

#### **ELEVATION NOTES**

1. MINIMUM ROOFING COMPOSITION— 30 YR. COMPOSITE SHINGLES ON 15# FELT ON  $\frac{1}{2}$ " OSB SHEATHING OR AS REQUIRED BY CODE.

2. SIDES AND REAR TO BE LP SMART PANEL SIDING WITH 3/4x4 L.P. SMART TRIM AROUND DOORS, WINDOWS, AND CORNERS UNLESS NOTED OTHERWISE. BOTTOM OF SIDING SHALL BE A MINIMUM OF 6" ABOVE GRADE.

3. FRONT FACADE TO BE STUCCO, SHEATHED WITH  $\frac{15}{32}$  THICK OSB RATED 24/0 SHEATHING. EXTEND STUCCO TO BE WITHIN 8" OF FINISHED GRADE. 5/4X6 L.P. SMART TRIM AROUND WINDOWS AND DOORS UNLESS NOTED OTHERWISE

4. CEDAR SHUTTERS. ALL SHUTTERS TO BE 18" WIDE USING 3— 2X6 CEDAR BOARDS. L.P. SMART TRIM TO BE INSTALLED AROUND WINDOW PRIOR TO SHUTTER INSTALLATION.

5. MANUFACTURED STONE VENEER

6. NOT USED.

7. CEDAR BRACKETS, RE: 3/A1— INSTALL CEDAR BRACKETS PRIOR TO FASCIA BOARD INSTALLATION.

8. DOUBLE 1"x8" L.P. SMART TRIM.  $1\frac{1}{2}$ " ARCH ON GARAGE DOOR TRIM PER FRAMING SPECIFICATIONS.

9. DECORATIVE FALSE LOUVER WITH 1X6 LP LAP.

10. CONCRETE WINDOW WELL FOR EGRESS WITH LADDER. PROVIDE SLEEVE THROUGH WALL FOR FOUNDATION DRAIN. TOP OF WINDOW WELL TO BE 3" BELOW TOP OF FOUNDATION.

11. 8"X8" BOX COLUMN W.1X8 LP PANEL WRAP. 1X6
TRIM AT BASE. 1X4 TRIM AT TOP. 1X2 VERTICAL TRIM
ALL SIDES. SEE PLAN FOR SIZE OF FINISHED COLUMN.

12. 6X6 CEDAR POST

13. BUILD CRICKET VALLEY AWAY FROM INTERSECTION FOR POSITIVE DRAINAGE. SEE FRAMING SPECIFICATIONS FOR DETAILS.

#### GENERAL NOTES:

DIMENSIONAL LUMBER IS LABELED PER INDUSTRY STANDARD TERMINOLOGY. ACTUAL LUMBER SIZING IS EXPECTED TO VARY PER VENDOR.

WINDOW SIZES ARE WRITTEN IN FEET AND INCHES PER INDUSTRY STANDARDS. EX: 3050 SH = 3'-0" X 5'-0" SINGLE HUNG, 3066 FIX = 3'-0" X 6'-6" FIXED.

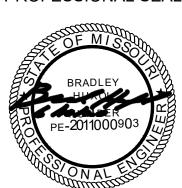


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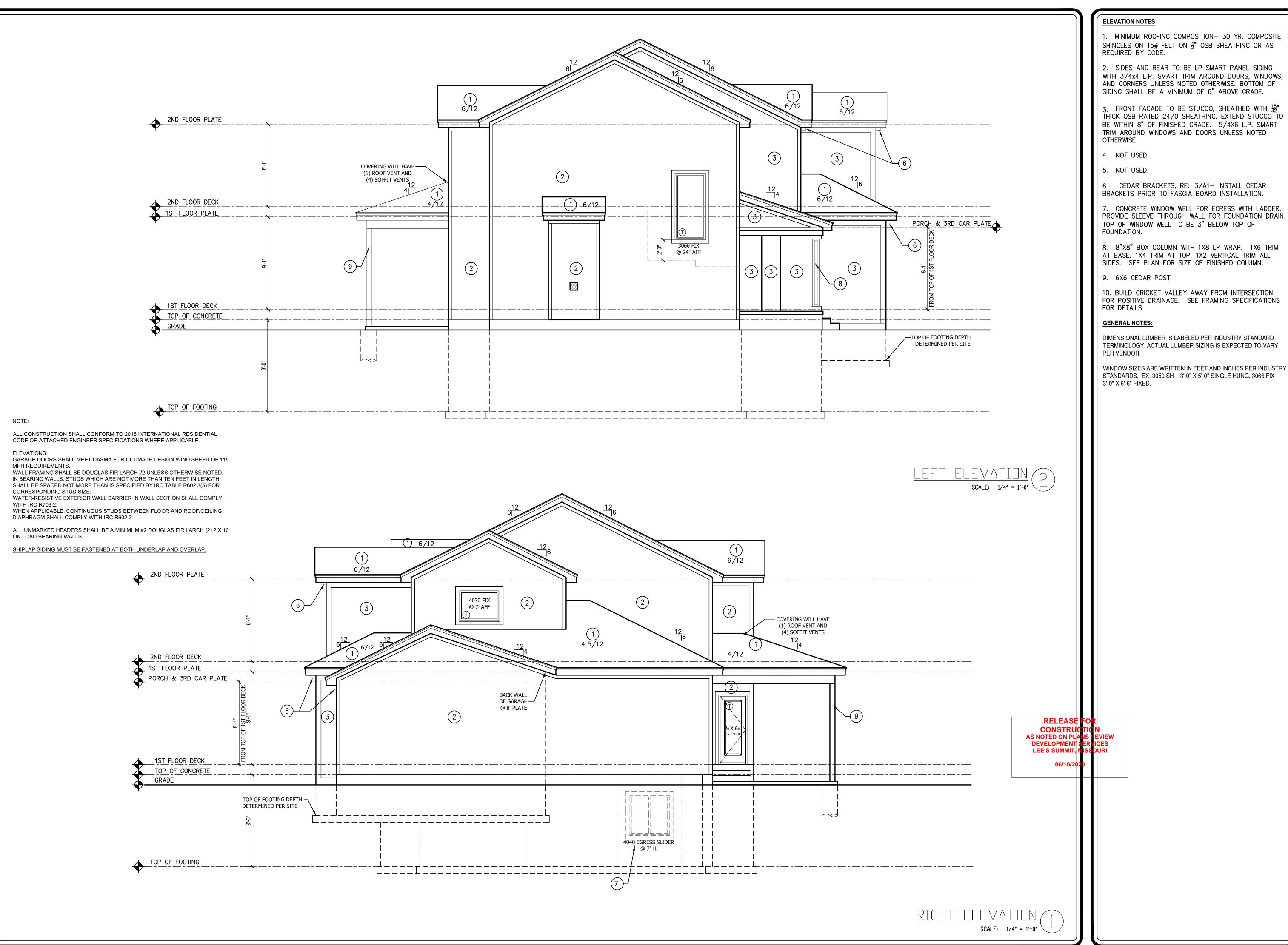
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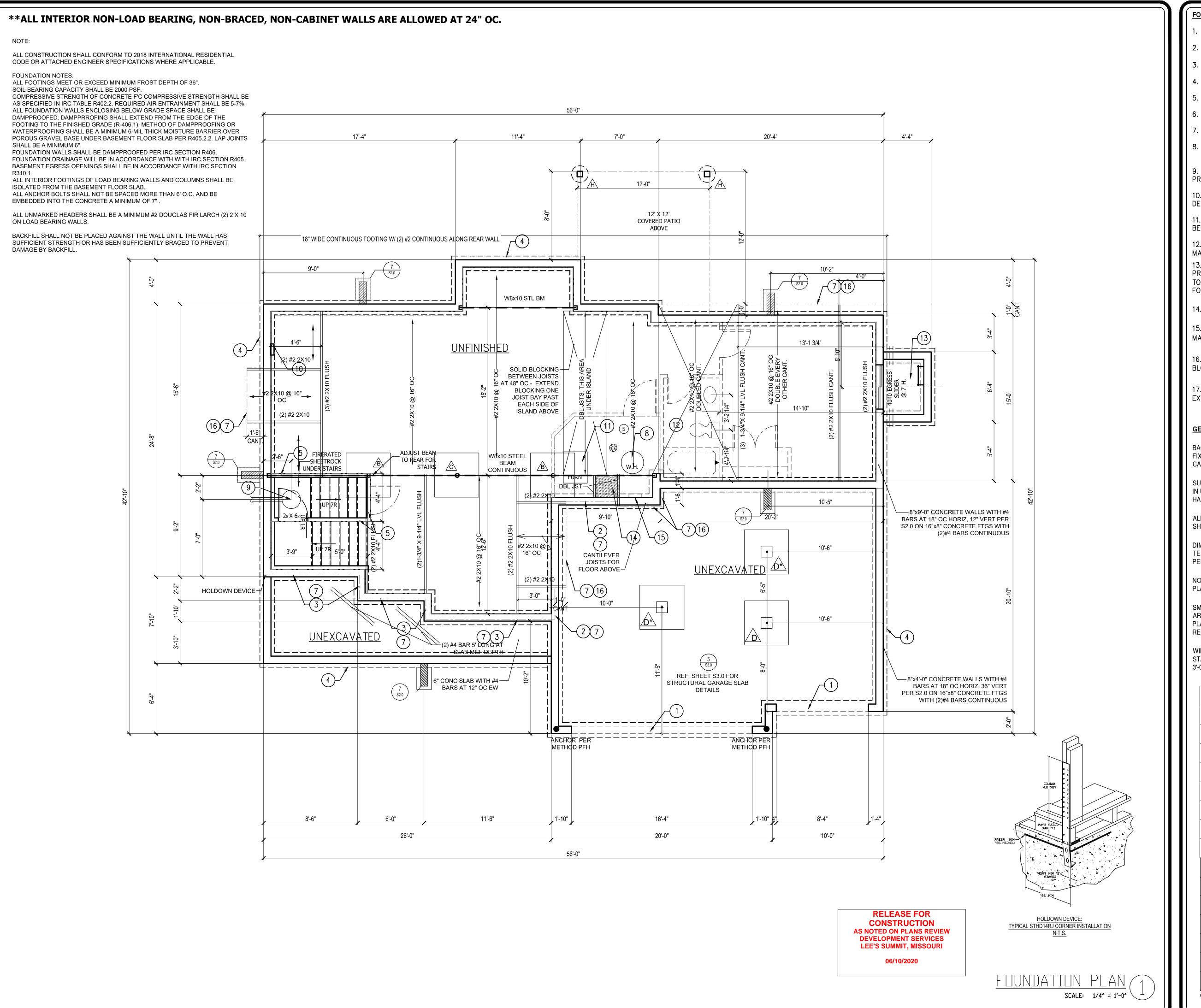
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## **FOUNDATION PLAN NOTES**

- RECESS TOP OF FOUNDATION WALL
- 2. HOLD SILL PLATE BACK 4"
- 3. HOLD SILL PLATE BACK 2"
- 4. CONTINUOUS CONCRETE FOOTING
- 5. 2X4 STUD WALL WITH TREATED SILL PLATE
- 6. NOT USED
- 7. LINE OF FLOOR ABOVE
- 8. THERMAL EXPANSION CONTROL DEVICE FOR WATER
- 9. SUMP PIT AND PUMP. PROVIDE ELECTRICAL GFCI PROTECTION. PROVIDE SLEEVE THROUGH FOOTING.
- 10. 200 AMP ELECTRICAL PANEL. LOCATION TO BE DETERMINED ON SITE.
- 11. DIRECT FURNACE. FUEL BURNING APPLIANCES SHALL BE DIRECT VENTED TO EXTERIOR FOR COMBUSTION AIR.
- 12. DRAIN LINE ONLY FOR FUTURE USE. LOCATION TO BE MARKED WITH REBAR AND CUT FLUSH TO FLOOR FINISH. 13. CONCRETE WINDOW WELL FOR EGRESS WITH LADDER. PROVIDE SLEEVE THROUGH WALL FOR FOUNDATION DRAIN. TOP OF WINDOW WELL TO BE 3" BELOW TOP OF FOUNDATION.
- 14. HVAC CHASE ABOVE
- 15. 'UFER' GROUND. VERIFY LOCATION WITH PROJECT MANAGER.
- 16. INSULATE CANTILEVER AS REQUIRED PRIOR TO BLOCKING.
- 17. HOLD TOP OF FOUNDATION WALL DOWN TO ALLOW EXTERIOR FINISH TO MEET DRIVEWAY.

#### **GENERAL NOTES:**

BACK WATER VALVES REQUIRED ON ALL BASMENT PLUMBING FIXTURES. PROVIDE MEANS OF CONTROLLING PRESSURE CAUSED BY THERMAL EXPANSION.

SUMP PIT SHALL BE EQUIPPED WITH A PUMP AND RECEPTACLE. IN UNFINISHED PORTIONS OF BASEMENT, RECEPTACLES SHALL HAVE GFI PROTECTION.

ALL SILLS & SLEEPERS SUPPORTED ON CONCRETE OR MASONRY

DIMENSIONAL LUMBER IS LABELED PER INDUSTRY STANDARD TERMINOLOGY, ACTUAL LUMBER SIZING IS EXPECTED TO VARY PER VENDOR.

NON-BEARING WALLS TO BE BUILT WITH 1" GAP BETWEEN TOP PLATE AND FLOOR JOISTS TO PREVENT HEAVING.

SMOKE AND CARBON MONOXIDE DETECTORS SHOWN ON PLANS ARE TO BE CONSIDERED RECOMMENDATIONS ONLY. FINAL PLACEMENT IS TO BE DETERMINED BY MUNICIPAL REQUIREMENTS.

WINDOW SIZES ARE WRITTEN IN FEET AND INCHES PER INDUSTRY STANDARDS. EX: 3050 SH = 3'-0" X 5'-0" SINGLE HUNG, 3066 FIX = 3'-0" X 6'-6" FIXED.

SYM	PIER PAD SIZE	DEPTH	MINIMUM STEEL  REINFORCEMENT GRADE  40 KSI STEEL  FY = 36KSI
A	30″×30″	1'-0"	(5) #4 BAR E.W. 3" DIAMETER
B	36″×36″	1'-0"	(6) #4 BAR E.W. 3" DIAMETER
<u>∕c\</u>	42″×42″	1'-2"	(7) #4 BAR E.W. 3" DIAMETER
<u>M</u>	48″×48″	1'-4"	(8) #4 BAR E.W. 3" DIAMETER
<u></u>	48″×48″	1'-4"	(8) #4 BAR E.W. N/A
É	54″×54″	1'-4"	(9) #4 BAR E.W. 3.5" DIAMETER
F	60″×60″	1′-6″	(10) #4 BAR E.W. 3.5" DIAMETER

	SYM	PIER DIAMETER	DEPTH	MINIMUM REINFORCEMENT GRADE KSI STEEL
		12"	3′-0″	(4) VERTICAL #4
	$\overline{\langle}$	16"	3'-0"	(4) VERTICAL #4
	$\overline{\nabla}$	18″	3′-0″	(4) VERTICAL #4
	k	24"	3′-0″	(4) VERTICAL #4
	Λ	28″	3′-0″	(4) VERTICAL #4

COLUMN AND PAD SIZES ARE FOR A MAXIMUM COLUMN HEIGHT OF 10'. COLUMNS GREATER THAN 10' REQUIRE A SEPARATE ENGINEERED DESIGN. FOOTINGS A-F SPACING OF 6" O.C. WITH 3" CLEAR COVER.

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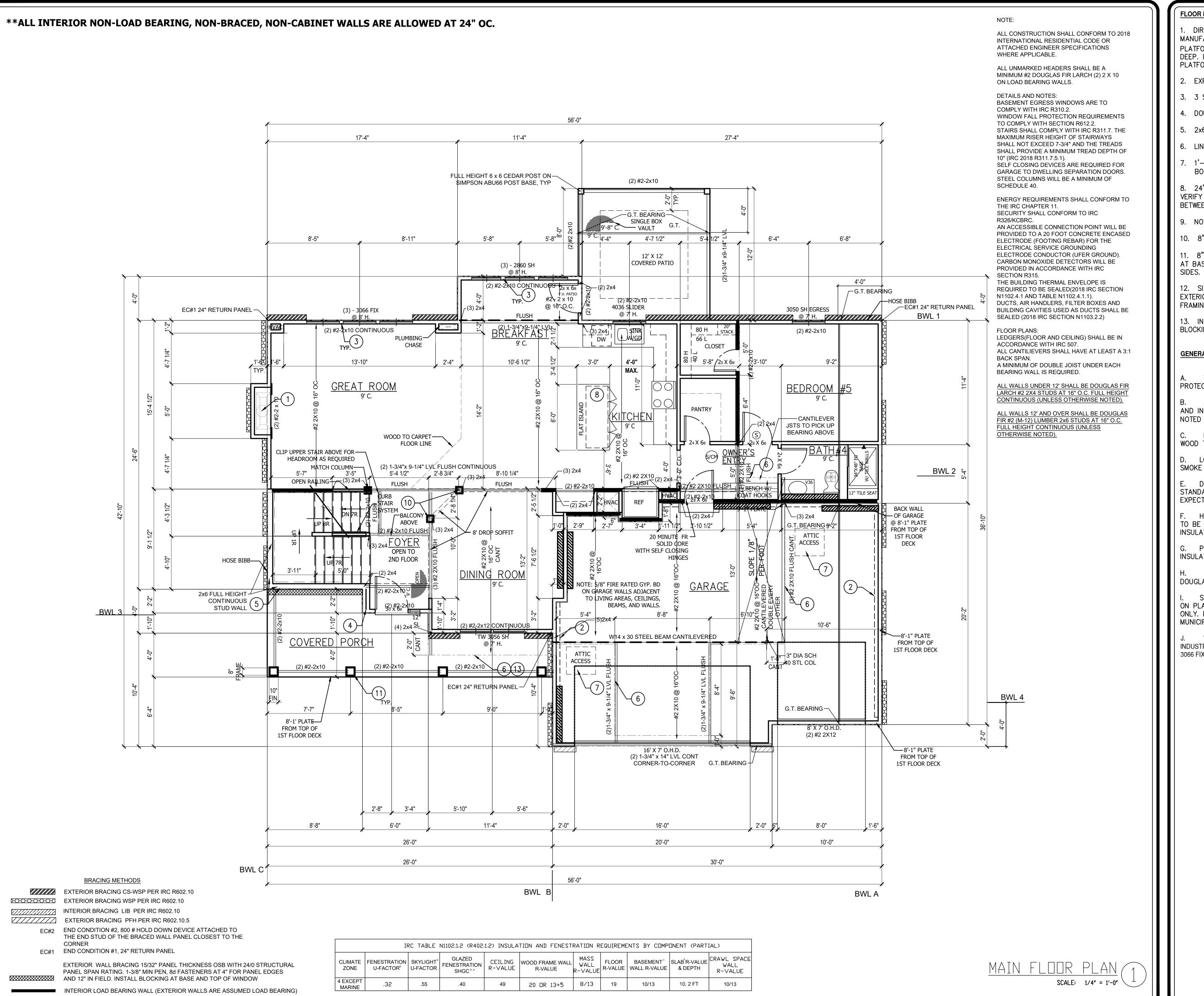
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### FLOOR PLAN NOTES

- 1. DIRECT VENT FIREPLACE— INSTALL PER MANUFACTURER'S RECOMMENDATIONS. FIREPLACE PLATFORM DIMENSIONS— 7 \( \frac{3}{4}\) TALL, 37" WIDE & 16" DEEP. INSTALL INSULATION AND AIR BARRIER BEHIND PLATFORM.
- 2. EXPOSED TOP OF FOUNDATION WALL
- 3. 3 STUDS BETWEEN WINDOW UNITS
- 4. DOUBLE WALL
- 5. 2x6 STUDS AT 16" O.C.
- 6. LINE OF FLOOR ABOVE
- 7. 1'-10"x3' MINIMUM ATTIC ACCESS WITH 3/4" BACKER
  BOARD AND 2 LATCHES
- 8. 24" CABINET + 12" FLUSH OVERHANG— FLAT ISLAND.
  VERIFY LOCATION AND SIZE WITH BUILDER. DISTANCE
  BETWEEN STOVE/CABINETS AND ISLAND— 4'—0 MAX.
- 9. NOT USED
- 10. 8" SQUARE COLUMN
- 11. 8"X8" BOX COLUMN WITH 1X8 LP WRAP. 1X6 TRIM AT BASE. 1X4 TRIM AT TOP. 1X2 VERTICAL TRIM ALL SIDES. SEE PLAN FOR SIZE OF FINISHED COLUMN.
- 12. SIX SIDED ASSEMBLY INCLUDING THERMOPLY ON EXTERIOR WALL TO 2" ABOVE TOP OF SHOWER PAN. SEE FRAMING SPECIFICATIONS FOR DETAILS.
- 13. INSULATE CANTILEVER AS REQUIRED PRIOR TO BLOCKING.

#### **GENERAL NOTES:**

- A. WINDOWS TO COMPLY WITH IRC R312.2 FOR FALL PROTECTION
- B. ALL EXTERIOR WALLS, INTERIOR BEARING WALLS, AND INTERIOR BRACED WALLS ARE AT 16" O.C. UNLESS NOTED OTHERWISE.
- C. ROOF AND CEILING FRAMING ARE PRE-ENGINEERED WOOD TRUSSES UNLESS NOTED OTHERWISE.
- D. LOCATE CARBON MONOXIDE DETECTORS ALONG SIDE SMOKE DETECTORS OR PROVIDE A COMBINATION UNIT.
- E. DIMENSIONAL LUMBER IS LABELED PER INDUSTRY STANDARD TERMINOLOGY. ACTUAL LUMBER SIZING IS EXPECTED TO VERY PER VENDOR.
- F. HVAC DUCTWORK RUNNING THROUGH ATTIC SPACE TO BE HUNG FROM ABOVE TO ALLOW COMPLETE INSULATION SURROUND.
- G. PROVIDE BLOCKING AT ALL CEILING JUMPS FOR INSULATION.
- H. 2X6 EXTERIOR WALL OVER 12' SHALL BE DOUGLAS FIR #2.
- I. SMOKE AND CARBON MONOXIDE DETECTORS SHOWN ON PLANS ARE TO BE CONSIDERED RECOMMENDATIONS ONLY. FINAL PLACEMENT IS TO BE DETERMINED BY MUNICIPAL REQUIREMENTS.
- J. WINDOW SIZES ARE WRITTEN IN FEET AND INCHES PER INDUSTRY STANDARDS. EX: 3050 SH = 3'-0" X 5'-0" SINGLE HUNG, 3066 FIX = 3'-0" X 6'-6" FIXED.



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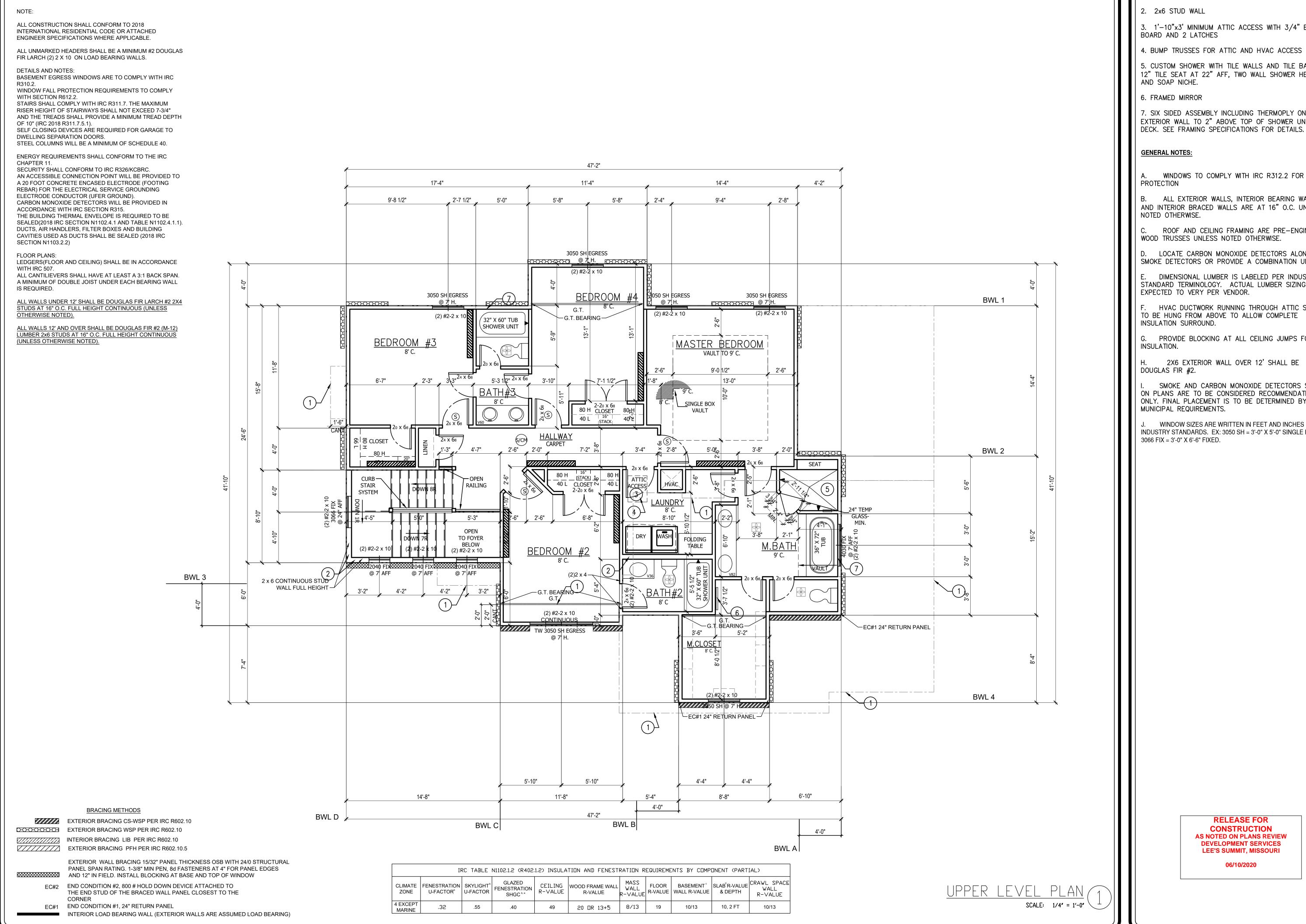
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AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

06/10/2020



\*\*ALL INTERIOR NON-LOAD BEARING, NON-BRACED, NON-CABINET WALLS ARE ALLOWED AT 24" OC.

**FLOOR PLAN NOTES** 

LINE OF FLOOR BELOW

2. 2x6 STUD WALL

3. 1'-10"x3' MINIMUM ATTIC ACCESS WITH 3/4" BACKER BOARD AND 2 LATCHES

5. CUSTOM SHOWER WITH TILE WALLS AND TILE BASE, 12" TILE SEAT AT 22" AFF, TWO WALL SHOWER HEADS

6. FRAMED MIRROR

7. SIX SIDED ASSEMBLY INCLUDING THERMOPLY ON EXTERIOR WALL TO 2" ABOVE TOP OF SHOWER UNIT/TUB DECK. SEE FRAMING SPECIFICATIONS FOR DETAILS.

#### **GENERAL NOTES:**

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B. ALL EXTERIOR WALLS, INTERIOR BEARING WALLS, AND INTERIOR BRACED WALLS ARE AT 16" O.C. UNLESS NOTED OTHERWISE.

C. ROOF AND CEILING FRAMING ARE PRE-ENGINEERED WOOD TRUSSES UNLESS NOTED OTHERWISE.

D. LOCATE CARBON MONOXIDE DETECTORS ALONG SIDE SMOKE DETECTORS OR PROVIDE A COMBINATION UNIT.

E. DIMENSIONAL LUMBER IS LABELED PER INDUSTRY STANDARD TERMINOLOGY. ACTUAL LUMBER SIZING IS EXPECTED TO VERY PER VENDOR.

F. HVAC DUCTWORK RUNNING THROUGH ATTIC SPACE TO BE HUNG FROM ABOVE TO ALLOW COMPLETE INSULATION SURROUND.

G. PROVIDE BLOCKING AT ALL CEILING JUMPS FOR INSULATION.

H. 2X6 EXTERIOR WALL OVER 12' SHALL BE DOUGLAS FIR #2.

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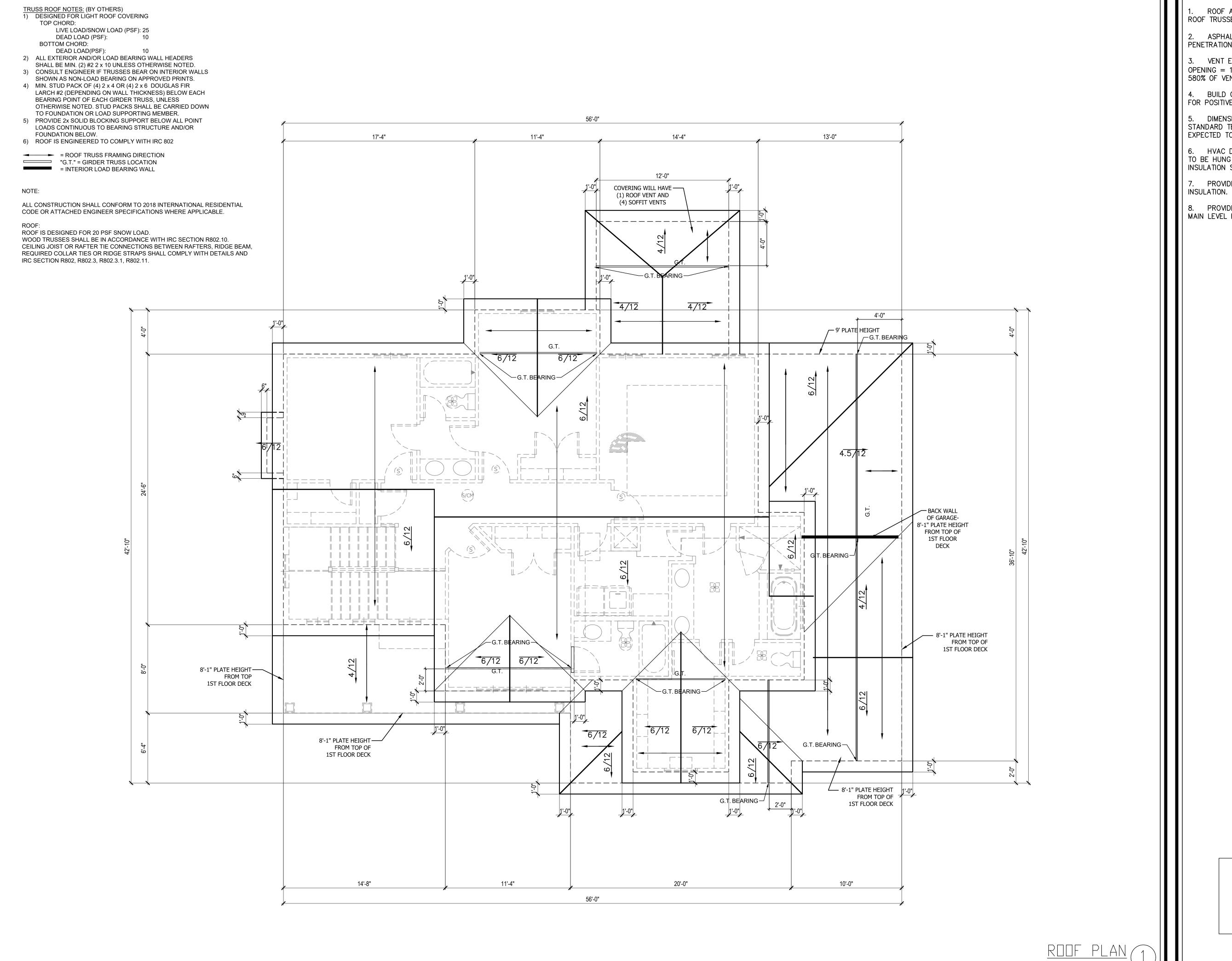
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**RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI

06/10/2020



GENERAL NOTES:

1. ROOF AND CEILING FRAMING ARE PRE-ENGINEERED ROOF TRUSSES

2. ASPHALT SHINGLES MIN 2/12. FLASH ALL PENETRATIONS AND INTERSECTIONS

3. VENT EACH ENCLOSED ATTIC SPACE. NET AREA OPENING = 1/50TH OF VENTED AREA OR 1/300TH IF 580% OF VENTING NEAR TOP

4. BUILD CRICKET VALLEY AWAY FROM INTERSECTION FOR POSITIVE DRAINAGE.

5. DIMENSIONAL LUMBER IS LABELED PER INDUSTRY STANDARD TERMINOLOGY. ACTUAL LUMBER SIZING IS EXPECTED TO VERY PER VENDOR.

6. HVAC DUCTWORK RUNNING THROUGH ATTIC SPACE TO BE HUNG FROM ABOVE TO ALLOW COMPLETE INSULATION SURROUND.

7. PROVIDE BLOCKING AT ALL CEILING JUMPS FOR INSULATION.

**RELEASE FOR** 

CONSTRUCTION

**AS NOTED ON PLANS REVIEW** 

**DEVELOPMENT SERVICES** 

LEE'S SUMMIT, MISSOURI

06/10/2020

8. PROVIDE FOAM INSULATION AT EXTERIOR WHERE MAIN LEVEL ROOFLINE MEETS UPPER LEVEL WALLS.



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#### GENERAL NOTES

PLANS SHALL COMPLY WITH THE 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) WITH AMENDMENTS AS ADOPTED BY THE APPROPRIATE GOVERNING JURISDICTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IF ANY CHANGES OR DEVIATIONS FROM THE PLAN ARE MADE DURING CONSTRUCTION. THE ENGINEER OF RECORD MAY REQUIRE REVISED DRAWING OR CALCULATIONS AT ITS DISCRETION.

IF DISCREPANCIES ARE IDENTIFIED THE MOST CONSERVATIVE SPECIFICATION SHALL APPLY.

# **LOADING**

LIGHT ROOF	10 PSF	
HEAVY ROOF	+10 PSF	(CONCRETE, SLATE, TIL
ROOF + CEILING (NO STORAGE)	15 PSF	
ROOF + CEILING (STORAGE)	20 PSF	
CEILING JOISTS (STORAGE)	10 PSF	
EXTERIOR BACONIES / DECK	10 PSF	
INTERIOR FLOOR (MAIN FLOOR)	15 PSF	
INTERIOR FLOOR (UPPER FLOORS)	10 PSF	
8" THICK MASONRY WALL	80 PSF	
6" THICK MASONRY WALL	85 PSF	
EXTERIOR LIGHT FRAMED WOOD WALLS	15 PSF	
INTERIOR LIGHT FRAMED WOOD WALLS	10 PSF*	
*(INTERIOR WALLS	INCLUDED IN 1	5 PSF DEAD LOAD)

LIVE		
ROOF LIVE LOAD FLOOR LIVE LOAD	15 PSF 40 PSF	(HABITABLE)
GARAGE	50 PSF	(HADHADEE)
STORAGE	20 PSF	(UN-INHABITABLE)
GUARDRAIL		
CONTINUOUS LINEAR	50 PLD	
MAXIMUM POINTLOAD	200 LBS	
SNOW		
GROUND SNOW LOAD	20 PSF	
WIND		

ULTIMATE DESIGN WIND SPEED VELOCITY 115 MPH

### SOIL AND SITE ASSUMPTIONS:

EXPOSURE CATEGORY

- FOUNDATION DESIGN ASSUME A MINIMUM SOIL BEARING PRESSURE FOR THE SITE OF 2,000 PSF CONTRACTOR TO VISUALLY INSPECT SITE OR PROVIDE GEOTECHNICAL INVESTIGATION TO VERIFY MINIMUM ACCEPTABLE SOIL CONDITIONS SW, SP, SM, SC, GM, AND GX AS DEFINED PER IRC TABLE R301.5. THE CONTRACTOR IS RESPONSIBLE FOR ANY SOIL CONDITION THAT DOES NOT MEET THE MINIMUM REQUIREMENTS AND CONTACTING THE ENGINEER OF RECORD.
- PROVIDE A MINIMUM SOIL COVER OF <u>36 INCHES MEASURED FROM THE BOTTOM OF CONCRETE ON</u> ALL FOUNDATIONS.
- ACCESSORY STRUCTURES WITH AN EAVE HEIGHT LESS THAN 10'-0" AND AN AREA LESS THAN 600 FT2 MAT PROVIDE A MINIMUM SOIL COVER OF 12 INCHES MEASURED FROM THE BOTTOM OF CONCRETE.
- 4. SITE GRADING SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM THE STRUCTURE AT A MINIMUM OF
- 5. LATERAL SOIL PRESSURES ACTIVE 30 PSF AT-REST 60 PSF PASSIVE 150 PSF

# FOUNDATION NOTES:

# FOUNDATION ANCHORAGE (IRC 403.1.6)

SILL PLATES SHALL BE BOLTED TO THE FOUNDATION WALL WITH A MINIMUM 1/2" DIAMETER ANCHOR BOLTS EMBEDDER AT LEAST 7" INTO THE CONCRETE. BOLTS SHALL BE SPACED NO GREATER THAN 6' 0.C. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PLATE SECTION, WITH A BOLT PLACED WITHIN 12" AND NOT CLOSER THAN 7 BOLT DIAMETERS, OF THE END OF EACH PLATE SECTION. A PROPERLY SIZED NUT AND WASHER SHALL BE TIGHTENED ON EACH BOLT TO THE PLATE, (NOTE: 7" EMBEDMENT + 1-1/2" SILL PLATE + 3/4" FOR NUT AND WASHER EXCEEDS A 9" LONG BOLT.)

# WALL BRACING METHODS PER IRC R602 MAY REQUIRE ADDITIONAL ANCHORAGE.

CONCRETE SLABS PLACED ON FILL MATERIAL WHICH EXCEEDS 24" OF COMPACTED GRANULATED MATERIAL (SAND OR GRAVEL) OR 8" OF EARTH: THIS MAY OCCUR AT GARAGE FLOOR FILLS, OR OVER EXCAVATED AREAS UNDER FLOOR SLABS. THE DESIGN AND INSTALLATION DETAILS IN THIS DOCUMENT (WHERE APPLICABLE BASED ON SIZE AND SPACING LIMITATIONS) MAY BE USED IN LIEU OF PROVIDING A SEPARATE DESIGN. STRUCTURAL SLABS EXCEEDING THE SPANS AND CONDITIONS OF THE APPROVED DETAILS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

# SLABS AT MAX 4' OVER-DIG ADJACENT T FOUNDATION WALL:

WHERE SOIL IS EXCAVATED FOR A MAXIMUM DIMENSION OF 4' HORIZONTALLY ADJACENT TO A FOUNDATION WALL, THE STANDARD OVER-DIG DETAIL MAY BE USED IN LIEU OF A COMPLETE STRUCTURAL SLAB. SEE "TYPICAL FOOTING/FOUNDATION WALL/STANDARD SLAB AT MAX 4' OVER-DIG DIAGRAM FOR DETAILS.

# VAPOR RETARDER / BARRIER (IRC R506.2.3)

A 6 MIL POLYETHYLENE OR APPROVED VAPOR RETARDER WITH JOINTS LAPPED A MINIMUM OF 6" IS REQUIRED BETWEEN THE CONCRETE FLOOR SLAB AND THE BASE COURSE OR PREPARED SUBGRADE, (NOT REQUIRED FOR GARAGE SLABS OR DETACHED ACCESSORY BUILDINGS)

# FOUNDATION AND LOT GRADING (IRC R401.3)

GRADES SHALL BE SLOPED AWAY FROM THE FOUNDATION A MINIMUM OF 6" IN THE FIRST 10'. ALTERNATE APPROACHES MAY BE APPROVED IF THE ALTERNATE DESIGN IS EQUIVALENT IN EFFECTIVENESS AND PERFORMANCE, AND PROVIDES FOR POSITIVE SITE DRAINAGE.

# IRC R403.1.4

- THE BOTTOM OF ALL FOOTINGS SHALL EXTEND NOT LESS THAN 36" BELOW GRADE FOR FROST
- FOOTINGS FOR FREESTANDING ACCESSORY STRUCTURES WITH AN AREA OF 600 SF OR LESS AND AN EAVE HEIGHT OF 10' OR LESS SHALL EXTEND BELOW GRADE A MINIMUM OF 12".

#### **FOOTINGS:**

EXTERIOR WALLS, BEARING WALLS, COLUMN AND PIERS SHALL BE SUPPORTED ON CONTINUOUS SOLID MASONRY OR CONCRETE FOOTINGS, OR APPROVED STRUCTURAL SYSTEM TO SAFELY SUPPORT THE IMPOSED LOADS AND SHALL BE SIZED AND REINFORCED IN ACCORDANCE WITH THIS STANDARD OR SHALL BE ENGINEERED DESIGN. FOOTINGS UNDER FOUNDATION WALLS SHALL BE CONTINUOUS AROUND THE STRUCTURE AND FROM ONE LEVEL TO THE NEXT. THE CONTINUOUS TRANSITIONS BETWEEN FOOTINGS AT DIFFERENT LEVELS ENCLOSING USABLE SPACE SHALL BE MADE BY APPROVED SOLID JUMPS OR SUPPORT SYSTEMS TO PROVIDE SAFE SUPPORT OF THE STRUCTURE. SEE "TYPICAL FOOTING/FOUNDATION WALLS/STANDARD SLAB AT MAXIMUM 4" OVER-DIG AND "FOOTING JUMP" DIAGRAMS FOR MORE DETAIL (PER KC, MO STANDARDS)

#### CONCRETE

- 1. ALL CONCRETE CONSTRUCTION SHOULD CONFORM TO ACI 318-11 AND THE 2018 INTERNATIONAL
- 2. THE MINIMUM CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE AS SPECIFIED IN IRC TABLE
- 3. CONCRETE MIX TO UTILIZE A MAXIMUM WATER-CEMENT MATERIALS RATIO OF 0.45 FOR ALL APPLICATIONS. ALL CONCRETE TO HAVE MAXIMUM 0.10 PERCENT WATER SOLUBLE CHLORIDE CONTENT BY WEIGHT OF CEMENT. ADMIXTURES SHALL NOT CONTAIN ANY CHLORIDES.
- 4. CONCRETE POURED AGAINST AN EXISTING SURGACE SHOULD BE ROUGHENED TO A MINIMUM 1/4 INCH AMPLITUDE.
- 5. REBAR CLEAR DISTANCE SHALL BE AS FOLLOWS: -CAST AGAINST AND PERMANENT CONTACT WITH GROUND3 IN -EXPOSED TO WEATHER OR IN CONTACT WITH GROUND - NOT EXPOSED TO WEATHER OR GROUND
- 6. CONCRETE MIX DESIGN SHALL BE 6% (±1%) AIR-ENTRAINED FOR GARAGE SLABS, FOOTINGS, WALLS, OR FLATWORK EXPOSED TO WEATHER.
- 7. SHORING AND RESHORING: -SHORING AND SUPPORTING FORMWORK SHALL NOT BE REMOVED FROM HORIZONTAL MEMBERS BEFORE CONCRETE STRENGTH REACHES 70% OF STRENGTH DETERMINED BY CYLINDERS OR 28

-SHORING MAY NOT BE REMOVED SOONER THAN RECOMMENDED BY ASTM 374-04 SECTION 3.7.2.3.

#### MINIMUM STANDARDS:

CONCRETE SHALL BE 6% (± 1%) AIR-ENTRAINED FOR GARAGE SLABS AND FOR ALL LOCATION'S FOOTINGS, WALLS OR FLATWORK WHERE EXPOSED TO WEATHER. REBAR SHALL BE MINIMUM 40 KSI UNLESS NOTED OTHERWISE. REINFORCING BAR SHALL BE GRADE 40 MINIMUM.

### CONCRETE REINFORCEMENT STEEL

- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 40.
- SMOOTH BARS OR WELDED WIRE FABRIC SHALL CONFORM TO ASTM 185.
- 3. ALL REBAR LAP SPLICES SHALL BE CLASS B LAP SPLICES AS SHOWN ON THE LAP SPLICE SCHEDULE.
- 4. DEVELOPMENT LENGTH NOTED IS EQUAL TO 80% OF THE LENGTH NOTED IN THE LAP SPLICE SCHEDULE.
- 5. 90% HOOK SHOWN IN DRAWINGS SHALL BE STANDARD PER ACI 318-14 -STRAIGHT EXTENSION LENGTH = 12xØ<sub>BAR</sub> -BEND DIAMETER =  $12XØ_{BAR}$
- 6. LAP SPLICE SCHEDULE (SEE TABLE 1.1)
- HOOKED DOWELS:
- 7.1. HOOKED DOWELS FROM FOUNDATIONS TO WALL SHALL BE PROVIDED TO MATCH VERTICAL WALL
- REINFORCING AND EXTENDED TO 3" CLEAR FROM BOTTOM OF FOUNDATION 7.2. HOOKED DOWELS MATCH SLAB REINFORCING FROM SLAB TO WALLS OR SLAB TO FOUNDATION
- 8. PROVIDE 2 #5 BARS AROUND PERIMETER OF ALL SUSPENDED SLABS
- 9. HORIZONTAL WALL REINFORCING SHALL TERMINATE AT THE END OF THE WALL WITH A STANDARD
- 10. TOP AND BOTTOM HORIZONTAL REINFORCING SHALL BE PLACED 1-1/2" TO 2" FROM THE TOP AND BOTTOM OF THE WALL

# FOOTNOTES:

- 1. WALL HEIGHT IS MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE FLOOR SLAB.
- 2. VERTICAL REINFORCEMENT FOR CONCRETE WALLS THAT ARE NOT FULL HEIGHT AND FOR REINFORCEMENT SPACED 24" O.C. MAY BE PLACED IN THE MIDDLE OF THE WALL. OTHER WALLS SHALL HAVE VERTICAL REINFORCEMENT PLACE AS FOLLOWS:
  - A. 8" WALL MINIMUM 5" FROM THE OUTSIDE FACE.
- B. 10" WALL MINIMUM 6-3/4" FROM THE OUTSIDE FACE. C. EXTEND BARS TO WITHIN 8" OF THE TOP OF THE WALL.
- HORIZONTAL REINFORCEMENT:
  - A. ONE BAR SHALL BE PLACED WITHIN 12" OF THE TOP OF THE WALL.
- B. OTHER BARS SHALL BE EQUALLY SPACED WITH SPACING NOT TO EXCEED 24" O.C. C. HORIZONTAL BARS SHOULD BE AS CLOSE TO THE TENSION FACE AS POSSIBLE (INTERIOR); AND BEHIND THE VERTICAL REINFORCEMENT (I.E. 2" TOWARD THE INSIDE).
- D. SUPPLEMENTAL REINFORCEMENT AT CORNERS PLACE 1 #4 REBAR 48" LONG AT 45 DEGREE ANGLE AT CORNERS OF OPENINGS. PLACE REINFORCEMENT WITHIN 6" OF THE EDGE OF INSIDE
- 4. REINFORCEMENT SHALL BE LAPPED A MINIMUM 24" AT ENDS, SPLICES, AND AROUND CORNERS.
- 5. AT MASONRY LEDGES THE MINIMUM WALL THICKNESS SHALL BE 3-1/2". LEDGES SHALL NOT EXCEED A DEPTH OF MORE THAN 24" BELOW THE TOP OF THE WALL FOR WALL THICKNESS LESS THAN 4" PROVIDE #4 BARS AT MAXIMUM 24" O.C. TO WITHIN 8" OF THE TOP OF THE WALL.
- 6. STRAIGHT WALLS MORE THAN 5' TALL AND MORE THAN 16' LONG SHALL BE PROVIDED WITH EXTERIOR BRACED RETURN WALLS. WALL LENGTH SHALL BE MEASURED USING INSIDE THE SHORTEST DIMENSION BETWEEN INTERSECTING WALLS (SEE TYPICAL DEAD MAN SECTION).

# **TABLE 1.1**

	NORMAL WEIGHT CONCRETE LAP SPLICE SCHEDULE, IN							
BAR	TOP	BARS	OTHER BARS					
SIZE	CASE 1	CASE 2	CASE 1	CASE 2				
#3	28	42	22	32				
#4	37	56	29	43				
#5	47	70	36	54				
#6	56	84	43	64				

### STEEL DECK - SUSPENDED SLABS

- 1. STEEL DECK QUALITY, FABRICATION, DELIVERY, INSTALLATION AND ATTACHMENT SHALL COMPLY WITH THE PROVISIONS OF THE STEEL DECK INSTITUTE, SDI.
- STEEL ROOF DECK SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON CONSTRUCTION
- DRAWINGS:
- WIDE RIB CONFIGURATION 1.5" DEPTH
- 24GA DESIGN THICKNESS
- MAXIMUM SINGLE SPAN OF 4'-8" OR CONTINUOUS SPAN OF 5'-10"
- GALVANIZE PER ASTM A653 OR SHOP PRIME PER ASTM A1008 ATTACH STEEL ROOF DECK TO SUPPORTS WITH #12 TEK AT 18" O.C.
- ATTACH STEEL ROOF DECK SIDELAPS WITH #10 TEK OR CRIMP/BUTTON PUNCH AT 36" O.C. OR MID-SPAN, WHICHEVER IS SMALLER
- 3. CONTRACTOR AND/OR DECK MANUFACTURER SHALL FURNISH ALL NECESSARY DECK CLOSURE ACCESSORIES TO PROVIDE A FINISHED SURFACE FOR THE APPLICATION OF ROOF INSULATION AND
- 4. STEEL FLOOR DECK SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON CONSTRUCTION
- DRAWINGS: 2" COMPOSITE DECK WITH 6" TOTAL SLAB THICKNESS
- 22GA DESIGN THICKNESS MAXIMUM SINGLE SPAN DURING CONSTRUCTION OF 6'-1" OR CONTINUOUS SHORED SPAN OF
- MAXIMUM SPAN SHALL NOT EXCEED 12'-6"
- PROVIDE W2.1xW2.1 WELDED WIRE MESH OR #4 @ 12" O.C. EACH WAY. PROVIDE 2" REBAR
- COVER MEASURED FROM TOP OF THE SLAB GALVANIZE PER ASTM A653
- MINIMUM BEARING LENGTH AT EDGE SUPPORTS IS 2"

COLUMN CLOSURES, END PLATES, AND COVER PLATES AS NEEDED.

- MINIMUM BEARING LENGTH AT INTERIOR SUPPORTS IS 4" ATTACH STEEL COMPOSITE FLOOR DECK TO SUPPORTS WITH 5/8" ARC PUDDLE WELDS AT 12" O.C. MECHANICAL FASTENERS EITHER POWDER ACTUATED, PNEUMATICALLY DRIVEN, OR SCREWS MAY BE USED IN LIEU OF WELDING PROVIDED THEY ARE APPROVED.
- ATTACH STEEL ROOF DECK SIDELAPS WITH #10 TEK OR CRIMP/BUTTON PUNCH AT 36" O.C. OR MID-SPAN, WHICHEVER IS SMALLER.
- 5. CONTRACTOR AND/OR DECK MANUFACTURER SHALL FURNISH ALL NECESSARY POUR STOPS,

# STRUCTURAL STEEL

- STEEL DESIGN, FABRICATION, AND ERECTION SHALL CONFORM WITH AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- 2. STEEL GRADE AND SPECIFICATION SHALL BE AS FOLLOWS: 2.1. HOLLOW STRUCTURAL SECTIONS: ASTM A500 (Fy = 46 KSI) CHANNELS, PLATES, ANGLES, WIDE FLANGES, AND COLUMNS: ASTM A36 (Fy = 36 KSI)
- 2.3. ANCHOR RODS:

3. BOLTS SHALL CONFORM TO ASTM A307

- WELDING SHALL CONFORM TO THE AWS CODES FOR BUILDING CONSTRUCTION. WELDING SHALL BE PERFORMED IN ACCORDANCE TO WELDING PROCEDURE SPECIFICATION (WPS) AS REQUIRED IN AWS D1.1 THE WPS VARIABLES SHALL BE WITHIN THE PARAMETERS ESTABLISHED BY THE FILLER-METAL MANUFACTURER.
- WELDS SHALL USE E70XX ELECTRODES AND A MINIMUM OR 3/16" SIZE UNLESS NOTED OTHERWISE.
- 6. ALL WELDS SPECIFIED AS FIELD WELDS MAY BE SHOP WELDED AT THE CONTRACTOR'S OPTION IF ERECTION CAN STILL BE EXECUTED.

### **ENERGY REQUIREMENTS:**

- 1. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE SHALL BE IC-RATED, LEAKAGE RATED, AND SEALED TO THE GYPSUM WALLBOARD AS REQUIRED PER N1102.4.4.'
- 2. PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER N1103.2.2.1.
- 3. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2% AIR LEAKAGE RATE PER N1103.2.2.1.
- 4. BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE AS REQUIRED PER N1103.2.3.
- 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 M1507.2
- 7. MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM AS REQUIRED PER M1503.4.
- 8. BUILDING CAVITIES IN A THERMAL ENVELOPE WALL SHALL NOT BE USED AS RETURN AIR PLENUMS UNLESS THE REQUIRED INSULATION BARRIER IS MAINTAINED PER M1601.1.1.
- 9. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE PER M1601.6 ENERGY CONSERVATION.

- THE GARAGE FLOOR SHALL SLOPE TOWARDS THE GARAGE DOORWAYS.
- 2. DOORS BETWEEN THE GARAGE AND THE DWELLING MINIMUM 1-3/8" SOLID CORE OR HONEY COMBED STEEL DOOR OR 20 MINUTE FIRE RATED.
- 3. THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND IT'S ATTIC AREAS BY A MINIMUM 5/8" GYPSUM BOARD APPLIED TO THE GARAGE SIDE WHERE A FLOOR/CEILING SPACE IS PROVIDED
- 4. THE GARAGE COLUMNS AND BEAMS SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED WITH 5/8" GYPSUM BOARD OR EQUIVALENT. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE THE FLOOR CEILING ASSEMBLY SHALL BE PROTECTED WITH A MINIMUM PS TYPE "X" GYPSUM BOARD ON THE GARAGE CEILING.
- 5. GARAGE DOOR AND FRAME THE "H" FRAME FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING 2x6 VERTICAL JAMBS RUNNING FROM THE FLOOR TO CEILING, ATTACHED WITH 1-3/4"x0.120" NAILS AT 7" O.C. STAGGERED WITH (7) 3-1/4"x0.120" NAILS THROUGH THE JAMB INTO THE HEADER. A MINIMUM OF 2x8 HEADER FOR ATTACHMENT OF COUNTER
- 6. SELF CLOSING DEVICES SHALL BE INSTALLED FOR GARAGE AND/OR DWELLING SEPARATION DOORS PER R302.5.1.
- 7. GARAGE VEHICLE DOORS AND FRAMES SHALL BE DESIGNED AND INSTALLED TO MEET THE 90 MPH WIND LOAD REQUIREMENTS OF DASMA 108 AND ASTM E330-96 (IRC 301.2.1).

ASTM F1554 (Fy = 36 KSI)

- 1. STAIRWAYS SHALL PROVIDE A MAXIMUM 7-3/4" RISE AND A MINIMUM 10" RUN.
- 2. PROVIDE GUARD RAILS BETWEEN 36" GUARD RAILS ON THE OPEN SIDES OF RAISED FLOORS. PORCHES AND BALCONIES; MINIMUM 34" GUARD RAILS ON THE OPEN SIDES OF STAIRWAYS LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW.
- 3. GUARD RAIL ENCLOSURES SHALL HAVE INTERMEDIATE RAILS OF ORNAMENTAL PATTERNS THAT DO NOT ALLOW PASSAGE OF A SPHERE 4" IN DIAMETER.
- 4. EACH STAIRWAY OF THREE OR MORE RISERS SHALL PROVIDE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34" AND 38" ABOVE THE NOSING OF THE TREADS.
- 5. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1-1/4" TO 2-5/8" OR OTHER APPROVED GRASPABLE SHAPE PER IRC R311.5.6.
- 6. MINIMUM 6'-8" OF HEADROOM CLEARANCE IS REQUIRED IN STAIRWAYS.
- 7. ENCLOSED ACCESSIBLE SPACE UNDER STAIRWAYS SHALL HAVE WALLS AND THE UNDERSIDE OF THE STAIR AND LANDING PROTECTED WITH 1/2" GYPSUM BOARD ON ENCLOSURE SIDE PER IRC R311.2.2.

# **GLAZING**

- 1. GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC 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 ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR: ENCLOSURES FOR SPAS, TUBS, SHOWERS, AND WHIRLPOOLS; GLAZING IN FIXED OR OPENABLE PANELS EXCEEDING 8 SF AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".
- 2. WINDOW FALL PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH R312.2.

# EMERGENCY EGRESS AND RESCUE

- 1. PROVIDE ONE WINDOW FROM EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 SF WITH A MINIMUM OPENABLE HEIGHT OF 24" AND WIDTH OF 21"
- 2. BASEMENT EGRESS TO MEET THE REQUIREMENTS OF IRC R310.
- 3. PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA AND ON EACH FLOOR INCLUDING BASEMENTS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING.
- 4. CARBON MONOXIDE DETECTORS SHALL BE INSTALLED AS REQUIRED PER R315.

# FRAMING NOTES:

- ALL LUMBER SIZES ARE DOUGLAS FIR-LARCH #2 UNLESS OTHERWISE NOTED.
- 2. ALL UNMARKED HEADERS SHALL BE A MINIMUM #2 DOUGLAS FIR LARCH (2) 2x10 ON LOAD BEARING WALLS.
- 3. ALL HEADER/BEAMS TO BEAR ON A MINIMUM OF (2) 2x4 POSTS UNLESS NOTED OTHERWISE.
- 4. DOUBLE JOIST UNDER INTERIOR NON-LOAD BEARING WALLS.
- 5. CANTILEVERS, OVER BEAMS, AND DOOR JAMBS SHALL BE BLOCKED
- 6. ANY WOOD MEMBERS IN CONTACT WITH CONCRETE OR MASONRY (OR THE FURRING THEY ARE ATTACHED TO) SHALL BE OF DECAY RESISTANT MATERIAL.
- 7. INTERIOR NON LOAD BEARING WALLS SHALL BE ISOLATED FROM THE FLOOR FRAMING ABOVE UNLESS THE INTERIOR NON LOAD BEARING WALL RESTS DIRECTLY ON A FOOTING.
- 8. LVL STRENGTH SHALL BE VERSA-LAM 3100 Fb UNLESS NOTED OTHERWISE

CONSTRUCTION AS NOTED ON PLANS REVIEW **DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI 06/10/2020

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SHEET#

2018 IRC TABLE R602.3(1) (SEE IRC FOR FOOTNOTES)									
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION						
		ROOF							
1	BLOCKING BETWEEN CEILING JOISTS OR RAFTERS TO TOP PLATE	4-8D BOX (2-1/2"x0.113") OR 3-8D COMMON (2-1/2" x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	TOE NAIL						
2	CEILING JOSTS TO TOP PLATE	4-8D BOX (2-1/2"x0.113") OR 3-8D COMMON (2-1/2" x 0.131"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	PER JOIST, TOE NAIL						
3	CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER LAPS OVER PARTITIONS	4-10D BOX (3" X 0.128"); OR 3-16D COMMON (3-1/2" X 0.162"); OR 4-3" X 0.131" NAILS	FACE NAIL						
4	CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT)	TABLE R802.5.2	FACE NAIL						
5	COLLAR TIE TO RAFTER, FACE NAIL OR 1-1/4"x20 GAGE RIDGE STRAP TO RAFTER	4-10D BOX (3" X 0.128"); OR 3-10D COMMON (3" X 0.148"); OR 4-3" X 0.131" NAILS	FACE NAIL EACH RAFTER						
6	RAFTER OR ROOF TRUSS TO PLATE	3-16d BOX NAILS (3-1/2"x0.135") OR 3-10d COMMON NAILS (3"x0.148"); OR 4-10D BOX (3" X .128"); OR 4-3" X 0.131" NAILS	2 TOE NAILS ON ONE SIDE AND 1 TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS						
7	ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS OR ROOF RAFTER	4-16D (3-1/2"x0.135") ; OR 3-10D COMMON (3" X 0.148"); OR 4-10D BOX (3" X 0.128"); OR 4-3" X0.131" NAILS	TOE NAIL						
,	TO MINIMUM 2" RIDGE BEAM	3-16d BOX NAILS (3-1/2"x0.135") OR 2-16D COMMON NAILS (3-1/2"x0.162"); OR 3-10D BOX (3" X .128"); OR 3-3" X 0.131" NAILS	END NAIL						
		WALL							
8	STUD TO STUD (NOT AT BRACED	16D COMMON (3-1/2" X 0.162")	24" O.C. FACE NAIL						
ŏ	WALL PANELS)	10d BOX (3"x0.128"); OR 3" X 0.131" NAILS	16" O.C. FACE NAIL						
9	STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL	16D BOX (3-1/2"x0.135"); OR 3" X 0.131" NAILS	12" O.C. FACE NAIL						
	PANELS)	16D COMMON (3-1/2" X 0.162")	16" O.C. FACE NAIL						
10	BUILT-UP HEADER (2" TO 2"	16D COMMON (3-1/2"x0.162")	16" O.C. ALONG EACH EDGE FACE NAIL						
	HEADER WITH ½" SPACER)	16D BOX (3-1/2" X 0.135)	12" ALONG EACH EDGE FACE NAIL						
11	CONTINUOUS HEADER TO STUD	5-8D BOX (2-1/2" X 0.113"); OR 4-8D COMMON (2-1/2" X 0.131"); OR 4-10D BOX (3" X 0.128")	TOENAIL						
		16D COMMON (3-1/2" X 0.162")	16" O.C. FACE NAIL						
12	TOP PLATE TO TOP PLATE	10d BOX (3"x0.128"); OR 3" X 0.131" NAILS	12" O.C. FACE NAIL						
13	DOUBLE TOP PLATE SPLICE	8-16D COMMON(3-1/2" X 0.162"); OR 12-16D BOX (3-1/2" X 0.135"); OR 12-10D BOX (3" X 0.128"); OR 12-3" X 0.131" NAILS	FACE NAIL ON EACH SIDE OF END JOINT (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)						
	BOTTOM PLATE TO JOIST, RIM	16D COMMON (3-1/2" X 0.162")	16" O.C. FACE NAIL						
14	JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16D BOX (3-1/2"x0.135"); OR 3" X 0.131" NAILS	12" O.C. FACE NAIL						
15	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST BLOCKING (AT BRACED WALL PANELS)	3-16d BOX NAILS (3-1/2"x0.135") OR 2-16D COMMON (3-1/2"x0.162"); OR 4-3" X 0.131" NAILS	3 EACH 16" O.C. FACE NAIL 2 EACH 16" O.C. FACE NAIL 4 EACH 16" O.C. FACE NAIL						
16	TOP OR BOTTOM PLATE TO STUD	4-8D BOX (2-1/2"x0.113") OR 3-16D BOX (3-1/2" x 0.135"); OR 4-8D COMMON (2-1/2" X 0.131"); OR 4-10D BOX (3" x 0.128"); OR 4-3" x 0.131" NAILS	TOE NAIL						
		3-16D BOX (3-1/2" x 0.135"); OR 2-16D COMMON (3-1/2" X 0.162"); OR 3-10D BOX (3" x 0.128"); OR 3-3" x 0.131" NAILS	END NAIL						
17	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	3-10D BOX (3" X 0.128"); OR 2-16D COMMON (3-1/2" X 0.162"); OR 3-3" X 0.131" NAILS	FACE NAIL						
18	1" BRACE TO EACH STUD AND PLATE	3-8D BOX (2-1/2" X 0.113"); OR 2-8D COMMON (2-1/2" X 0.131"); OR 2-10D BOX (3" X 0.128"); OR 2 STAPLES 1-3/4"	FACE NAIL						
19	1"x6" SHEATHING TO EACH BEARING	3-8D BOX (2-1/2" X 0.113"); OR 2-8D COMMON (2-1/2" X 0.131"); OR 2-10D BOX (3" X 0.128"); OR 2 STAPLES, 1" CROWN, 16 GA, 1-3/4" LONG	FACE NAIL						
20	1"x8" AND WIDER SHEATHING TO EACH BEARING	3-8D BOX (2-1/2" X 0.113"); OR 3-8D COMMON (2-1/2" X 0.131"); OR 3-10D BOX (3" X 0.128"); OR 3 STAPLES, 1" CROWN, 16 GA, 1-3/4" LONG WIDER THAN 1" X 8" 4-8D BOX (2-1/2" X 0.113"); OR 3-8D COMMON (2-1/2" X 0.131"); OR 3-10D BOX (3" X 0.128"); OR 4 STAPLES, 1" CROWN, 16 GA, 1-3/4" LONG	FACE NAIL						

TABLE R507/2 FASTENER SPACING FOR A SOUTHERN PINE OR HEM-FIR DECK LEDGER 2" NOMINAL SOLID SAWN SPRUCE-PINE-FIR BAND JOIST (DECK LIVE LOAD = 40PSF,

DECK DEAD LOAD = 10 PSF)

8'1 TO 10'

10'1 TO 12'

ON CENTER SPACING OF FASTENERS

15

29

24

12'1 TO 14'

13

24

21

14'1 TO 16'

16'1 TO 18'

19

6'1 TO 8'

6' AND LESS

JOIST SPAN

CONNECTION DETAILS

1/2" DIAMETER LAG SCREW WITH

15/32" MAX SHEATHING

1/2" DIAMETER BOLT WITH 15/32"

MAX SHEATHING

1/2" DIAMETER BOLT WITH 15/32"

MAX SHEATHING AND 1/2" STACKED WASHERS

	2018 IR	RC TABLE R602.3(1) (SEE IRC FOR FOOT)	NOTES)	
		FLOOR		
21	JOST TO SILL, TOP PLATE OR GIRDER	4-8D BOX (2-1/2" X 0.113"); OR 3-8D COMMON (2-1/2" X 0.131"); OR 3-10D BOX (3" X 0.128"); OR 3-3" X 0.131" NAILS	TOE	NAIL
	RIM JOIST, BAND JOIST OR	8d BOX (2-1/2"x0.113")	4" O.C. 1	OE NAIL
22	BLOCKING TO SILL OR TOP PLATE (ROOF APPLICATIONS ALSO)	8D COMMON (2-1/2" X 0.131"); OR 10D BOX (3" X 0.128"); OR 3" X 0.131" NAILS	6" O.C. 1	OE NAIL
23	1"x6" SUBFLOOR OR LESS TO EACH JOIST	3-8D BOX (2-1/2" X 0.113"); OR 2-8D COMMON (2-1/2" X 0.131"); OR 3-10D BOX (3" X 0.128"); OR 2 STAPLES, 1" CROWN, 16 GA, 1-3/4" LONG	FACE NAIL	
		FLOOR		
24	2" SUBFLOOR TO JOIST OR GIRDER	3-16D BOX (3-1/2" X 0.135"); OR 2-16D COMMON (3-1/2"x0.162")	BLIND AND	FACE NAIL
25	2" PLANKS (PLANK & BEAM - FLOOR & ROOF)	3-16D BOX (3-1/2" X 0.135"); OR 2-16D COMMON (3-1/2"x0.162")	AT EACH BEAR	ING, FACE NAIL
26	BAND OR RIM JOIST TO JOIST	3-16D COMMON (3-1/2" X 0.162"); OR 4-10 BOX (3" X 0.128"); OR 4-3" X 0.131" NAILS ; OR 4-3" X 14 GA. STAPLES, <sup>7</sup> / <sub>16</sub> " CROWN	END	NAIL
		20D COMMON (4" X 0.192"); OR	NAIL EACH LAYER AS F TOP END AND BOTTON	
27	BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	10D BOX (3" X 0.128"); OR 3" X 0.131" NAILS	24" O.C. FACE NAIL AT STAGGERED ON OPPO	
	LUIVIDER LATERS	AND: 2-20D COMMON (4" X 0.192"); OR 3-10D BOX (3" X 0.128"); OR 3-3" X 0.131" NAILS	FACE NAIL AT ENDS AND AT EACH SPLICE	
28	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	4-16D BOX (3-1/2" X 0.135"); OR 3-16D COMMON (3-1/2" X 0.162"); OR 4-10D BOX (3" X 0.128"); OR 4-3" X 0.131" NAILS	AT EACH JOIST OR RAFTER, FACE NA	
29	BRIDGING OR BLOCKING TO JOIST	2-10D BOX (3" X 0.128"); OR 2-8D COMMON (2-1/2" X 0.131"; OR 2-3" X 0.131") NAILS	EACH END, TOE NAIL	
1754	DESCRIPTION OF BUILDING	AULIMOED AND TYPE OF FACTENED	SPACING OF FASTENERS	
ITEM	ELEMENTS	NUMBER AND TYPE OF FASTENER	EDGES (IN)	INTERMEDIATE SUPPORTS (IN)
30	3/8" - 1/2"	6d COMMON (2"x0.113") NAILS (SUBFLOOR, WALL) 8d COMMON (2-1/2"x0.131") NAIL (ROOF); OR RSRS-01 (2-38" X 0.113") NAIL (ROOF)	6	12
31	19/32"-1"	8d COMMON NAIL (2-1/2"x0.131"); OR RSRS-01 (2-3/8" X 0.113") NAIL (ROOF)	6	12
32	1-1/8" - 1-1.4"	10d COMMON (3"x0.148") NAIL OR 8D (2-1/2"x0.131") DEFORMED NAIL	6	12
		OTHER WALL SHEATHING		
33	1/2" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1-1/2" GALVANIZED ROOFING NAIL, 7/16" HEAD DIAMETER, OR 1-1/4" LONG 16 GA. STAPLE WITH $\frac{7}{16}$ " OR 1" CROWN	3	6
34	25/32" STRUCTURAL CELLULOSTIC FIBERBOARD SHEATHING	1-3/4" GALVANIZED ROOFING NAIL, 7/16" HEAD DIAMETER, OR 1-1/2" LONG 16 GA STAPLE WITH $\frac{7}{16}$ " OR 1" CROWN	3	6
35	1/2" GYPSUM SHEATHING	1-1/2" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1-1/2" LONG; 1-1/4" SCREWS, TYPE "W" OR "S"	7	7
36	5/8" GYPSUM SHEATHING	1-3/4" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1-5/8" LONG; 1-5/8" SCREWS, TYPE "W" OR "S"	7	7
	WOOD STRUCTURA	L PANELS, COMBINATION SUBFLOOR U	NDERLAYMENT TO FE	RAMING
37	3/4" AND LESS	6D DEFORMED (2"x0.120") NAIL OR 8D COMMON (2-1/2"x0.131") NAIL	6	12
38	7/8" - 1"	8D COMMON (2-1/2"x0.131") NAIL OR 8D DEFORMED (2-1/2"x0.120") NAIL	6	12
39	1-1/8" - 1-1/4"	10D COMMON (3"x0.148") NAIL OR 8D DEFORMED (2-1/2"x0.120") NAIL	6	12

TABLE R507.2.1 PLACEMENT OF LAG SCREWS AND BOLTS IN DECK LEDGERS AND BAND JOISTS						
MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS (INCHES)						
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING		
LEDGER	2	1/4	2	1-5/8		
BAND JOIST	3/4	2	2	1-5/8		

2"x0.120") NAIL OI /2"x0.131") NAIL	R	6		12		CONTINUOUSLY SHEATHED	3/8
/2"x0.131") NAIL ( 2-1/2"x0.120") NAI		6		12		WOOD STRUCTURAL PANEL	3/6
/x0.148") NAIL OR 2-1/2"x0.120") NAI		6		12	-		
2-172 X0.120 ) IVAI						PFH - PORTAL FRAME WITH HOLD DOWNS	3/8
						PFG - PORTAL FRAME AT GARAGE	3/8
2.1 PLACEMENT OF LAG SCREWS AND BOLTS IN DECK LEDGERS AND BAND JOISTS						LIB LET-IN-BRACING	1x4 WOOD OR APPROVED METAL STRAPS AT 45 TO 60 DEGREE ANGLES FOR
AND EDGE DISTA	ANCES AND SF INCHES)	ACING BETWE	EN ROWS				MAX 16" STUD SPACING
TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING				
2	1/4	2	1-5/8			GB-GYPSUM	1/2
3/4	2	2	1-5/8			BOARD	

REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES IRC TABLE 602.3(3) (PARTIAL)								)2.3(3) (PARTIAL)
	MINIMU	JM NAIL	MINIMUM WOOD STRUCTURAL	MINIMUM NOMINAL PANEL THICKNESS (IN)  MAX WALL STUD SPACING	PANEL NAIL SPACING		ULTIMATE DESIGN WIND SPEED V ULT (MPH)	
	SIZE	PENETRATION (IN)	- PANEL SPAN RATING		S (IN)	EDGES (IN O.C.)	FIELD (IN O.C.)	В
	6d COMMON	1.5	24/0	3/8	16	6	12	140
	84 COMMON	N 1.75	24/16	7/16	16	6	12	170
	8d COMMON				24	6	12	140

MINIMUM WALL STUD FRAMING NOMINAL SIZE AND GRADE	MAXIMUM PONY WALL HEIGHT (FEET)	MAXIMUM TOTAL WALL HEIGHT (FEET)	MAXIMUM OPENING WIDTH (FEET)	TENSION STRAP CAPACITY REQUIRED (POUNDS) FOR 90 MPH EXPOSURE B
	0	10	18	1,000
			9	1,000
	1	10	16	1,000
			18	1,000
			9	1,200
	2	10	16	1,000
2x4 NO 2 GRADE			18	2,025
			9	2,400
	2	12	16	1,200
			18	3,200
			9	3,200
	4	12	16	2,350
			18	DR
			9	1,000
	2	12	16	2,050
2x6 STUD			18	2,450
GRADE			9	1,500
	4	12	16	3,150
			18	3,675

MINIMUM LENGTH OF BRACED WALL PANELS TABLE R602.10.5 (PARTIAL)						
		MININ	IUM LENGTH (	INCHES)		
M	ETHOD		WALL HEIGHT	Γ		
		8 FEET	9 FEET	10 FEET		
	SUPPORTING ROOF ONLY	16	16	16		
PFH	SUPPORTING ONE STORY AND ROOF	24	24	24		
	PFG	24	27	30		
(	CS-PF	16	18	20		
CS-WSP	ADJACENT CLEAR OPENING HEIGHT (INCHES)					
	LESS THAN OR EQUAL TO 64	24	27	30		

BRACING METHODS TABLE R602.10.4 (PARTIAL)

MINIMUM

THICKNESS

METHODS,

MATERIAL

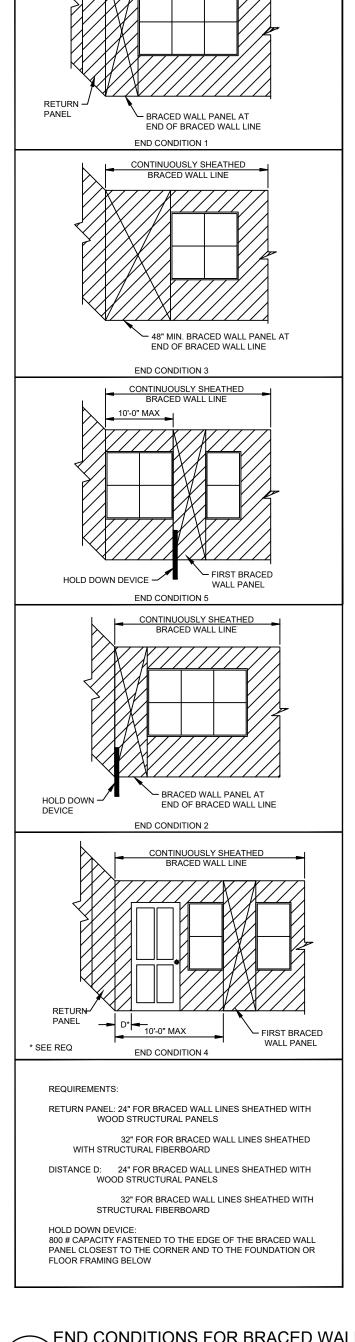
WSP - WOOD STRUCTURAL

PANEL

CS-WSP

				END CONDITION 3		
16		16	16	CONTINUOUSLY SHEATHED BRACED WALL LINE 10'-0" MAX		
24		24	24			
24		27	30			
16 18		18	20			
				HOLD DOWN DEVICE FIRST BRACED WALL PANEL END CONDITION 5		
24 27		27	30	CONTINUOUSLY SHEATHED BRACED WALL LINE		
T	ABLE R60	02.10.4 (PAF	RTIAL)			
		CONNECT	ION CRITEIA			
	FAST	ENERS	SPACING			
	EXTERIOR SHEATHING PER TABLE R602.3(3)		6" EDGES, 12" FIELD	HOLD DOWN BRACED WALL PANEL AT		
	SHEATI TABLE	INTERIOR SHEATHING PER TABLE R602.3(1) OR R602.3(2) FASTENER		END OF BRACED WALL LINE  END CONDITION 2  CONTINUOUSLY SHEATHED  BRACED WALL LINE		
	EXERIOR SHEATHING PER TABLE R602.3(3)  INTERIOR SHEATHING PER TABLE R602.3(1) OR R602.3(2)		6" EDGES, 12" FIELD			
			VARIES BY FASTENER			
		RC SECTION SEE IRC SECTION R602.10.6.2		* SEE REQ END CONDITION 4		
		SECTION 1.10.6.3	SEE IRC SECTION R602.10.6.3	REQUIREMENTS:  RETURN PANEL: 24" FOR BRACED WALL LINES SHEATHED WITH		
	COMMO	WOOD: 2-8d COMMON NAILS OR 3-8d NAILS  METAL STRAP: PER ANUFACTURER  WOOD: PER STUD AND TOP AND BOTTOM PLATES  METAL: PER MANUFACTURER		WOOD STRUCTURAL PANELS  32" FOR FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD  DISTANCE D: 24" FOR BRACED WALL LINES SHEATHED WITH WOOD STRUCTURAL PANELS  32" FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD  HOLD DOWN DEVICE:		
	Р					
	SCRE' TABLE FOR EX	LS OR WS PER R602.3(1) KTERIOR ATIONS	FOR ALL BRACED WALL PANEL LOCATIONS: 7"	800 # CAPACITY FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FLOOR FRAMING BELOW		
NAILS OR SCREWS PER TABLE R702.3.5 FOR INTERIOR LOCATIONS		WS PER R702.3.5 ITERIOR	EDGES (INCLUDING TOP AND BOTTOM PLATES) 7" FIELD	END CONDITIONS FOR BRACED WALL  LINES WITH CONTINUOUS  SHEATHING (IRC FIGURE R602.10.7)  N.T.S.		

ENGINEERED LUMBER MINIMUM DESIGN REQUIREMENTS						
	fb (PSI)	E (PSI)	Fv (PSI			
VERSA-LAM LVL	3100	2.0x106	285			
DOUGLAS FIR-LARCH #2	900	1.6x106	180			



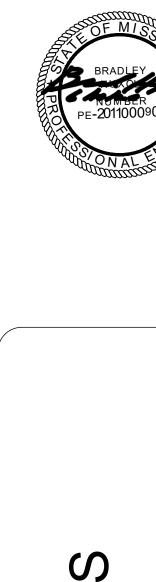
N.T.S.

RELEASE FOR

CONSTRUCTION

AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

06/10/2020



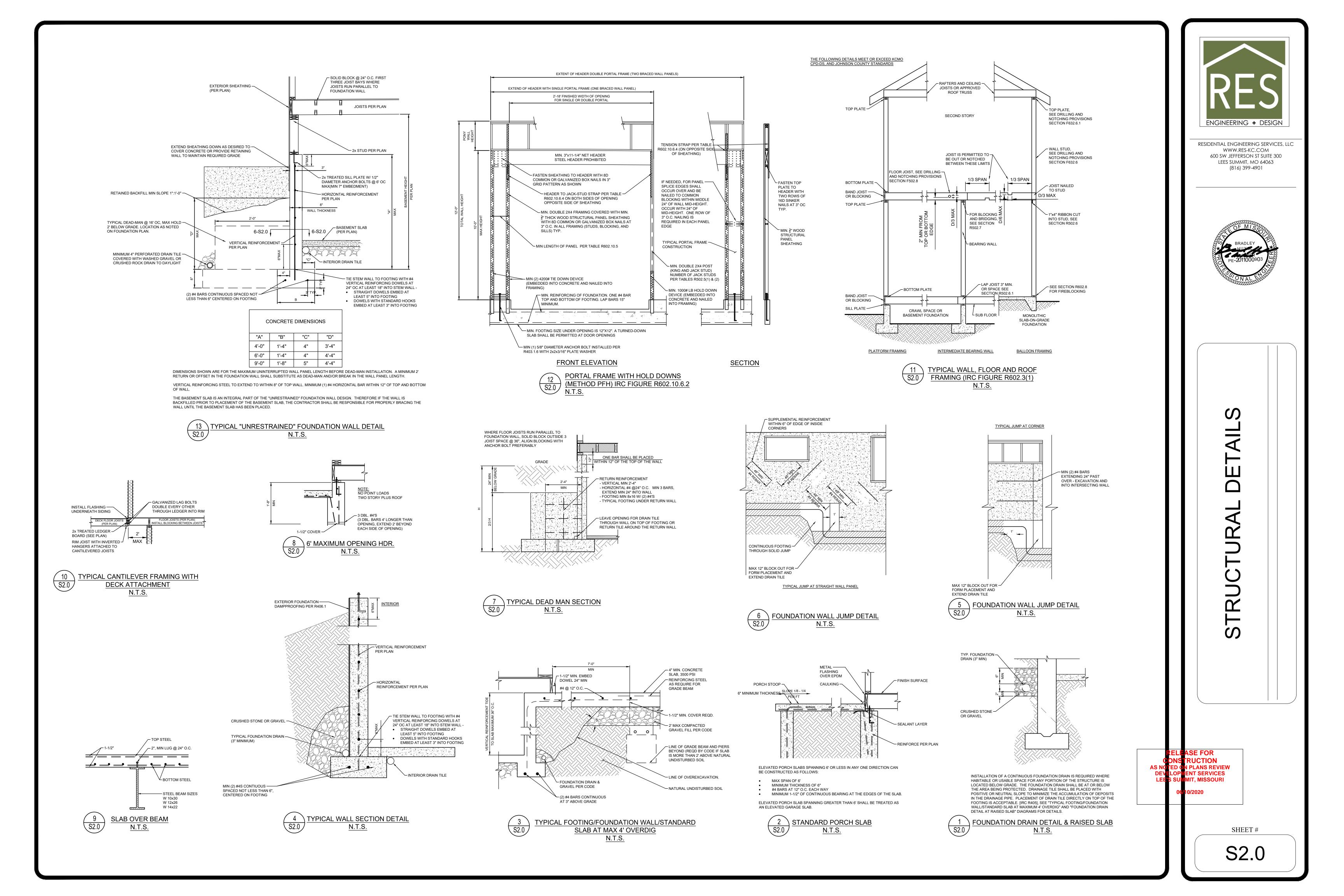
ENGINEERING + DESIGN

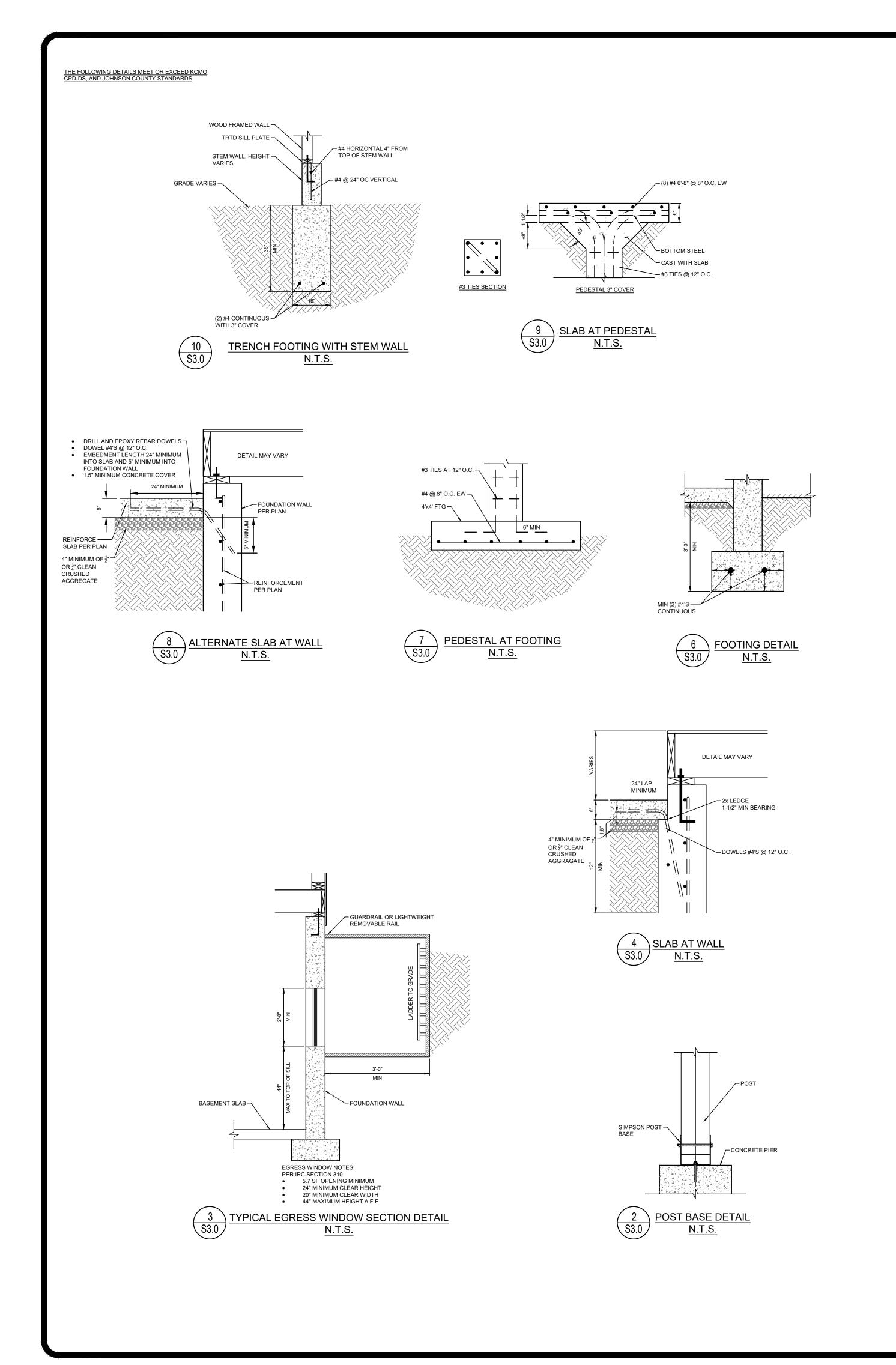
RESIDENTIAL ENGINEERING SERVICES, LLC WWW.RES-KC.COM 600 SW JEFFERSON ST SUITE 300 LEES SUMMIT, MO 64063 (816) 399-4901

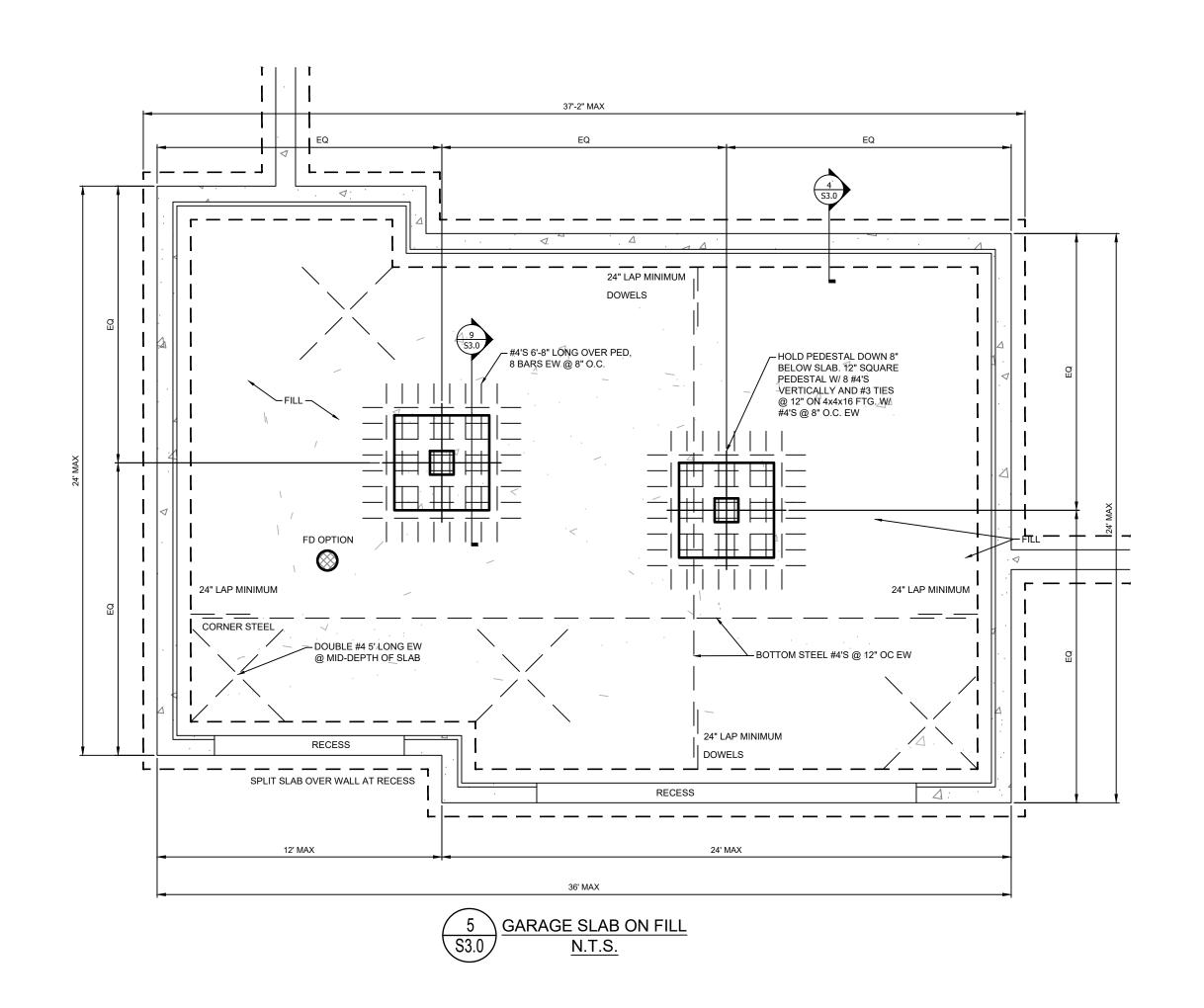
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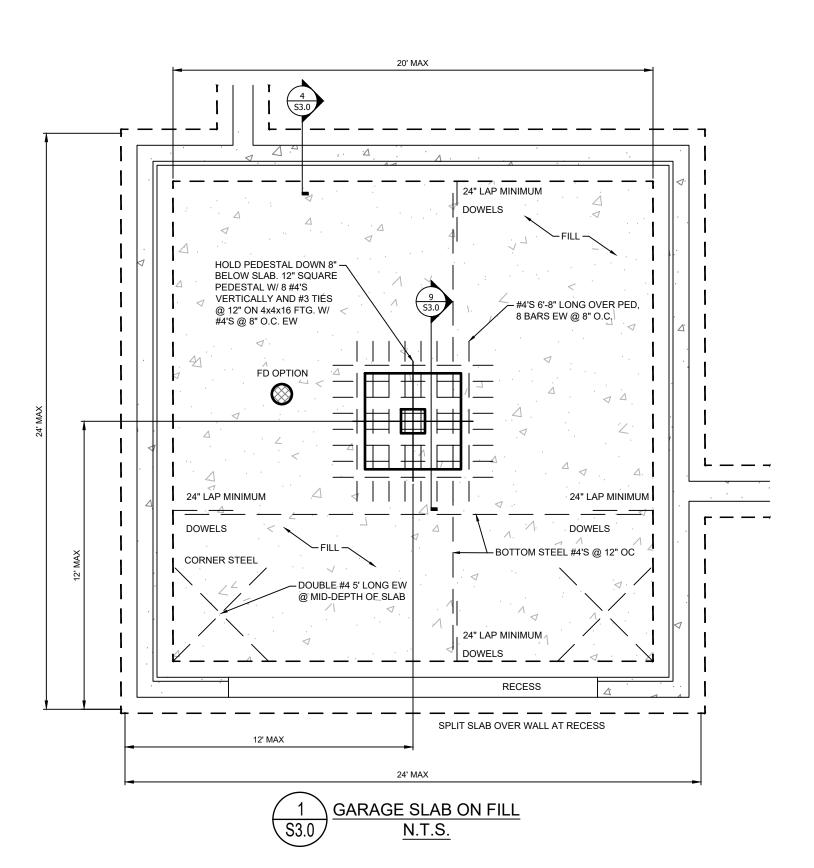
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RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

06/10/2020



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FOUNDATION DETAILS

SHEET #

S3.0