

SQUARE FOOTAGES	
Name	Area
FIRST FLOOR	1217 SF
SECOND FLOOR	1634 SF
GARAGE	643 SF
UNFINISHED BASEMENT	1083 SF
	4577 SF

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
CODES ADMINISTRATION
LEE'S SUMMIT, MISSOURI


04/28/2020

THE LEXINGTON II

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N&S JOB NUMBER: 2020-0255

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PROJECT INFORMATION

THE LEXINGTON II

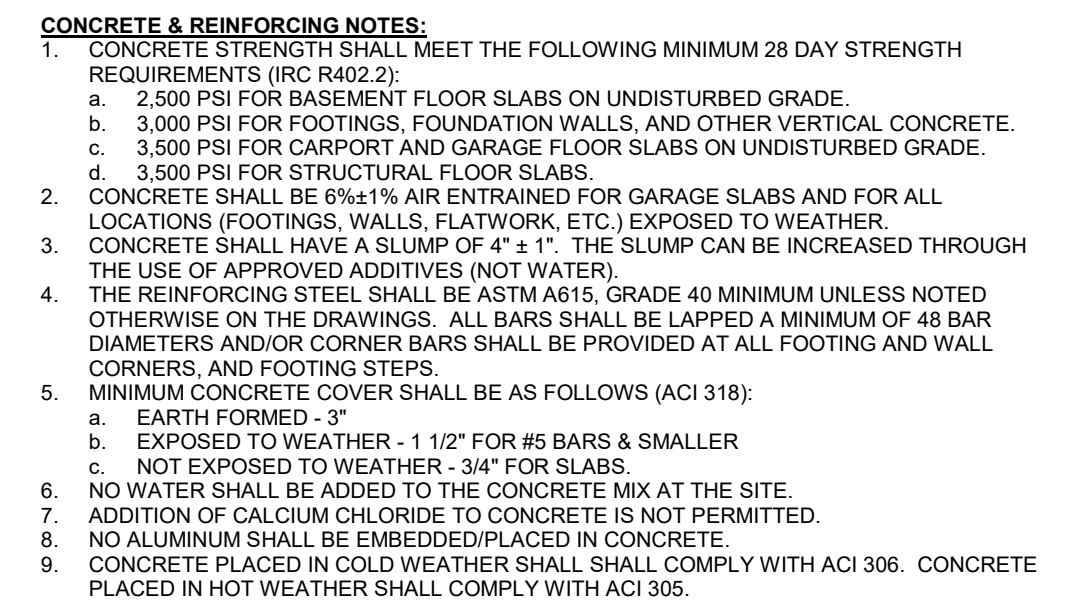
2521 SW River Trail Road
Lee's Summit, Missouri

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1. ALL FOUNDATIONS SHALL BEAR ON NATIVE, UNDISTURBED SOIL CAPABLE OF SUPPORTING 1,500 PSF UNLESS NOTED OTHERWISE, WITHOUT UNDUE SETTLEMENT OR HEAVING. THE EXISTING FLOOR SLAB SHALL BE FURNISHED AS A FIELD (APPROVED BY THE OWNER) TO FIELD VERIFY THE ACTUAL SOIL BEARING CAPACITY.
2. ALL EXTERIOR FOOTINGS SHALL BEAR A MIN. OF 36" BELOW FINISHED GRADE.
3. IF THE EXISTING SITE TOPOGRAPHY OR SOIL CONDITIONS VARY FROM THE CONDITIONS NOTED IN THE DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTRACTOR TO NOTIFY THE ARCHITECT/ENGINEER SO THAT A DESIGN THAT IS APPROPRIATE FOR THE SITE CAN BE GENERATED.
4. ALL EXTERIOR WALLS SHALL BE POURED CONTINUOUS AT FOOTING STEPS (SOLID SLUMPS).
5. ANY FILL THAT IS INSTALLED UNDER THE BASEMENT OR GARAGE FLOOR SLABS SHALL BE PROPERLY COMPACTED TO PREVENT SETTLEMENT OF THE FILL MATERIAL. PROPERLY COMPACTED IS WHEN THE FILL IS COMPACTED TO THE SAME DENSITY AS THE FILL INSTALLED PRIOR TO INSTALLING MORE SOIL. THIS COMPACTED FILL SHALL THEN BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER. AT THE CONTRACTOR'S OPTION, A PROPERLY VERIFIED STRUCTURE SHALL BE CONSIDERED TO BE PROPERLY COMPACTED. IT SHALL NOT BE PROPERLY COMPACTED. ALL EXTERIOR SLABS INSTALLED ADJACENT TO THE FOUNDATION SHALL BE DOWELED INTO THE FOUNDATION WITH #4 BARS AT 12" ON CENTER (GRADE 60 STEEL) DRILLED IN 6" MINIMUM AND EPOXIED.
6. ALL JOINTS IN THE FLOOR SLABS SHALL BE INSTALLED AS TO MINIMIZE THE AMOUNT OF RANDOM CRACKING (12" INTERVALS MAXIMUM). THESE JOINTS SHALL BE SAWCUT 1-1/4" DEEP WITHIN 8 HOURS OF POURING THE SLAB OR MAY BE TOOLED INTO THE SLAB WHEN THE FLOOR SAWCUT SHALL BE IN APPROXIMATE SQUARE PATTERN WITH MAXIMUM ASPECT RATIO OF 1-1/2 TO 1.
7. THE BUILDER SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE STEPS TO MINIMIZE THE EFFECTS OF THE FLOOR SLAB SLABS BEING INSTALLED AS TO MINIMIZE PORTIONS OF THE HOUSE. THIS INCLUDES ISOLATING THE FLOOR SLAB AT ALL COLUMNS, INTERIOR BEARING WALLS, AND AT THE FOUNDATION WALLS WITH TWO LAYERS OF 15# REBAR. PORTIONS OF SLABS IN THE BASEMENT SHALL NOT BE CONSTRUCTED TIGHT AGAINST THE FRAMING ABOVE.
8. INSTALL CONTINUOUS DRAIN TILE (4" DIAMETER MINIMUM) AROUND THE PERIMETER OF THE ENTIRE LOWER LEVEL AND COVER THE TILE WITH FILTER FABRIC AND COURSE GRAVEL. INSTALL VERTICAL DRAIN TILES TO THE EXTERIOR OF THE HOUSE AT ALL WALLS. THE DRAIN TILE SHALL BE CONNECTED TO A 4 GALLON (MINIMUM) SUMP PIT WITH SUFFICIENT DEPTH FOR PROPER SUMP PUMP OPERATION, OR SHALL BE DRAINED BY GRAVITY TO A DRAINAGE TIE IN TO THE EXISTING DRAINAGE. FOUNDATION DRAINAGE SHALL ALSO BE IN ACCORDANCE WITH 2012 IRC SECTION R-406.1.
9. CONCRETE BASEMENT SLABS SHALL BE A MIN. OF 4" THICK OVER A MIN. OF 4" 1/2" TO 6" GRADE. CONCRETE GRADE SLABS SHALL BE 4" THICK OVER 4" GRADE UNLESS OTHERWISE MIN. REINFORCING SHALL BE #4'S AT 24" OR EQUIVALENT.
10. PROVIDE A MIN. 6-MIL POLYETHYLENE MOISTURE BARRIER OVER GRAVEL BASE UNDER EXISTING FLOOR SLABS (NOT REQUIRED FOR GARAGE SLABS) PER SECTION R405.2.2. LAP JOINTS A MIN. OF 6".
11. ALL FOOTING AND SLAB REINFORCING SHALL BE BLOCKED OFF SUBGRADE WITH CHAIRS OR CONCRETE BRICKS.

1. HORIZONTAL REINFORCING FOR CONC FOUND WALLS SHALL BE #4'S AT 24"oc.

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

- a. MINIMUM REQUIREMENT FOR VERTICAL REBAR IN PLAIN CONCRETE WALLS IS #4 BARS @ 36" O.C. (ACI 332).
 - b. VERTICAL BARS SHALL BE CONTINUED TO WITHIN 4" OF THE TOP OF THE WALL.
 - c. REBAR SHALL BE POSITIONED AT THE TENSION FACE OF THE WALL, 2" FROM THE INSIDE FACE.
 - d. REINFORCEMENT SHALL LAP A MINIMUM OF 24" AT ENDS, SPLICES, AND AROUND CORNERS.
 - e. DESIGN BY A PROFESSIONAL ENGINEER IS REQUIRED FOR WALLS OVER 10' IN HEIGHT.
2. BARS SHALL LAP A MINIMUM OF 48 BAR DIAMETERS AT ENDS, SPLICES AND AROUND CORNERS. UNLESS OTHERWISE NOTED ON THESE DRAWINGS.
 3. CONTINUOUS WALL FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS FOR 8' FROM EACH END. MINIMUM PLACEMENT TO 2x0 PRESSURE TREATED LUMBER. CONTINUOUS WALL FOOTINGS SHALL BE A MINIMUM OF 24" WIDE AND 12" DEEP WITH (2) #4 BARS CONTINUOUS FOR 12" THICK WALLS.
 4. INSTALL 1/2"x0" x 1'-2" LONG ANCHOR BOLTS (IP EMBEDMENT) AT 24" O.C. AND WITHIN 12" OF EACH END OF EACH MEMBER. MINIMUM PLACEMENT TO 2x0 PRESSURE TREATED LUMBER. THE TOPS OF ALL BASEMENT (LOWER LEVEL) FOUNDATION WALLS SHALL BE CONNECTED TO THE FLOOR JOISTS. NAIL EACH FLOOR JOIST END AND END WALL BLOCKING TO THE WOOD SILL PLATE PER THE IRC NAILING SCHEDULE. WHERE FLOOR JOISTS RUN PARALLEL TO THE FOUNDATION WALLS, PROVIDE BLOCKING IN THE FIRST THREE JOIST SPACES AT 2" O.C. OVER THE ENTIRE LENGTH OF THE FLOOR JOISTS.
 5. WALLS SHALL BE FULL HEIGHT FROM FOOTING TO FLOOR FINISHING. NO WOOD FRAMED PARTIAL WALLS EXCEPT AS SPECIFICALLY NOTED ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
 6. STRAIGHT WALLS SHALL MORE THAN 5 FEET TALL AND MORE THAN 16 FEET LONG SHALL BE BRACED WITH BRIDGES OR OTHER EQUIVALENTS TO MAINTAIN UPRIGHTNESS.
 7. FOUNDATION WALLS SHALL BE DESIGNED FOR AN EQUIVALENT FLUID PRESSURE (EFP) 60 PSF.
 8. PROVIDE STEEL SHIMS IN BEAM POCKETS TO LEVEL BEAMS. BEAM POCKETS SHALL BE GROUTED SOLID WITH 4,000 PSI NON-SHRINK GROUT AFTER BEAMS ARE LOADED WITH FRAMING MEMBERS.
 9. REINFORCE ALL BEAM POCKETS BY BENDING TOP CONTINUOUS HORIZONTAL BAR REINFORCE AROUND BEAM POCKET OR INSTALL SEPARATE BENT BAR LAPPED AND TIED MINIMUM 24" EACH SIDE.
 10. PROVIDE TWO #4 x 4'-0" LONG DIAGONAL BARS AT THE CORNERS OF ALL OPENINGS IN CONCRETE WALLS AND AT FOOTING SPACES. ALSO PROVIDE 2 ADDITIONAL #4 ON EACH SIDE OF WALL OPENINGS. BARS SHALL BE 3'-0" LONGER THAN OPEN VERTICAL OR HORIZONTAL DIMENSION.
 11. PROVIDE AN INVERT DRAIN TO RETAIN EARTH AND ENCLOSE INTERIOR SPACES AND FLOORS BELOW GRADE SHALL BE DAM PROOFED FROM THE TOP OF THE FOOTING TO THE FINISHED GRADE WITH A BITUMINOUS COATING IN ACCORDANCE WITH SECTION R406.1.
 12. INSULATION SHALL BE INSTALLED FOR ALL BASEMENT WALLS AS REQUIRED PER SECTION R402.2.
 13. ALL SITE RETAINING WALLS GREATER THAN 4'-0" IN HEIGHT SHALL REQUIRE A DESIGN BY A PROFESSIONAL ENGINEER.
 14. A COMPLETE RELEASED GROUNDING ELECTRODE CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICE PER SECTION E3608.1.

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

1 FOUNDATION PLAN

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

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STATE OF MISSOURI
BRANDON SCHWABAUER
NUMBER
PE-2015003020
4/27/2020
PROFESSIONAL ENGINEER

N&S JOB NUMBER: 2020-0255
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PROJECT INFORMATION

THE LEXINGTON II

22521 SW River Trail Road
Lee's Summit, Missouri

ISSUES & REVISIONS

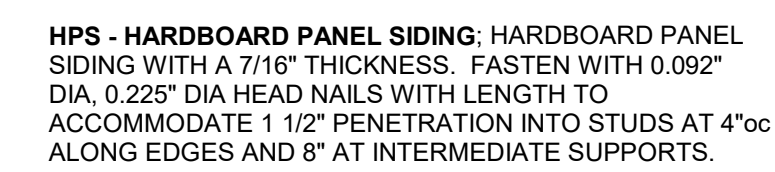
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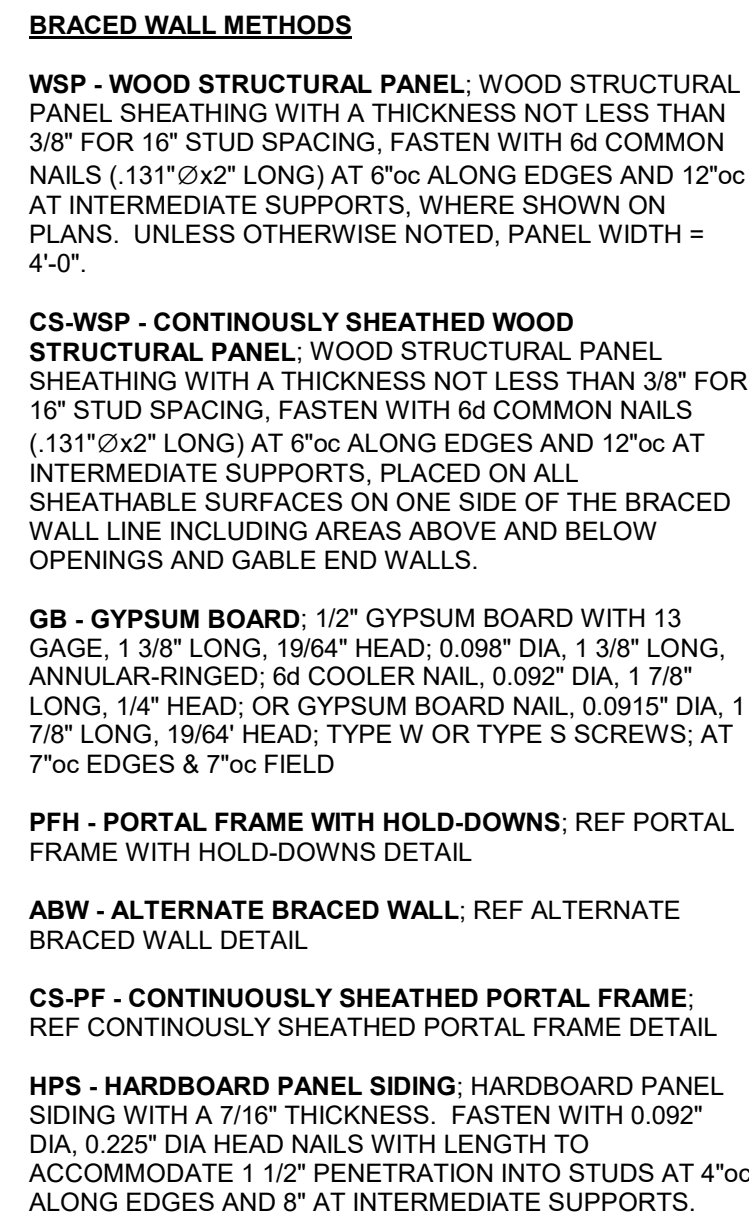
S100
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
CODES ADMINISTRATION
LEE'S SUMMIT, MISSOURI
04/28/2020



S101
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
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LEE'S SUMMIT, MISSOURI

1 FIRST FLOOR FRAMING PLAN

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



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STATE OF MISSOURI
BRANDON SCHWABAUER
NUMBER
PE-2015003020
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PROFESSIONAL ENGINEER

N&S JOB NUMBER: 2020-0255
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SECOND FLOOR FRAMING PLAN

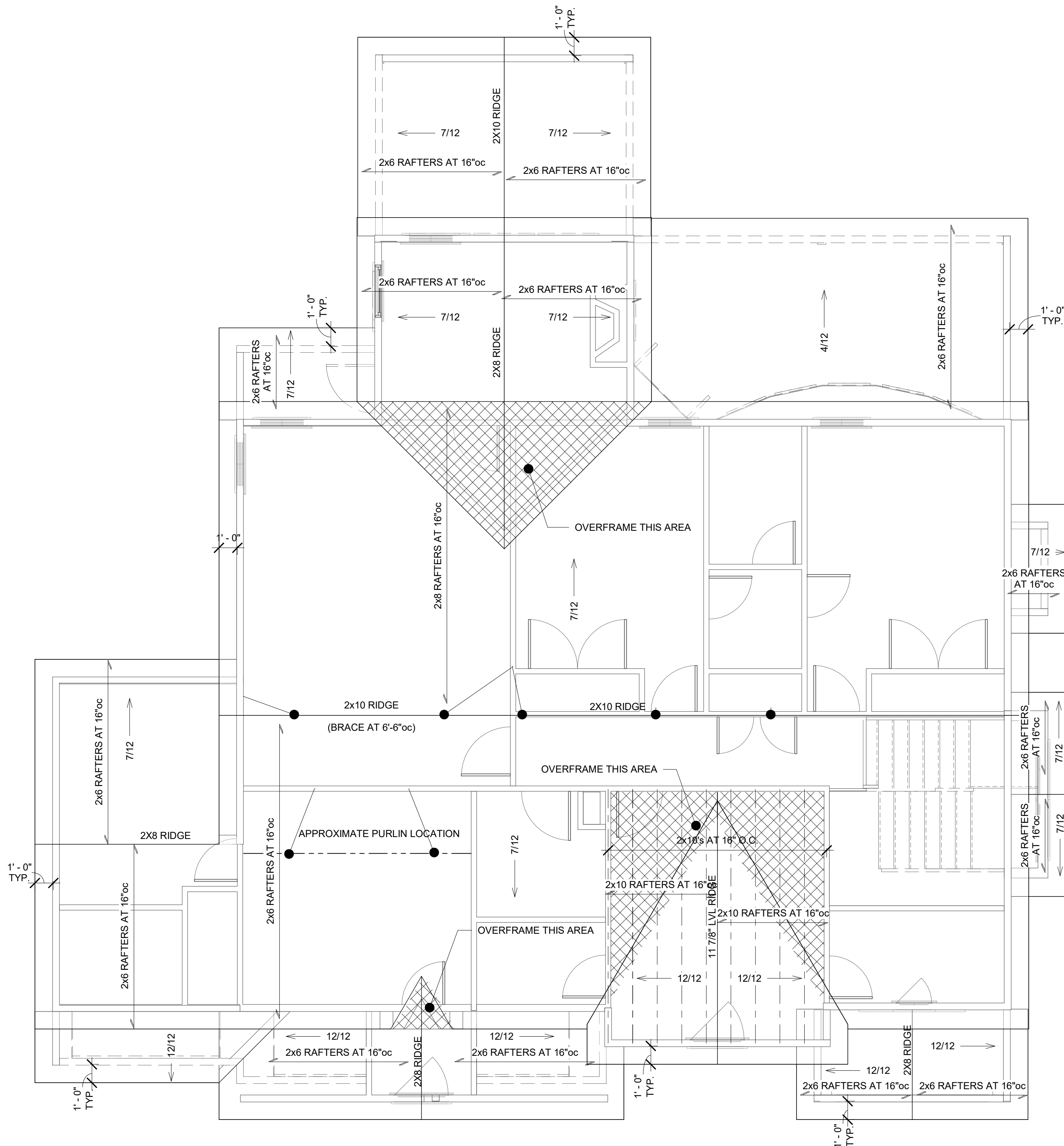
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S102

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEWED
BY THE MISSOURI STATE
HIGHWAY CODES ADMINISTRATION
LEE'S SUMMIT, MISSOURI

1 SECOND FLOOR FRAMING PLAN

S102
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
CODES ADMINISTRATION
LEE'S SUMMIT, MISSOURI



ROOF FRAMING PLAN NOTES

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

1. PROVIDE 1/2" EXTERIOR GRADE PLYWOOD SHEATHING NAILED TO ROOF RAFTERS WITH 8d NAILS AT 6"oc AT PANEL EDGES AND 12"oc AT NON-PANEL EDGES.
2. PROVIDE ADDITIONAL DEPTH TO JOISTS AS REQUIRED TO PROVIDE 1" AIR GAP TO PREVENT CONDENSATION PLUS 12" INSULATION TO PROVIDE R-38 INSULATION VALUE TO VAULTED CEILING AREA WHERE SHOWN ON PLAN WITH CROSS HATCH.
3. ALL RIDGE MEMBERS SHALL BE 1" NOMINAL THICKNESS AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER. ALL VALLEY AND HIP MEMBERS SHALL BE 2" NOMINAL THICKNESS AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER.
4. HIP AND VALLEY MEMBERS SHALL BE SUPPORTED AT THE RIDGE WITH A 2x6 T-BRACE TO A BEARING WALL BELOW. PROVIDE SOFFIT, RIDGE, AND GABLE END VENTS AS REQUIRED TO PROVIDE ADEQUATE VENTILATION FOR ROOF.
5. PROVIDE PROPER FLASHING AND BUILDING PAPER UNDER SHINGLES AS REQUIRED TO PROVIDE WATER TIGHT SEAL AT ALL ROOF PENETRATIONS, RIDGES, VALLEYS, HIPs AND/OR OTHER SLOPE CHANGES.
6. GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET MINIMUM FROM HOUSE BEFORE TOUCHING SOIL.
7. ALL GABLE END WALL FRAMING SHALL BE 2x4 DOUG-FIR NO. 2 AT 16"oc.
8. PROVIDE PROPER CEILING INSULATION AS REQUIRED BY GOVERNING BUILDING CODE.

NOTE:

- RAFTERS TO BE 2x6 DF-L No. 2 AT 16" O.C. U.N.O.
- HIP, VALLEY, AND RIDGE MEMBERS SHALL BE (1)2x8 DF-L No. 2 U.N.O.
- REF. 12/S503 FOR PURLIN BRACING

PROJECT INFORMATION

THE LEXINGTON II

2521 SW River Trail Road
Lee's Summit, Missouri

ISSUES & REVISIONS

#	DATE	DESCRIPTION
1	04/03/2020	PERMIT
2	04/17/2020	Full Basement
3	4/27/2020	Code Comments

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ROOF FRAMING
PLAN

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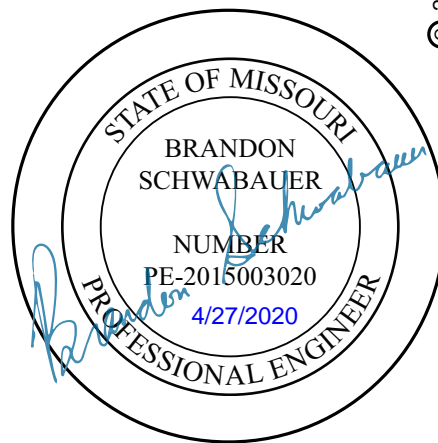
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GOVERNING BUILDING CODE: 2012 INTERNATIONAL RESIDENTIAL CODE (IRC) AND ITS APPROPRIATE SUPPLEMENTS

- DESIGN LOADS:**
- | | | |
|--------------------------------------------|-------|-------------------------|
| • ROOF DEAD LOAD: | _____ | 10 PSF |
| • ROOF LIVE LOAD: | _____ | 20 PSF |
| • FLOOR DEAD LOAD: | _____ | 10 PSF |
| • FLOOR LIVE LOAD: | _____ | 10 PSF |
| • BEDROOMS: | _____ | 30 PSF |
| • ALL OTHER LIVING AREAS: | _____ | 40 PSF |
| • WIND LOADS: | _____ | VASD=90 MPH, EXPOSURE C |
| • SEISMIC LOADS: | _____ | SITE CLASS "B" |
| • ASSUMED ALLOWABLE SOIL BEARING PRESSURE: | _____ | 1500 PSF |

GENERAL

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

BUILDER'S PLANS:

THE TERM "BUILDER'S PLANS" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS, AS THE NAME IMPLIES. THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION AND A FAMILIARITY WITH THE UNDERSTANDING OF THE BUILDING CODES AND ORDINANCES APPLICABLE TO THE PROJECT. NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C., THAT HE POSSESSES THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND DESIGN SERVICES, AND FOR THAT REASON THE CONTRACTOR'S ASSUMPTION OF RESPONSIBILITY FOR THE TYPE OF CONSTRUCTION OF THIS PROJECT, AS SHOWN ON THE BUILDING DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TERMED "BUILDER'S PLANS" IN RECOGNITION OF THE CONTRACTOR'S SPOKESMAN. ALTHOUGH NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. AND OUR CONSULTANTS ARE NOT PROVIDING ENGINEERING OR ARCHITECTURAL SERVICES TO THE CONTRACTOR, ANY DISCREPANCY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE "BUILDER'S PLANS" TO THE ACTUAL CONDITIONS OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS MADE FROM THE PLANS WITHOUT THE CONSENT OF NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. ARE UNAUTHORIZED. IT IS ALSO UNDERSTOOD THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR MEETING ALL APPLICABLE BUILDING CODES INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, AND PLUMBING CODE REQUIREMENTS (WHICH IS EXCLUDED FROM THE PROJECT) AND ANY OTHER CODES IN THE CITY OF CHICAGO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF ANY ASPECT OF THE PROJECT, NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. OR A QUALIFIED ARCHITECT/ENGINEER SHALL IMMEDIATELY BE RETAINED. FAILURE TO NOTIFY US OF THESE NEEDS OR OF CHANGES TO THE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. OF ALL RESPONSIBILITIES OF THE CONSEQUENCES.

ARCHITECTURAL NOTES:

1. WATER RESISTIVE EXTERIOR WALL COVERING, FREE FROM HOLES AND BREAKS, SHALL BE APPLIED TO STUDS OR SHEATHING OF ALL EXTERIOR WALLS. WRAP SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SHALL BE OVERLAPPED WITH A MINIMUM OF 6" AND 180° TURNED OVER THE JOINT.
2. BUILDING SHALL COMPLY WITH SECTIONS 802.3 AND 802.3.1 OF THE 2012 IRC FOR RAFTER AND CEILING JOIST CONNECTIONS.
3. "UPPER" GROUND SHALL BE PROVIDED PER IRC SECTION 3606.1
4. DRAINAGE, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET MINIMUM FROM HOUSE BEFORE TOUCHING SOIL.

STAIR NOTES:

1. MAXIMUM RISER AT STAIRWAYS IS 7 3/4" AND MINIMUM TREAD IS 10" WITH A MINIMUM 6" HEADROOM, PER 2012 IRC SEC. R311.7.
2. HANDRAILS ON ALL STAIRS AND/OR LEVELS THAT EXCEED 30" ABOVE THE FLOOR OR GRADE, RAILINGS TO BE MIN. 36" HIGH AND HAVE INTERMEDIATE RAILS THAT DO NOT ALLOW THE PASSAGE OF A 4" DIAMETER SPHERE AND SHALL BE SECURED TO R202 R311.7.10.11.
3. ENCLOSE ACCESSIBLE SPACE BENEATH STAIRS SHALL HAVE WALLS AND THE UNDERSIDE OF THE STAIR AND LANDING PROTECTED WITH 1/2" GYPSUM BOARD ON ENCLOSURE SIDE PER SECTION R302.7.
4. HANDRAILS AND CONTINGENCY RISERS SHALL HAVE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34" AND 38" ABOVE THE STAIR NOSING.
5. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1 1/4" MINIMUM TO 2" MAXIMUM OR OTHER APPROVED EQUIVALENT SHAPES PER SECTION R311.7.10.11.
6. SPIRAL STAIRS SHALL BE CONSTRUCTED PER SECTION R311.7.10.11.

EMERGENCY EGRESS NOTES:

1. ALL SLEEPING ROOMS AND BASEMENT SHALL BE PROVIDED WITH PROPER EMERGENCY ESCAPE AND RESCUE OPENINGS PER 2012 IIRC SEC R310. PROVIDE (1) WINDOW IN EACH BEDROOM THAT HAS A MINIMUM OPERABLE AREA OF 5.7 SQ. FT.
2. PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH ADJACENT FLOOR, INCLUDING BASEMENTS AND STAIRWAYS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM ACTIVATES ALL OTHERS AND BE HARD WIRED TO A BATTERY BACKUP. PER 2012 IIRC SEC R310 AND 2012 NFPA 72.
3. CARBON MONOXIDE DETECTORS SHALL BE PROVIDED PER R315.

WINDOWS AND SAFETY GLAZING NOTES:

1. GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS: GLASS IN STORM DOORS; INDIVIDUAL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE GLAZING IS NOT STORM DOOR GLAZING; GLAZING IN STAIR ENCLOSURES; GLAZING IN STAIRWAYS AND LANDINGS WITHIN 60" OF THE FLOOR; WALLS ENCLOSEING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS AND WHIRLPOOLS; GLAZING IN FIXED OR OPERABLE PANELS EXCEEDING 90 SQ. FT. AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".
2. ALL WINDOWS SHALL MEET THE FALL PROTECTION REQUIREMENTS OF SECTION R312.2.

GARAGE:

1. GARAGE FLOORS SHALL SLOPE TOWARDS THE GARAGE DOORWAYS.
2. DOORS BETWEEN THE GARAGE AND THE DWELLING SHALL BE A MINIMUM 1 3/8" SOLID CORE OR HONEY COMBED STEEL DOOR OR 20 MINUTE RATED GLASS DOOR WITH SELF-CHARGING CLOSURE.
3. THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS UNFINISHED ATTIC AREAS BY A MINIMUM 1/2" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. WHERE UNFINISHED ATTIC AREAS ARE PROVIDED ABOVE THE GARAGE, THE SUPPORTING COLUMNS AND BEAMS SHALL ALSO BE PROTECTED WITH 1/2" GYPSUM BOARD OR EQUIVALENT, WHERE THE GARAGE CEILING IS EXPOSED ABOVE THE GARAGE, THE CEILING SHALL BE PROTECTED WITH A MINIMUM 5/8" TYPE X GYPSUM BOARD ON THE GARAGE CEILING, SHALL COMPLY WITH 2012 IRC SEC. R309.
4. GARAGE DOOR AND FRAME (H-FRAME) FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF AN ALUMINUM OR STEEL FRAME WITH A MINIMUM 1 1/2" X 1 1/2" X 1/8" THICK TRACKS AND COUNTER BALANCE SHALL BE STAGGERED WITH (7) 3/4"X10" X 1/2" NAILS THRU THE JAMBS INTO THE HEADER, MINIMUM 2X8 HEADER FOR ATTACHMENT FOR COUNTER BALANCE SYSTEM.
5. DWELLING SHALL COMPLY WITH THE REQUIREMENTS FOR A SELF CLOSING DOOR BETWEEN RESIDENCE AND GARAGE.
6. GARAGE DOORS SHALL MEET THE REQUIREMENTS OF DASHA 90 MPH.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
 - a. STRUCTURAL STEEL, ASTM A992, F Y= 50 KSI
 - b. MISCELLANEOUS STEEL, ASTM A36
 - c. HOLLOW STRUCTURAL STEEL (HSS), ASTM A500, GRADE B
 - d. STEEL PIPE, ASTM A53, GRADE B (SCH 40 40 MIN)
2. ALL BEAM CONNECTIONS SHALL BE DESIGNED BY THE STEEL FABRICATOR UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER UNLESS SPECIFIC CONNECTIONS ARE SHOWN ON THE DRAWINGS. CONNECTIONS SHALL BE WELDED OR BOLTED PER AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION. BOLTS SHALL BE ASTM A325.
3. ALL WELDS SHALL BE WELDED TO THE SATISFACTION OF THE INSPECTION ENGINEER. WELDING SHALL CONFORM TO THE LATEST PUBLICATION OF APPLICABLE CODES SET FORTH BY THE AMERICAN WELDING SOCIETY. NO UNAUTHORIZED WELDS WILL BE ACCEPTED.
4. ALL STEEL COLUMNS WHERE IN CONTACT WITH SLAB-ON-GRADE.
5. ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.
6. ALL STRUCTURAL STEEL SHALL HAVE ONE COAT OF RUST INHIBITIVE PRIMER CONFORMING TO SPECIFICATIONS. FIELD

WOOD FRAMING NOTES:

1. ALL STRUCTURAL LUMBER (RAFTERS, CEILING JOISTS, PURLINS AND HEADERS) SHALL BE DOUGLAS FIR LARCH #2 OR BETTER UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL LOAD BEARING WALL STUDS AND PURLIN STRIPS SHALL BE DOUGLAS FIR LARCH #2 OR BETTER.
2. GLUE LAMINATED MEMBERS MARKED "LV" (LAMINATED VENER LUMBER) SHALL HAVE A MINIMUM ALLOWABLE BENDING STRESS (FB) OF 2600 PSI, A MINIMUM ALLOWABLE SHEAR STRESS (FV) OF 285 PSI, AND A MINIMUM MODULUS OF ELASTICITY (E) OF 2,000 KSI. ALL MANUFACTURERS' RECOMMENDATIONS FOR NAILING AND CONNECTIONS SHALL BE FOLLOWED.
3. FLOOR JOISTS BELOW PARTITION WALLS RUNNING PARALLEL TO THE JOIST SPAN SHALL BE DOUBLED. ALL DOUBLED MEMBERS SHALL BE DOTTED TOGETHER WITH 16D NAILS 1" IN CENTER IN TWO ROWS STAGGERED OR PER MANUFACTURER SPECS.
4. SOLID BLOCKING BETWEEN FLOOR JOISTS SHALL BE INSTALLED WHERE JOISTS BEAR ON TOP OF BEAMS OR HEADERS AND BELOW POINT LOADS. ALL SOLID BLOCKING AND RIGID JOIST MATERIAL SHALL BE THE SAME SIZE AND GRADE AS THE JOISTS.
5. ALL FLOOR AND CEILING JOISTS THAT BUTT INTO THE SIDE OF A HEADER OR STEEL BEAM SHALL BE ANCHORED TO THE HEADER OR STEEL BEAM WITH STANDARD JOIST HANGERS.
6. ALL SUPPORTS FOR WOOD TRUSSES, RAFTERS AND PURLINS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, SHALL BEAR ON LOAD BEARING WALLS (WALLS LOCATED DIRECTLY ABOVE A BEAM LINE OR CONTINUOUS FOOTING) ALL SUPPORTS SHALL BE DOUBLED, SIZED AND THROTTLED WITH THE FLOOR SYSTEM THICKNESS WITH SOLID BLOCKING (WITH 2X4 STUD COLUMNS (SQUASH BLOCKS) THAT TRANSFER THE LOAD DOWN TO THE SUPPORT WALL OR BEAM BELOW.
7. ALL NAILING NOT INDICATED ON THE DRAWINGS SHALL CONFORM TO THE NAILING SCHEDULE OF THE GOVERNING BUILDING CODE. SPACING, SIZES AND EDGE DISTANCES OF NAILS AND SPIRES SHALL BE SUCH AS TO AVOID THE UNUSUAL SPLITTING OF THE WOOD.
8. ALL NON-LOADBEARING STUD WALLS IN THE BASEMENT SHALL BE PROVIDED WITH A 1" MINIMUM VERTICAL EXPANSION JOINT. ALL FLOOR AND CEILING WALLS SHALL BE TIGHT BETWEEN THE SLAB AND THE FRAMING ABOVE!
9. SHEATHING FOR HORIZONTAL DIAPHRAGMS SHALL BE EXTERIOR GRADE, C/D, STRUCTURAL GROUP II OR BETTER. ROOF DIAPHRAGMS SHALL BE EXTERIOR GRADE OR DOUGLAS FIR LARCH OR SOUTHERN PINE. PROVIDE SOLID BLOCKING AT ALL PANEL EDGES UNLESS OTHERWISE NOTED. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.
10. ALL WOOD STRUCTURAL PANELS SHALL BE PROVIDED WITH THE APPROPRIATE GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION (APA) AND SHALL MEET THE REQUIREMENTS OF PRODUCT STANDARD PS-1.
11. WOOD STRUCTURAL PANELS SHALL BE SET WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND STAGGER JOINTS 4'-0".
12. STANDARD WASHERS SHALL BE USED WITH ALL BOLTS FASTENING WOOD MEMBERS.
13. ALL SAWN LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
14. ROOF FRAMING - RIDGE BEAMS, VALLEY AND HIP RAFTERS SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 2" AND MINIMUM DEPTH NOT LESS THAN THE END CUT OF THE RAFTERS. HIP AND VALLEY RAFTERS SHALL BE SUPPORTED AT 12'-0" ON CENTER BY 2X6 DOUG-FIR LARCH OR SOUTHERN PINE. WHERE ROOF FRAMING IS USED TO PERMIT UNIFORM RAFTERS SPAN, USE 2X6 "TEE" BRACES AT 4'-0" O.C. WITH CONTINUOUS 2X6 PURLIN UNDER THE RAFTERS. BRACE RAFTERS TO BEARING PARTITIONS.
15. PROVIDE CONTINUOUS STRONG BRACES FOR CEILING JOIST JOISTS 12'-0" OR GREATER.
16. MAXIMUM FLOOR JOIST SPANS SHALL BE AS FOLLOWS FOR THE SIZE AND SPACING OF THE JOISTS INDICATED (40 PSF LIVE LOAD, 10 PSF DEAD LOAD):
- a. 2X8S AT 16" O.C. - 12'-0"
- b. 2X10S AT 16" O.C. - 15'-0"
- c. 2X10S AT 12'-0" - 16'-0"
- d. 2X12S AT 16" O.C. - 17'-0"
- e. 2X12S AT 16" O.C. - 18'-0"
- f. 2X10S AT 16" O.C. - 22'-0"
17. ROOF RAFTERS (R) SHALL BE OF 2X6 DOUG-FIR LARCH OR SOUTHERN PINE WITH AN ALLOWABLE RAFTER SPAN AS FOLLOWS:
- a. 2X8S AT 16" O.C. - 12'-0"
- b. 2X8S AT 12'-0" - 16'-0"
- c. 2X8S AT 14'-0" - 12'-0"
- d. 2X8S AT 24" O.C. - 12'-0"
- e. 2X8S AT 16" O.C. - 15'-1"
18. BRACE THE COMPRESSION PLANE OF ALL BEAMS UNLESS NOTED OTHERWISE.
19. ALL BEAMS OR HEADERS THAT BEAR ON WOOD FRAMING SHALL BE SUPPORTED BY ANOTHER BEAM OR HEADER OR A BUILT-UP STUD COLUMN THE FULL WIDTH OF THE BEAM CONTINUOUS TO THE FOUNDATION OR OTHER STRUCTURAL FRAMING MEMBER UNO.
20. ALL FRAMING MEMBERS AND FRAMING ACCESSORIES NOTED SHALL BE AS MANUFACTURED BY "SIMPSON STRONG TIE" OR APPROVED EQUIV. ATTACH FRAMING ACCESSORIES TO WOOD FRAMING IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
21. ALL HEADERS SHALL BE SHOWN ON PLAN, FOR HEADERS NOT MARKED REFERENCE TYPICAL BEARING WALL HEADER SCHEDULE.
22. FLOOR SHEATHING SHALL BE 3/4" TONGUE & GROOVE WOOD STRUCTURAL PANEL, GLUE & NAIL TO FLOOR JOISTS WITH 16D NAILS @ ALL PANEL EDGES AND AT 12" O.C. AT INTERMEDIATE SUPPORTS.
23. ALL EXTERIOR WOOD WALL FRAMING SHALL BE 2X6 DOUG-FIR NO. 2 AT 16" O.C. UNO.
24. ALL INTERIOR BEARING WALL FRAMING SHALL BE 2X4 DOUG-FIR NO. 2 AT 16" O.C. UNO.
25. ALL FRAMING SHALL BE DESIGNED BY THE MANUFACTURER OF THE TRUSS MANUFACTURER FOR THE LOADS STIPULATED ON THE DRAWINGS. SHOP DRAWINGS AND CALCULATIONS WITH AN ENGINEER'S SEAL FOR THE STATE OF MISSOURI SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION. CONNECTION PLATES SHALL MEET THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
26. TEMPORARY STABILITY OF WOOD TRUSSES DURING ERECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN CONJUNCTION WITH ALL RECOMMENDATIONS OF THE MANUFACTURER.
27. WOOD TRUSSES SHALL NOT BE FIELD CUT.

ENERGY REQUIREMENTS:

1. THE BUILDING THERMAL ENVELOPE SHALL BE SEALED WITH AN AIR BARRIER PER 2012 IRC SECTION 1102.2.
2. THE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO THE EXTERIOR OF THE BUILDING AND TO THE GYPSUM WALLBOARD AS REQUIRED PER M1102.4.
3. PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER 2013 N103 1.1.
4. MECHANICAL SYSTEMS SHALL BE RATED FOR MAXIMUM 25% LEAKAGE AS REQUIRED PER 2013 N103 1.1.
5. BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE AS REQUIRED PER N103 2.3.
6. MECHANICAL SYSTEMS SHALL BE RATED FOR MAXIMUM 25% LEAKAGE AS REQUIRED PER 2013 N103 1.1.
7. INSULATION BARRIER IS MAINTAINED PER M1601 1.1.
8. WATER PIPES SHALL BE INSULATED AS REQUIRED PER N103.4.
9. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1507.2.
10. MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM AS REQUIRED PER M1504.4.
11. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE PER M1601.6.
12. MINIMUM EFFICIENCY RATING FOR AC EQUIPMENT SHALL BE AS REQUIRED PER M1601.6.
13. MINIMUM MECHANICAL EFFICIENCY RATING FOR FORCED AIR FURNACE SHALL BE 78% AS REQUIRED PER 2012 IRC SECTION 1102.2.

INSULATION AND FENESTRATION REQUIREMENTS - IRC TABLE N1102.1.1

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

- a. R VALUES ARE MINIMUMS. U-FACTORS ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS
 b. THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE
 c. LESS THAN THE R-VALUE SPECIFIED IN THE LABEL. THIS REQUIREMENT DOES NOT APPLY TO PENETRATIONS OR TO THE
 d. PENETRATION U-FACTOR EXCLUDES SKYLIGHTS.
 e. THE FIRST R VALUE APPLIES TO CONTINUOUS INSULATION, SECOND TO FRAMING CAVITY INSULATION; EITHER
 f. R-5 OR R-13 MAY BE USED. THE SECOND R VALUE MAY BE USED TO MEET THE REQUIREMENT.
 g. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS. INSULATION DEPTH SHALL BE THE
 h. DEPTH OF THE FOOTING OR 2 FEET WHICHEVER IS LESS IN ZONES 1 THROUGH 3 FOR HEATED SLABS.
 i. WHERE THERE ARE NO ZONES 1 THROUGH 3, THERE ARE NO ADDITIONAL REQUIREMENTS.
 j. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.10 AND TABLE
 k. N101.1.
 l. IF INSULATION SUFFICIENT TO FILL THE CAVITY, R-10 MINIMUM.
 m. FIRST VALUE IS CAVITY INSULATION, SECOND IS CONTINUOUS INSULATION OR INSULATED SIDING, SO "13+5" MEANS R-13
 n. CAVITY INSULATION AND R-5 CONTINUOUS INSULATION OR INSULATED SIDING. IF STRUCTURAL SHEATHING IS USED, NO
 o. PERCENT OR LESS OF THE EXTERIOR, CONTINUOUS INSULATION R-VALUE SHALL BE PERMITTED TO BE REDUCED BY
 p. NO MORE THAN R-3 IN THE LOCATIONS WHERE STRUCTURAL SHEATHING IS USED - TO MAINTAIN A CONSISTENT TOTAL
 q. INSULATION THICKNESS.
 r. THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF OF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.

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

ELEVATION DESCRIPTION		ELEVATION DESIGNATION	REVISION DESIGNATION
	CUT SYMBOL		REVISION DESIGNATION
	PLAN NOTE SYMBOL		SLAB JOINT DESIGNATION
	SPOT ELEVATION		CONCRETE WALL
	WOOD NON-LOAD BEARING STUD WALL		BRACED WALL PANEL
	BRACED WALL LINE		WOOD STUD BEARING WALL
	SMOKE DETECTOR		
	CARBON-MONOXIDE DETECTOR		

PROJECT INFORMATION

THE LEXINGTON II

2521 SW River Trail Road
Lee's Summit, Missouri

#	DATE	DESCRIPTION
1	04/03/2020	PERMIT
2	04/17/2020	Full Basement
3	4/27/2020	Code Comments

DRAWN BY: MLE

CHECKED BY: BSS

ISSUED FOR:

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

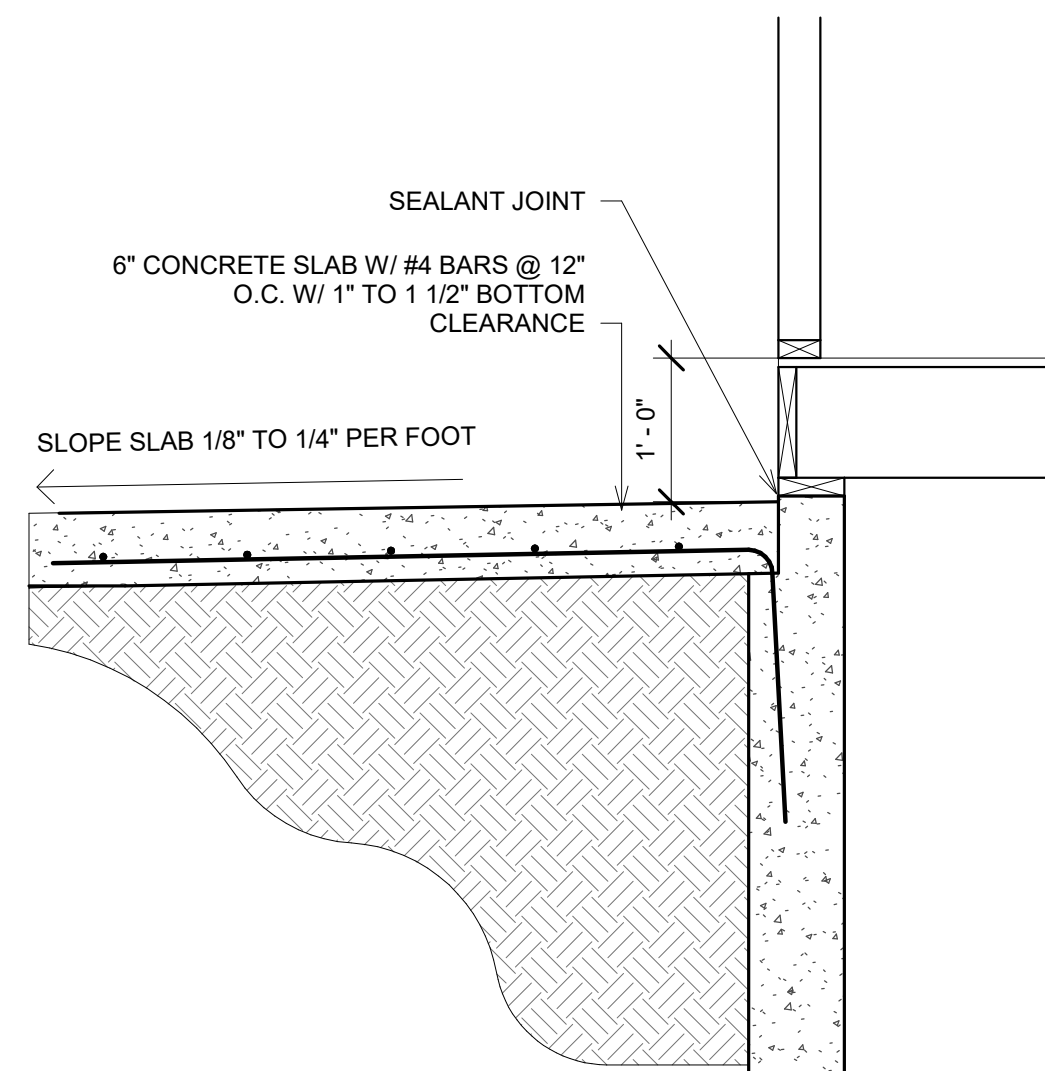
S500
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
CODES ADMINISTRATION
LEE'S SUMMIT, MISSOURI

Norton & Schmidt

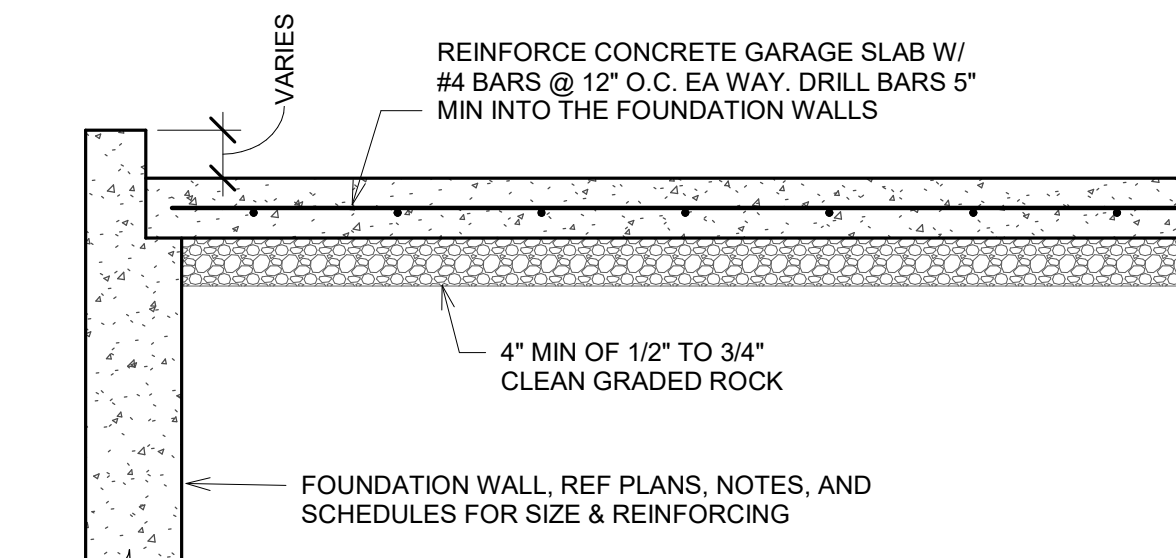
Consulting Engineers, L.L.C.
311 East 11th Avenue
North Kansas City, MO
64116
Phone: (816) 421-4232
Fax: (816) 421-1956
www.nortonschmidt.com



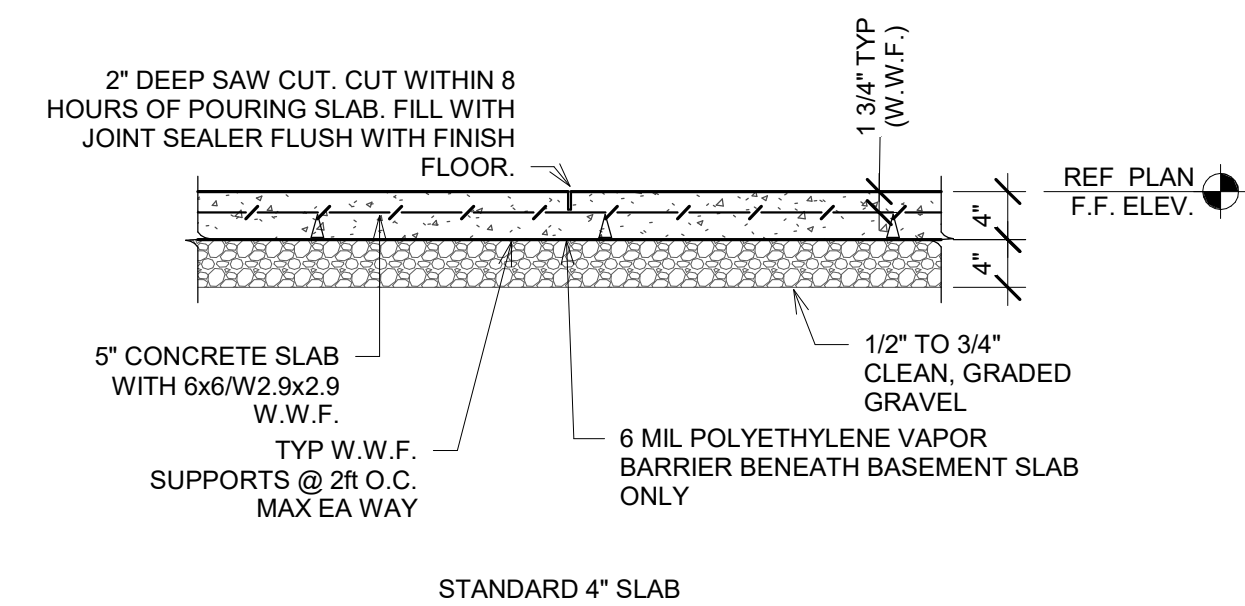
N&S JOB NUMBER: 2020-0255



9 SLAB AT GARAGE
SCALE: 3/4" = 1'-0"

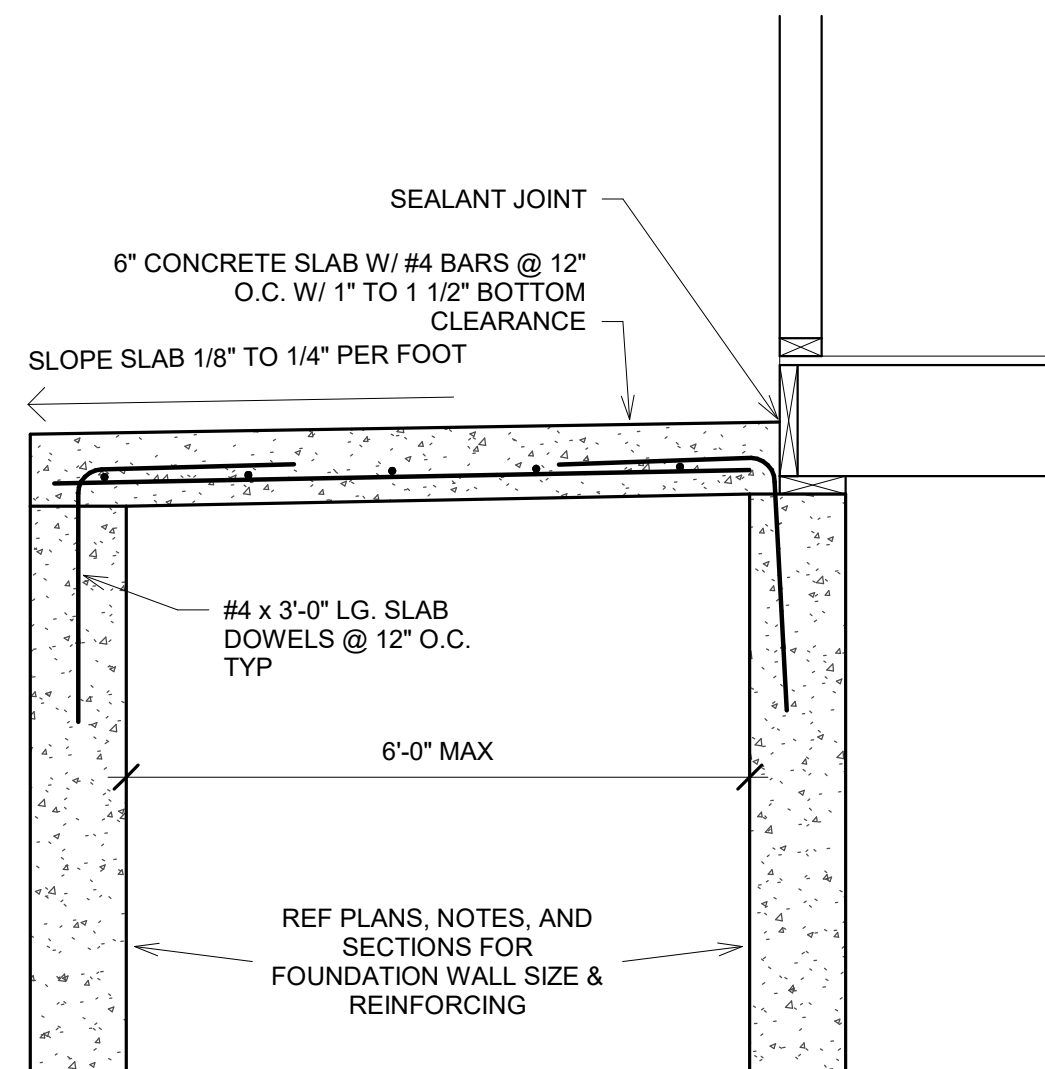


6 GARAGE WALL/SLAB SECTION
SCALE: 3/4" = 1'-0"

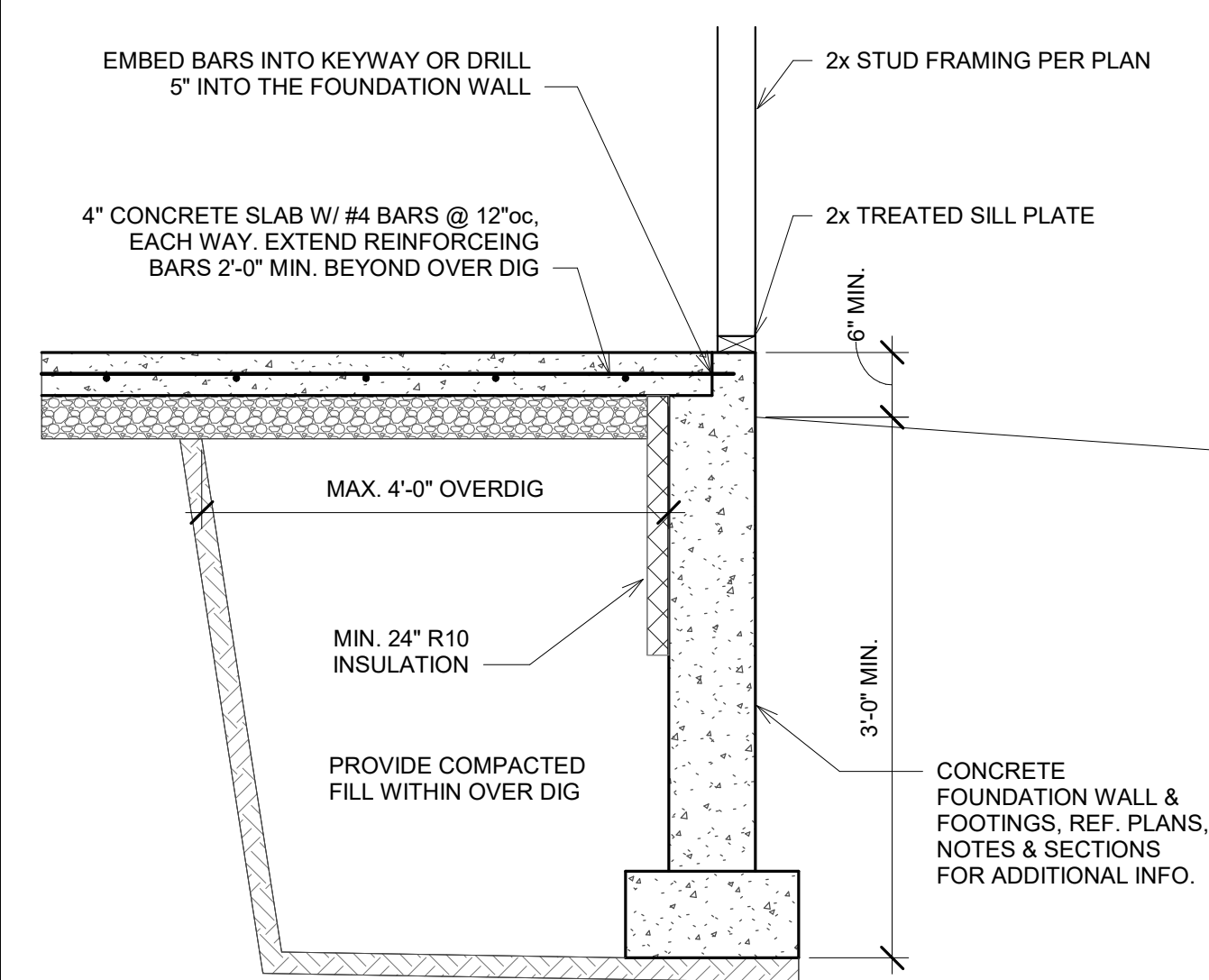


3 STANDARD SLAB DETAILS

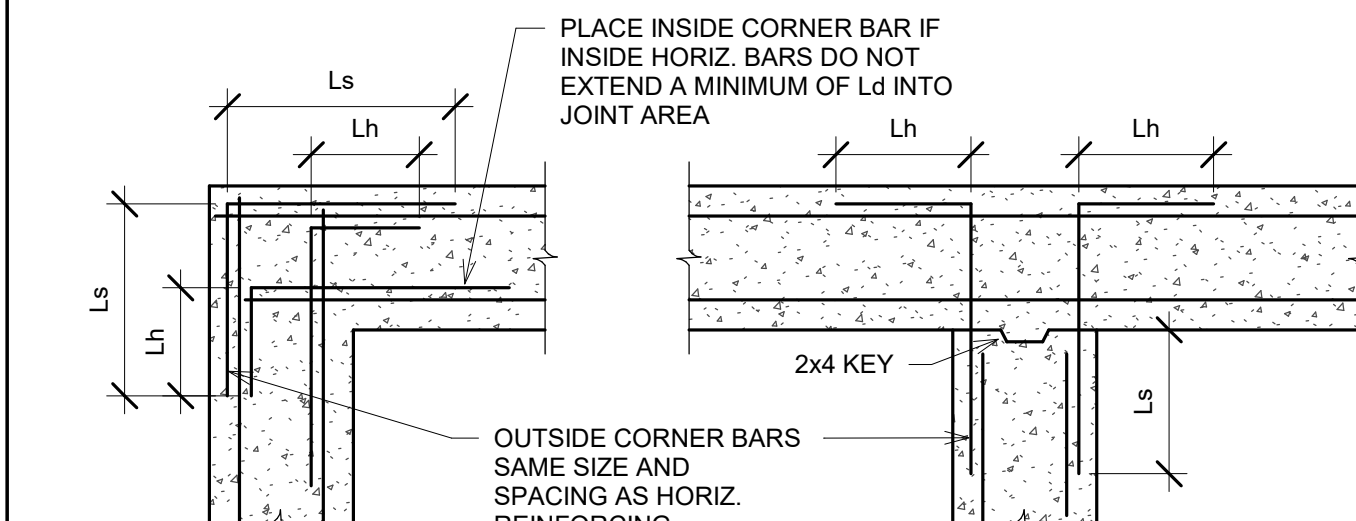
SCALE: 3/4" = 1'-0"



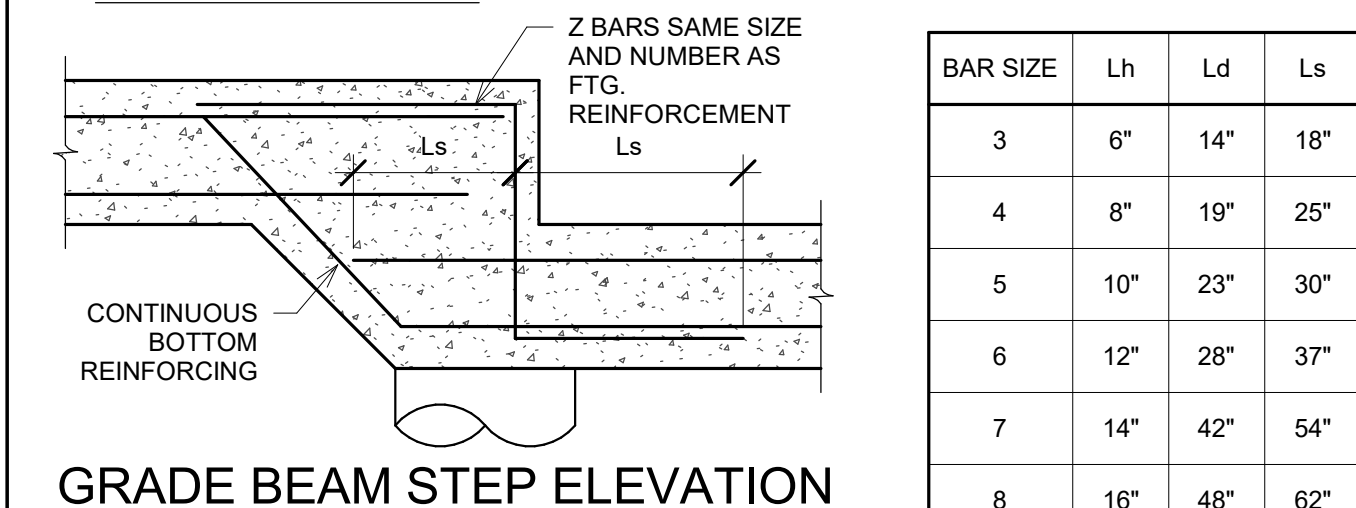
8 SUSPENDED PORCH STOOP
SCALE: 3/4" = 1'-0"



5 OVER DIG SECTION AT BASEMENT SLAB

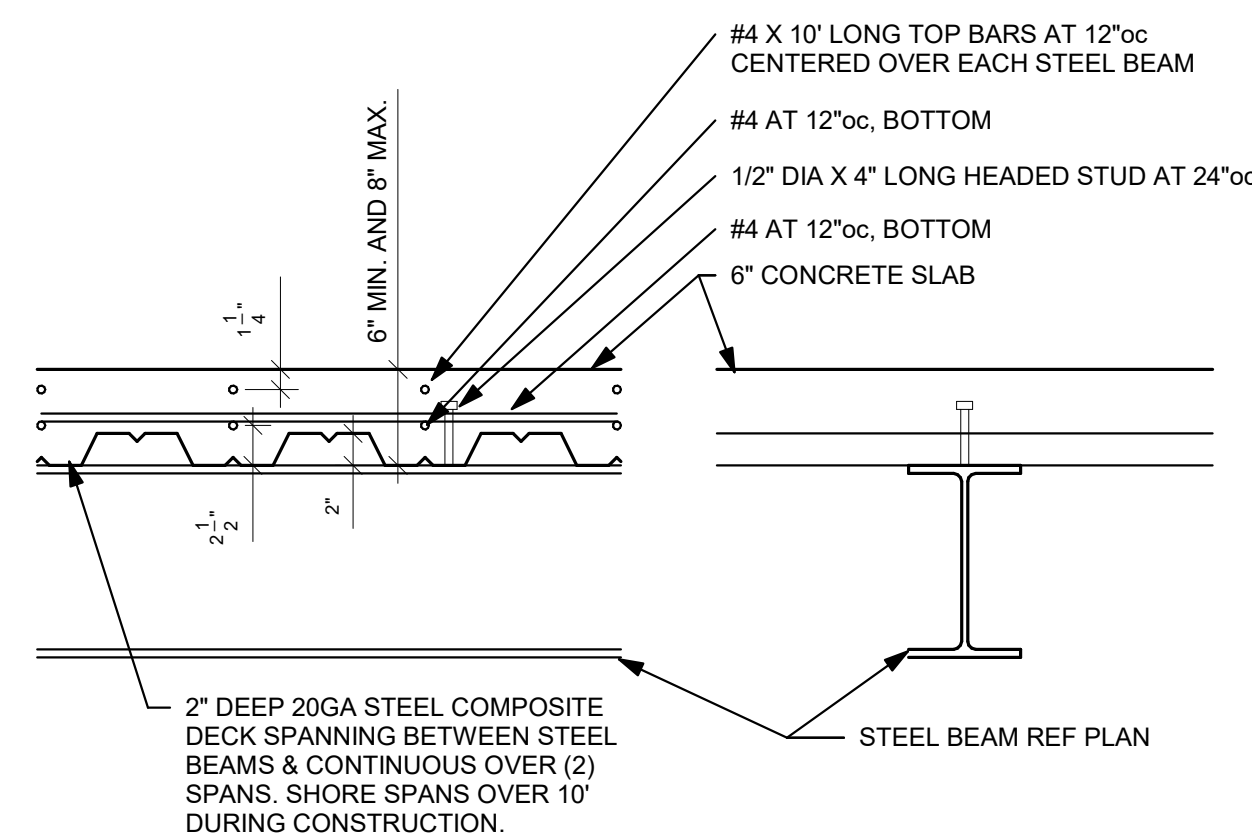


CORNER PLAN INTERSECTION PLAN

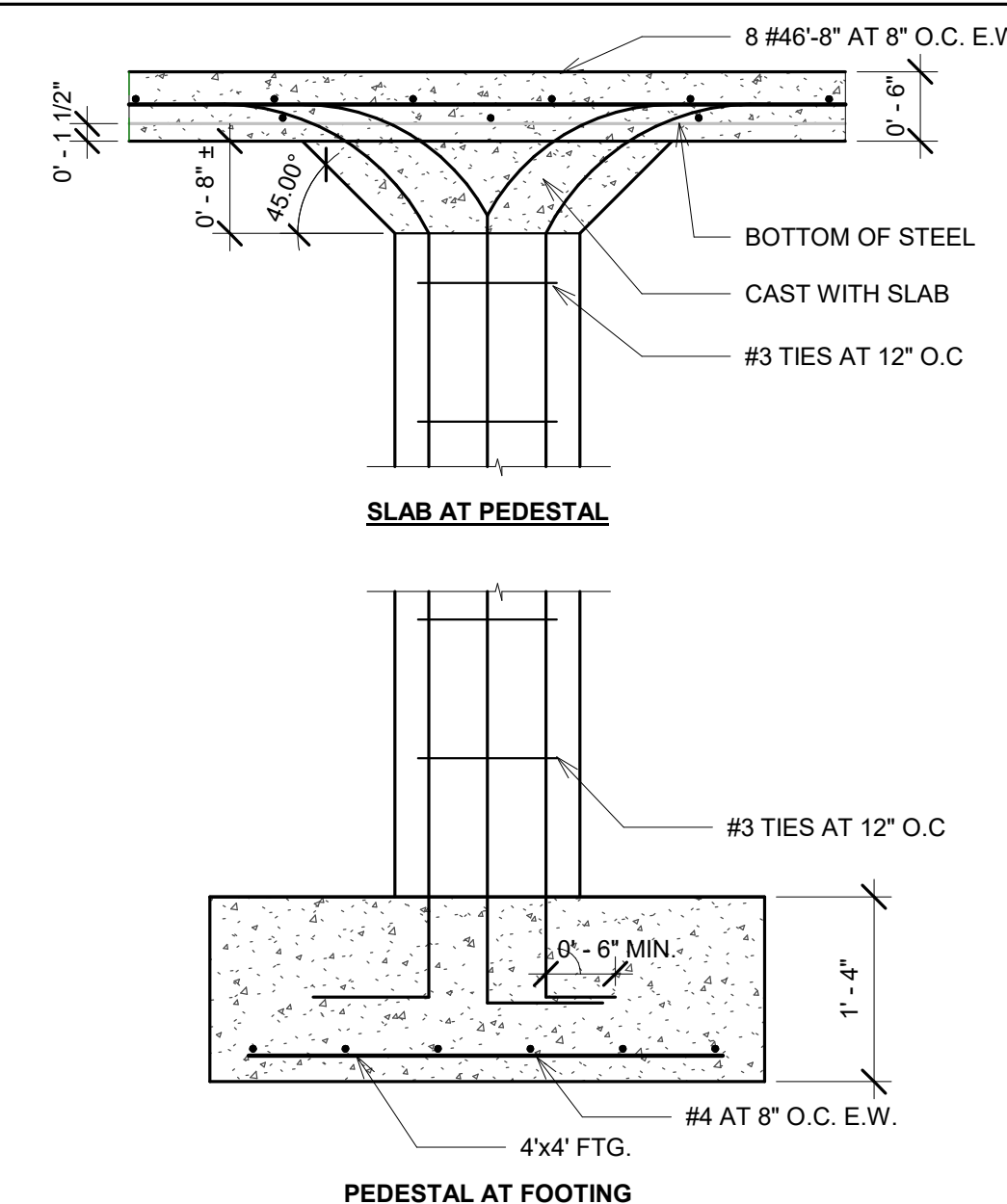


GRADE BEAM STEP ELEVATION

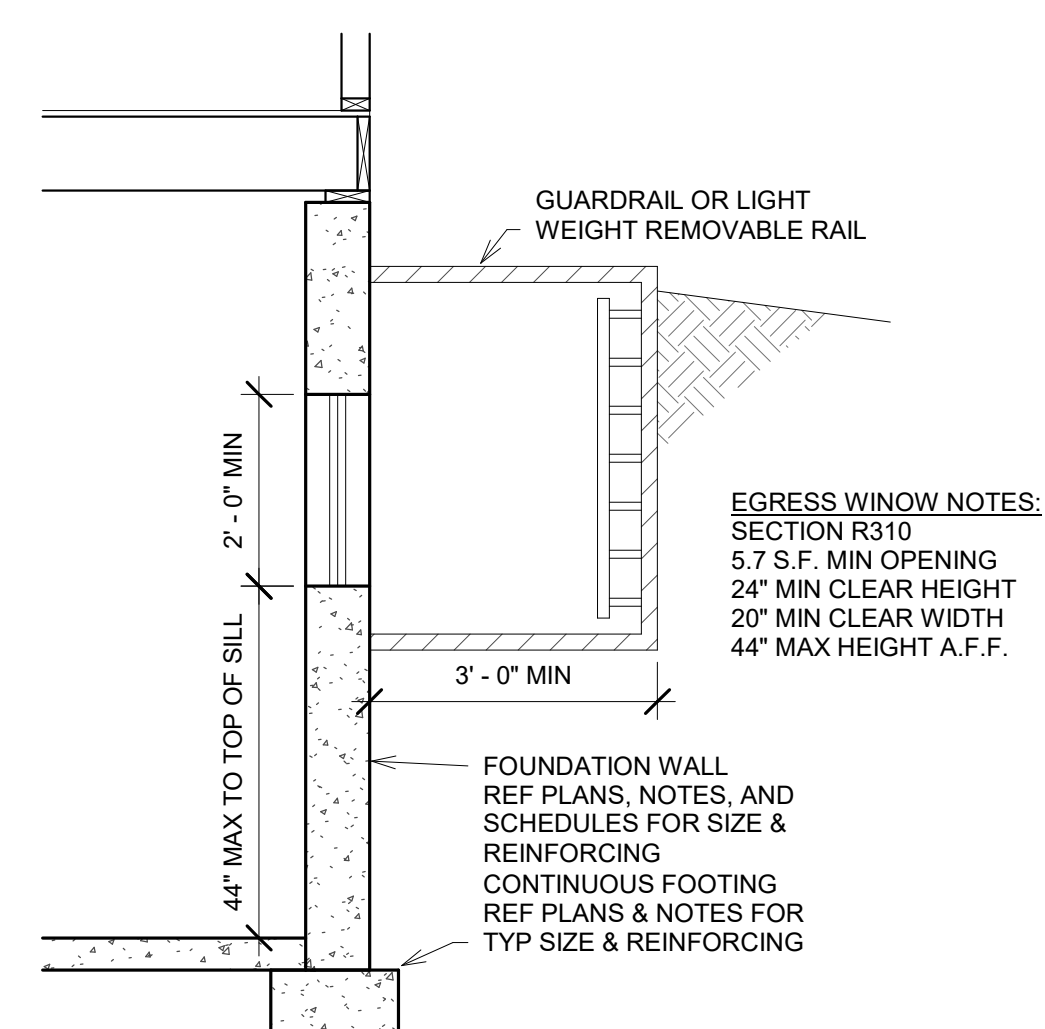
2	TYP WALL AND GRADE BEAM DETAILS SCALE: 3/4" = 1'-0"
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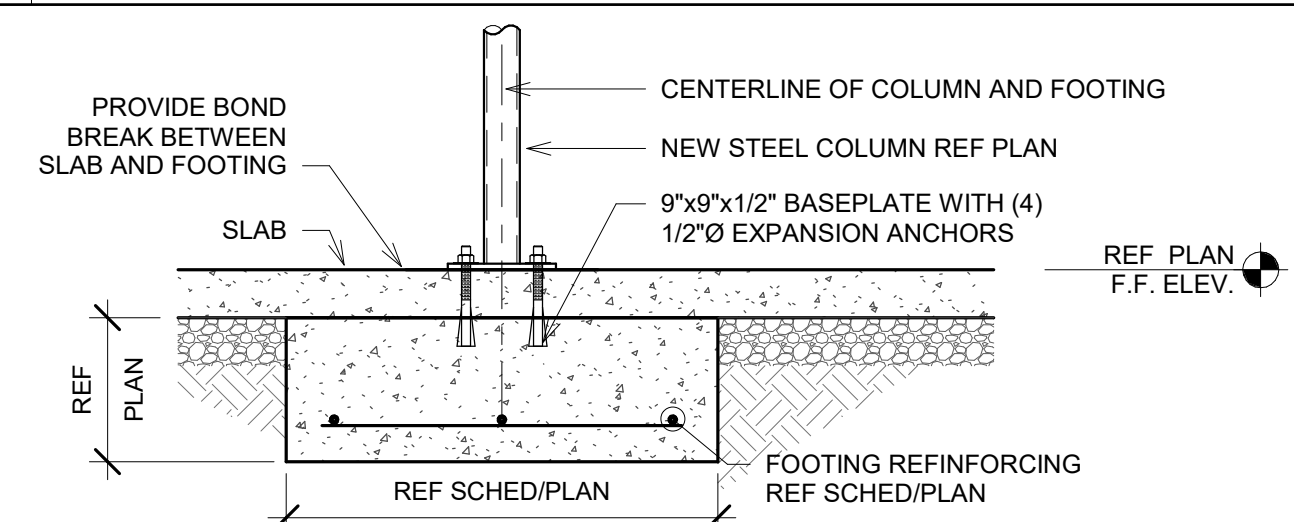
10	TYPICAL SUSPENDED SLAB SCALE: 1" = 1'-0"
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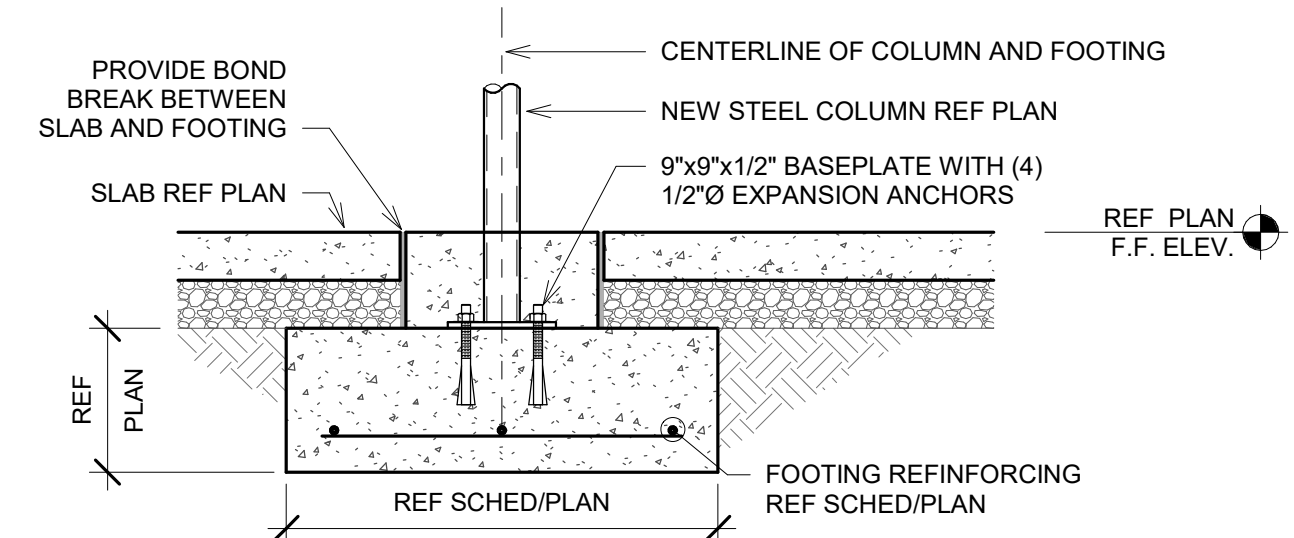
7	PEDESTAL AT GARAGE SLAB ON FILL SCALE: 3/4" = 1'-0"
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4 **TYP EGRESS WINDOW SECTION**
SCALE: 1/2" = 1'-0"



OPTION 1



OPTION 2

1	TYP COLUMN FOOTING SCALE: 3/4" = 1'-0"
---	-------------------------------------------

[illegible]

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

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

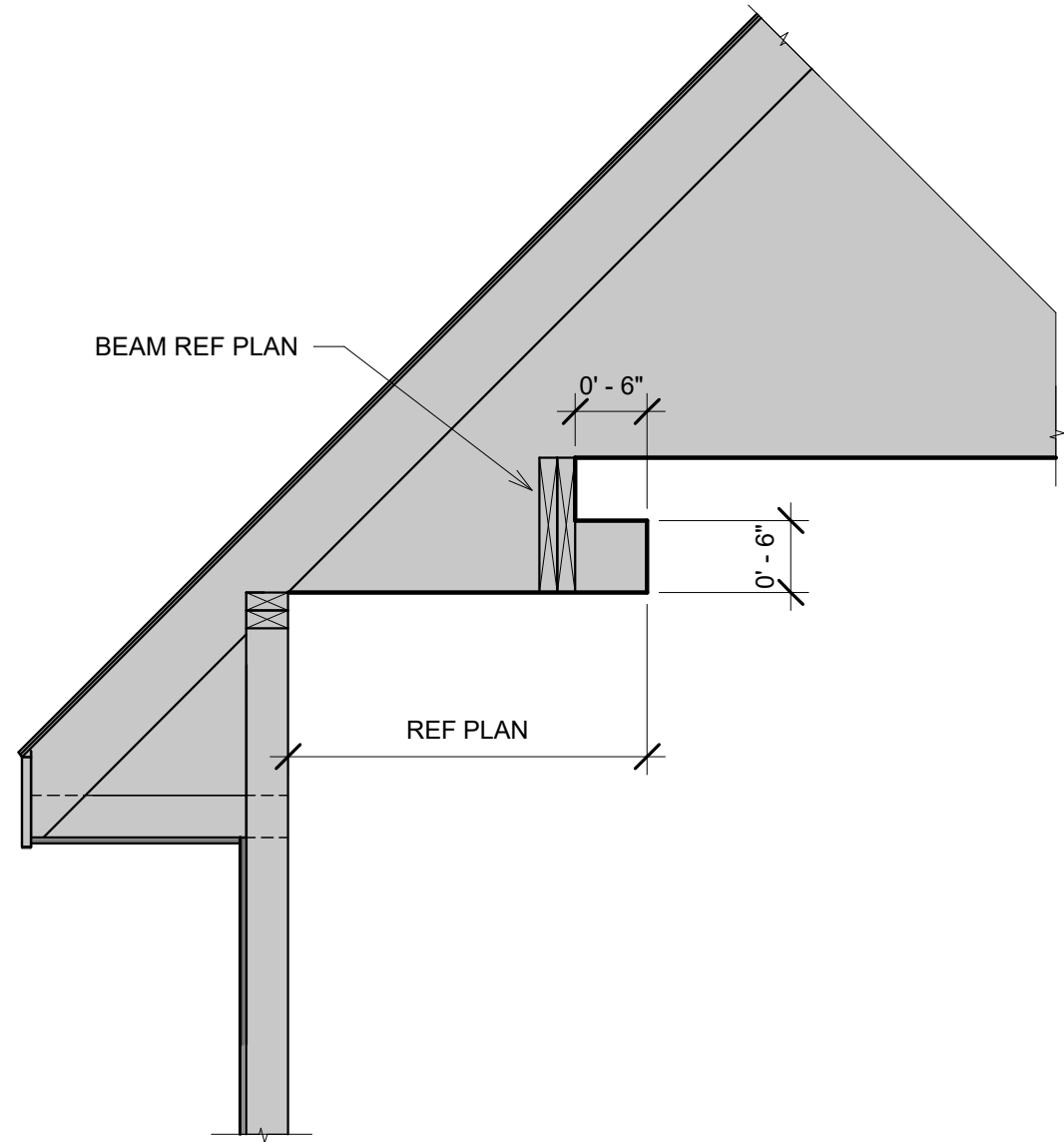
GRADE	MEMBER SIZE / SPACING	MAX SPAN CEILING JSTS AT TOP PLATE	MAX SPAN H ₁ H ₂ R ₁ 0.16	MAX SPAN H ₁ H ₂ R ₁ 0.20	MAX SPAN H ₁ H ₂ R ₁ 0.25	MAX SPAN H ₁ H ₂ R ₁ 0.33
#2 DF/L	2x6 / 16"oc	14'-1"	12'-8"	11'-8"	10'-8"	9'-5"
#2 DF/L	2x8 / 16"oc	18'-2"	16'-4"	15'-1"	13'-9"	12'-2"
#2 DF/L	2x10 / 16"oc	22'-3"	20'-0"	18'-5"	16'-10"	14'-10"
#2 DF/L	2x12 / 16"oc	25'-9"	23'-2"	21'-4"	19'-7"	17'-3"

Diagram illustrating the components of a gable roof structure, showing the relationship between various parts and their references:

- ROOF SPAN**: Indicated at the top of the diagram.
- RAFTER SPANS, SEE TABLES R802.5.1(1) THROUGH R802.5.1(8)**: Reference for the rafter spans.
- CEILING JOIST LAP, RE: SECT. R802.3.2**: Reference for the ceiling joist lap.
- PURLIN & PURLIN BRACE, RE: SECT. R802.5.1**: Reference for the purlin and purlin brace.
- CEILING JOISTS, RE: TABLES R802.4(1) & R802.4(2)**: Reference for the ceiling joists.
- TOP PLATE(S), RE: SECT. R602.3.2**: Reference for the top plate(s).
- BEARING WALL**: Reference for the bearing wall.
- BEARING PARTITION, RE: R802.5.1**: Reference for the bearing partition.
- RAFTER TO JOIST CONN., RE: SECT. R802.3.1**: Reference for the rafter to joist connection.
- COLLAR TIE OR RIDGE STRAP, RE: SECT. R802.3.1**: Reference for the collar tie or ridge strap.
- RAISED RAFTER TIE, RE: SECT. R802.3.1. SEE RAFTER SPAN TABLES R802.5.1(1) THRU R802.5.1(8) FOR ADJUSTED RAFTER SPANS ($H_{cl}/H_r = 1/3$ MAX.)**: Reference for the raised rafter tie and adjusted rafter spans.
- RIDGE BOARD/BEAM, RE: SECT's R802.3 & R802.3.1**: Reference for the ridge board/beam.
- He**: Vertical dimension from the bearing wall to the ridge board/beam.
- Hr**: Vertical dimension from the bearing wall to the top of the rafter.

Description of Building Elements	Number & Type of Fastener (a,b,c)	Spacing of Fasteners
Roof		
Blocking between joists or rafters to top plate, toe nail	3 - 8d (2½" x 0.113")	
Ceiling joists to plate, toe nail	3 - 8d (2½" x 0.113")	
Ceiling joist not attached to parallel rafter, laps over partitions, face nail	3 - 10d (3" x 0.128")	
Collar tie to rafter, face nail, or 1 ¼" x 20 gage ridge strap	3 - 10d (3" x 0.128")	
Rafter or roof truss to plate, toe nail	3 - 16d box nails (3½" x 0.135") or 3 - 10d common nails (3" x 0.148")	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss (3")
Roof rafters to ridge, valley or hip rafters: toe nail face nail	4 - 16d (3½" x 0.135") 3 - 16d (3½" x 0.135")	
Wall		
Built-up studs	10d (3" x 0.128")	24" o.c.
Abutting studs at intersecting wall corners, face nail	16d (3 1/2" x 0.135")	12" o.c.
Built up header, two pieces with ½" spacer	16d (3½" x 0.135")	16" o.c. along ea. edge
Continued header, two pieces	16d (3½" x 0.135")	16" o.c. along ea. edge
Continuous header to stud, toe nail	4 - 8d (2½" x 0.113")	
Double studs, face nail	10d (3" x 0.128")	24" o.c.
Double top plates, face nail	10d (3" x 0.128")	24" o.c.
Double top plates, minimum 24" offset of end joints, face nail in lapped area	8 - 16d (3½" x 0.135")	
Sole plate to joist or blocking, face nail	16d (3½" x 0.135")	16" o.c.
Sole plate to joist or blocking at braced wall panels	3 - 16d (3½" x 0.135")	16" o.c.
Stud to sole plate, toe nail	3 - 8d (2½" x 0.113") or 2 - 16d (3½" x 0.135")	
Top or sole plate to stud, end nail	2 - 16d (3½" x 0.135")	
Top plates, laps at corners and intersections, face nail	2 - 10d (3" x 0.128")	
1" brace to each stud and plate, face nail	2 - 8d (2½" x 0.113") 2 staples, 1¾"	
1" x 6" sheathing to each bearing, face nail	2 - 8d (2½" x 0.113") 2 staples, 1¾"	
1" x 8" sheathing to each bearing, face nail	2 - 8d (2½" x 0.113") 3 staples, 1¾"	
Wider than 1" x 8" sheathing to each bearing, face nail	3 - 8d (2½" x 0.113") 4 staples, 1¾"	
Floor		
Joist to sill or girder, toe nail	3 - 8d (2½" x 0.113")	
Rim joist to top plate, toe nail (roof applications also)	8d (2½" x 0.113")	6" o.c.
Rim joist or blocking to sill plate, toe nail	8d (2½" x 0.113")	6" o.c.
1" X 6" subfloor or less to each joist, face nail	2 - 8d (2½" x 0.113") 2 staples, 1¾"	
2" subfloor to joist or girder, blind & face nail	2 - 16d (3½" x 0.135")	
2" planks (plan & beam - floor & roof)	2 - 16d (3½" x 0.135")	At each bearing
(Continued)		

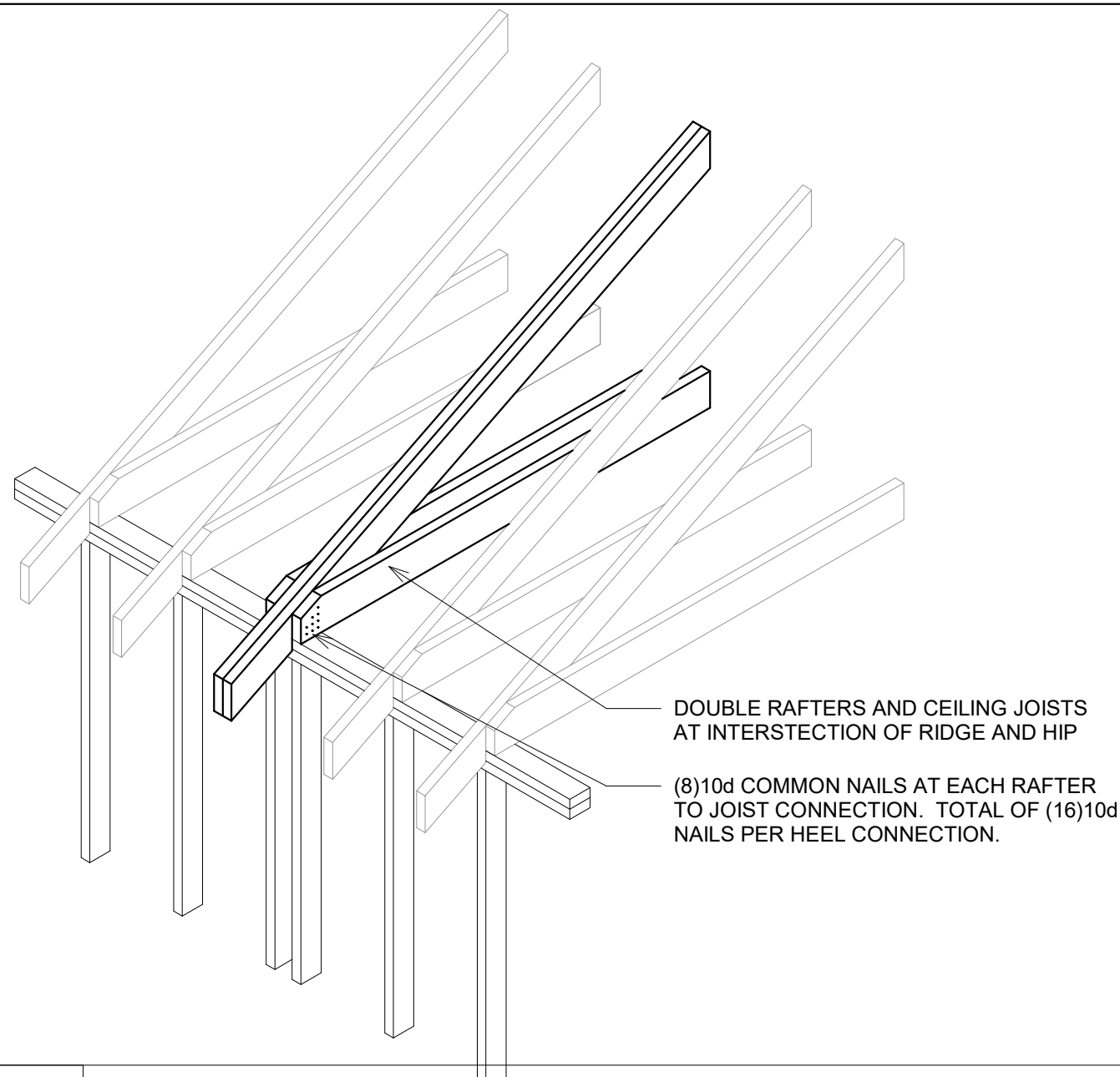
Description of Building Elements		Number & Type of Fastener (a,b,c)	Spacing of Fasteners	
Floor (Continued)				
Built-up girders and beams, 2-inch lumber layers		10d (3" x 0.128")	Nail ea. layer as follows: 32" o.c. at top & bott. & staggered. Two nails at ends and at ea. splice	
Ledge strip supporting joists or rafters		3 - 16d (3½" x 0.135")	At each joist or rafter	
Description of Building Materials	Description of Fastener (b,c,e)	Spacing of Fasteners		
		Edges (i)	Intermediate Supports (c,e)	
Wood Structural Panels, subfloor, roof and wall sheathing to framing, and particleboard wall sheathing to framing				
¾" - 1½"	8d common (2"x0.113") nail (subfloor, wall)(i) 8d common (2½" x 0.131") nail (roof)(f)	6"	12" (g)	
1½" - 1"	8d common (2½" x 0.131") nail (f)	6"	12" (g)	
1½" - 1½"	10d common (3" x 0.148") nail or 8d (2½" x 0.131") deformed nail	6"	12"	
Other wall sheathing (h)				
½" structural cellulose fiberboard sheathing	1½" galvanized roofing nail 8d common (2½" x 0.131") nail; staple 16 ga., 1½" long	3"	6"	
¾" structural cellulose fiberboard sheathing	1¾" " galvanized roofing nail 8d common (2½" x 0.131") nail; staple 16 ga., 1" long	3½"	6"	
½" gypsum sheathing (d)	1½" galvanized roofing nail; staple galvanized, 1½" long; 1½" screws, Type W or S	7"	7"	
¾" gypsum sheathing (d)	1¾" galvanized roofing nail; staple galvanized, 1¾" long; 1¾" screws, Type W or S	7"	7"	
Wood structural panels, combination subfloor underlayment to framing				
¾" or less	6d deformed (2" x 0.120") nail or 8d common (2½" x 0.131") nail	6"	12"	
¾" - 1"	8d common (2½" x 0.131") nail or 8d deformed (2½" x 0.120") nail	6"	12"	
1½" - 1½"	10d common (3" x 0.148") nail or 8d deformed (2½" x 0.120") nail	6"	12"	
a.	All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.			
b.	Staples are 16 gauge wire and have a minimum ⅝-inch on diameter crown width.			
c.	Nails shall be spaced at not more than 6" on center at all supports where spans are 48 inches or greater.			
d.	Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be applied vertically.			
e.	Spacing of fasteners not included in this table shall be based on Table R602.3(2).			
f.	For regions having basic wind speed of 110 mph or greater, 8d deformed (2½" x 0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.			
g.	For regions having a basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.			
h.	Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 263. Fiberboard sheathing shall conform to ASTM C 208.			
i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeter only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or gable sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.				
j. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.				



0" - 1"

SHIPLAP SIDING ON BREATHABLE WATER RESISTANT BARRIER

2x STUD FRAMING



1 RAFTER/JOIST RIDGE SUPPORT



Norton & Schmidt

N&S JOB NUMBER: 2020-0255
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521 SW River Trail Road
Lee's Summit, Missouri

[illegible]

DRAWN BY: MLR
CHECKED BY: BSS
ISSUED FOR:

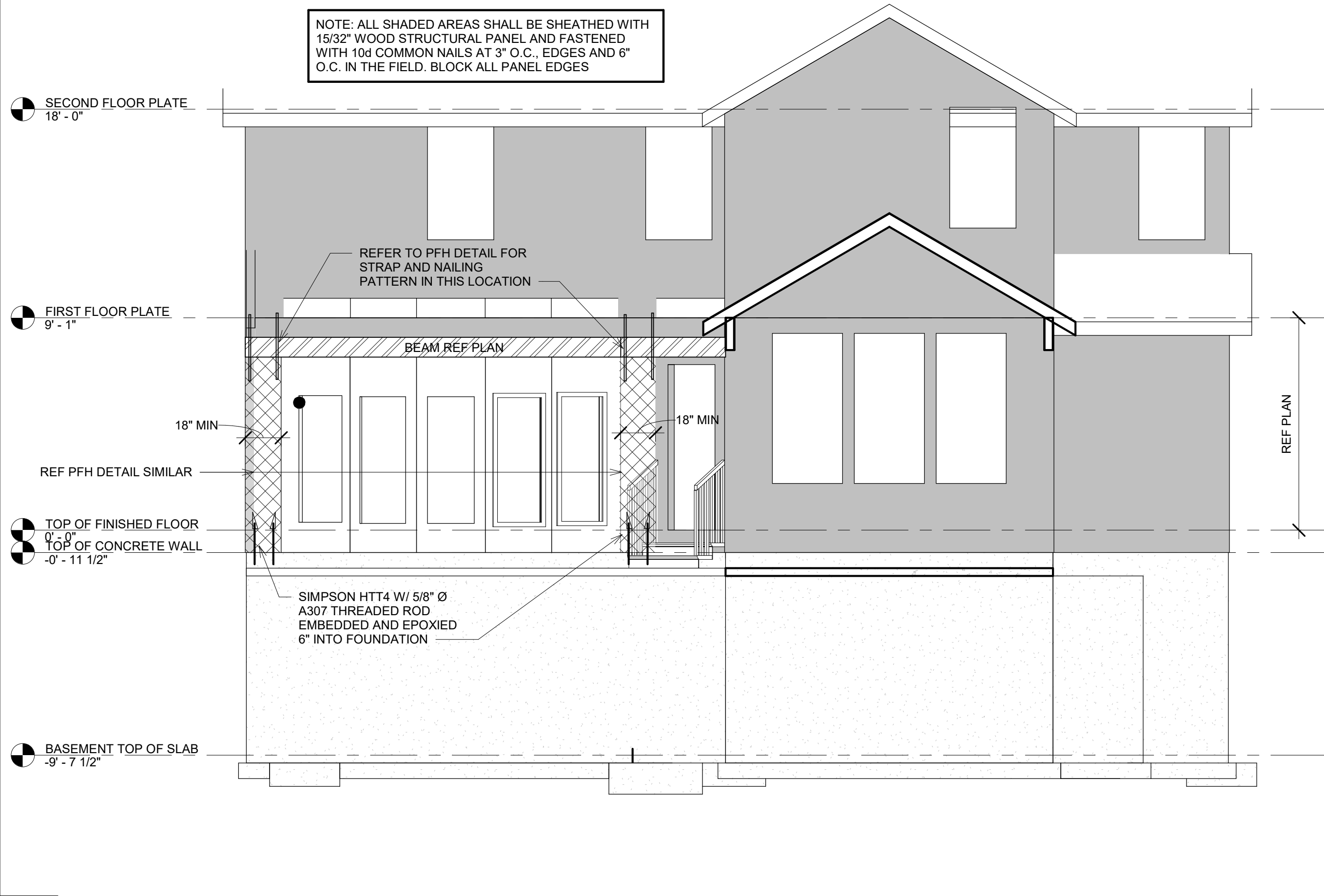
DETAILS

SHEET NUMBER

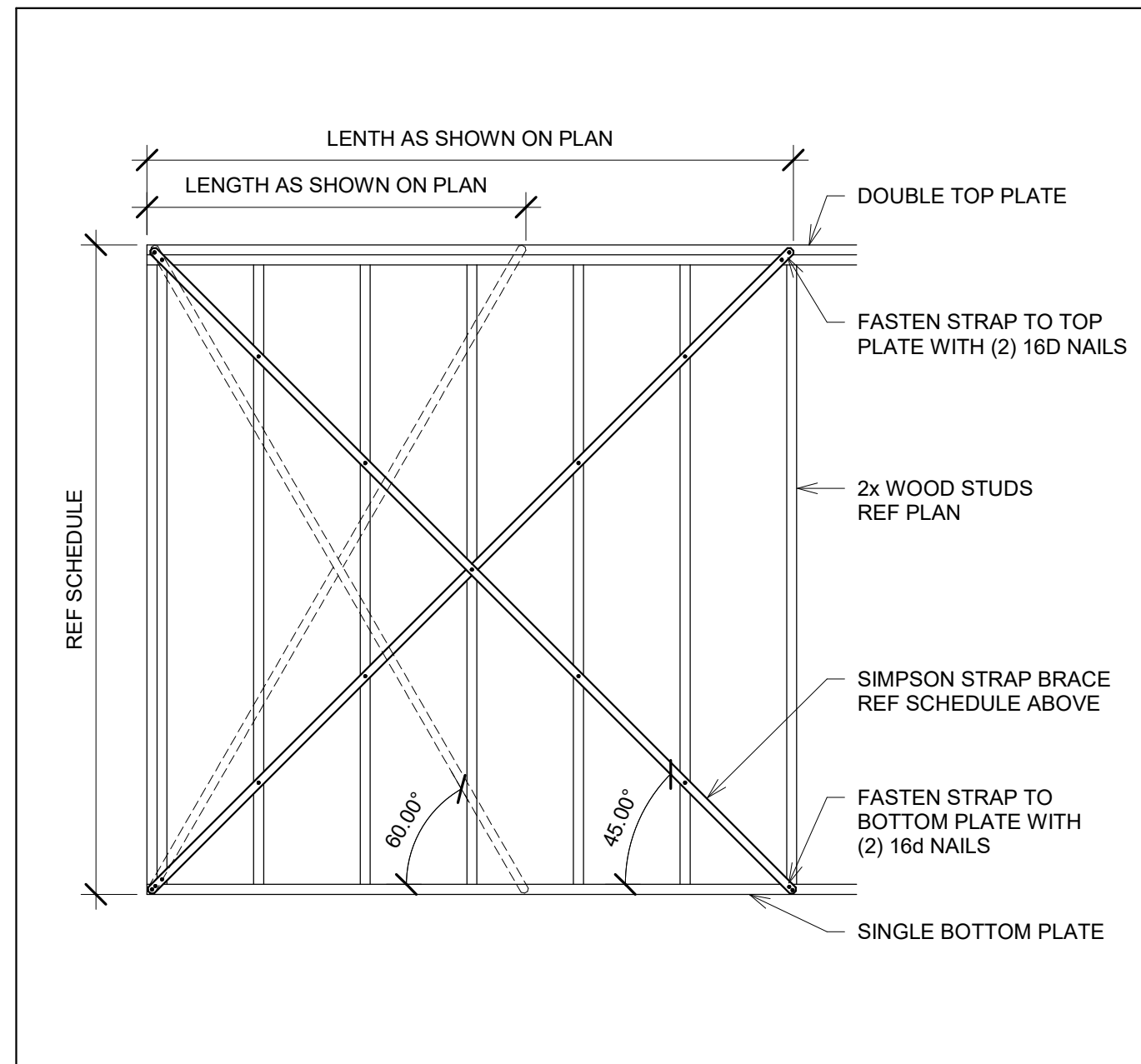
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S504
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
CODES ADMINISTRATION
LEE'S SUMMIT, MISSOURI

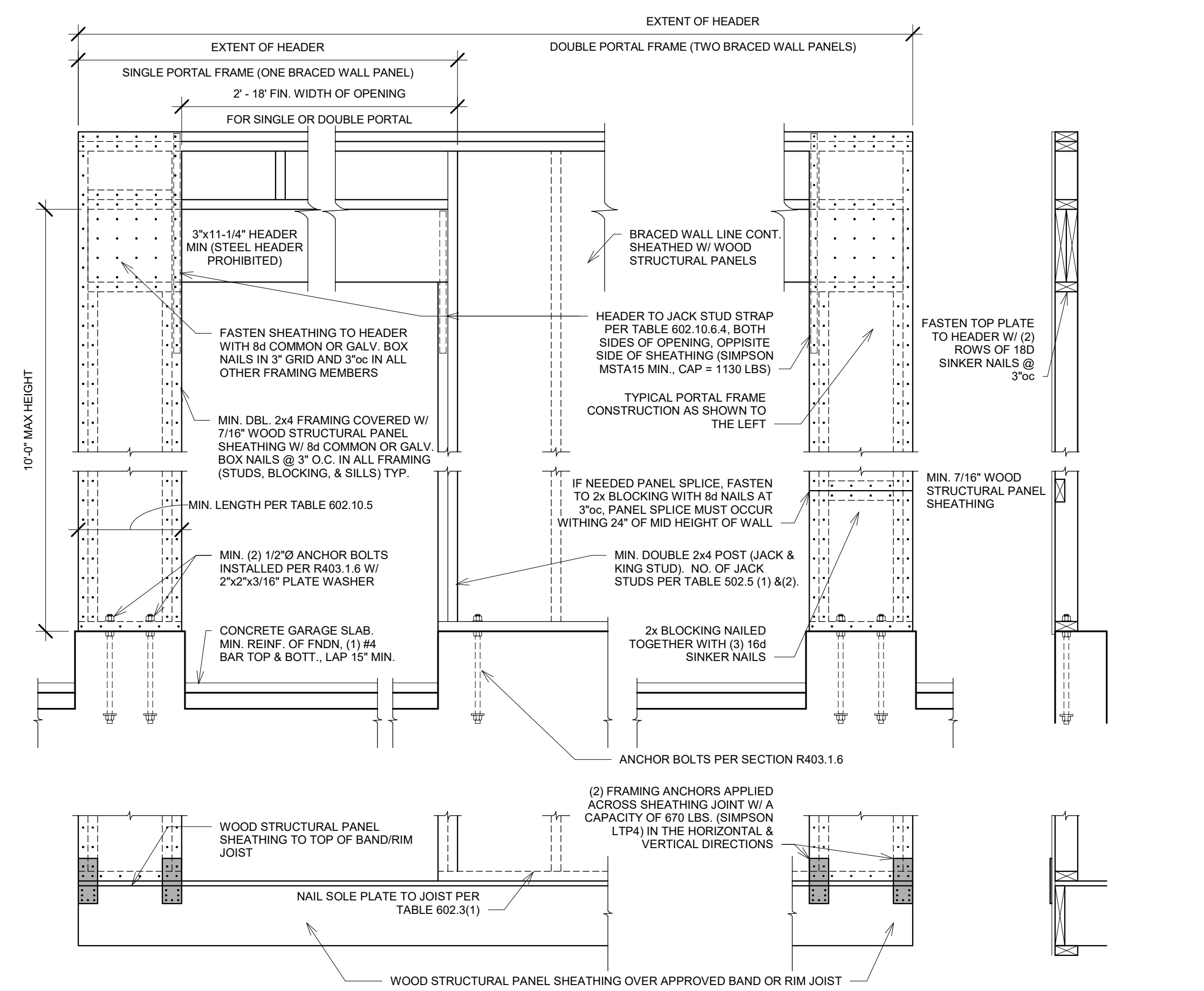
04/28/2020



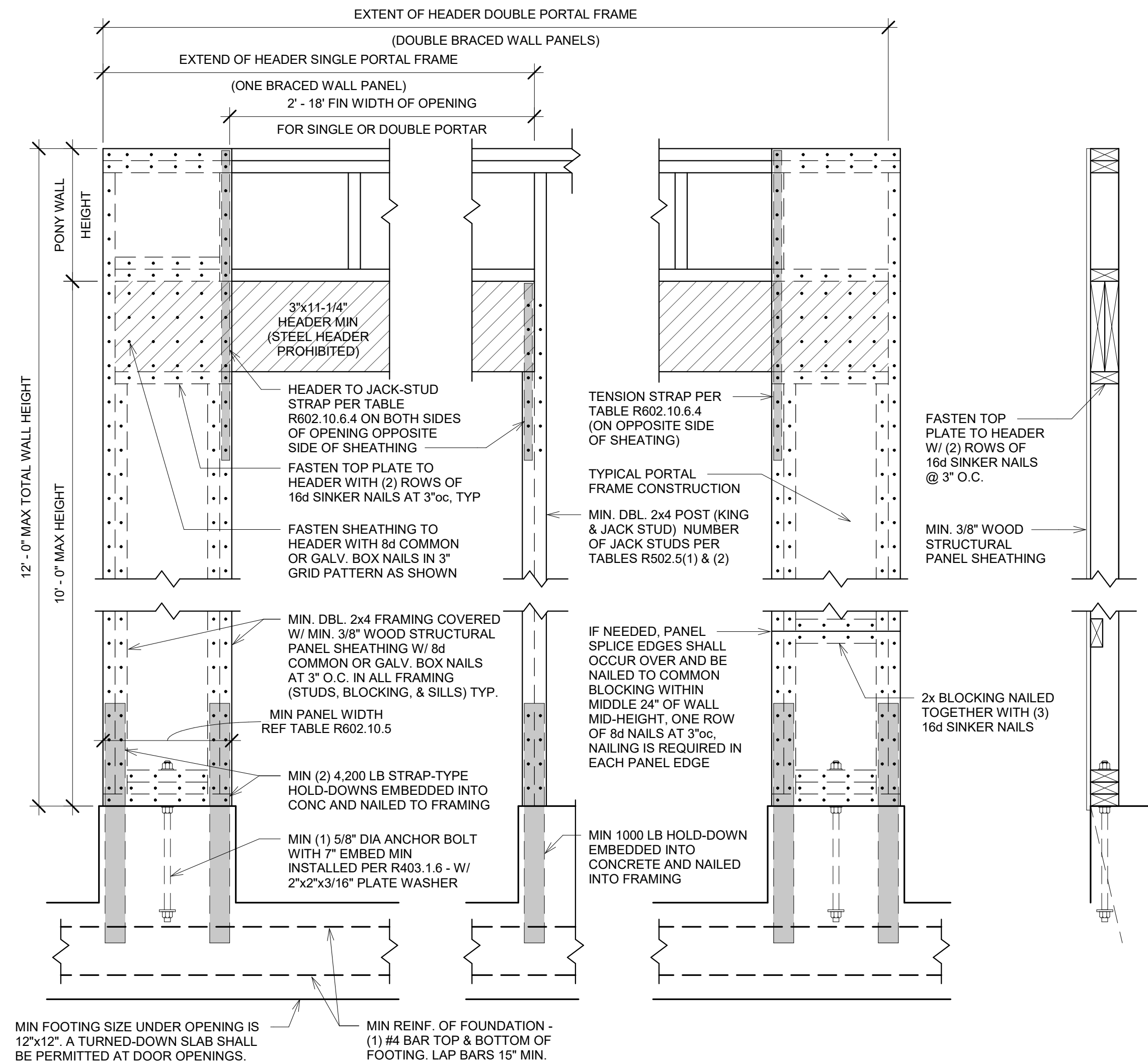
3 ENGINEERED WALL BRACING AT BACK ELEVATION
SCALE: 1/4" = 1'-0"



4 INTERIOR BRACED WALL (LIB)
SCALE: 1" = 1'-0"



2 METHOD CS-PF (R602.10.6.4)
SCALE: 3/4" = 1'-0"



1 METHOD PFH (R602.10.6.2)
SCALE: 1" = 1'-0"

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STATE OF MISSOURI
BRANDON SCHWABAUER
NUMBER PE-2015003020
4/27/2020
PROFESSIONAL ENGINEER

N&S JOB NUMBER: 2020-0255
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PROJECT INFORMATION

THE LEXINGTON II
2521 SW River Trail Road
Lee's Summit, Missouri

ISSUES & REVISIONS		
#	DATE	DESCRIPTION
1	04/03/2020	PERMIT
2	04/17/2020	Full Basement
3	4/27/2020	Code Comments

DRAWN BY: MLR
CHECKED BY: BSS
ISSUED FOR:

SHEET TITLE

DETAILS

SHEET NUMBER

S505

DATE FOR CONSTRUCTION
DATE FOR PLANS REVIEW
CODES ADMINISTRATION
LEE'S SUMMIT, MISSOURI
04/28/2020