	18	1,275
			9	1,000
			16	2,175
	2	10	18	2,500
			9	1,500
			16	3,375
	2	12	18	3,975
			12	2,750
			9	3,775
4	12	9	1,000	
		16	2,150	
		18	2,550	
2x6 STUD GRADE	2	12	9	1,750
			16	2,400
			18	3,800

**BRACED WALL METHODOLOGY**  
CONTINUOUS EXTERIOR SHEATHING (CS-WSP) PER WSP METHOD (BELOW) UNLESS OTHERWISE NOTED ON THE PLAN

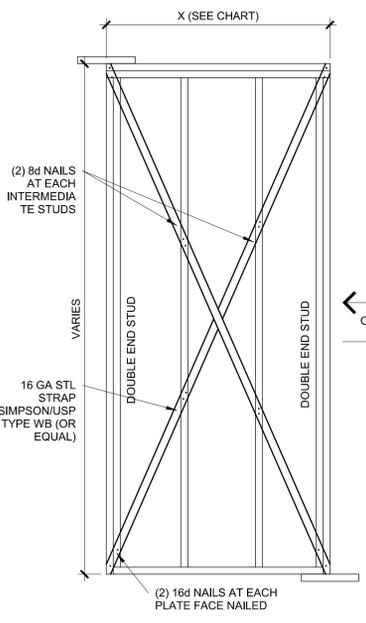
**XXXX EXTERIOR BRACED WALLS:**  
WSP METHOD:  
WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 2400 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN 7/16" WITH MINIMUM SPAN RATING OF 24/16 FOR 24" OC SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN FIELD.  
(NOTE: FRAMING MEMBERS 16" OC MAX UNBLOCKED, AND WITH SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS)

**///// INTERIOR BRACED WALLS (REF 2/S4.0):**  
GB METHOD:  
1/2" MIN GYPSUM BOARD OVER STUDS SPACED 24" MAX FASTENED WITH #6 - 1 1/4" TYPE "W" OR "S" DRYWALL SCREWS AT 7" OC EDGES AND FIELD (MIN. 4'-0" SECTION FOR BOTH SIDES.)  
OR  
LIB METHOD:  
1x4 WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA TYPE WB (OR EQUAL) STL X-BRACE(S) AT 45° TO 60° ANGLES, MAXIMUM 16" OC STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.

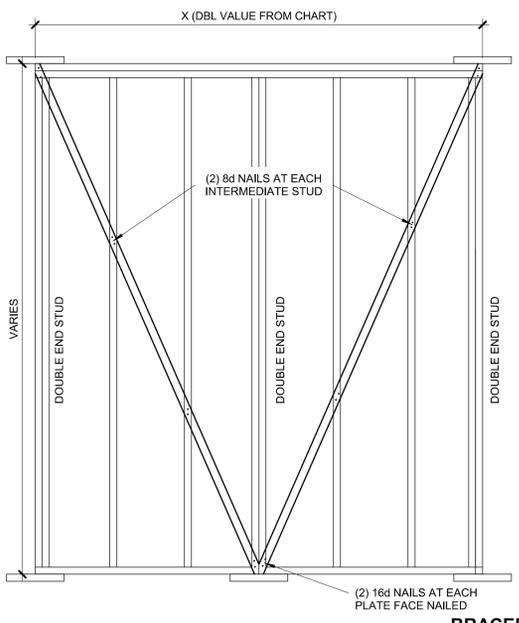
**BRACED WALL PANEL SCHEDULE**

WALL HEIGHT	MIN WALL LENGTH (X)	MAX WALL LENGTH (X)
8'-0"	4'-7"	8'-0"
9'-0"	5'-2"	9'-0"
10'-0"	5'-9"	10'-0"
11'-0"	NP	-
12'-0"	NP	-

NOTE: BRACED WALL PANEL LENGTHS BASED ON WALL HEIGHT FOR IRC. LIB



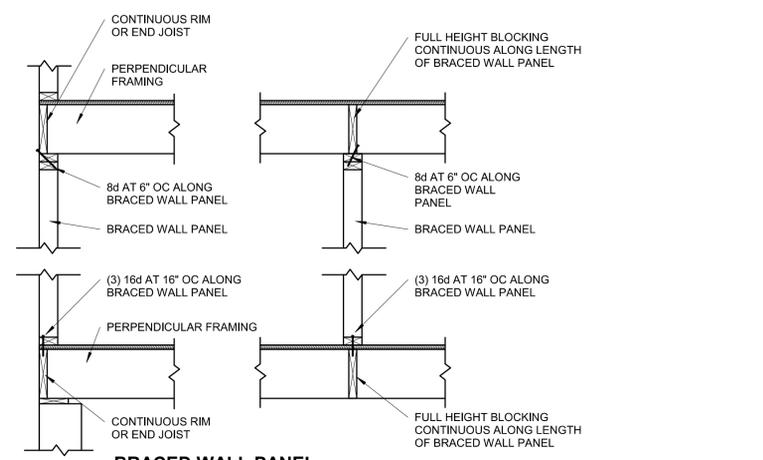
**LIB**



**GB**

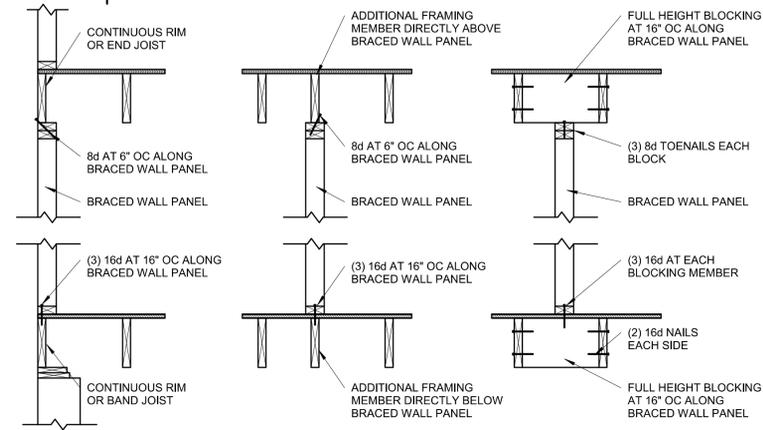
**2 BRACED WALL PANEL-IRC METHODS LIB AND GB**  
**S4.0** 3/4" = 1'-0"

DATE	COMMENTS



**BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING**

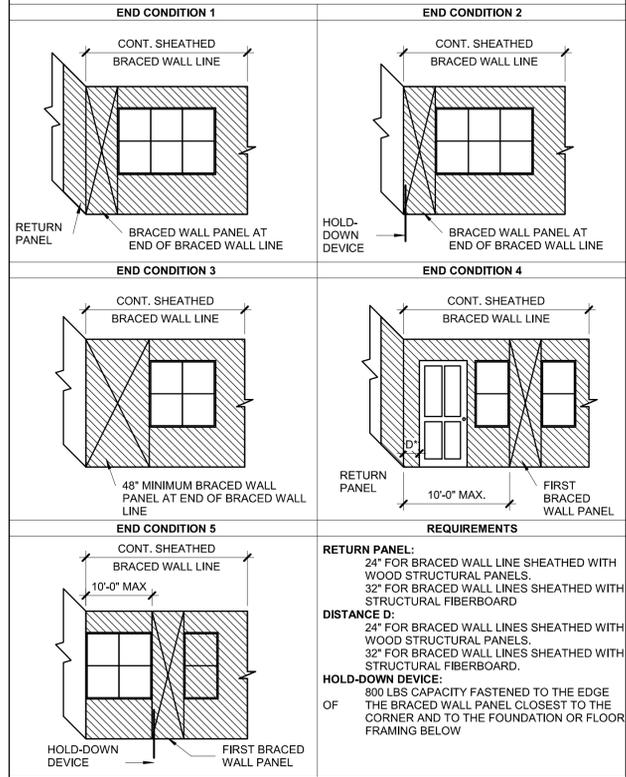
S4.1 3/4" = 1'-0"



**BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING**

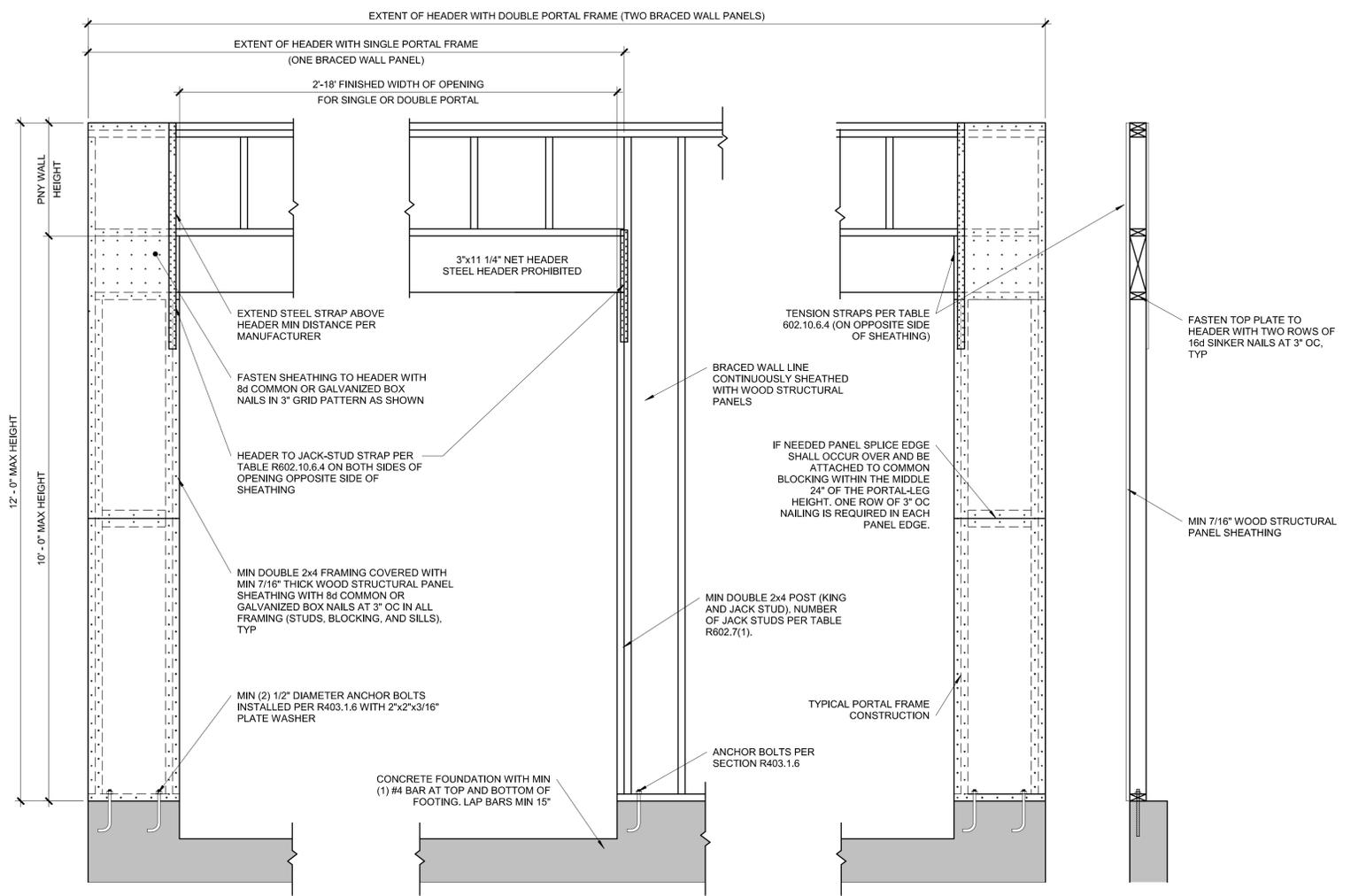
S4.1 3/4" = 1'-0"

**CONT. SHEATHED BRACED WALL END CONDITIONS**

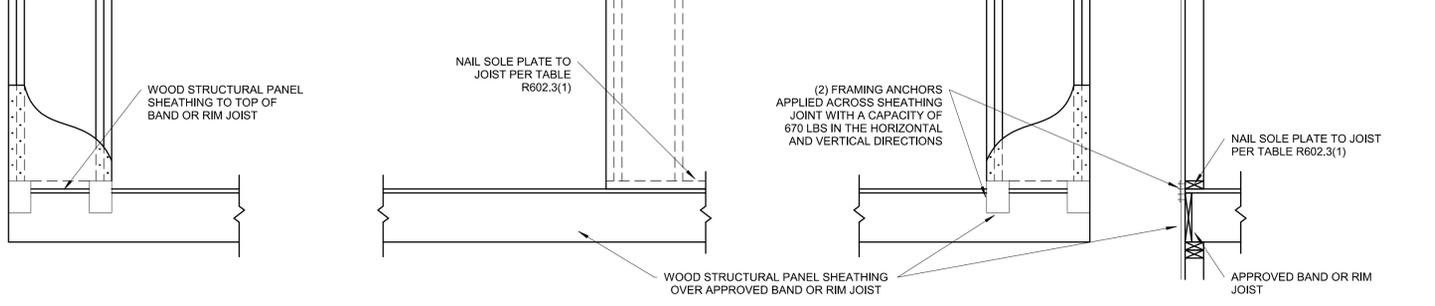


**CONTINUOUS SHEATHED BRACED WALL END CONDITIONS**

S4.1 NOT TO SCALE. (COMPLIANCE WITH IRC R602.10.7)

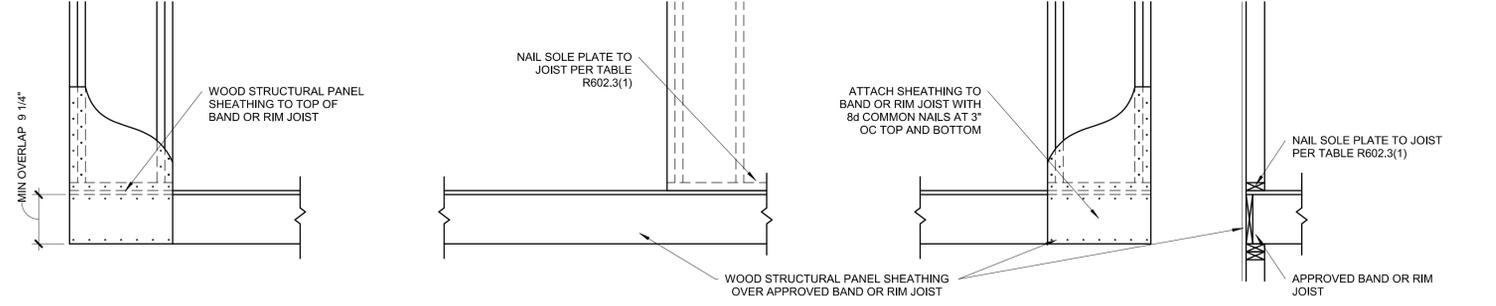


**OVER CONCRETE OR MASONRY BLOCK FOUNDATION**



**OVER RAISE WOOD FLOOR - FRAMING ANCHOR OPTION**

(WHEN PORTAL SHEATHING DOES NOT LAP OVER BAND OR RIM JOIST)



**OVER RAISE WOOD FLOOR - OVERLAP OPTION**

(WHEN PORTAL SHEATHING LAPS OVER BAND OR RIMBOARD)

**BRACED WALL PANEL-IRC METHOD CS-PF CONTINUOUSLY SHEATHED PORTAL FRAME**

**1 PANEL CONSTRUCTION**

S4.1 3/4" = 1'-0" (PER IRC R602.10.6.4)



STRUCTURAL DESIGN REVIEW  
KANSAS ENGINEERING LICENSE: 6-899  
MISSOURI ENGINEERING LICENSE: 200304673

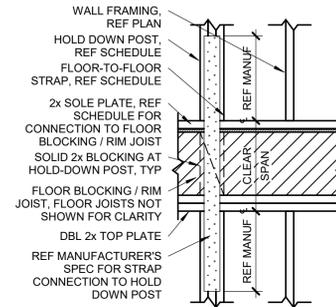
PROJECT: METCALF RESIDENCE  
1229 SW CORINTHIAN LANE  
LEE'S SUMMIT, MO  
CLIENT: NSPJ ARCHITECTS

PROJECT #: 25-0087  
DRAWN BY: LLB  
CHECKED BY: JSG  
SUBMITTAL DATE: 2025.05.01

DATE	COMMENTS
5/1/2025 10:46:15 AM	

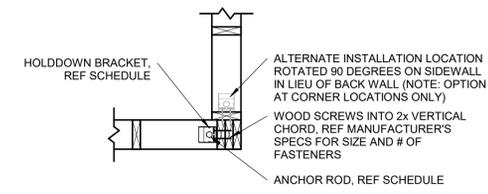
SHEET:  
SHEAR WALL DETAILS

**S4.2**  
USE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
08/05/2025 10:15:25



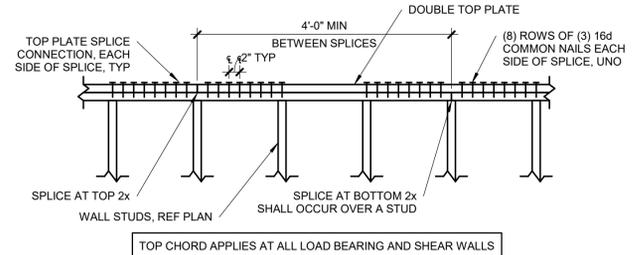
**4 TYPICAL WOOD FRAMING FLOOR TO FLOOR TIE**

S4.2 | 3/4" = 1'-0"



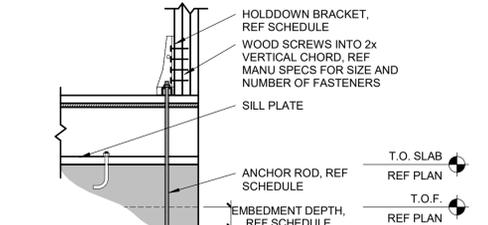
**3 TYPICAL HOLDDOWN ANCHOR PLAN WITH RIM**

S4.2 | 3/4" = 1'-0"



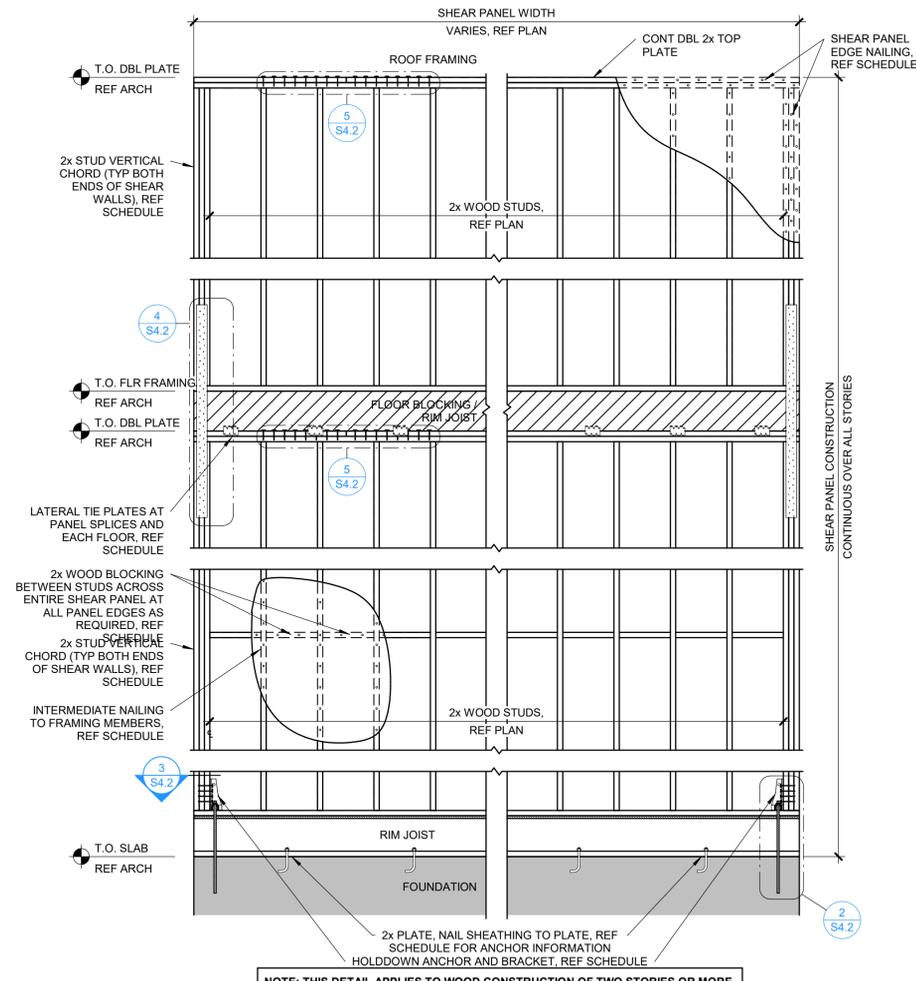
**5 PLATE SPLICE**

S4.2 | 3/4" = 1'-0"



**2 TYPICAL WOOD HOLDDOWN ANCHOR WITH RIM**

S4.2 | 3/4" = 1'-0"



**1 TYPICAL MULTI STORY BRACED WOOD WALL WITH RIM**

S4.2 | 1/2" = 1'-0"

NOTE: THIS DETAIL APPLIES TO WOOD CONSTRUCTION OF TWO STORIES OR MORE.

SHEAR WALL "PANEL" SCHEDULE													
PANEL MARK	FLOOR	LOCATION	SHEATHING	BLOCKING REQUIRED	EDGE NAILING	INTERMEDIATE NAILING	SOLE PLATE NAILING/ FASTENING TO CONCRETE	SOLE PLATE NAILING/ FASTENING TO WOOD	FLOOR BLOCKING / RIM TO TOP PLATE	HOLD-DOWN	MIN # OF STUDS AT HOLD-DOWN	PLATE SPLICE NAILING	DETAIL REFERENCE
SW-1	LOWER LEVEL	EXTERIOR	15/32" WSP (ONE SIDES)	YES	10d AT 3"	10d AT 12"	1/2" DIA WITH 6" EMBEDMENT AT 18" OC WITH 1/4"x3"x3" PLATE WASHER	N/A	SIMPSON LTP4 AT 32" OC	SIMPSON HDU5	4	(24) 16d COMMON NAILS	
	FIRST FLOOR				10d AT 3"			16d AT 4" OC	SIMPSON LTP4 AT 32" OC	SIMPSON CMST12	4	(24) 16d COMMON NAILS	

NOTES:  
1. HOLDDOWN ANCHORS ARE TO BE INSTALLED USING HILTI HIT-HY 200 MAX ADHESIVE (OR HILTI HIT-RE 500).  
2. THREADED ROD SHALL BE A36 (OR APPROVED EQUAL) WITH EMBEDMENT DEPTH PER SCHEDULE.  
3. USE ALL WOOD SCREWS AND/OR LAG SCREWS IN HOLDDOWN DEVICES AS SPECIFIED BY MANUFACTURER.  
4. SILL ANCHORS MAY BE CAST-IN-PLACE A36 BOLTS OR EXPANSION BOLTS.  
5. WSP = WOOD STRUCTURAL PANEL PLYWOOD OR OSB, REF GENERAL NOTES.  
6. NAIL SIZES GIVEN ARE FOR COMMON NAILS OR GALVANIZED (HOT-DIPPED OR TUMBLED) BOX NAILS. SINKER NAILS, COOLER NAILS, ETC SHALL NOT BE USED FOR SHEAR WALLS.  
7. SHEAR WALL NAILS SHALL HAVE FULL HEADS. CLIPPED NAILS ARE NOT ALLOWED.  
8. ALL NAILS SHALL BE DRIVEN SUCH THAT THE HEAD IS FLUSH WITH FACE OF SHEATHING. **DO NOT OVERDRIVE NAILS.**  
9. WHERE PANELS ARE APPLIED ON BOTH FACES OF SHEAR WALL AND NAIL SPACING IS LESS THAN 6" OC ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS. ALTERNATIVELY, THE WIDTH OF THE NAILED FACE OF FRAMING MEMBERS SHALL BE 3" NOMINAL OR GREATER OR (2) 2" NOMINAL MEMBERS FASTENED TOGETHER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED.  
10. WIDTH OF NAILED FACE OF FRAMING MEMBERS AND BLOCKING SHALL BE 2" NOMINAL OR GREATER AT ADJOINING PANEL EDGES.  
11. WIDTH OF NAILED FACE OF FRAMING MEMBERS AND BLOCKING SHALL BE 3" NOMINAL OR GREATER OR (2) 2" NOMINAL MEMBERS FASTENED TOGETHER AT ADJOINING PANEL EDGES FOR WOOD STRUCTURAL PANEL SHEAR WALLS WHERE NAIL SPACING OF 2" OC OR LESS AT ADJOINING PANEL EDGES IS SPECIFIED, OR 10d COMMON NAILS HAVING PENETRATION INTO FRAMING MEMBERS AND BLOCKING OR MORE THAN 1-1/2" ARE SPECIFIED AT 3" OC OR LESS AT ADJOINING PANEL EDGES, OR REQUIRED NOMINAL UNIT SHEAR CAPACITY ON EITHER SIDE OF THE SHEAR WALL EXCEEDS 700 PLF IN SEISMIC DESIGN CATEGORY D, E, OR F.  
12. WIDTH OF NAILED FACE OF FRAMING MEMBERS AND BLOCKING SHALL BE 3" NOMINAL OR GREATER OR (2) 2" NOMINAL MEMBERS FASTENED TOGETHER AT ADJOINING PANEL EDGES FOR PARTICLEBOARD SHEAR WALLS WHERE NAIL SPACING OF 2" OC OR LESS AT ADJOINING PANEL EDGES IS SPECIFIED, OR 10d COMMON NAILS HAVING PENETRATION INTO FRAMING MEMBERS AND BLOCKING OR MORE THAN 1-1/2" ARE SPECIFIED AT 3" OC OR LESS AT ADJOINING PANEL EDGES.