

### FRONT & REAR ELEVATION NOTES

- 1.12 TOP OF FOOTING DEPTH DETERMINED PER SITE.
- 1.41 6X6 CEDAR POST
- 1.71 CONCRETE WINDOW WELL FOR EGRESS WITH LADDER. PROVED SLEEVE THROUGH WALL FOR FOUNDATION DRAIN. TOP OF WINDOW WELL TO BE 3" BELOW TOP OF FOUNDATION.
- 2.62 DOUBLED 1"X8" LP SMART TRIM. 1 1/2" ARCH ON GARAGE DOOR TRIM UNLESS NOTED OTHERWISE ON ELEVATION.
- 3.11 LP SMART LAP SIDING WITH 5/4X6 LP SMART TRIM AROUND DOORS, WINDOWS, AND CORNERS UNLESS NOTED OTHERWISE.
- 3.13 LP SMART PANEL SIDING WITH 3/4X4 LP SMART TRIM AROUND DOORS, WINDOWS, AND CORNERS UNLESS NOTED OTHERWISE. BOTTOM OF SIDING SHALL BE A MINIMUM OF 6" ABOVE GRADE.
- 3.14 CEDAR SHAKE SHINGLE SIDING.
- 3.17 MANUFACTURED STONE VENEER.
- 3.18 CAST STONE CAP
- 3.58 2X CEDAR TRIM SEE ELEVATIONS FOR SIZE. 3.62 CEDAR SHUTTERS. ALL SHUTTERS TO BE 18" WIDE
- USING (3) 2X6 BOARDS. LP SMART TRIM TO BE INSTALLED AROUND WINDOW PRIOR TO SHUTTER INSTALLATION.
- 3.86 DOUBLE TRIM WHERE ADJACENT TO STONE
- 4.00 COVERING WILL HAVE 1 ROOF VENT AND 4 SOFFIT
- SHINGLES ON 15# FELT ON 1/2" OSB SHEATHING OR AS REQUIRED BY CODE.
- 4.31 BUILD CRICKET VALLEY AWAY FROM INTERSECTION FOR POSITIVE DRAINAGE.
- 7.24 TOP OF FIREPLACE VENT TO BE 13" BELOW SOFFIT.

CPG DBA

120 SE 30TH ST. LEE'S SUMMIT, MO 64082 816-246-6700

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REFRE

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

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.

- A1. FRONT AND REAR ELEVATION
- A2. LEFT AND RIGHT ELEVATION

**FINISHED** 

UNFINISHED

**REVISIONS** 

DESCRIPTION

- A3. FOUNDATION LEVEL PLAN
- A4. MAIN LEVEL PLAN
- A5. ROOF PLAN

PROFESSIONAL SEAL:
BRADLEY HUXOL NUMBER PE-20119009037

**EVERSTEAD IS RESPONSIBLE FOR** STRUCTURAL SPECIFICATIONS ONLY. ARCHITECTURAL PLANS WERE PRODUCED BY OTHERS.

EVERSTEAD 600 SW JEFFERSON SUITE 300 LEE'S SUMMIT, MO 64063 816-399-4901

2165

DRAWN BY: J. ROSENBLUM

**TRUSS** I-JOIST ISSUE DATE: 06.08.21 BFS

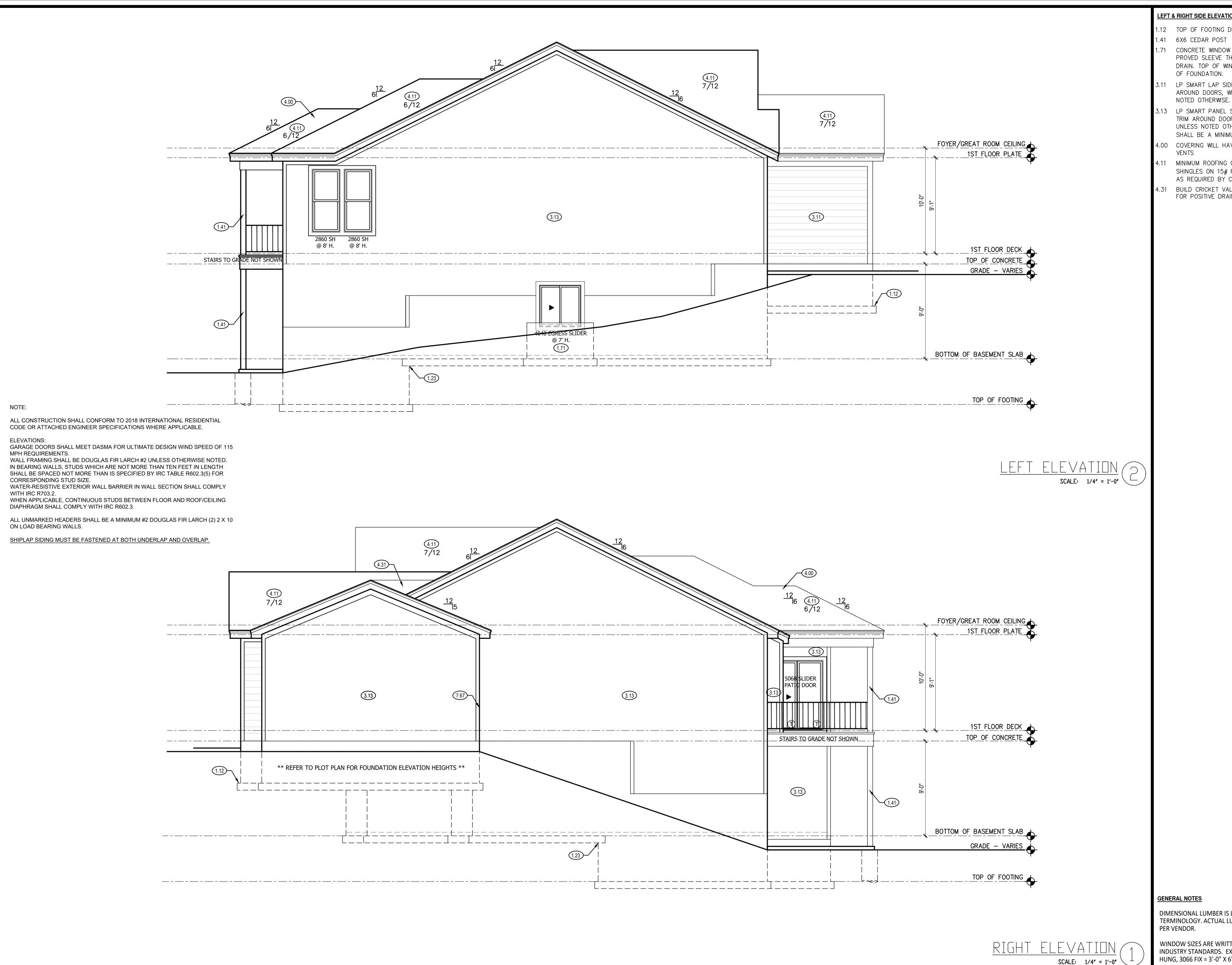
1326

839

345

653

SHEET NUMBER:



**LEFT & RIGHT SIDE ELEVATION NOTES** 

- 1.12 TOP OF FOOTING DEPTH DETERMINED PER SITE.
- 1.71 CONCRETE WINDOW WELL FOR EGRESS WITH LADDER. PROVED SLEEVE THROUGH WALL FOR FOUNDATION DRAIN. TOP OF WINDOW WELL TO BE 3" BELOW TOP OF FOUNDATION.
- 3.11 LP SMART LAP SIDING WITH 5/4X6 LP SMART TRIM AROUND DOORS, WINDOWS, AND CORNERS UNLESS
- 3.13 LP SMART PANEL SIDING WITH 3/4X4 LP SMART TRIM AROUND DOORS, WINDOWS, AND CORNERS UNLESS NOTED OTHERWISE. BOTTOM OF SIDING SHALL BE A MINIMUM OF 6" ABOVE GRADE.
- 4.00 COVERING WILL HAVE 1 ROOF VENT AND 4 SOFFIT
- 4.11 MINIMUM ROOFING COMPOSITION- 30 YR COMPOSITE SHINGLES ON 15# FELT ON 1/2" OSB SHEATHING OR AS REQUIRED BY CODE.
- 4.31 BUILD CRICKET VALLEY AWAY FROM INTERSECTION FOR POSITIVE DRAINAGE.

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**EVERSTEAD** 600 SW JEFFERSON SUITE 300 LEE'S SUMMIT, MO 64063 816-399-4901

DRAWN BY:

ISSUE DATE: 06.08.21

SHEET NUMBER:

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

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.

ALL CONSTRUCTION SHALL CONFORM TO 2018 INTERNATIONAL RESIDENTIAL CODE OR ATTACHED ENGINEER SPECIFICATIONS WHERE APPLICABLE.

ALL UNMARKED HEADERS SHALL BE A MINIMUM #2 DOUGLAS FIR LARCH (2) 2 X 10 ON LOAD BEARING WALLS.

**DETAILS AND NOTES:** 

BASEMENT EGRESS WINDOWS ARE TO COMPLY WITH IRC R310.2. WINDOW FALL PROTECTION REQUIREMENTS TO COMPLY WITH SECTION R612.2. STAIRS SHALL COMPLY WITH IRC R311.7. THE MAXIMUM RISER HEIGHT OF STAIRWAYS SHALL NOT EXCEED 7-3/4" AND THE TREADS SHALL PROVIDE A MINIMUM TREAD DEPTH OF 10" (IRC 2018 R311.7.5.1). SELF CLOSING DEVICES ARE REQUIRED FOR GARAGE TO DWELLING SEPARATION

STEEL COLUMNS WILL BE A MINIMUM OF SCHEDULE 40.

ENERGY REQUIREMENTS SHALL CONFORM TO THE IRC CHAPTER 11.

SECURITY SHALL CONFORM TO IRC R326/KCBRC. AN ACCESSIBLE CONNECTION POINT WILL BE PROVIDED TO A 20 FOOT CONCRETE ENCASED ELECTRODE (FOOTING REBAR) FOR THE ELECTRICAL SERVICE GROUNDING ELECTRODE CONDUCTOR (UFER GROUND).

CARBON MONOXIDE DETECTORS WILL BE PROVIDED IN ACCORDANCE WITH IRC SECTION R315.

THE BUILDING THERMAL ENVELOPE IS REQUIRED TO BE SEALED(2018 IRC SECTION N1102.4.1 AND TABLE N1102.4.1.1).

DUCTS, AIR HANDLERS, FILTER BOXES AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED (2018 IRC SECTION N1103.2.2)

FLOOR PLANS:

LEDGERS(FLOOR AND CEILING) SHALL BE IN ACCORDANCE WITH IRC 507. ALL CANTILIEVERS SHALL HAVE AT LEAST A 3:1 BACK SPAN. A MINIMUM OF DOUBLE JOIST UNDER EACH BEARING WALL IS REQUIRED.

ALL WALLS UNDER 12' SHALL BE DOUGLAS FIR LARCH #2 2X4 STUDS AT 16" O.C. FULL HEIGHT CONTINUOUS (UNLESS OTHERWISE NOTED).

ALL WALLS 12' AND OVER SHALL BE DOUGLAS FIR #2 (M-12) LUMBER 2x6 STUDS AT 16" O.C. FULL HEIGHT CONTINUOUS (UNLESS OTHERWISE NOTED).

**GIRDER TRUSS BEARING:** 

MIN. STUD PACK OF (4) 2 x 4 OR (4) 2 x 6 DOUGLAS FIR LARCH #2 (DEPENDING ON WALL THICKNESS) BELOW EACH BEARING POINT OF EACH GIRDER TRUSS. UNLESS OTHERWISE NOTED. STUD PACKS SHALL BE CARRIED DOWN TO FOUNDATION OR LOAD SUPPORTING MEMBER.

PROVIDE 2X SOLID BLOCKING SUPPORT BELOW ALL POINT LOADS CONTINUOUS TO BEARING STRUCTURE AND/OR FOUNDATION BELOW.

STEEL BEAM FLANGE WIDTH: W8 x18-5.25" W8X10 - 3.94"

LVL'S SHALL BE: **BOISE CASCADE** VERSA-LAM 3100 FB

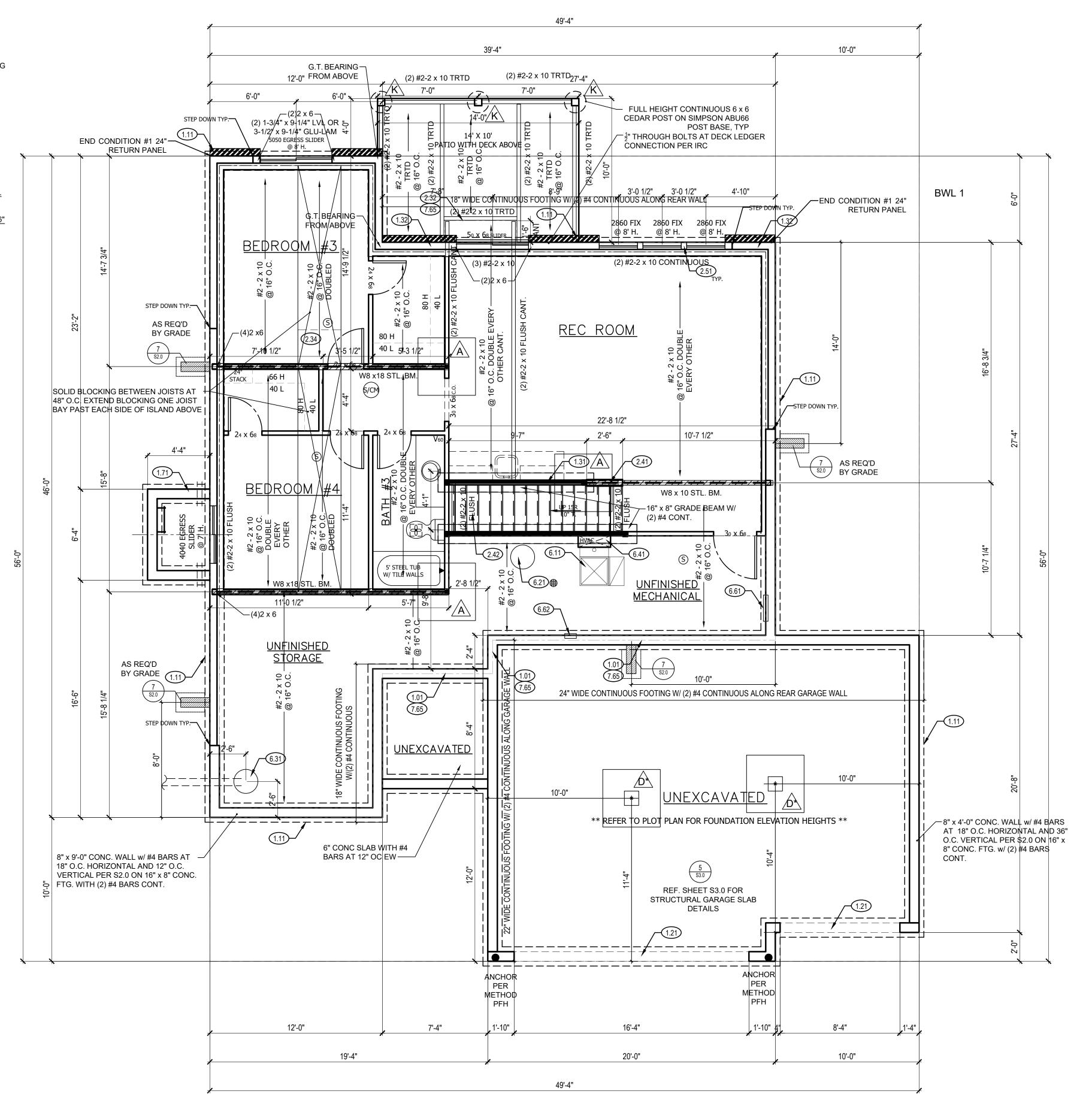
GLU-LAMS SHALL BE: DF 24F-V4 - WESTERN

ISOLATED FOOTINGS AND COLUMN PADS									
SYM	PIER PAD SIZE	DEPTH	RE		RCE	IIMUM MENT I STE	GRADE	│ │ C□L	IEDULE 40 STEEL _UMN, MIN _= 35 KSI
A	30″×30″	1′-0″		(5)	#4	BAR	E.W.		DIAMETER
B	36″×36″	1'-0"		(6)	#4	BAR	E.W.	3″	DIAMETER
<u></u>	42″×42″	1'-2"		(7)	#4	BAR	E.W.	3″	DIAMETER
Ď	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 <i>"</i>	DIAMETER
IS	COLATE	D FO	ПΤ	INC	iS	AND	COLL	JMN	PADS
SYM	PIER DIAMETI	ER DEP	ТН	MINI	MUM		NFORCEM		GRADE 40
	12"	3'-	0″			(4)	VERTIC	AL #	‡4
< √	16"	3'-	0″		(4) VERTIC		VERTIC	AL #	‡4
$\triangle$	18"	3'-	0″			(4)	VERTIC	AL #	‡4
$\bigwedge$	24"	3'-	0″			(4)	VERTIC	AL #	‡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.

(4) VERTICAL #4

28"



**FOUNDATION PLAN NOTES** 

1.01 HOLD SILL PLATE BACK 4"

1.11 CONTINUOUS CONCRETE FOOTING

1.21 RECESS TOP OF FOUNDATION WALL

1.31 2X4 STUD WALL WITH TREATED SILL PLATE

1.32 2X6 STUD WALL WITH TREATED SILL PLATE 1.71 CONCRETE WINDOW WELL FOR EGRESS WITH LADDER. PROVED SLEEVE THROUGH WALL FOR FOUNDATION DRAIN. TOP OF WINDOW WELL TO BE 3" BELOW TOP OF FOUNDATION.

2.32 INSULATE CANTILEVER AS REQUIRED PRIOR TO BLOCKING

2.34 PROVIDE ADDITIONAL BRACING FOR ISLAND ABOVE.

2.41 CURB STAIR SYSTEM WITH OPEN HANDRAILS

2.42 FIRE RATED SHEETROCK UNDER STAIRS

2.51 3 STUDS BETWEEN WINDOW UNITS

6.11 DIRECT FURNACE. FUEL BURNING APPLIANCES SHALL BE DIRECT VENTED TO EXTERIOR FOR COMBUSTION

6.21 HOT WATER HEATER WITH THERMAL EXPANSION CONTROL DEVICE

PROTECTION. PROVIDE SLEEVE THROUGH FOOTING. 6.41 HVAC CHASE ABOVE

6.31 SUMP PIT AND PUMP. PROVIDE ELECTRICAL GFCI

6.61 200 AMP ELECTRICAL PANEL. LOCATION TO BE

DETERMINED ON SITE.

6.62 UFER GROUND- VERIFY LOCATION WITH PROJECT MANAGER.

7.65 LINE OF FLOOR ABOVE

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### **GENERAL NOTES**

REQUIREMENTS.

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

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

ALL SILLS & SLEEPERS SUPPORTED ON CONCRETE OR MASONRY SHALL BE OF DECAY-RESISTANT MATERIALS.

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

ALL INTERIOR NON-LOAD BEARING, NON-BRACED, NON-CABINET WALLS ARE ALLOWED AT 24" O.C.

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

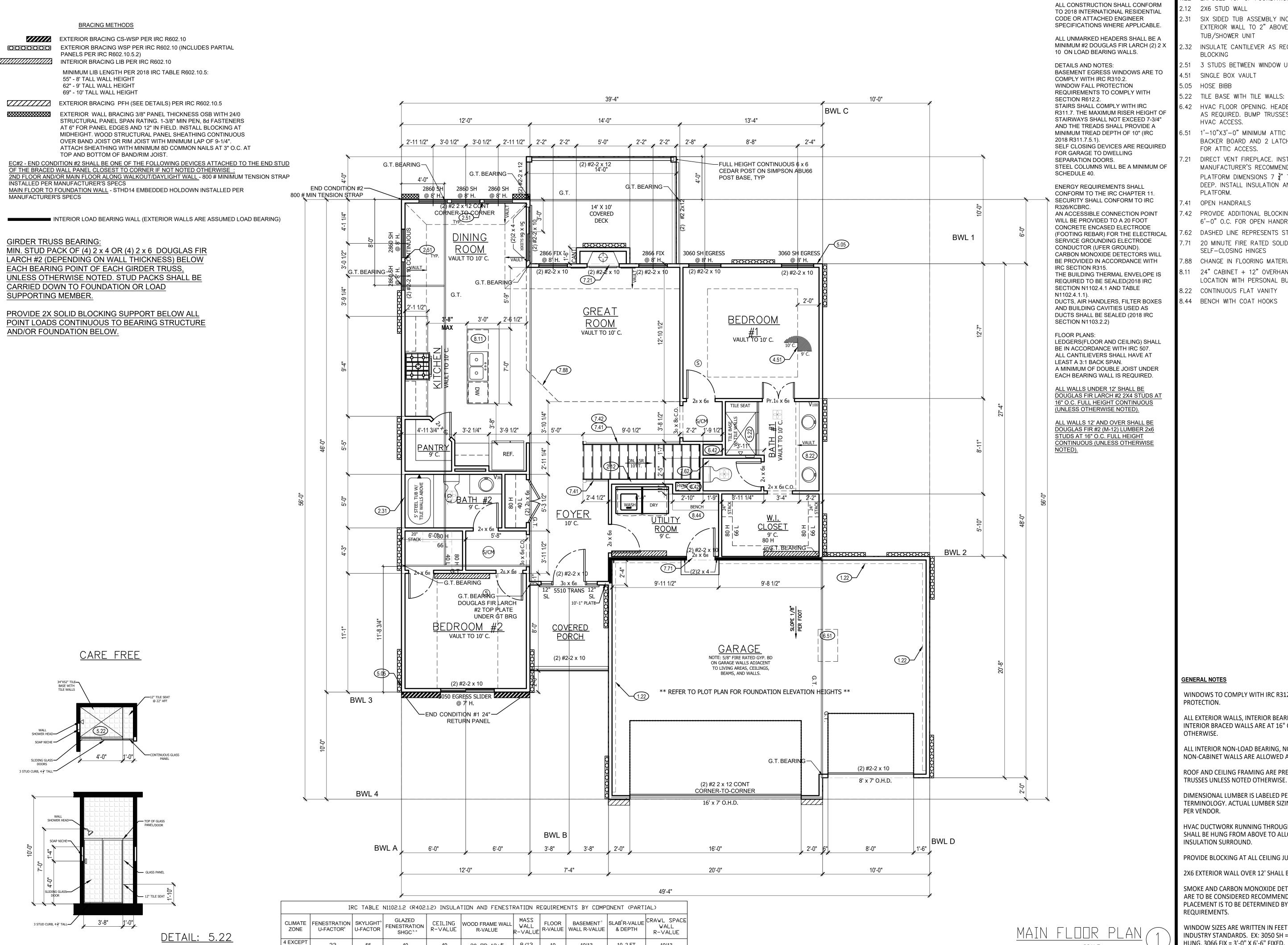
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DRAWN BY: J. ROSENBLUM

> ISSUE DATE: 06.08.21

SHEET NUMBER:





20 DR 13+5 8/13

.32

MARINE

.55

10, 2 FT

10/13

19

10/13

MAIN FLOOR PLAN NOTES

.22 EXPOSED TOP OF FOUNDATION WALL.

.12 2X6 STUD WALL

- 2.31 SIX SIDED TUB ASSEMBLY INCLUDING THERMOPLY ON EXTERIOR WALL TO 2" ABOVE TOP OF TUB DECK OR TUB/SHOWER UNIT
- 2.32 INSULATE CANTILEVER AS REQUIRED PRIOR TO
- BLOCKING 2.51 3 STUDS BETWEEN WINDOW UNITS
- 1.51 SINGLE BOX VAULT
- 5.05 HOSE BIBB
- 5.22 TILE BASE WITH TILE WALLS: SEE DETAIL.
- 6.42 HVAC FLOOR OPENING. HEADER OFF FLOOR JOISTS AS REQUIRED. BUMP TRUSSES AS NECESSARY FOR HVAC ACCESS.
- 5.51 1'-10"X3'-0" MINIMUM ATTIC ACCESS WITH 3/4" BACKER BOARD AND 2 LATCHES. BUMP TRUSSES FOR ATTIC ACCESS.
- 21 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.
- 7.41 OPEN HANDRAILS
- 7.42 PROVIDE ADDITIONAL BLOCKING UNDER SUBFLOOR @ 6'-0" O.C. FOR OPEN HANDRAIL.
- 7.62 DASHED LINE REPRESENTS STAIRS BELOW
- 7.71 20 MINUTE FIRE RATED SOLID CORE WITH
- SELF-CLOSING HINGES 7.88 CHANGE IN FLOORING MATERIAL
- 3.11 24" CABINET + 12" OVERHANG FLAT ISLAND. VERIFY
- LOCATION WITH PERSONAL BUILDER. 8.22 CONTINUOUS FLAT VANITY
- 8.44 BENCH WITH COAT HOOKS

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> Щ REF

# **GENERAL NOTES**

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

WINDOWS TO COMPLY WITH IRC R312.2 FOR FALL PROTECTION.

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

ALL INTERIOR NON-LOAD BEARING, NON-BRACED, NON-CABINET WALLS ARE ALLOWED AT 24" O.C.

ROOF AND CEILING FRAMING ARE PRE-ENGINEERED WOOD

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

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

PROVIDE BLOCKING AT ALL CEILING JUMPS FOR INSULATION.

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

SMOKE AND CARBON MONOXIDE DETECTORS SHOW 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.



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> DRAWN BY: J. ROSENBLUM

**ISSUE DATE:** 

06.08.21

SHEET NUMBER:

TRUSS ROOF NOTES: (BY OTHERS)

1) DESIGNED FOR LIGHT ROOF COVERING TOP CHORD:

LIVE LOAD/SNOW LOAD (PSF): 25

DEAD LOAD (PSF): 10

BOTTOM CHORD:

- DEAD LOAD(PSF): 10
  2) ALL EXTERIOR AND/OR LOAD BEARING WALL HEADERS
- SHALL BE MIN. (2) #2 2 x 10 UNLESS OTHERWISE NOTED.

  3) CONSULT ENGINEER IF TRUSSES BEAR ON INTERIOR WALLS SHOWN AS NON-LOAD BEARING ON APPROVED PRINTS.

4) ROOF IS ENGINEERED TO COMPLY WITH IRC 802

= ROOF TRUSS FRAMING DIRECTION

"G.T." = GIRDER TRUSS LOCATION

= INTERIOR LOAD BEARING WALL

### NOTE

ALL CONSTRUCTION SHALL CONFORM TO 2018 INTERNATIONAL RESIDENTIAL CODE OR ATTACHED ENGINEER SPECIFICATIONS WHERE APPLICABLE.

### ROOF:

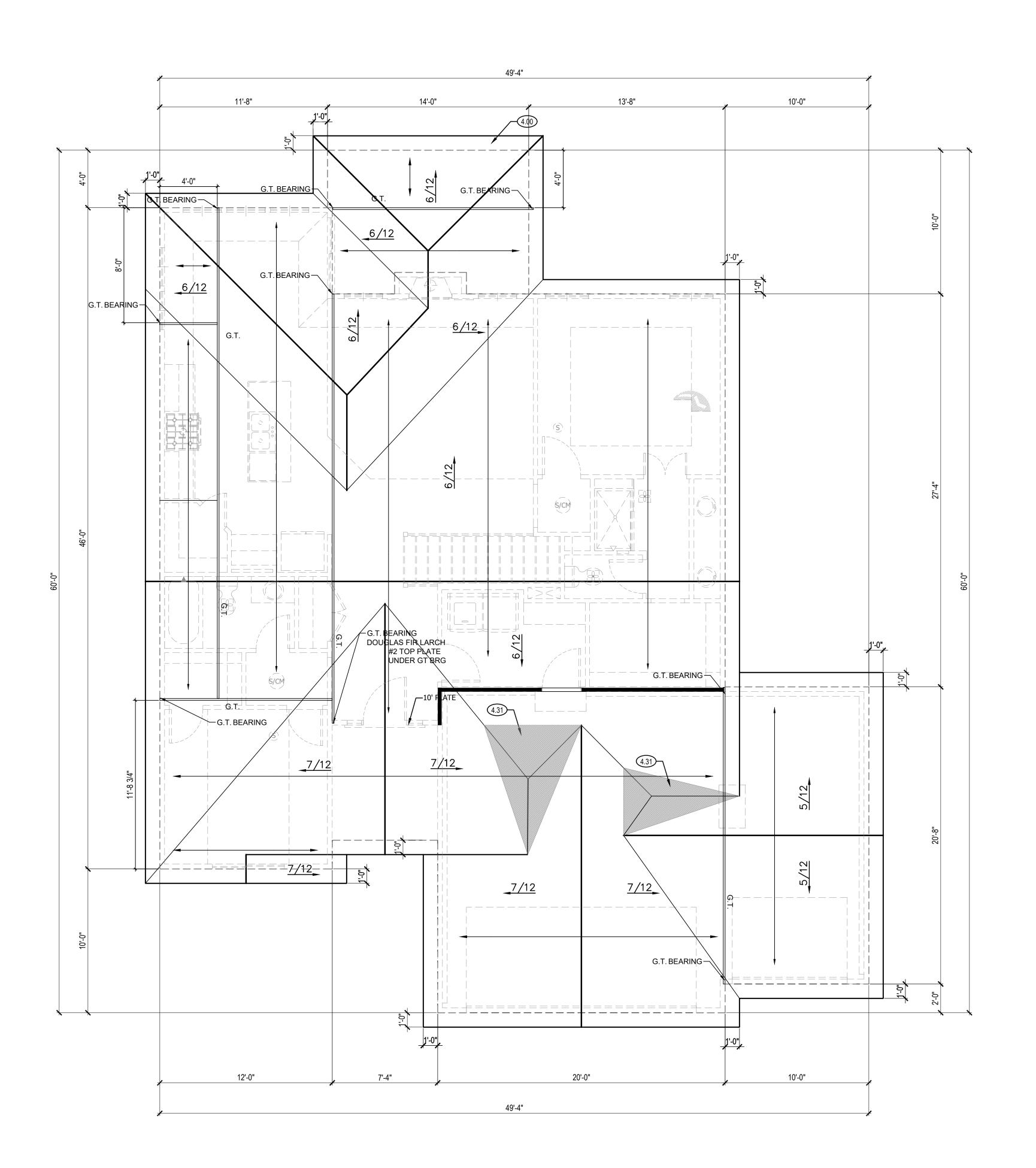
ROOF IS DESIGNED FOR 20 PSF SNOW LOAD.
WOOD TRUSSES SHALL BE IN ACCORDANCE WITH IRC SECTION R802.10.
CEILING JOIST OR RAFTER TIE CONNECTIONS BETWEEN RAFTERS, RIDGE BEAM, REQUIRED COLLAR TIES OR RIDGE STRAPS SHALL COMPLY WITH DETAILS AND

GIRDER TRUSS BEARING:

IRC SECTION R802, R802.3, R802.3.1, R802.11.

MIN. STUD PACK OF (4) 2 x 4 OR (4) 2 x 6 DOUGLAS FIR LARCH #2 (DEPENDING ON WALL THICKNESS) BELOW EACH BEARING POINT OF EACH GIRDER TRUSS, UNLESS OTHERWISE NOTED. STUD PACKS SHALL BE CARRIED DOWN TO FOUNDATION OR LOAD SUPPORTING MEMBER.

PROVIDE 2X SOLID BLOCKING SUPPORT BELOW ALL POINT LOADS CONTINUOUS TO BEARING STRUCTURE AND/OR FOUNDATION BELOW.



### **ROOF PLAN NOTES**

- 4.00 COVERING WILL HAVE 1 ROOF VENT AND 4 SOFFIT VENTS
- 4.11 MINIMUM ROOFING COMPOSITION— 30 YR COMPOSITE SHINGLES ON 15# FELT ON 1/2" OSB SHEATHING OR AS REQUIRED BY CODE.
- 4.31 BUILD CRICKET VALLEY AWAY FROM INTERSECTION FOR POSITIVE DRAINAGE.



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ANGSTON - CAREFREE

CRAFTSMAN

HAWTHORN #10



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DRAWN BY:

J. ROSENBLUM

ISSUE DATE:

06.08.21

## GENERAL NOTES

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

ROOF AND CEILING FRAMING ARE PRE-ENGINEERED ROOF TRUSSES.

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

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

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

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

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

PROVIDE BLOCKING AT ALL CEILING JUMPS FOR INSULATION.

PROVIDE FOAM INSULATION AT EXTERIOR WHERE MAIN LEVEL ROOF LINE MEETS UPPER LEVEL WALLS.

SHEET NUMBER:

RELEASE FOR

CONSTRUCTION

AS NOTED ON PLANS REVIEW

DEVELOPMENT SERVICES

LEE'S SUMMIT, MISSOURI

07/01/2021

### 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 HEAVY ROOF ROOF + CEILING (NO STORAGE) ROOF + CEILING (STORAGE) CEILING JOISTS (STORAGE) EXTERIOR BACONIES / DECK INTERIOR FLOOR (MAIN FLOOR) INTERIOR FLOOR (UPPER FLOORS)	10 PSF +10 PSF 15 PSF 20 PSF 10 PSF 10 PSF 15 PSF	(CONCRETE, SLATE, TILE)
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 I	NCLUDED IN	15 PSF DEAD LOAD)

LIVE		
ROOF LIVE LOAD FLOOR LIVE LOAD GARAGE	15 PSF 40 PSF 50 PSF	(HABITABLE)
STORAGE GUARDRAIL	20 PSF	(UN-INHABITABLE)
CONTINUOUS LINEAR MAXIMUM POINTLOAD	50 PLD 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 1,500 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</u> MEASURED FROM THE BOTTOM OF CONCRETE ON 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 TO 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.
- 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 60 KSI UNLESS NOTED OTHERWISE. REINFORCING BAR SHALL BE GRADE 60 MINIMUM.

### CONCRETE REINFORCEMENT STEEL

- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
- 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 =  $12x\emptyset_{BAR}$ -BEND DIAMETER =  $12X\emptyset_{BAR}$
- 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 I	BARS	OTHER	RBARS				
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:

STEEL DECK - SUSPENDED SLABS STEEL DECK QUALITY, FABRICATION, DELIVERY, INSTALLATION AND ATTACHMENT SHALL COMPLY WITH THE PROVISIONS OF THE STEEL DECK INSTITUTE, SDI.

CONTRACTOR AND/OR DECK MANUFACTURER SHALL FURNISH ALL NECESSARY DECK CLOSURE ACCESSORIES TO PROVIDE A FINISHED SURFACE FOR THE APPLICATION OF ROOF INSULATION AND ROOF

STEEL FLOOR DECK SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON CONSTRUCTION DRAWINGS:

- 2" COMPOSITE DECK WITH 6" TOTAL SLAB THICKNESS
- 19GA DESIGN THICKNESS MAXIMUM SINGLE SPAN DURING CONSTRUCTION OF 8', 2 SPAN OF 10'-1", OR 3 SPAN OF 10'-5".
- MAXIMUM SPAN SHALL NOT EXCEED 12.5'. 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"
- 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. CONTRACTOR AND/OR DECK MANUFACTURER SHALL FURNISH ALL NECESSARY POUR STOPS, COLUMN

### STRUCTURAL STEEL

- 1. STEEL DESIGN, FABRICATION, AND ERECTION SHALL CONFORM WITH AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- 2. STEEL GRADE AND SPECIFICATION SHALL BE AS FOLLOWS:

CLOSURES, END PLATES, AND COVER PLATES AS NEEDED.

**HOLLOW STRUCTURAL SECTIONS:** ASTM A500 (Fy = 46 KSI) ASTM A36 (Fy = 36 KSI) CHANNELS, PLATES AND ANGLES: WIDE FLANGES: ASTM A992 (Fy = 50 KSI) ASTM A53 GR. B (Fy= 35 KSI) COLUMNS:

### 3. BOLTS SHALL CONFORM TO ASTM A307

ANCHOR RODS:

- 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
- 5. 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 IRC N1102.4.4.
- 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 N1103.3.2.1.
- 4. BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS.
- 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 IRC M1504.3.
- 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.

- 1. 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 BALANCE SYSTEM.
- 6. SELF CLOSING DEVICES SHALL BE INSTALLED FOR GARAGE AND/OR DWELLING SEPARATION DOORS
- 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).

- 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

ASTM F1554 (Fy = 36 KSI)

- 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:

- 1. 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
- 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.



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SHEET #



	2018 IR	C TABLE R602.3(1) (SEE IRC FOR FOOT)	NOTES)
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 3-16d BOX NAILS (3-1/2"x0.135") OR	TOE NAIL
	TO MINIMUM 2" RIDGE BEAM	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	
	STUD TO STUD (NOT AT BRACED	16D COMMON (3-1/2" X 0.162")	24" O.C. FACE NAIL
8	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
40	TOD DI ATE TO TOD DI ATE	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)
4.4	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"	FACE NAIL
		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	

3-10D BOX (3" X 0.128"); OR

6' AND LESS

36

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

4 STAPLES, 1" CROWN, 16 GA.., 1-3/4" LONG

6'1 TO 8'

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

6d COMMON

8d COMMON

	2018 IR	RC TABLE R602.3(1) (SEE IRC FOR FOOTI	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. T	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. T	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 BOTTOM		
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 TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES		
	LOWIDLIN LATENS	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 AN		
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 NAIL		
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		
			SPACING OF	FASTENERS	
ITEM	DESCRIPTION OF BUILDING 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 UI	NDERLAYMENT TO FF	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	

1.5

24/0

3/4	2	2	1-5/8			ВО	ARD	1/2	NAILS OR SCREWS PER TABLE R702.3.5 FOR INTERIOR LOCATIONS	EDGES (INCLUDING TOP AND BOTTOM PLATES) 7" FIELD	(
REQUIREMENT	S FOR WOOD	STRUCTURA	AL PANEL WALL S	SHEATH	HING USED TO	RESIST	WIND PRESS	SURES IRC TAB	E 602.3(3) (PARTI	AL)	
MINIMUM NAIL		CTURAL					PANEL	NAIL SPACING		•	
PENETRATIC (IN)			THICKNESS (IN)		SPACING	]	EDGES (IN O.C.)		)	В	
	REQUIREMENT  UM NAIL  PENETRATIO	REQUIREMENTS FOR WOOD  UM NAIL STRU PANI PENETRATION RA	REQUIREMENTS FOR WOOD STRUCTURAL  MINIMUM WOOD  STRUCTURAL  PANEL SPAN  RATING	REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALLS  UM NAIL  MINIMUM WOOD  STRUCTURAL  PANEL SPAN  PENETRATION  RATING  RATING  REQUIREMENTS FOR WOOD STRUCTURAL PANEL SPAN  THICKNESS (I	REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATH  UM NAIL  MINIMUM WOOD STRUCTURAL PANEL SPAN PENETRATION RATING  MINIMUM NOMINAL PANEL THICKNESS (IN)	REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO  UM NAIL  MINIMUM WOOD STRUCTURAL PANEL SPAN PENETRATION RATING  MINIMUM NOMINAL PANEL SPACING	REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST  UM NAIL  MINIMUM WOOD STRUCTURAL PANEL SPAN PENETRATION RATING  MINIMUM NOMINAL PANEL THICKNESS (IN)  MAX WALL STUD SPACING	REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESS  UM NAIL  MINIMUM WOOD STRUCTURAL PANEL SPAN PANEL SPAN RATING  MINIMUM NOMINAL PANEL THICKNESS (IN)  MAX WALL STUD SPACING EDGES	REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES IRC TABLE  UM NAIL  MINIMUM WOOD STRUCTURAL PANEL SPAN PENETRATION  MINIMUM NOMINAL PANEL THICKNESS (IN)  MAX WALL STUD SPACING EDGES  EDGES  FIELD	ANAILS OR SCREWS PER TABLE R702.3.5 FOR INTERIOR LOCATIONS  REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES IRC TABLE 602.3(3) (PARTIAL DEPOSITION OF THE PANEL SPAN PANEL SPAN PANEL SPAN PANEL SPAN RATING  MINIMUM WOOD STRUCTURAL PANEL THICKNESS (IN)  MAX WALL STUD SPACING  PANEL NAIL SPACING  PANEL NAIL SPACING  ULTIMATE DEPOSITION OF THE PANEL SPACING  PANEL NAIL SPACING  PANEL NAIL SPACING  FEDGES  FIELD	REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES IRC TABLE 602.3(3) (PARTIAL)  WINIMUM WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES IRC TABLE 602.3(3) (PARTIAL)  WINIMUM WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES IRC TABLE 602.3(3) (PARTIAL)  WINIMUM WOOD STRUCTURAL PANEL PANEL PANEL PANEL PANEL SPACING  PENETRATION RATING  WINIMUM WOOD STRUCTURAL PANEL THICKNESS (IN)  WAX WALL STUD SPACING  EDGES FIELD  REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES IRC TABLE 602.3(3) (PARTIAL)  WINIMUM WOOD STRUCTURAL PANEL THICKNESS (IN)  PANEL NAIL SPACING  EDGES FIELD  REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES IRC TABLE 602.3(3) (PARTIAL)

16

16

24

3/8

7/16

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
0.4110.0	2	10	16	1,000
2x4 NO 2 GRADE			18	2,025
	2		9	2,400
		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	
ADJACENT CLEAR OPENING CS-WSP HEIGHT (INCHES)					
	LESS THAN OR EQUAL TO 64	24	27	30	

BRA	ACING METHODS T	ABLE R602.10.4 (PAI		
METHODS,	MINIMUM	CONNECT	ION CRITEIA	
MATERIAL	THICKNESS	FASTENERS	SPACING	
WSP - WOOD		EXTERIOR SHEATHING PER TABLE R602.3(3)	6" EDGES, 12" FIELD	BRACED WALL PANEL AT END OF BRACED WALL LINE
STRUCTURAL PANEL	3/8	INTERIOR SHEATHING PER TABLE R602.3(1) OR R602.3(2)	VARIES BY FASTENER	END CONTINUOUSLY SHEATHED  BRACED WALL LINE
CS-WSP CONTINUOUSLY		EXERIOR SHEATHING PER TABLE R602.3(3)	6" EDGES, 12" FIELD	
SHEATHED WOOD STRUCTURAL PANEL	3/8	INTERIOR SHEATHING PER TABLE R602.3(1) OR R602.3(2)	VARIES BY FASTENER	
PFH - PORTAL FRAME WITH HOLD DOWNS	3/8	SEE IRC SECTION R602.10.6.2	SEE IRC SECTION R602.10.6.2	* SEE REQ END CONDITION 4
PFG - PORTAL FRAME AT GARAGE	3/8	SEE IRC SECTION R602.10.6.3	SEE IRC SECTION R602.10.6.3	REQUIREMENTS:
LIB	1x4 WOOD OR APPROVED METAL STRAPS AT 45 TO 60	WOOD: 2-8d COMMON NAILS OR 3-8d NAILS	WOOD: PER STUD AND TOP AND BOTTOM PLATES	RETURN PANEL: 24" FOR BRACED WALL LINES SHEATHED WITH WOOD STRUCTURAL PANELS  32" FOR FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD  DISTANCE D: 24" FOR BRACED WALL LINES SHEATHED WITH
LET-IN-BRACING	DEGREE ANGLES FOR MAX 16" STUD SPACING	METAL STRAP: PER MANUFACTURER	METAL: PER MANUFACTURER	WOOD STRUCTURAL PANELS  32" FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD  HOLD DOWN DEVICE:
GB-GYPSUM	1/2	NAILS OR SCREWS PER TABLE R602.3(1) FOR EXTERIOR LOCATIONS	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
BOARD	1/2	NAILS OR SCREWS PER TABLE R702.3.5 FOR INTERIOR LOCATIONS	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.

12

12

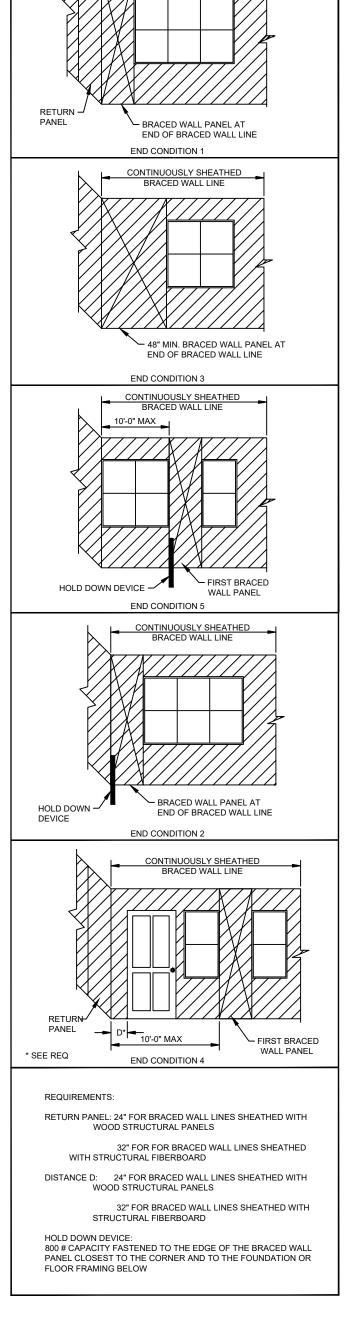
12

140

170

140

Ή										
E		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					



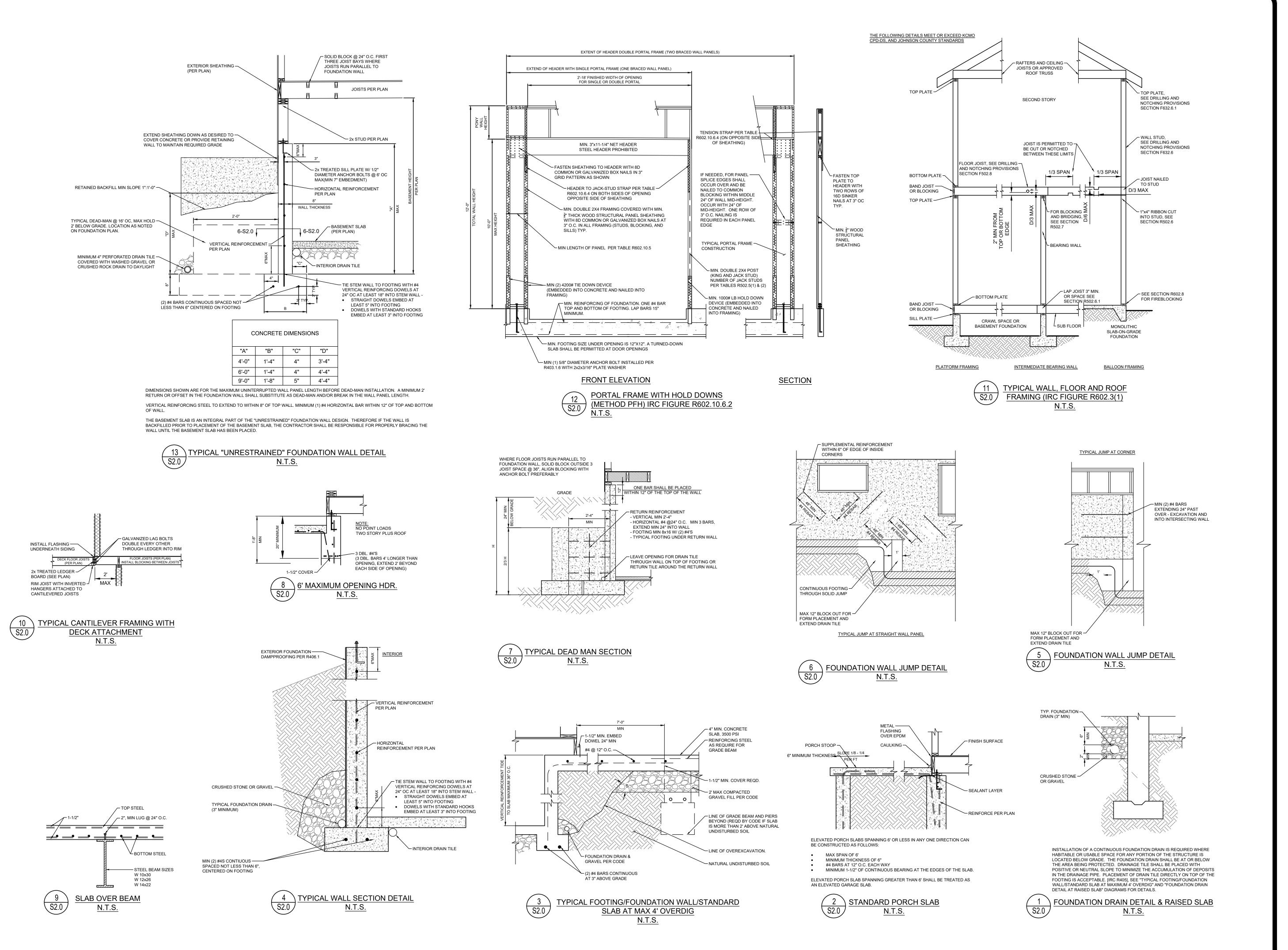


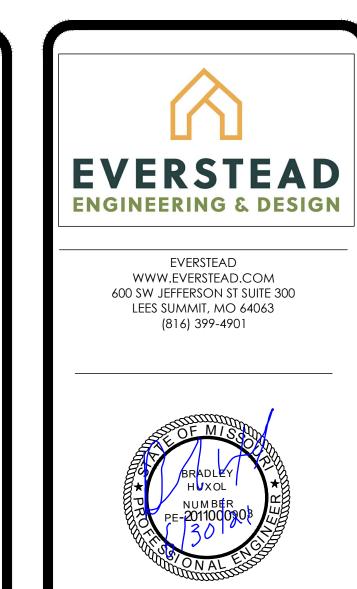
**EVERSTEAD** www.everstead.com 600 SW JEFFERSON ST SUITE 300 LEES SUMMIT, MO 64063 (816) 399-4901



# AMIN

SHEET#



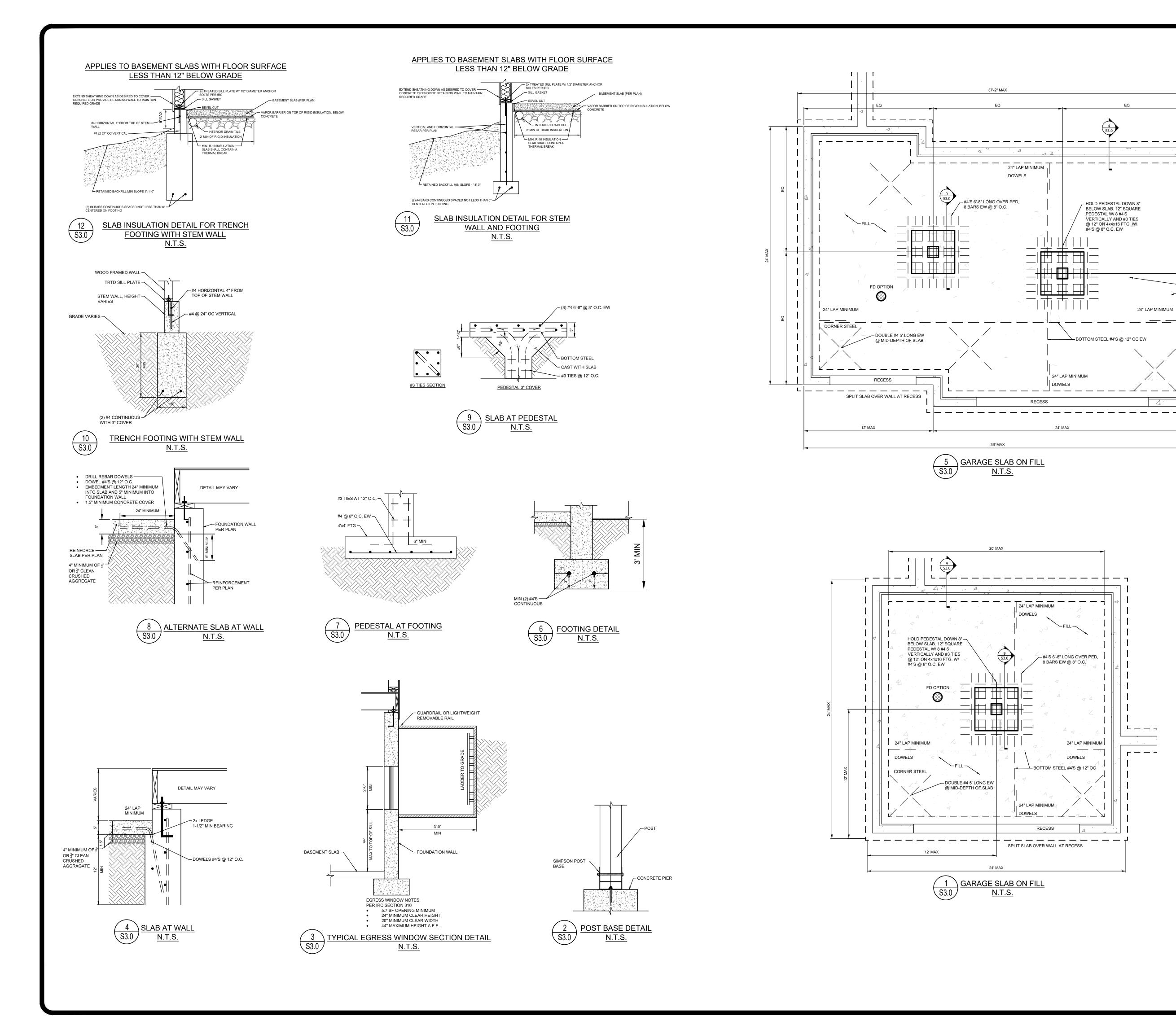


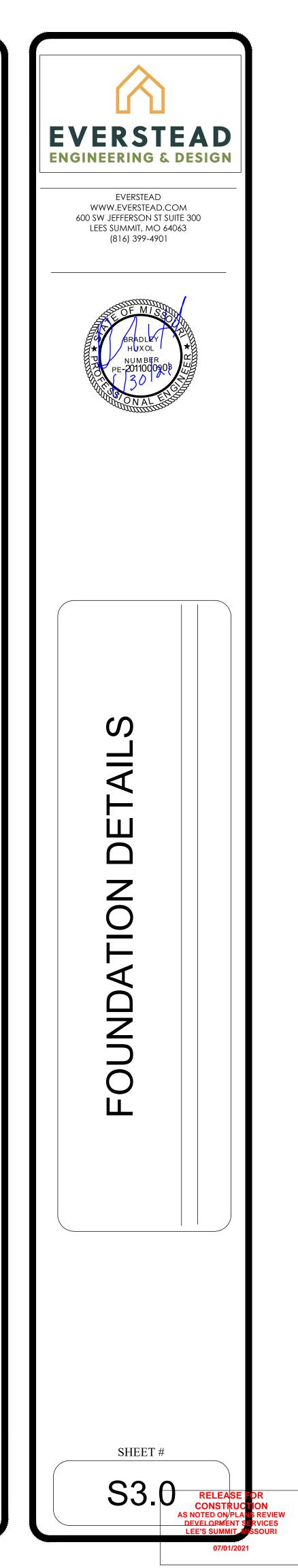
# STRUCTURAL DETAILS

SHEET #

S2.0 RELEA CONSTRAS NOTED ON DEVELOPME

DEVELOPMENT SE LEE'S SUMMIT MIS





### **HELIX REQUIREMENTS:**

- FOUNDATION WALL SHALL NOT EXCEED 9' HEIGHT.
- DEAD MAN SHALL BE A MAXIMUM 3'8" FROM TOP OF FOUNDATION WALL ELSE HELIX NOT PERMITTED.

### ALL CONCRETE SHALL BE REINFORCED WITH HELIX MICRO REBAR ALONG WITH ANY ADDITIONAL REBAR AS NOTED:

- 9.0 LB/CUBIC YARD DOSAGE OF HELIX 5-25.
- VERIFY DOSAGE AT FORM INSPECTION.
   SEE MIXING PEOLIDEMENTS ON THIS PAGE
- SEE MIXING REQUIREMENTS ON THIS PAGE.
  MINIMUM 3000 PSI FOOTING COMPRESSIVE STRENGTH
- MINIMUM 3000 PSI WALL COMPRESSIVE CONCRETE STRENGTH.
- AIR ENTRAINED BETWEEN 5-7% OF CONCRETE VOLUME.
- GRADE 60 REINFORCING STEEL UNLESS OTHERWISE NOTED.
   LAP SPLICES 24" MINIMUM.
- ASSUMED 1500 PSF SOIL BEARING.
- WALL SHALL BE BACK-FILLED WITH CLEAN, LEAN CLAY, OR BETTER, LOW VOLUME CHANGE MATERIAL. ON-SITE MATERIAL MAY BE USED IF DEEMED ACCEPTABLE BY THE GEOTECHNICAL ENGINEER.

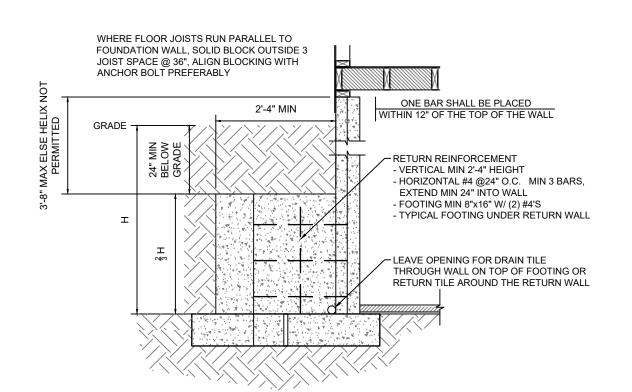
### HELIX ALTERNATE DESIGN NOT VALID IF ANY ONE OF THE FOLLOWING CONDITIONS ARE MET:

- NON-UNIFORM FOOTING SUPPORT (IE. CAST IN PLACE PIERS, PUSH PILES).
- DAYLIGHT WALLS EXCEEDING 6' TALL FOR A LENGTH GREATER THAN 6'.

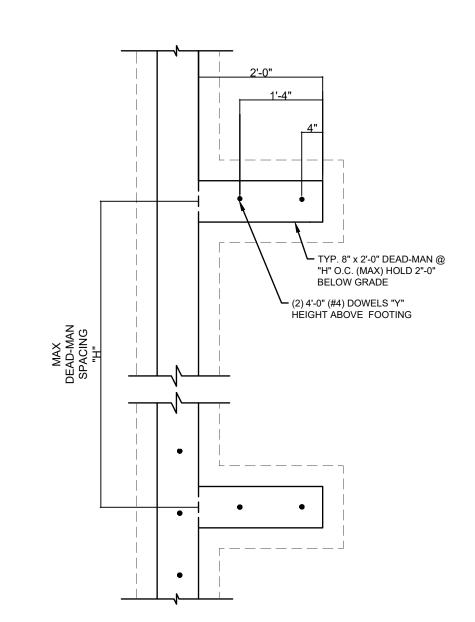
### **HELIX DOSING INSTRUCTIONS:**

MIXING SHOULD BE DONE ACCORDANCE WITH ASTM C94 AND THE MIXING INSTRUCTIONS BELOW. THE DOSAGES OF HELIX ADDED TO THE MIX SHOULD BE NOTED ON THE BATCH DOCUMENTATION IN ACCORDANCE WITH UNIFORM EVALUATION SERVICE ER 279 SECTION 5.15. VERIFIED USING PROCEDURE IN ER 279 APPENDIX A.

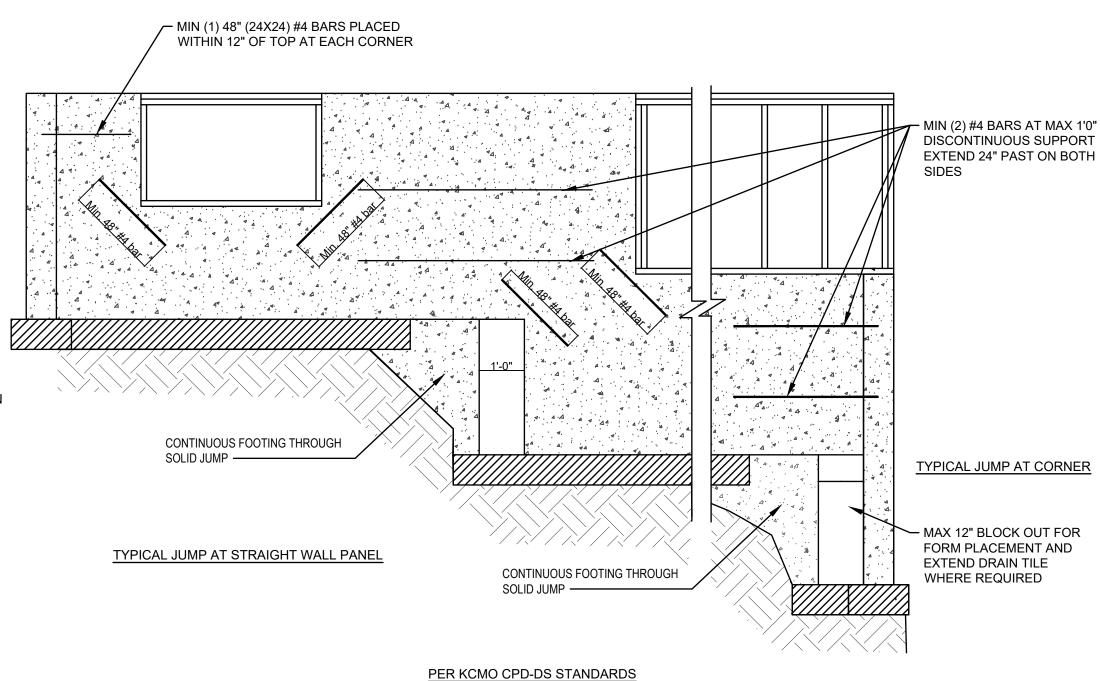
A SLUMP OF 125 MM OR 5" OR HIGHER WILL FACILITATE STRIKE OFF. A SLUMP OF LESS THAN 4" IS NOT RECOMMENDED AS THIS WILL PREVENT SURFACE SEGREGATION OF THE CEMENT AND FINES FROM THE AGGREGATE AND HELIX. SLUMP SHOULD BE MEASURED ON THE INITIAL LOAD AND ADJUSTMENTS MADE WITH A WATER REDUCER OR PLASTICIZER (NOT WATER).



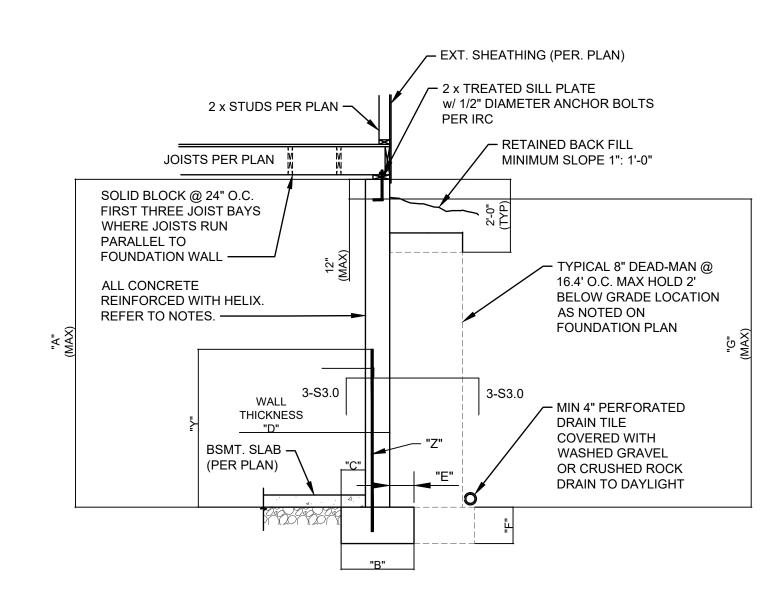












			CON	CRETE	DIMENS	SIONS	HEIGHT ABOVE FOOTING	REINFORCINGBARS (GRADE 60)	HELIX DOSAGE.
"A"	"B"	"C"	"D"	"E"	"F"	"G"	"Y"	"Z"	
8'-0"	1'-4"	4"	8"	4"	8"	7'-6"	2'-6"	4 BARS AT 24" O.C.	9.0 LB/CUBIC YARD
9'-0"	1'-4"	4"	8"	4"	8"	8'-6"	2'-6"	4 BARS AT 24" O.C.	9.0 LB/CUBIC YARD

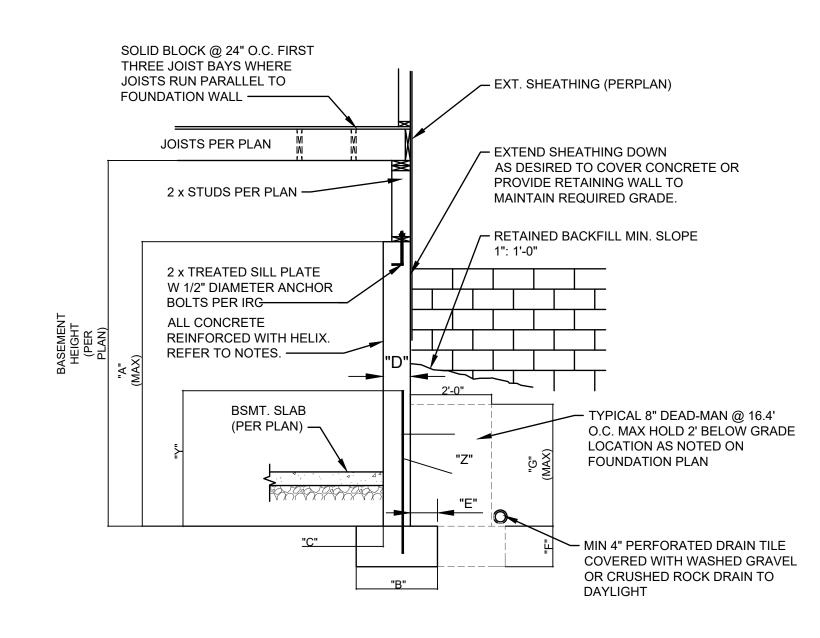
DIMENSIONS SHOWN IS FOR THE MAXIMUM UNINTERRUPTED WALL PANEL LENGTH BEFORE DEAD-MAN SHALL BE INSTALLED. A MINIMUM 2' RETURN OFFSET IN THE FOUNDATION WALL SHALL SUBSTITUTE AS DEAD-MAN AND/OR BREAK IN THE WALL PANEL LENGTH.

WALL WILL NOT ACHIEVE FULL STRENGTH UNTIL FIRST FLOOR DECK AND BASEMENT SLAB HAVE BEEN PLACED.



	HELIX DOSAGE											
A	ALL STRIP FOOTINGS AND GRADE BEAMS											
		ISOLA	ΛTΕ	D FOOTINGS AND	COLUMN PAD	S						
SYM	PIER PAD SIZE	DEPTH	MINIMUM REINFORCEMENT GRADE 60 KSI STEEL SCHEDULE 40 STEEL COLUM MIN FY = 35 KS			HELIX DOSAGE						
Â	30"x30"	1'-0"		(5) #4 BAR E.W.	3" DIAMETER	12.5 LB/CU FT						
B	36"x36"	1'-0"		(6) #4 BAR E.W.	3" DIAMETER	12.5 LB/CU FT						
c	42"x42"	1'-2"		(7) #4 BAR E.W.	3" DIAMETER	12.5 LB/CU FT						
$\triangle$	48"x48"	1'-4"		(8) #4 BAR E.W.	3" DIAMETER	12.5 LB/CU FT						
<u></u>	48"x48"	1'-4"		(8) #4 BAR E.W.	N/A	12.5 LB/CU FT						
Æ	54"x54"	1'-4"		(9) #4 BAR E.W.	3.5" DIAMETER	12.5 LB/CU FT						
F	60"x60"	1'-6"		(10) #4 BAR E.W.	3.5" DIAMETER	12.5 LB/CU FT						
SYM	PIER DIAMETE	R DEP	TH	MINIMUM REINFORCE GRADE 60 KSI STE	HELIX DOSAGE							
G	12"	" 3'-(		(4) VERTICA	AL #4	12.5 LB/CU FT						
H	16"	3'-0	" (4) VERTICA		AL #4	12.5 LB/CU FT						
	18"	3'-(	)" (4) VERTICAL #4			12.5 LB/CU FT						
K	24"	3'-0	)"	(4) VERTICA	AL #4	12.5 LB/CU FT						
<u>L</u>	28"	28" 3'-0"		(4) VERTICA	12.5 LB/CU FT							

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.



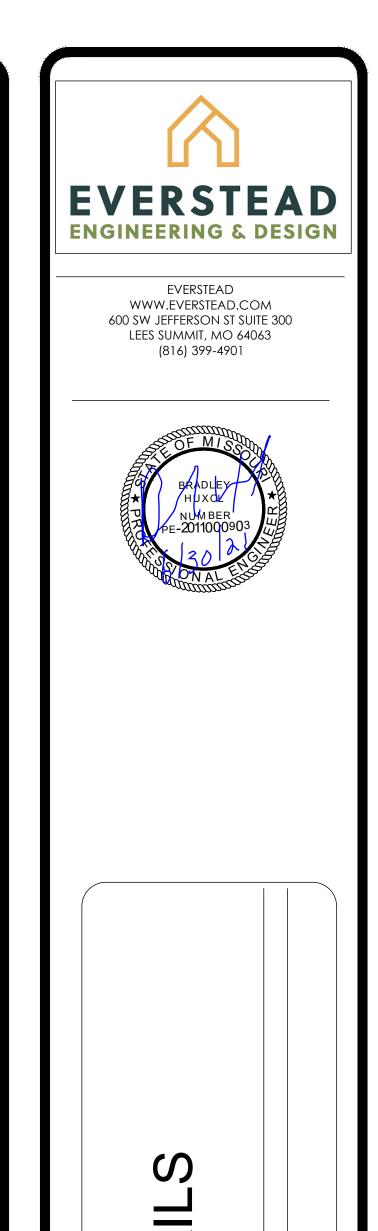
			CONCR	ETE DIM	IENSION	IS	HEIGHT ABOVE FOOTING	REINFORCINGBARS (GRADE 60)	HELIX DOSAGE.
"A"	"B"	"C"	"D"	"E"	"F"	"G"	"Y"	"Z"	TILLIX BOOKGE.
4'-0"	1'-4"	4"	8"	4"	8"	3'-4"	2'-6"	4 BARS AT 24" O.C.	9.0 LB/CUBIC YARD
6'-0"	1'-4"	4"	8"	4"	8"	4'-4"	2'-6"	4 BARS AT 24" O.C.	9.0 LB/CUBIC YARD

DIMENSIONS SHOWN IS FOR THE MAXIMUM UNINTERRUPTED WALL PANEL LENGTH BEFORE DEAD-MAN SHALL BE INSTALLED. A MINIMUM 2' RETURN OFFSET IN THE FOUNDATION WALL SHALL SUBSTITUTE AS DEAD-MAN AND/OR BREAK IN THE WALL PANEL LENGTH. THE BASEMENT SLAB IS AN INTEGRAL PART OF THE "UNRESTRAINED" FOUNDATION WALL DESIGN. THEREFORE, IF THE WALL IS BACKFILLED PRIOR TO PLACEMENT OF THE BASEMENT SLAB, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY BRACING THE WALL UNTIL THE BASEMENT SLAB HAS BEEN PLACED.



# TYPICAL "UNRESTRAINED" FOUNDATION WALL DETAIL

N.T.S



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SHEET #

RELEASE FOR
CONSTRUCTION
AS NOTED ON/PLANS REVIE
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOUR