

ROOF PLAN

SCALE 1/4"=1'-0"

MARSHALL HOME DESIGN:
BUILDERS PLAN DEFINITION
THE TERM "BUILDERS PLAN" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS, AS THE NAME IMPLIES. THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION. THE CONTRACTOR WARRANTS TO MARSHALL HOME DESIGN, LLC AND ITS CONSULTANTS THAT THEY POSSESS THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND ARCHITECTURAL DESIGN SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES. THE CONSTRUCTION DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TERMED "BUILDERS PLANS" IN RECOGNITION OF THE CONTRACTORS RESPONSIBILITY. ALTHOUGH MARSHALL HOME DESIGN, LLC AND ITS CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, WE CANNOT GUARANTEE PERFECTION. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO MARSHALL HOME DESIGN, LLC. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE "BUILDERS PLAN" TO THE FIELD CONDITIONS ENCOUNTERED AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, COMPOSITION AND QUALITY. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF MARSHALL HOME DESIGN, LLC AND ITS CONSULTANTS ARE UNAUTHORIZED. IT IS ALSO UNDERSTOOD THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR MEETING ALL APPLICABLE BUILDING CODES. IN THE EVENT ADDITIONAL DETAIL OR GUIDANCE IS NEEDED BY THE CONTRACTOR OR HOMEOWNER FOR THE CONSTRUCTION OF ANY ASPECT OF THE PROJECT MARSHALL HOME DESIGN, LLC OR A QUALIFIED ARCHITECT OR ENGINEER SHALL IMMEDIATELY BE RETAINED. FAILURE TO NOTIFY MARSHALL HOME DESIGN, LLC OF THESE NEEDS, OR OF CHANGES TO THE PLANS, SHALL RELIEVE MARSHALL HOME DESIGN, LLC AND ITS CONSULTANTS OF ALL RESPONSIBILITIES OF THE CONSEQUENCES. STRUCTURAL DESIGN, SOILS TESTING, HVAC, MEP DESIGN, SITE PLANNING, FOUNDATION DRAINAGE DESIGN, BRACED WALL PANEL DESIGN AND ENERGY INSULATION DESIGN BY OTHERS.

ROOF FRAMING NOTES

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

ROOF SYSTEM IS DESIGNED TO MEET REQUIREMENTS
OF IRC 802

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

CODE MINIMUM

RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	AT 24" OC	11'-7"
#2-2x6	AT 16" OC	14'-2"
#2-2x8	AT 24" OC	14'-8"
#2-2x8	AT 16" OC	17'-11"
#2-2x10	AT 24" OC	17'-10"
#2-2x10	AT 16" OC	21'-11"

NOTE: CODE MINIMUM ALLOWS FOR A RAFTER DEFLECTION OF L/180 TOTAL LOAD

HIGHER PERFORMANCE

RAFTERS	SPACING	MAX HORIZONTAL CLEARSPAN
#2-2x6	AT 24" OC	8'-6"
#2-2x6	AT 16" OC	9'-9"
#2-2x8	AT 24" OC	11'-3"
#2-2x8	AT 16" OC	12'-9"
#2-2x10	AT 24" OC	14'-3"
#2-2x10	AT 16" OC	16'-3"

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

*RIDGE BOARDS ARE (UNLESS OTHERWISE NOTED)

#2-2x10 UP TO 9:12 PITCH

#2-2x12 OVER 9:12 PITCH

*ALL HIP AND VALLEYS ARE (UNLESS OTHERWISE NOTED)

#2-2x10 UP TO 9:12 PITCH

#2-2x12 OVER 9:12 PITCH

*PURLINS ARE 2x6 MIN

- PURLIN STRUTS ARE AT 4'-0" OC

- PURLIN STRUTS SHALL BE INSTALLED AT NOT LESS

THAN A 45 DEGREE ANGLE WITH THE HORIZONTAL

- ALL PURLIN STRUTS SHALL HAVE A MAX UNBRACED

LENGTH OF 8'-0"

- PURLIN STRUTS SHALL BE CONSTRUCTED IN A "T"

CONFIGURATION AND PER THE FOLLOWING CHART:

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

*EACH END OF STRUT SHALL BE FASTENED WITH MIN (3)8d

OR (2)16d NAILS

*RIDGE BRACERS ARE SAME AS PURLIN BRACES-SPACING,

SIZE, CONFIGURATION, AND INSTALLATION (SEE PURLIN

BRACE NOTES ABOVE)

*HIP AND VALLEY BRACES ARE THE SAME AS PURLINS SIZE,

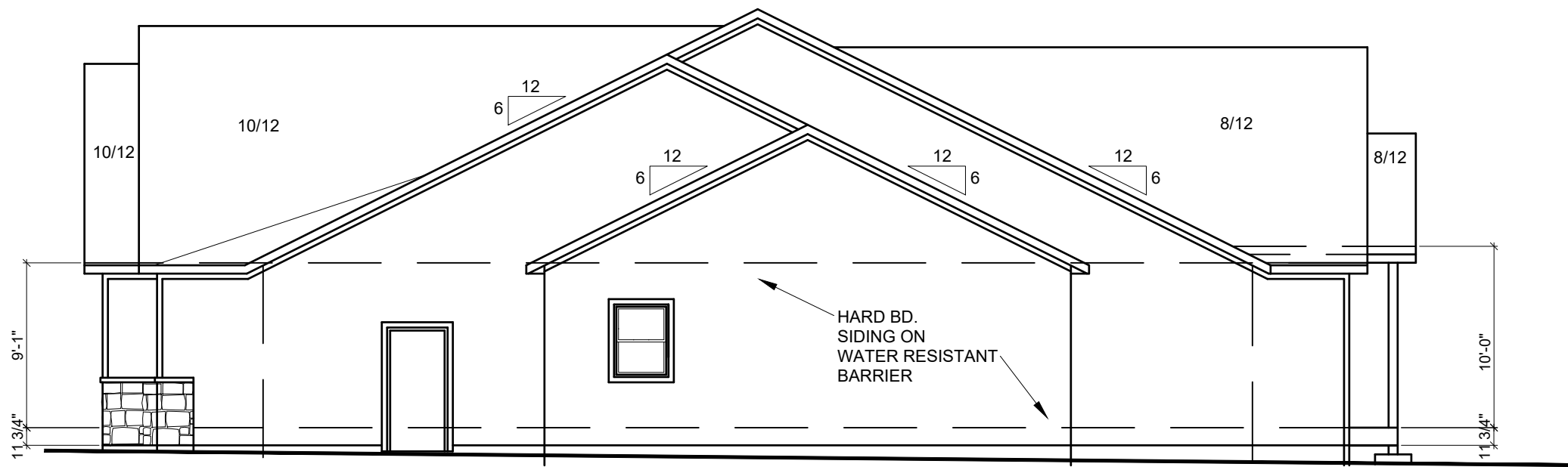
CONFIGURATION, AND INSTALLATION (SEE PURLIN BRACE

NOTES ABOVE)

= ROOF BRACE/STRUT (PER CHART)
- SLASH IS TOP END OF BRACE
- CIRCLE IS BOTTOM END OF BRACE

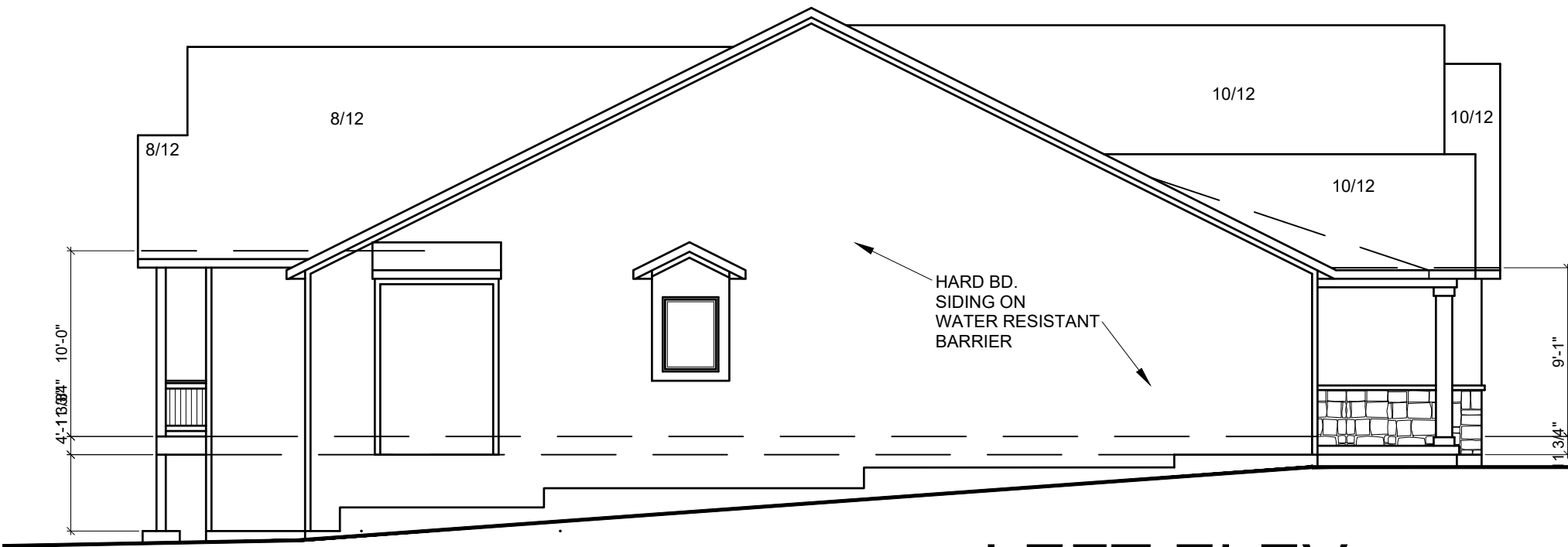
= PURLIN STRUTS AT 48" OC (PER CHART) U.N.O.
- SLASH IS TOP END OF BRACE
- ARROW IS BEARING LOCATION

— DENOTES BEARING WALL
- - - DENOTES PURLIN
= = = DENOTES BEARING STRUCTURE



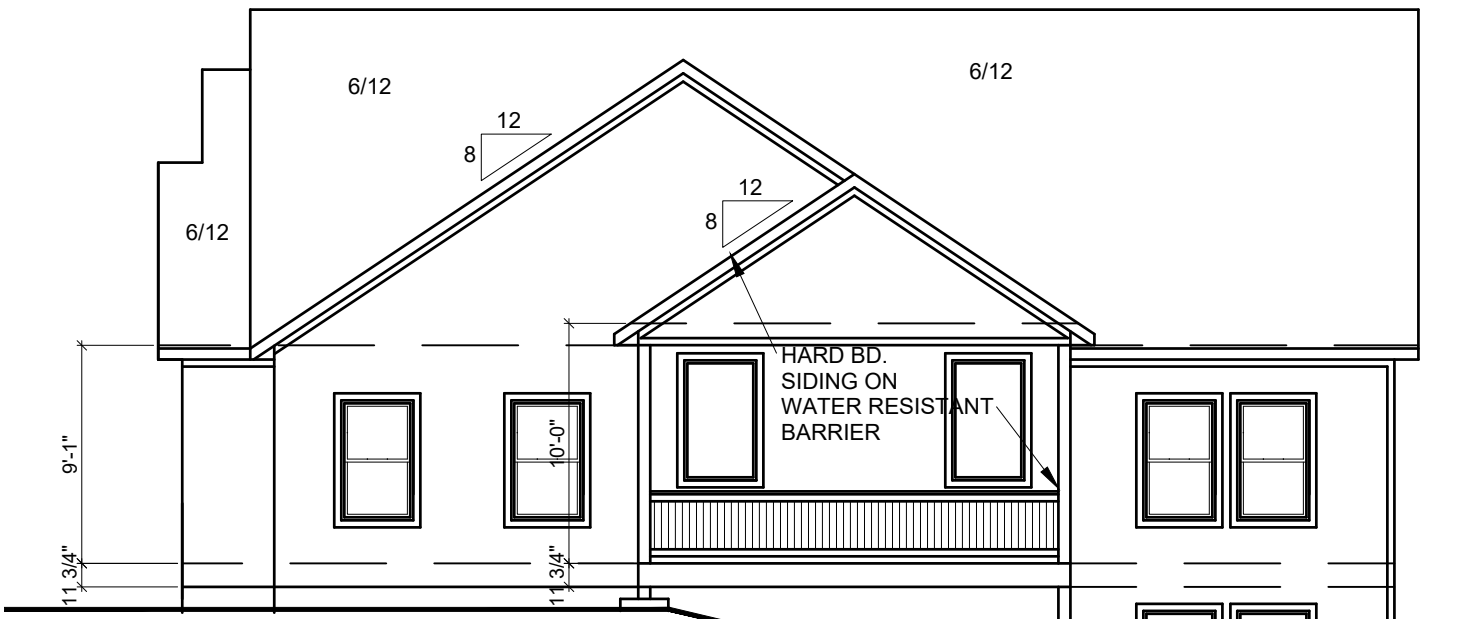
RIGHT ELEV.

SCALE 1/8"=1'-0"



LEFT ELEV.

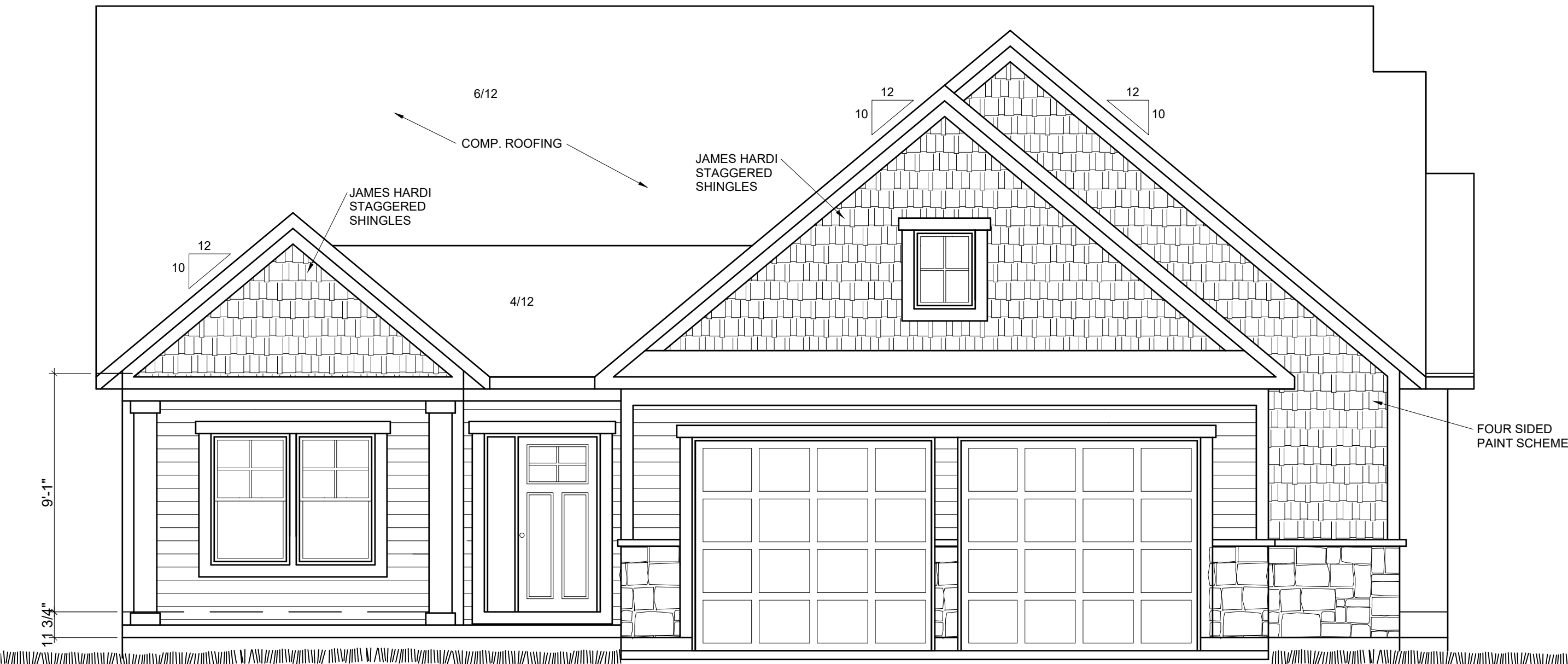
SCALE 1/8"=1'-0"



BACK ELEV.

SCALE 1/8"=1'-0"

STRUCTURAL NOTES:
- ALL UNMARKED HEADERS MIN
(2)#2-2x10
- ALL HEADERS AND BEAMS MIN #2
GRADE DF/L (OR EQ.)
- = BEARING WALL
- XXXXXXXXXX = 4'-0" LONG PANEL,
UNO



FRONT ELEVATION

SCALE 1/4"=1'-0"

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO
CONSTRUCT THIS DWELLING IN COMPLIANCE WITH ALL
LOCAL BUILDING CODES AND REQUIREMENTS AS
ADOPTED BY THE CITY OF LEE'S SUMMIT, MO.

HOMEBUILDER:
GALE HOMES, INC.



APEX ENGINEERS, INC.
625 LOCUST ST
KANSAS CITY, MO 64108
816.421.3222

STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: 862
MISSOURI ENGINEERING LICENSE:
2003004673

PLAN NAME:
MURDOCK RESIDENCE
3041 N.W. THOREAU LANE, LEE'S SUMMIT, MO.
LOT 1479 WINTERSET VALLEY, LEE'S SUMMIT, MO.

MARSHALL HOME DESIGN, LLC.
1723 N.W. 57TH COURT, KANSAS CITY, MO. 64151

COPYRIGHT DATE:
MARSHALL HOME DESIGN
3-8-21
3-14-21 3-17-21 6-14-21
3-23-21 3-30-21 6-16-21
4-13-21 4-29-21
6-7-21 6-10-21 6-25-21
8-30-21

PLAN NO.:
2109

DRAWING NO.:

MARSHALL HOME DESIGN:
BUILDERS PLAN DEFINITION

THE TERM "BUILDERS PLAN" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS, AS THE NAME IMPLIES. THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION. THE CONTRACTOR WARRANTS TO MARSHALL HOME DESIGN, LLC AND ITS CONSULTANTS THAT THEY POSSESS THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND ARCHITECTURAL DESIGN SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES. THE CONSTRUCTION DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TO BE USED BY THE CONTRACTOR IN RECOGNITION OF THE CONTRACTOR'S SUPERVISION, ALTHOUGH MARSHALL HOME DESIGN, LLC AND ITS CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE. WE CANNOT GUARANTEE PERFECTION. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO MARSHALL HOME DESIGN, LLC. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE "BUILDERS PLAN" TO THE FIELD CONDITIONS ENCOUNTERED AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, DIMENSION AND QUALITY CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF MARSHALL HOME DESIGN, LLC. MARSHALL HOME DESIGN, LLC OR A QUALIFIED ARCHITECT OR ENGINEER SHALL IMMEDIATELY BE RETAINED. FAILURE TO NOTIFY MARSHALL HOME DESIGN, LLC OF THESE NEEDS, OR OF CHANGES TO THE PLANS, SHALL RELIEVE MARSHALL HOME DESIGN, LLC AND ITS CONSULTANTS OF ALL RESPONSIBILITIES OF THE CONSEQUENCES.

STRUCTURAL DESIGN, SOILS TESTING, HVAC, MEP DESIGNS, SITE PLANNING, GRADING, FOUNDATION DRAINAGE DESIGN, BRACED WALL PANEL DESIGN AND ENERGY INSULATION DESIGN BY OTHERS.

COLUMN & PIER PAD SCHEDULE (REF. 5/S2.0)				
COLUMN MARK	PAD SIZE	REINFORCEMENT	COLUMN SIZE	COLUMN TYPE
A	30" x 30" x 12"	(4) #4 BAR E.W.	3" NOMINAL	SCHEDULE 40 STEEL PIPE (FY = 36 (MIN.))
B	36" x 36" x 12"	(4) #4 BAR E.W.	3" NOMINAL	
C	42" x 42" x 12"	(5) #4 BAR E.W.	3" NOMINAL	
D	48" x 48" x 12"	(6) #4 BAR E.W.	3" NOMINAL	
E	54" x 54" x 16"	(8) #4 BAR E.W.	3 1/2" NOMINAL (4" OD)	
F	60" x 60" x 16"	(10) #4 BAR E.W.	3 1/2" NOMINAL (4" OD)	

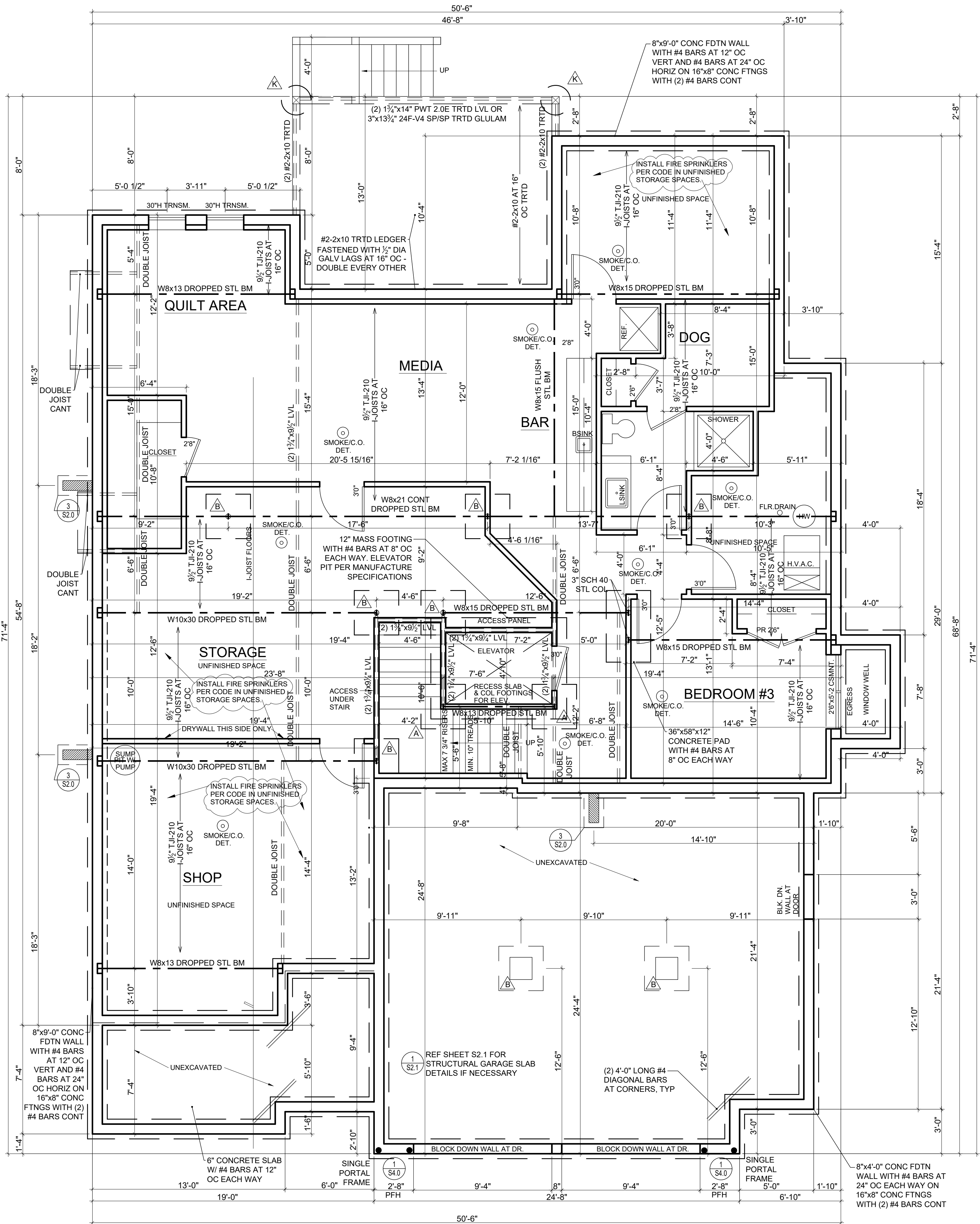
- COLUMN & PAD SIZES SHOWN ARE FOR MAXIMUM COLUMN HEIGHT OF 10'-0". REQUIRES SEPARATE ENG'D DESIGN IF GREATER THAN 10'-0" TALL.
- COLUMN & PIER PAD SIZES SHOWN ARE BASED ON AN ASSUMED MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 1,500PSF.

COLUMN & PIER SCHEDULE		
MARK	COLUMN SIZE	PIER DIA.
A	6x6	12"
B	6x6	16"
C	6x6	18"
D	6x6	24"
E	6x6	28"

- ALL PIERS TO BEAR ON ORIGINAL UNDISTURBED SOIL OF 1,500 PSF BEARING CAPACITY OR FILL COMPACTED AND TESTED TO CONFORM TO THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.
- PIERS SHALL EXTEND BELOW THE FROST LINE. MIN. DEPTH OF 36" BELOW GRADE.
- POST SHALL BE TREATED OR CEDAR WITH SIMPSON ABU66 POST BASE

DETAIL REFERENCES

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



FOUNDATION PLAN

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HOMEBUILDER:
GALE HOMES, INC.



APEX ENGINEERS, INC.
625 LOCUST ST
KANSAS CITY, MO 64108
816.421.3222

STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: 862
MISSOURI ENGINEERING LICENSE: 2003004673

PLAN NAME:
MURDOCK RESIDENCE
3041 N.W. THOREAU LANE, LEE'S SUMMIT, MO.
LOT 1479 WINTERSET VALLEY, LEE'S SUMMIT, MO.

MARSHALL HOME DESIGN, LLC.
1723 N.W. 57TH COURT, KANSAS CITY, MO. 64151

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PLAN NO.:
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2

MARSHALL HOME DESIGN:
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STRUCTURAL DESIGN, SOILS TESTING, HVAC, MEP, DESIGN, SITE PLANNING/GRADING, FOUNDATION DRAINAGE DESIGN, BRACED WALL PANEL DESIGN AND ENERGY/INSULATION DESIGN BY OTHERS.

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

XXXX EXTERIOR BRACED WALLS:

WSP METHOD: WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN $\frac{3}{8}$ " WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN $\frac{1}{8}$ " WITH MINIMUM SPAN RATING OF $\frac{24}{16}$ FOR 24" OC SPACING WITH 8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN FIELD.
(NOTE: FRAMING MEMBERS 16" OC MAX UNBLOCKED, AND WITH SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS)



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

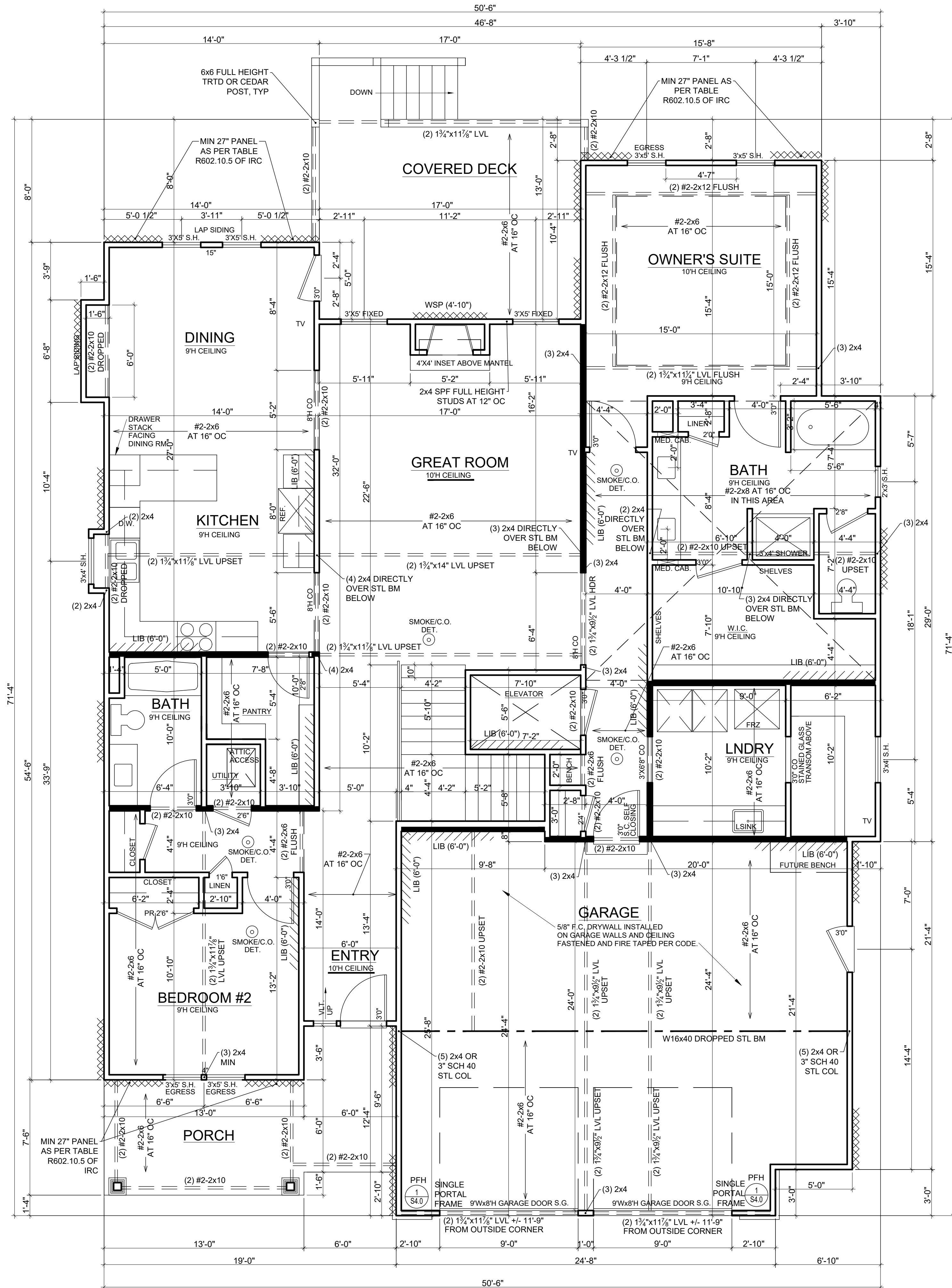
GB METHOD: $\frac{1}{2}$ " MIN. GYPSUM BOARD OVER STUDS SPACED 24" MAX. FASTENED WITH No 6 - 1 $\frac{1}{2}$ " TYPE 'W' OR 'S' DRYWALL SCREWS AT 7" OC EDGES AND FIELD (MIN. 4'-0" SECTION FOR BOTH SIDES).

OR

LIB METHOD: 1x4 WOOD FASTENED WITH (3) 8d COMMON NAILS OR SIMPSON / USP 16 GA. O.C. STUD FASTENED PER MANUFACTURER'S SPECIFICATIONS.

STRUCTURAL NOTES:

- ALL UNMARKED HEADERS MIN (2) #2-2x10
- ALL HEADERS AND BEAMS MIN #2 GRADE DF/L (OR EQ.)
-  = BEARING WALL
-  = 4'-0" LONG PANEL, UNO



FIRST FLOOR PLAN

SCALE 1/4"=1'-0"

2215 S.F FIRST FLOOR
973 S.F LOWER FLOOR
3188 S.F TOTAL AREA

155 S.F FRONT PORCH
244 S.F COVERED DECK
709 S.F GARAGE

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625 LOCUST ST
KANSAS CITY, MO 64108
816.421.3222
STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: 862
MISSOURI ENGINEERING LICENSE: 2003004673

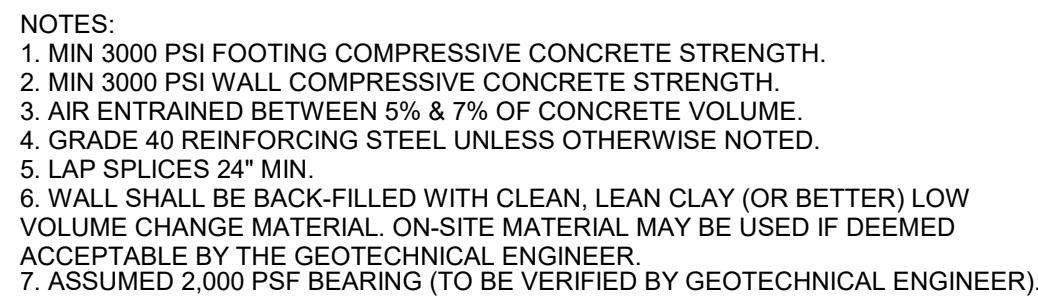
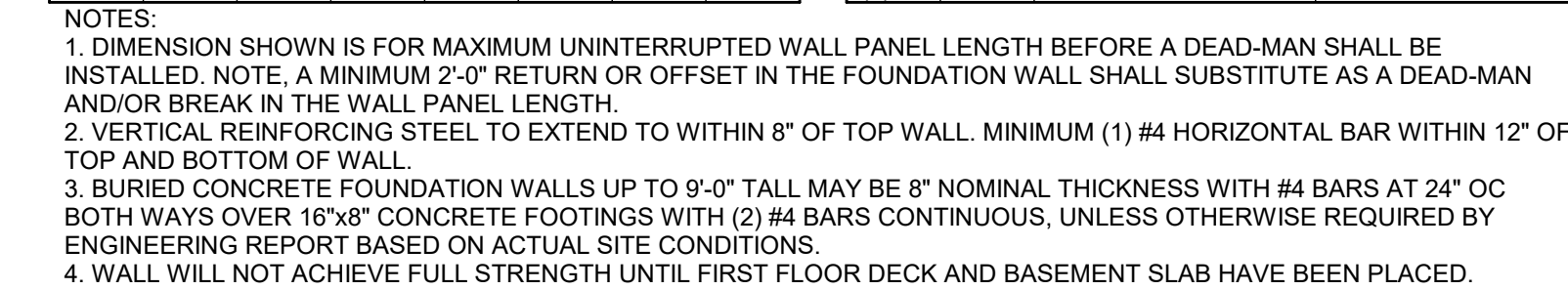
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MURDOCK RESIDENCE
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MARSHALL HOME DESIGN, LLC.
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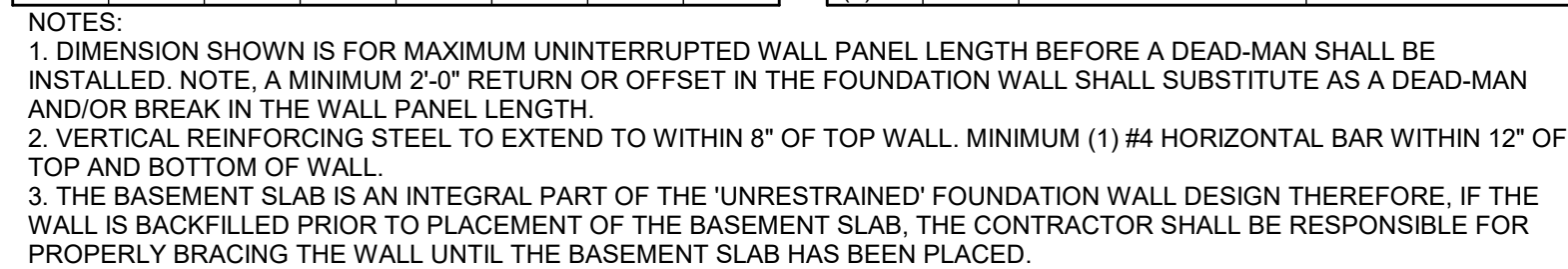
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PLAN NO.:
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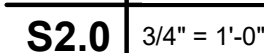
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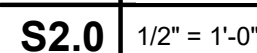
S2.0	$3/4" = 1'-0"$
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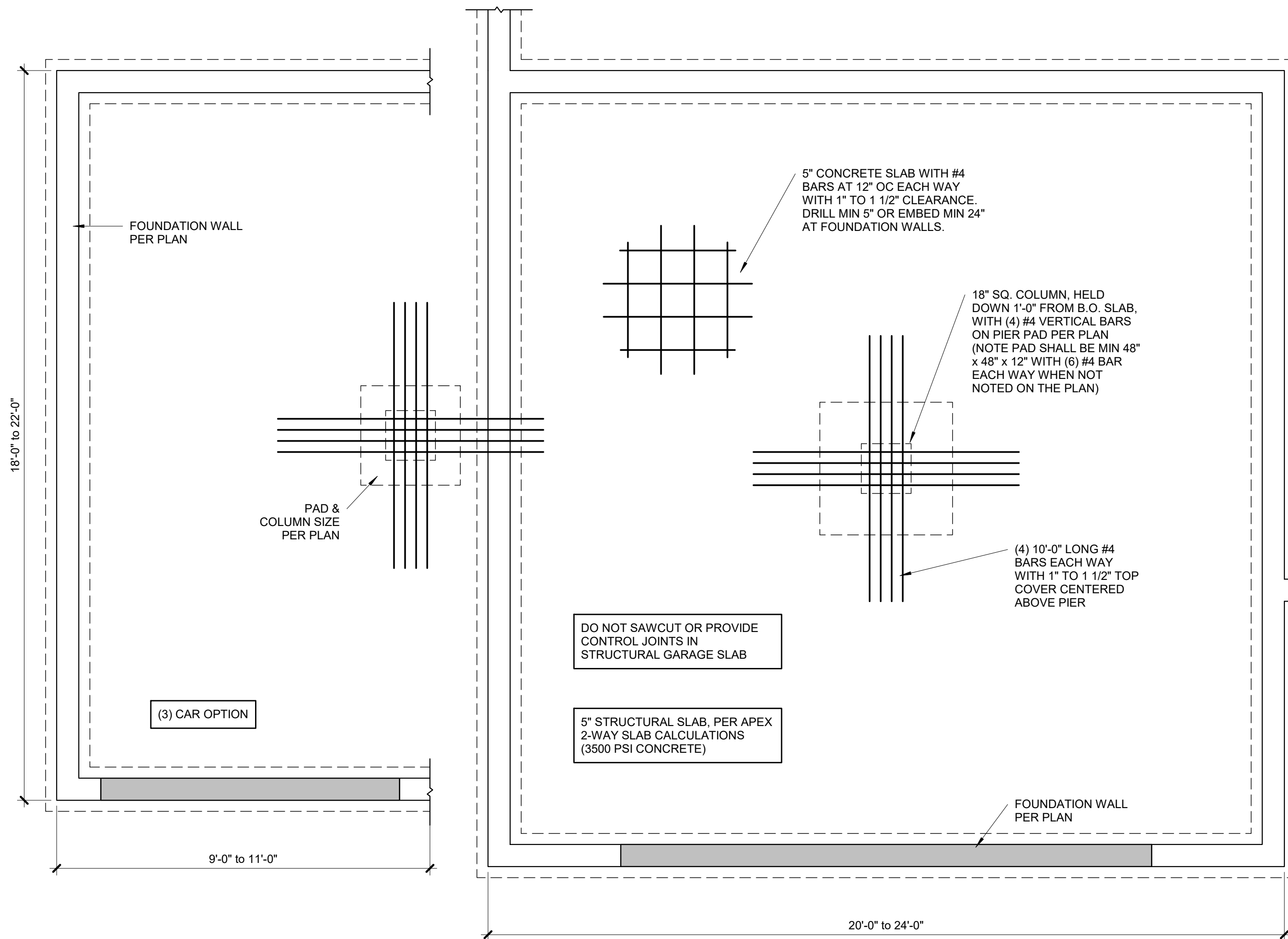


S2.0	$3/4" = 1'-0"$
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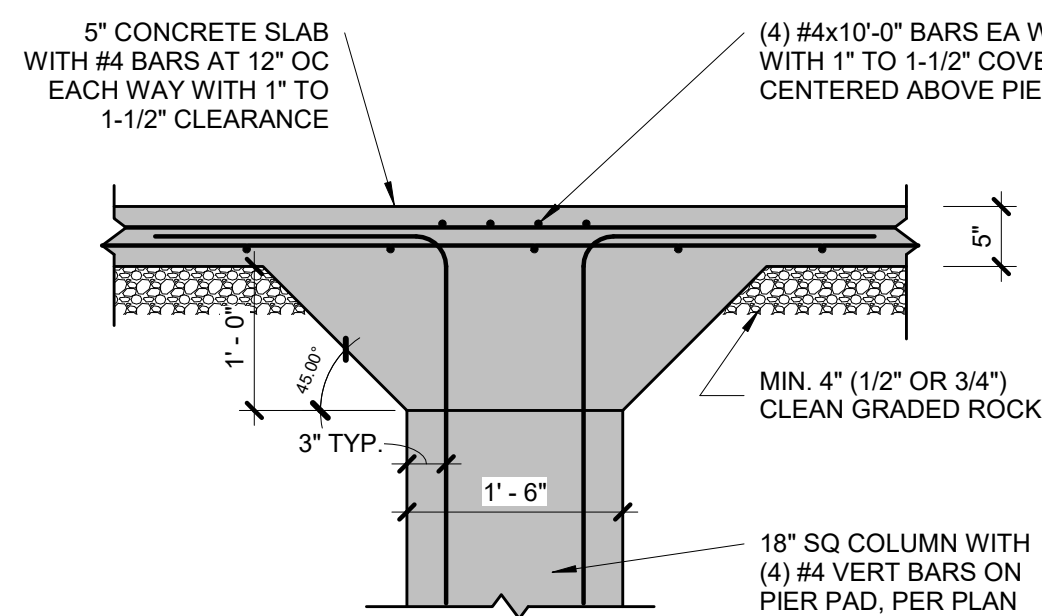


APEX HAS NOT BEEN RETAINED TO DETERMINE THE EXPANSIVE SOIL CHARACTERISTICS OF THE SUBGRADE SOIL AND THEREFORE CANNOT BE HELD RESPONSIBLE FOR THE VOLUMETRIC CHANGES OF THE SOIL (INCLUDING BELOW THE BASEMENT SLAB). BY USE OF THESE PLANS WITHOUT AN ACCOMPANYING GEOTECHNICAL ENGINEERING REPORT, APEX SHALL NOT BE HELD LIABLE FOR ANY FUTURE MOVEMENT AND/OR DIFFERENTIAL MOVEMENT OF THE PROPOSED STRUCTURE AND THE POSSIBLE DAMAGE THAT MAY BE CAUSED AS A RESULT OF SUCH MOVEMENT. DAMAGE FROM EXPANSIVE SOILS AND/OR SETTLEMENT CAN RESULT IN AMONGST OTHER THINGS, THE FOLLOWING: BASEMENT SLAB HEAVE, SHEETROCK CRACKS, WINDOWS AND DOOR BECOMING OUT OF PLUMB AND STICKING AND/OR NOT OPENING, DAMAGE TO TILE, MOULDING, AND OTHER COSMETIC FINISHES.

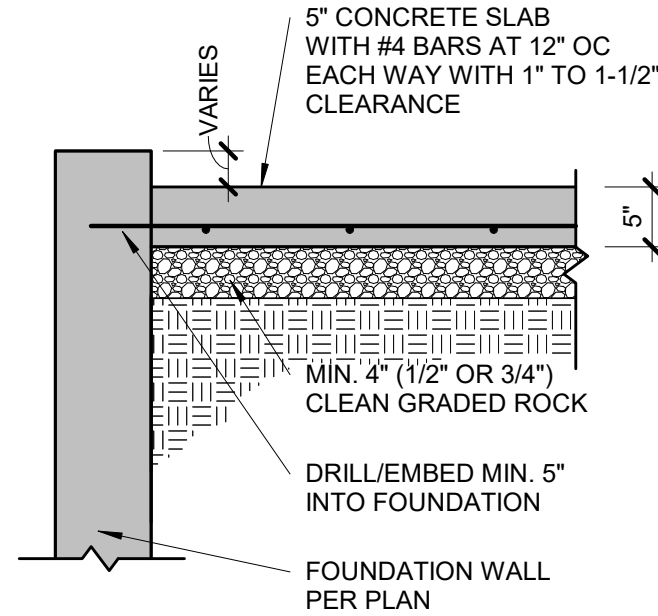




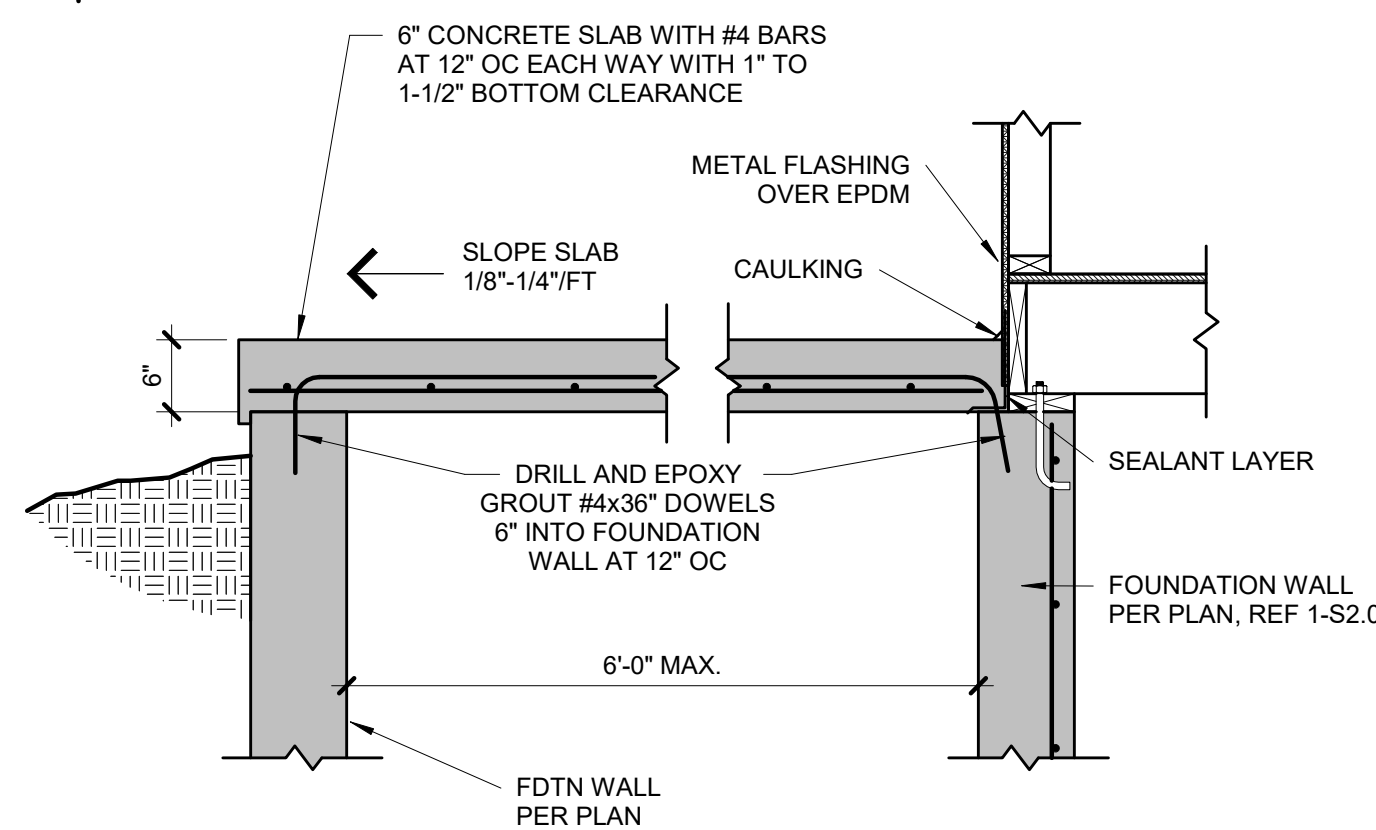
1 TYPICAL STRUCTURAL GARAGE SLAB PLAN
S2.1 3/8" = 1'-0"



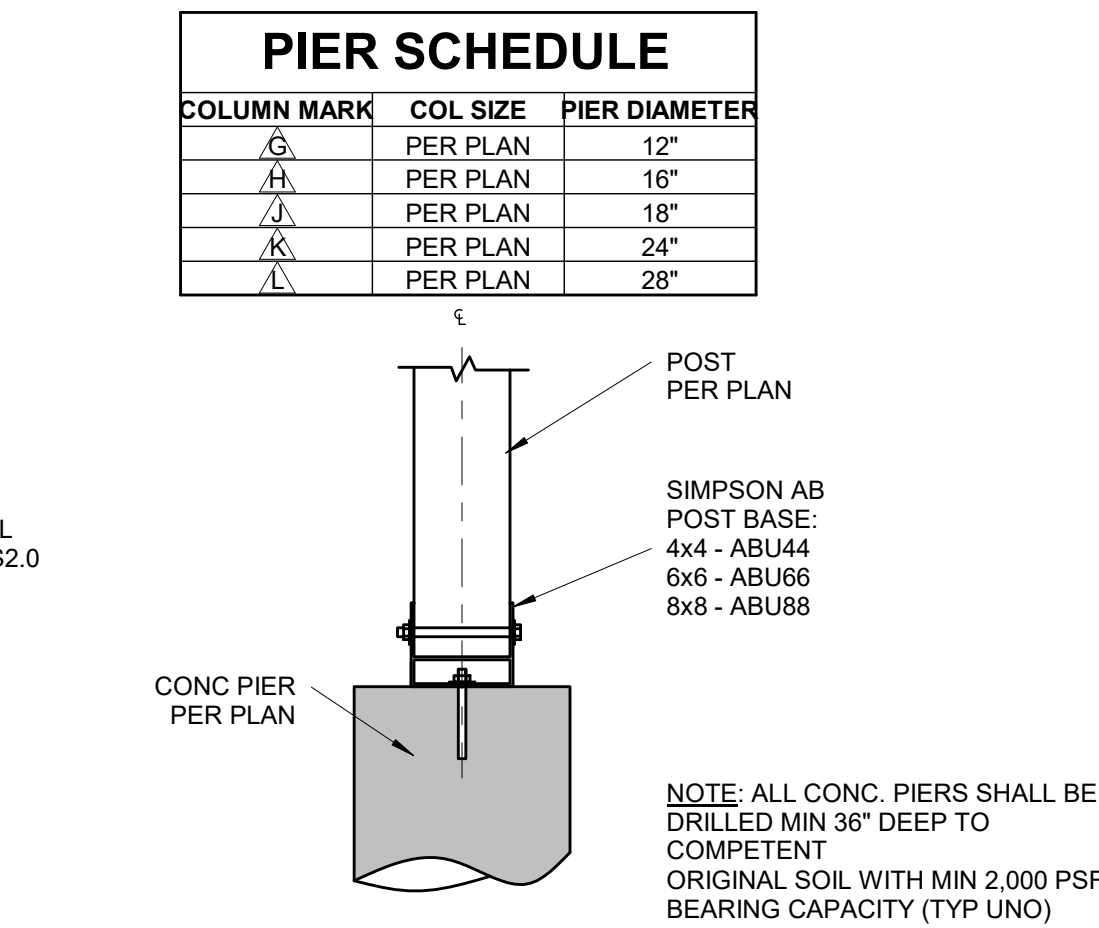
2 STRUCTURAL GARAGE SLAB PIER PAD DETAIL
S2.1 3/4" = 1'-0"



3 STRUCTURAL GARAGE SLAB/WALL SECTION
S2.1 3/4" = 1'-0"

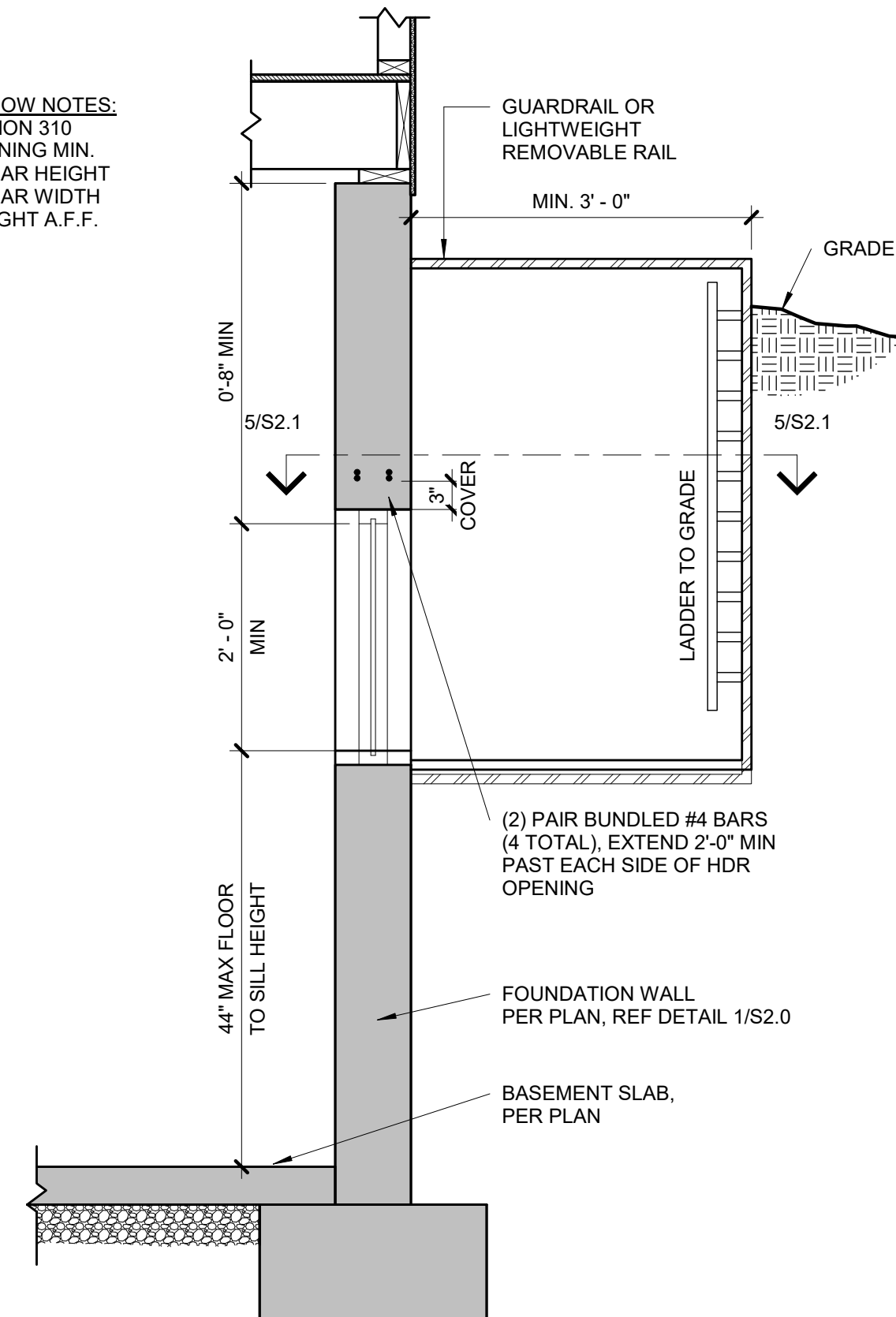


7 SUSPENDED PORCH STOOP DETAIL
S2.1 3/4" = 1'-0"

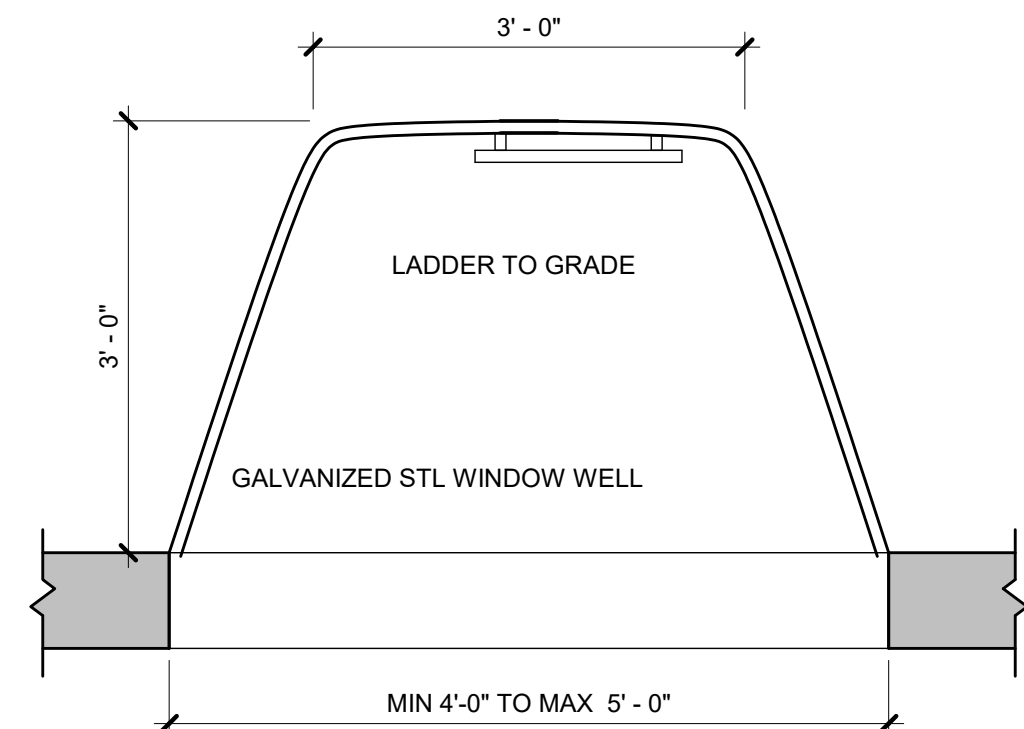


8 POST BASE DETAIL
S2.1 3/4" = 1'-0"

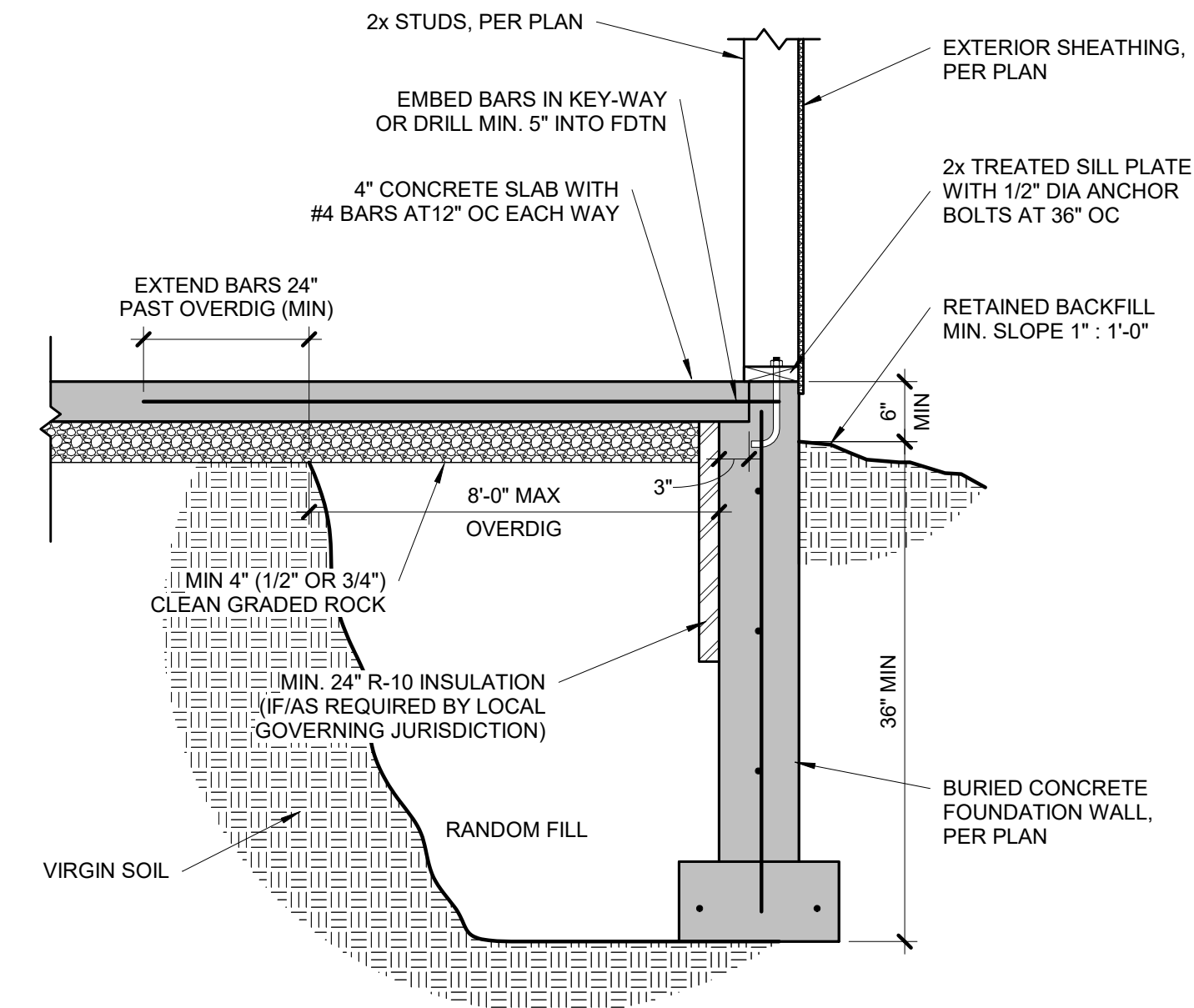
EGRESS WINDOW NOTES:
PER IRC SECTION 310
1. 5.7 S.F. OPENING MIN.
2. 24" MIN. CLEAR HEIGHT
3. 20" MIN. CLEAR WIDTH
4. 44" MAX HEIGHT A.F.F.



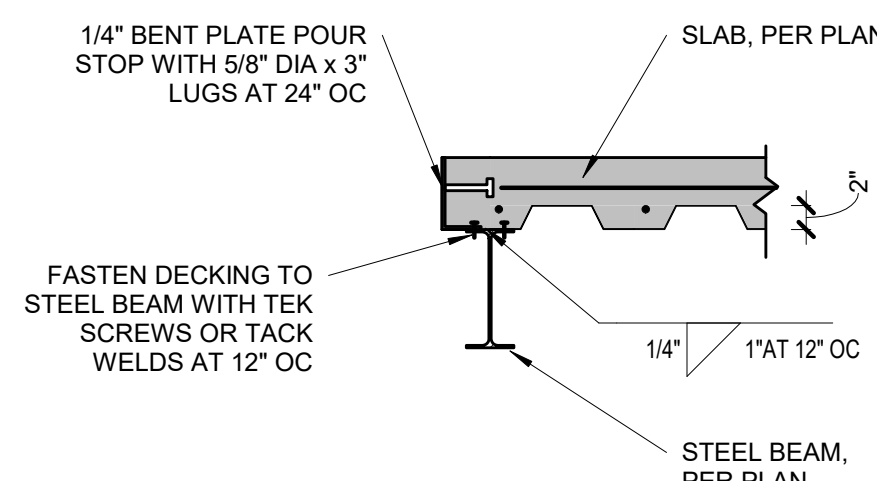
4 TYPICAL EGRESS WINDOW SECTION DETAIL
S2.1 3/4" = 1'-0"



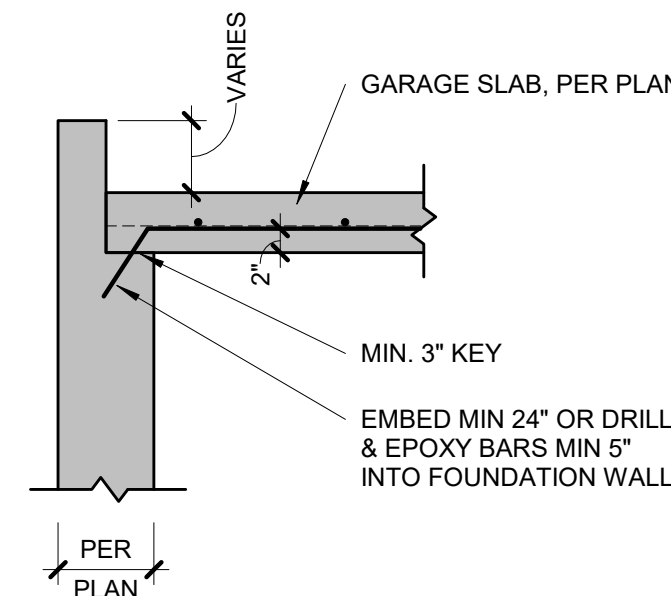
5 TYPICAL EGRESS WINDOW PLAN
S2.1 3/4" = 1'-0"



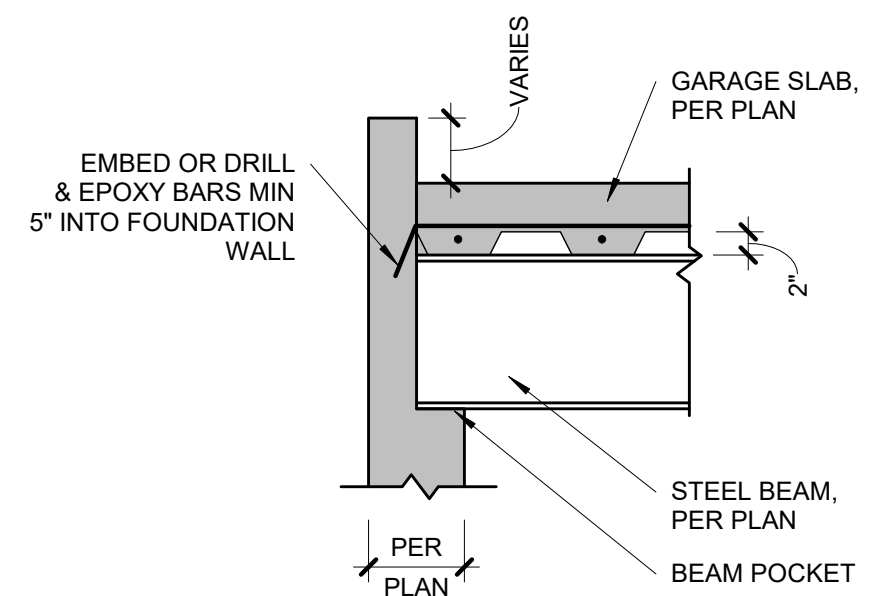
6 TYPICAL OVERDIG DETAIL AT BASEMENT SLAB
S2.1 3/4" = 1'-0"



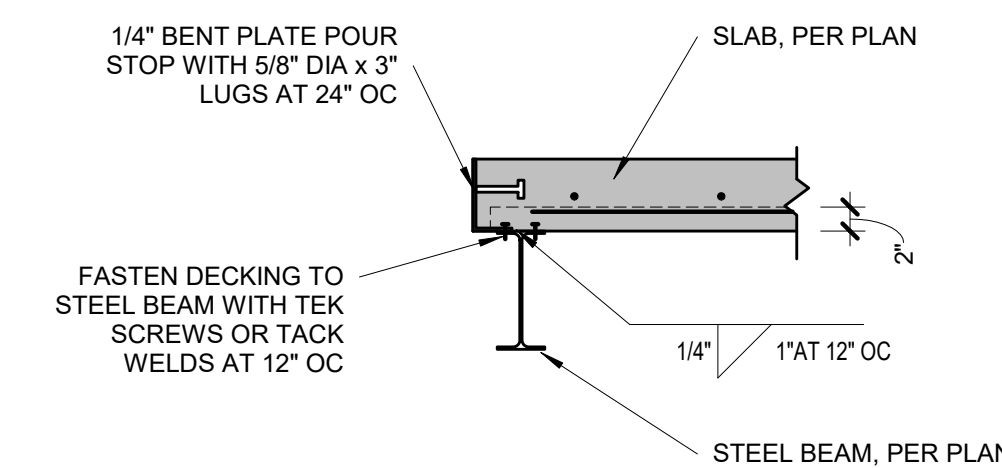
9 POUR STOP DETAIL
S2.1 3/4" = 1'-0"



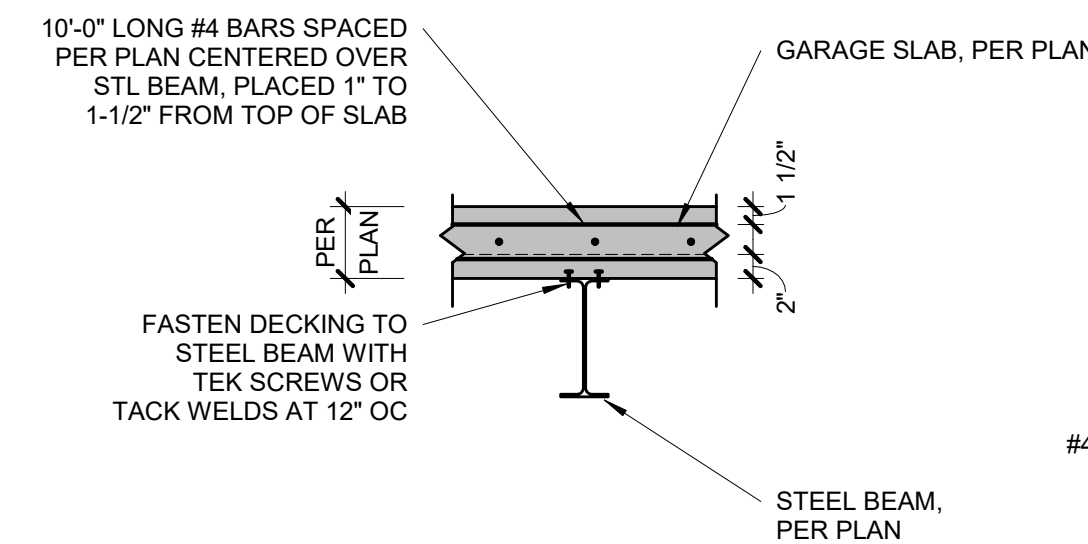
10 GARAGE SLAB BEARING
S2.1 3/4" = 1'-0"



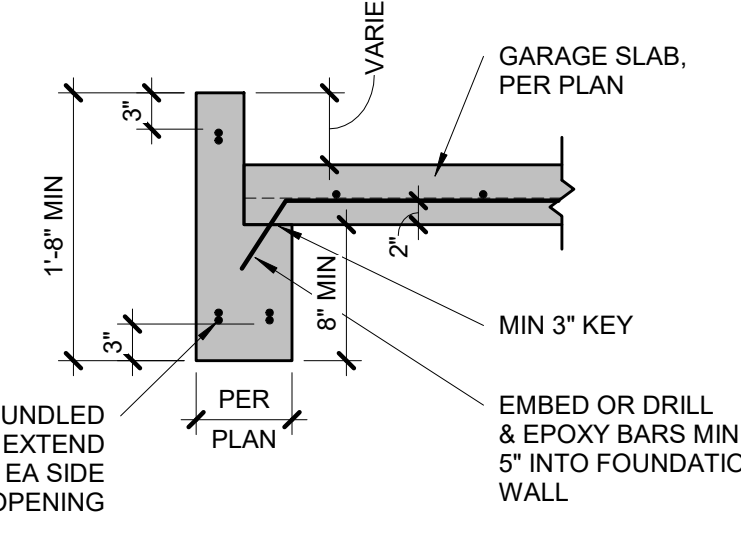
11 GARAGE SLAB BEAM BEARING
S2.1 3/4" = 1'-0"



12 POUR STOP DETAIL
S2.1 3/4" = 1'-0"



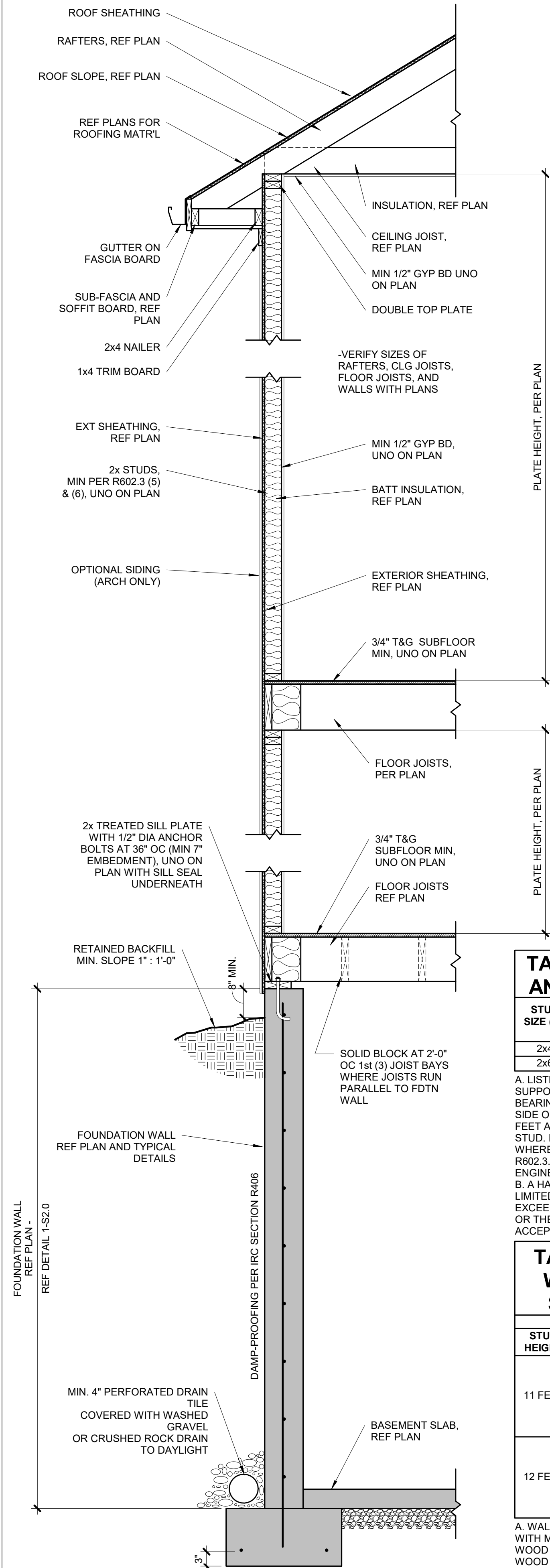
13 GARAGE SLAB BEAM BEARING
S2.1 3/4" = 1'-0"



14 CONCRETE HEADER DETAIL
S2.1 3/4" = 1'-0"

TYPICAL SUSPENDED SLAB DETAIL

STEEL DECKING NOTES:
• MINIMUM 1-1/2" BEARING
• FASTEN TO SUPPORT STEEL WITH 5/8" VISIBLE PUDDLE WELDS AT EDGE RIBS AND 12" CENTERS ALONG END BEARING
• FASTEN SIDE LAPS AND PERIMETER EDGES AT 36" CENTERS WITH #10 TEK SCREWS OR 5/8" PUDDLE WELDS
• MAX UNSUPPORTED CONSTRUCTION SPAN 6'-0", UNO ON PLANS BY APEX



12 | TYPICAL WALL CROSS-SECTION
S3.0 | 3/4" = 1'-0"

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

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

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

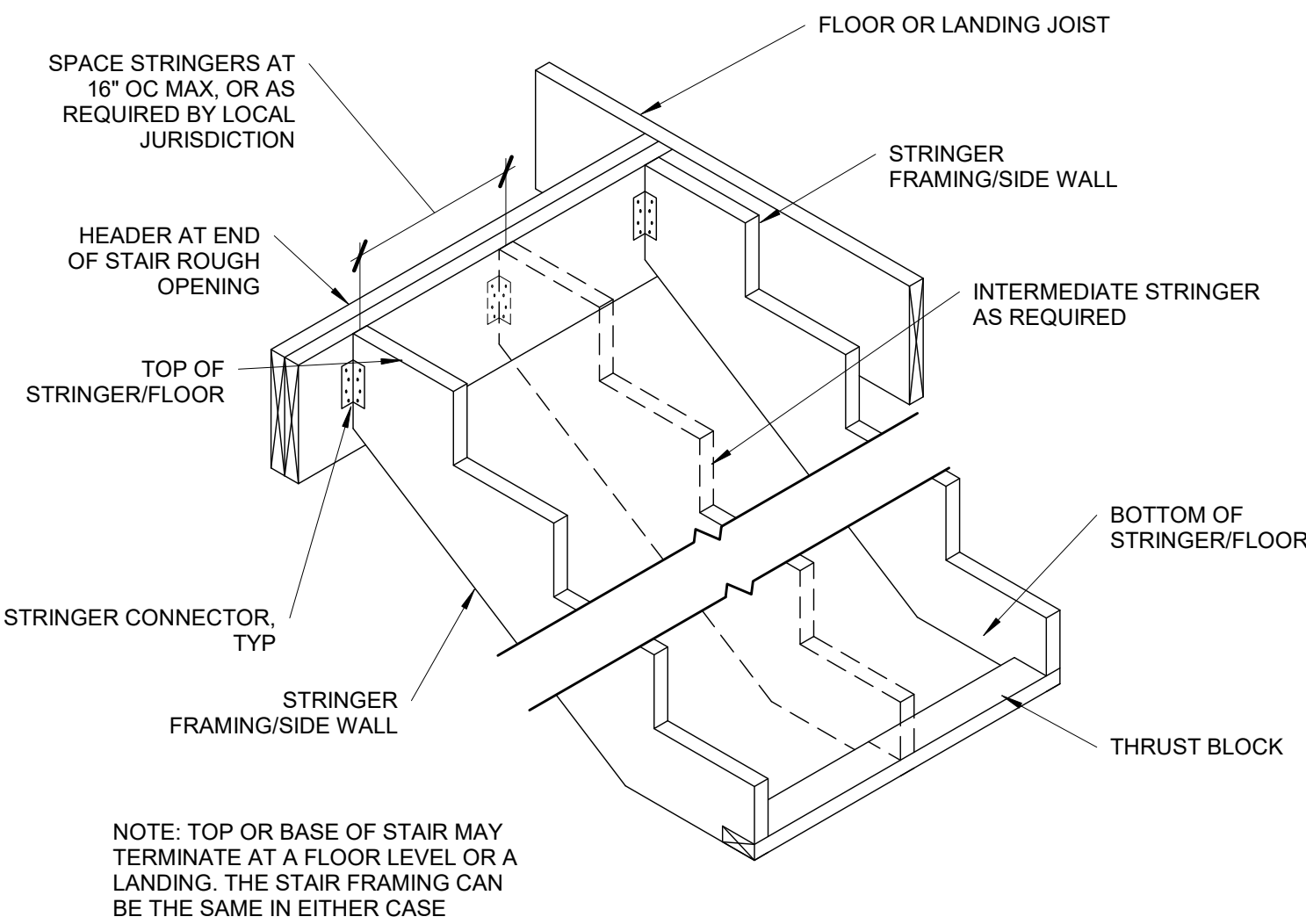
B. A HABITABLE ATTIC ASSEMBLY SUPPORTED BY 2x4 STUDS IS LIMITED TO A ROOF SPAN OF 32 FEET. WHERE THE ROOF SPAN EXCEEDS 32 FEET, THE WALL STUDS SHALL BE INCREASED TO 2x6 OR THE STUDS SHALL BE DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.

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

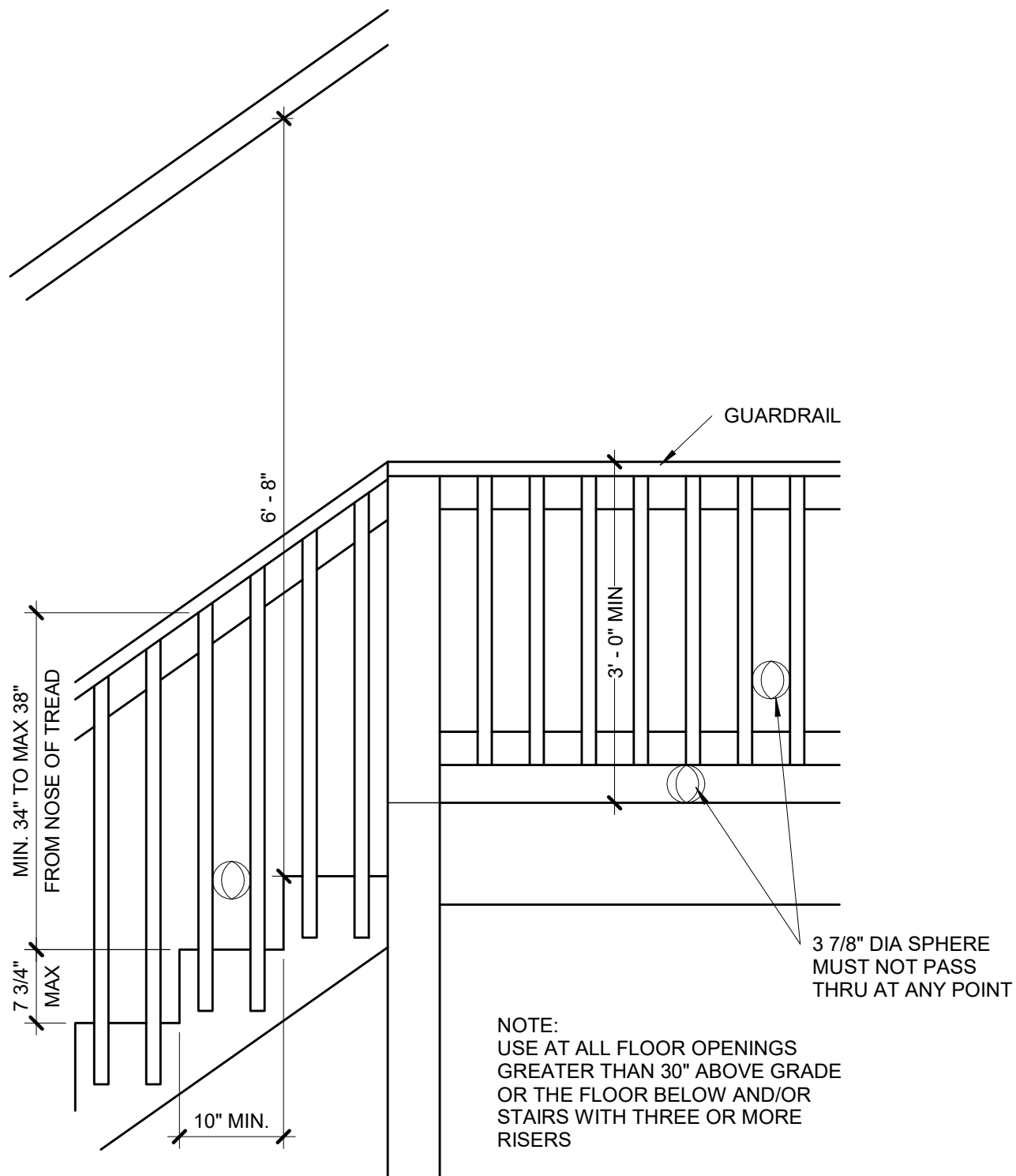
STUD HEIGHT	SUPPORTING	ULTIMATE DESIGN WIND SPEED = 115 MPH		
		STUD SPACING	MAX ROOF/FLOOR SPAN, 12 FEET	MAX ROOF/FLOOR SPAN, 24 FEET
11 FEET	ROOF ONLY	12 IN	2x4	2x4
		16 IN	2x4	2x4
	ROOF AND ONE FLOOR	12 IN	2x4	2x6
		16 IN	2x4	2x6
12 FEET	ROOF ONLY	12 IN	2x4	2x4
		16 IN	2x4	2x4
	ROOF AND ONE FLOOR	12 IN	2x4	2x6
		16 IN	2x4	2x6

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

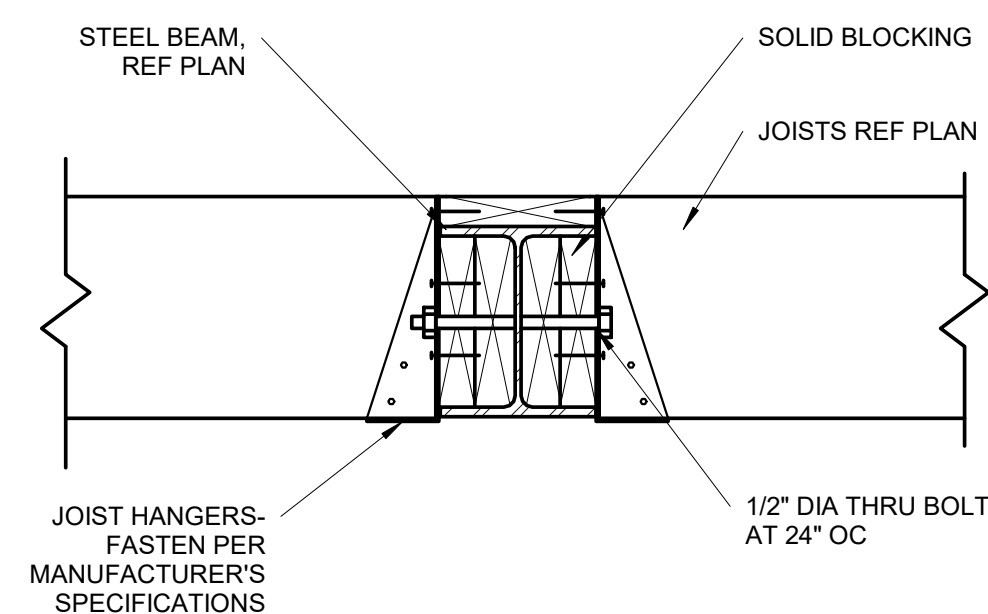
B. THE MAXIMUM SPAN IS APPLICABLE TO BOTH SINGLE AND MULTIPLE SPAN ROOF AND FLOOR CONDITIONS. THE ROOF ASSEMBLY SHALL NOT CONTAIN A HABITABLE ATTIC.



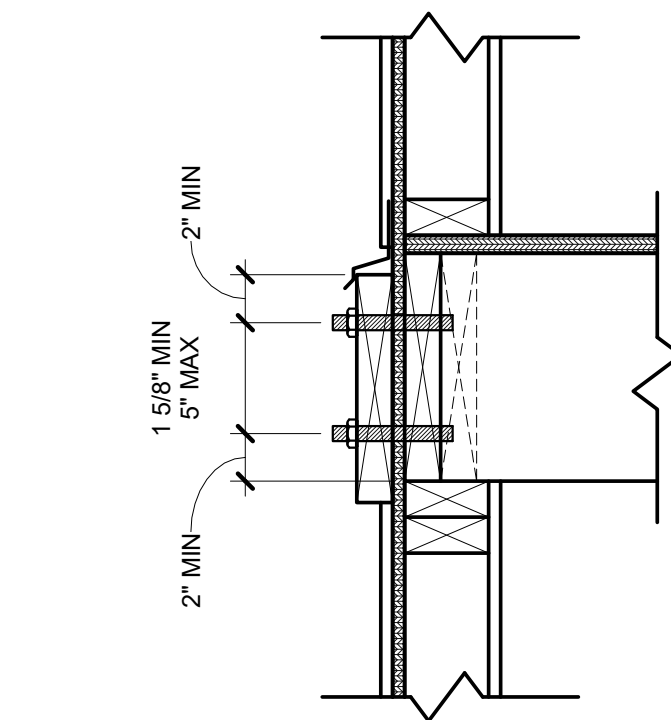
11 | TYPICAL STRINGER DETAIL
S3.0 | 3/4" = 1'-0"



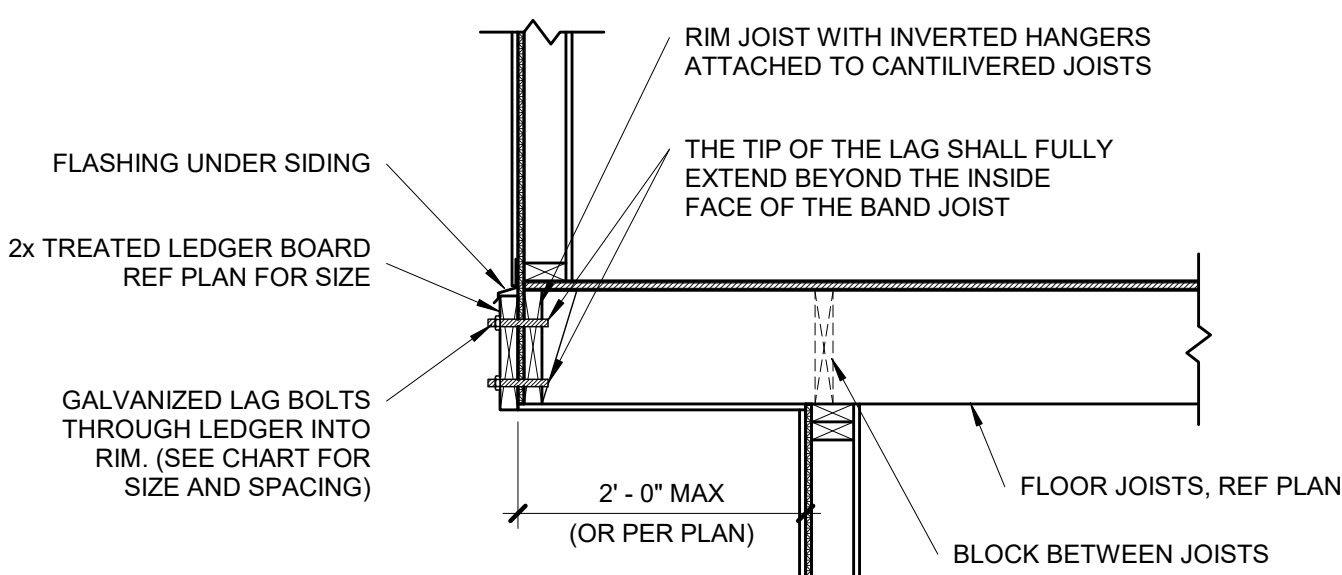
10 | TYPICAL STAIR/RAIL DETAIL
S3.0 | 3/4" = 1'-0"



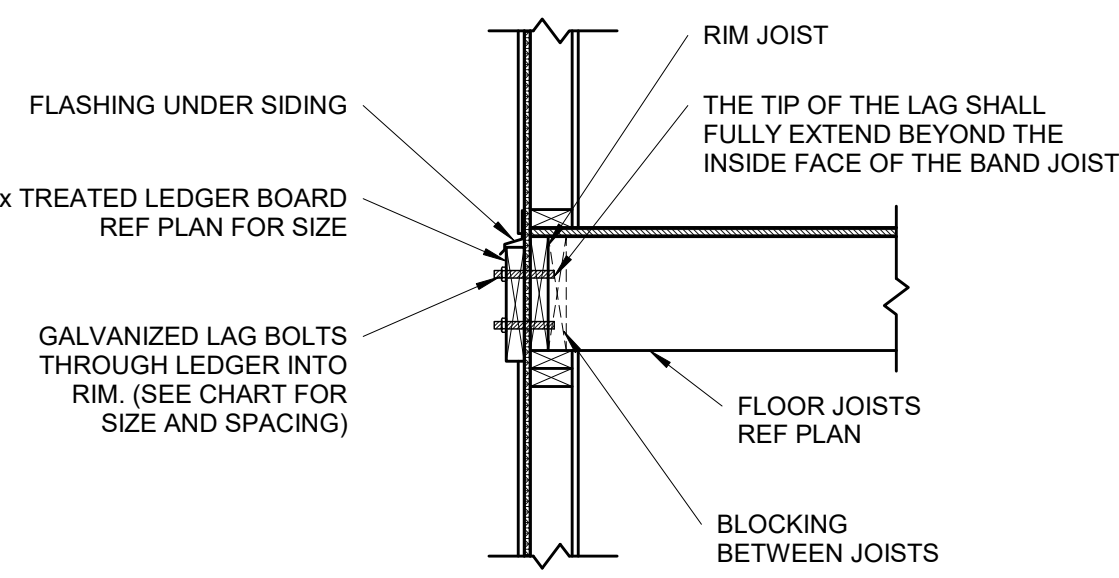
9 | UPSET STEEL BEAM/JOIST CONNECTION
S3.0 | 1 1/2" = 1'-0"



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



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

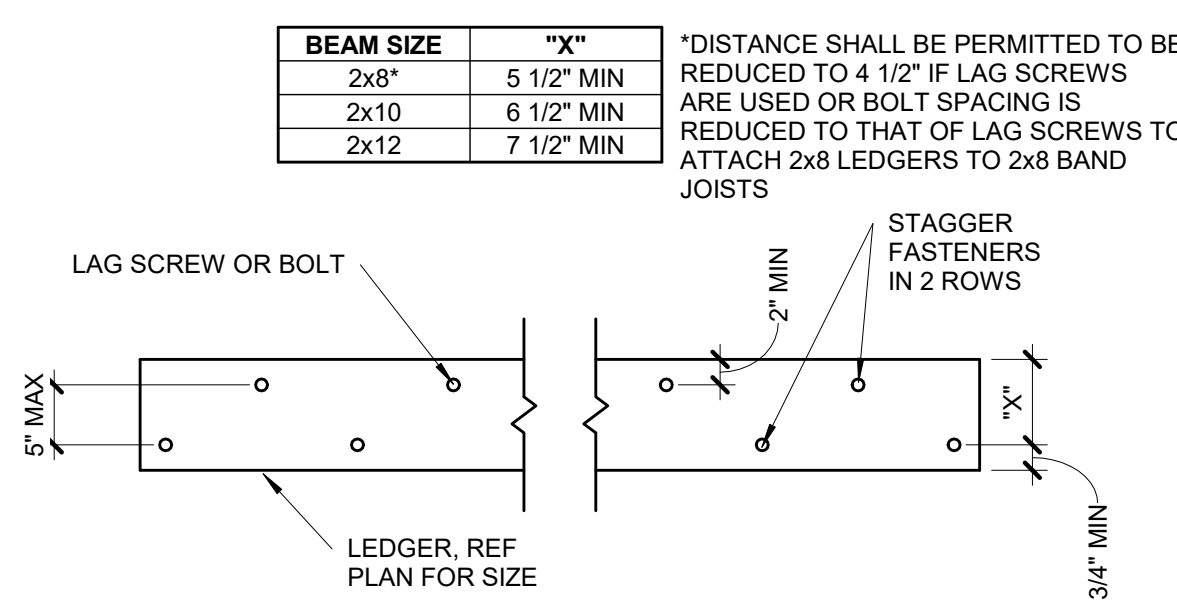


DECK LEDGER ATTACHMENT CHART

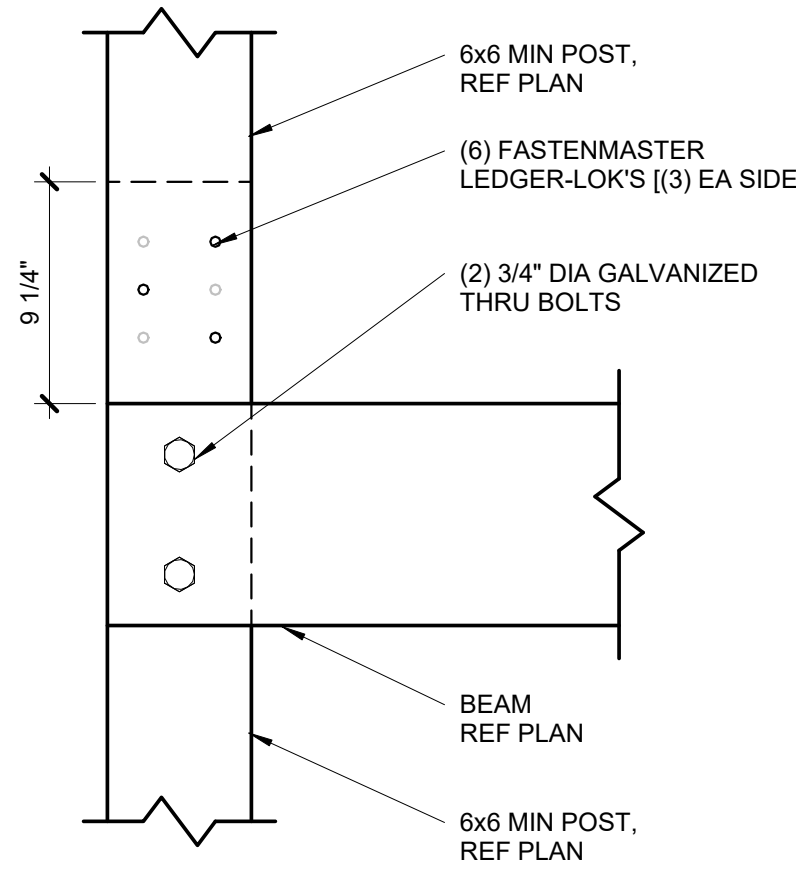
DECK JOIST SPAN	1/2" DIA LAG SPACING	EQUIVALENT SPACING FOR 16" OC JOIST BAYS
UP TO 10'-0"	16" OC	N/A
10'-1" TO 12'-0"	15" OC	16" OC DBL EVERY OTHER
12'-1" TO 14'-0"	13" OC	16" OC DBL EVERY OTHER
14'-1" TO 16'-0"	11" OC	16" OC DBL EVERY JOIST BAY
16'-1" TO 18'-0"	10" OC	16" OC DBL EVERY JOIST BAY

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

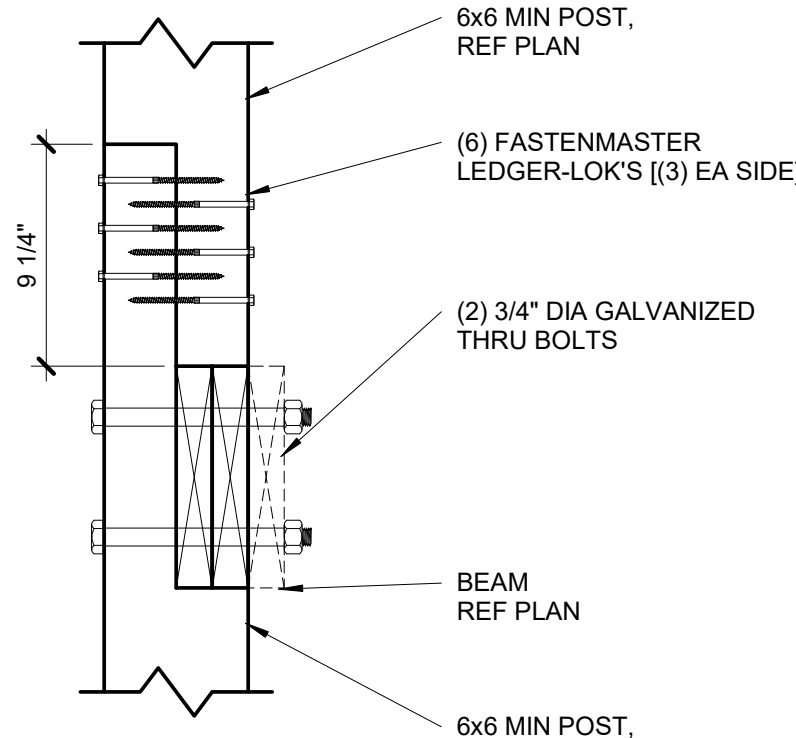
6 | TYPICAL LEDGER ATTACHMENT
S3.0 | 3/4" = 1'-0"



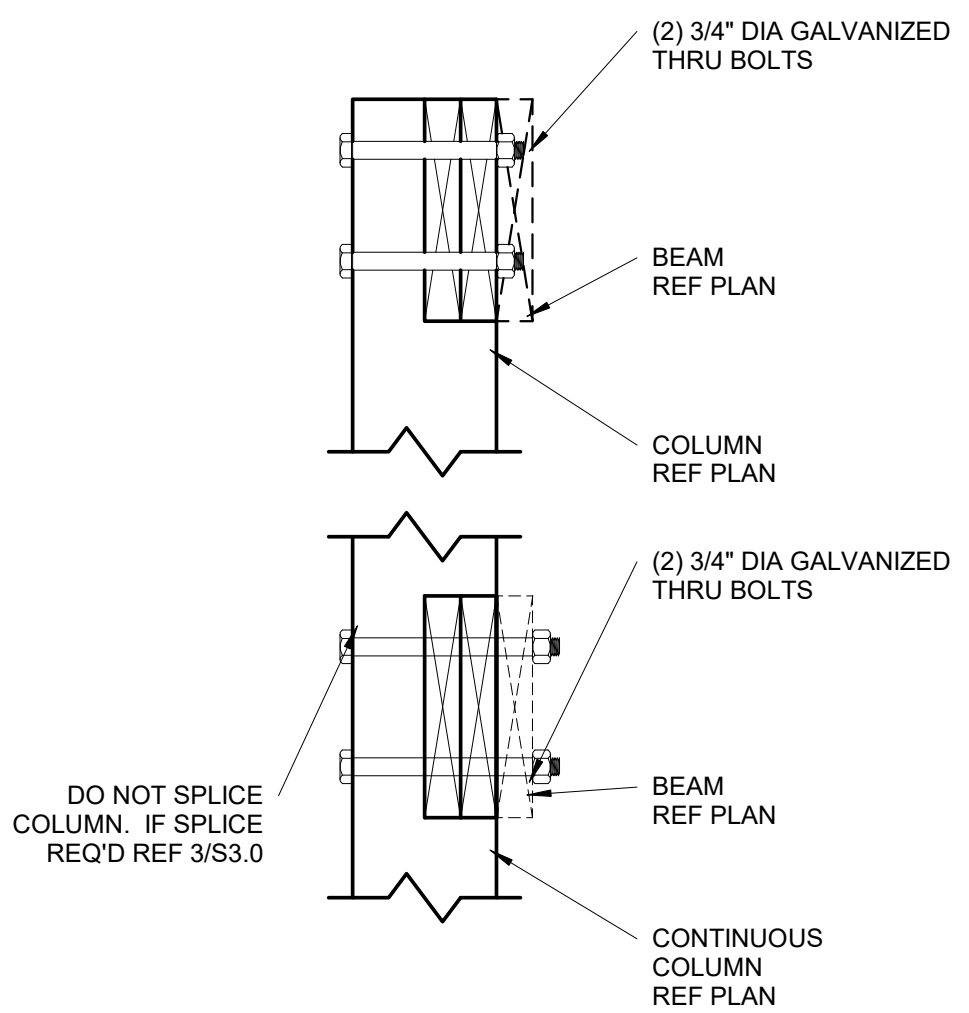
5 | TYPICAL LEDGER BOLT SPACING
S3.0 | 3/4" = 1'-0"



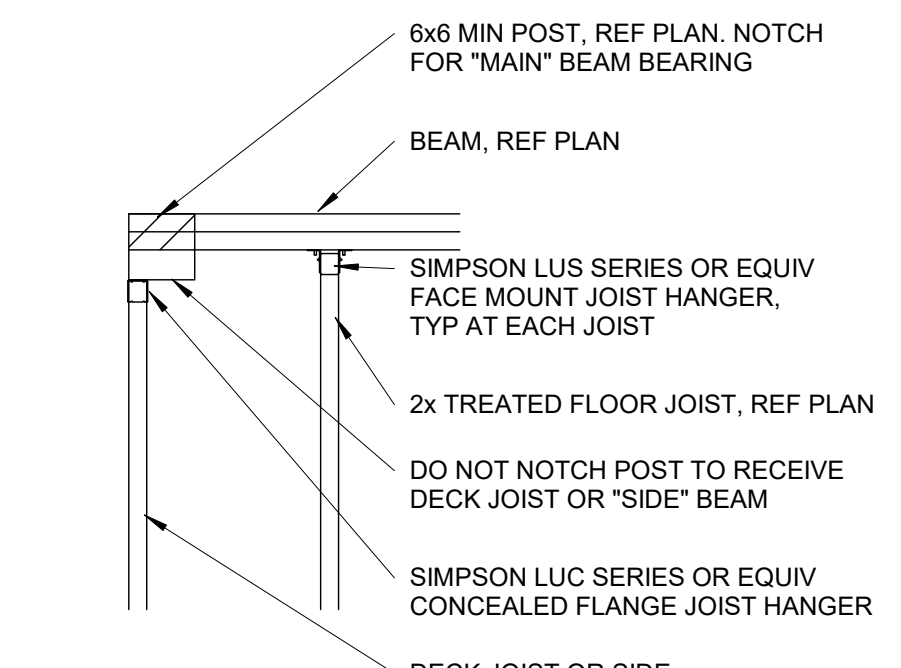
4 | SPliced DECK COLUMN CONNECTION
S3.0 | 1 1/2" = 1'-0"



3 | SPliced DECK COLUMN CONNECTION
S3.0 | 1 1/2" = 1'-0"



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



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

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PE-2003000003
09.24.2022
PROFESSIONAL ENGINEER

STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: 5-692
MISSOURI ENGINEERING LICENSE: 2003004673

PROJECT: Murdock Residence
Lot 1479 Winterset Valley
Lee's Summit, MO

CLIENT: Gale Home Builders, Inc.
400 SW Longview Blvd
Lee's Summit, MO

PROJECT #: 42177
DRAWN BY: BCH
CHECKED BY: BDC
SUBMITTAL DATE: 2021.09.24

COMMENTS

SHEET: FRAMING DETAILS

S3.0



<p>PROJECT: Murdock Residence Lot 1479 Winterset Valley Lee's Summit, MO</p>	<p>CLIENT: Gale Home Builders, Inc. 400 SW Longview Blvd Lee's Summit, MO</p>
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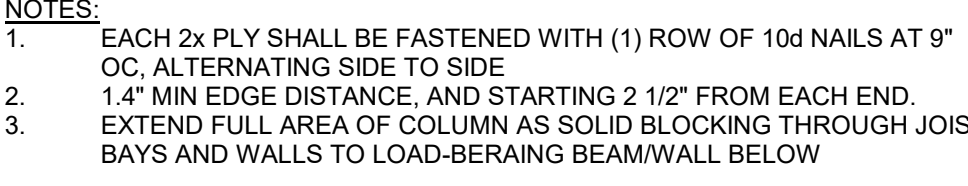
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S3.1



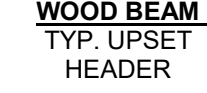
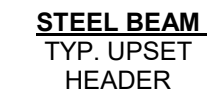
S3.1	$1\ 1/2" = 1'-0"$
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S3.1	1 1/2" = 1'-0"
-------------	----------------



1 | BUILT-UP STUD COLUMN

S3.1 | $1\frac{1}{2}'' = 1'-0''$



S3.1	3/4" = 1'-0"	(COMPLIANCE WITH IRC R802.11)
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ALTERNATE FOR OBLONG BORED HOLE:

PLATES: TOP AND BOTTOM PLATE HOLE, CUT OR NOTCH THAT IS 50% MORE OF WIDTH MUST BE REPAIRED USING 16 GA (MIN) METAL TIE THAT IS AT LEAST 1-1/2" WIDE IF WALL IS A SHEAR WALL IT MUST BE REPAIRED USING HARDY FRAME SADDLE (HFS).	WALL SIZE	HOLE SIZE	VERTICAL HOLE SIZE (H)
	2x4	1 3/4"	D+1/2" AT Lvl 182
	2x6	2 3/4"	D+1" AT Lvl 3
	2x8	3 5/8"	D+1 1/4" AT Lvl 4
			D+1 1/2" AT Lvl 5

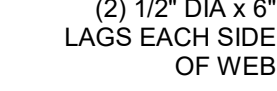
NOTE:
SEE SECTION R602.6 AND FIGURES R602.6.1
AND R602.6.2

5 | DRILLING & NOTCHING DETAIL

S3.1 | $3/4" = 1'-0"$

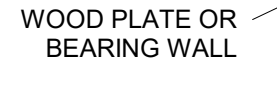


S3.1	1 1/2" = 1'-0"
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8	FLUSH STEEL BEAM CONNECTION
---	-----------------------------

S3.1 | $1\frac{1}{2}'' = 1'-0''$



7 | FLUSH WOOD BEAM CONNECTION

S3.1 $1\frac{1}{2}'' = 1'-0''$



S3.1	$3/4" = 1'$
-------------	-------------



11	TYPICAL WOOD HEADER DETAIL
----	----------------------------

S3.1 | NOT TO SCAL

UC	UC	12 UC STAGGERED
NOTES: 1. NAILING SHOWN APPLIES UNLESS SPECIFICALLY NOTED IN DETAILS. 2. SPACE NAILS EVENLY THROUGHOUT DEPTH OF BEAM.		

10	MULTIPLE PLY BEAM NAILIN SCHEDULE
----	--------------------------------------

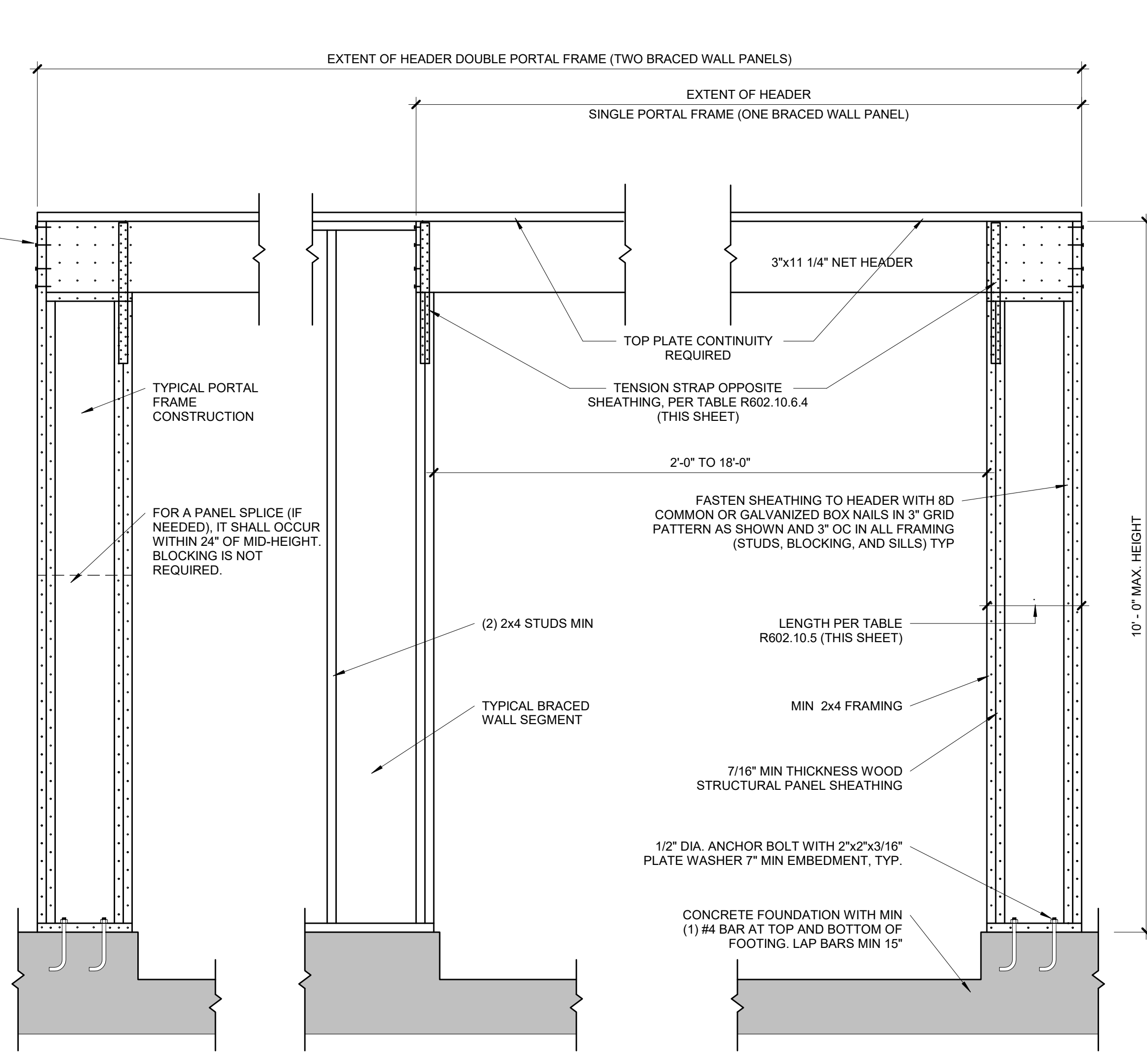
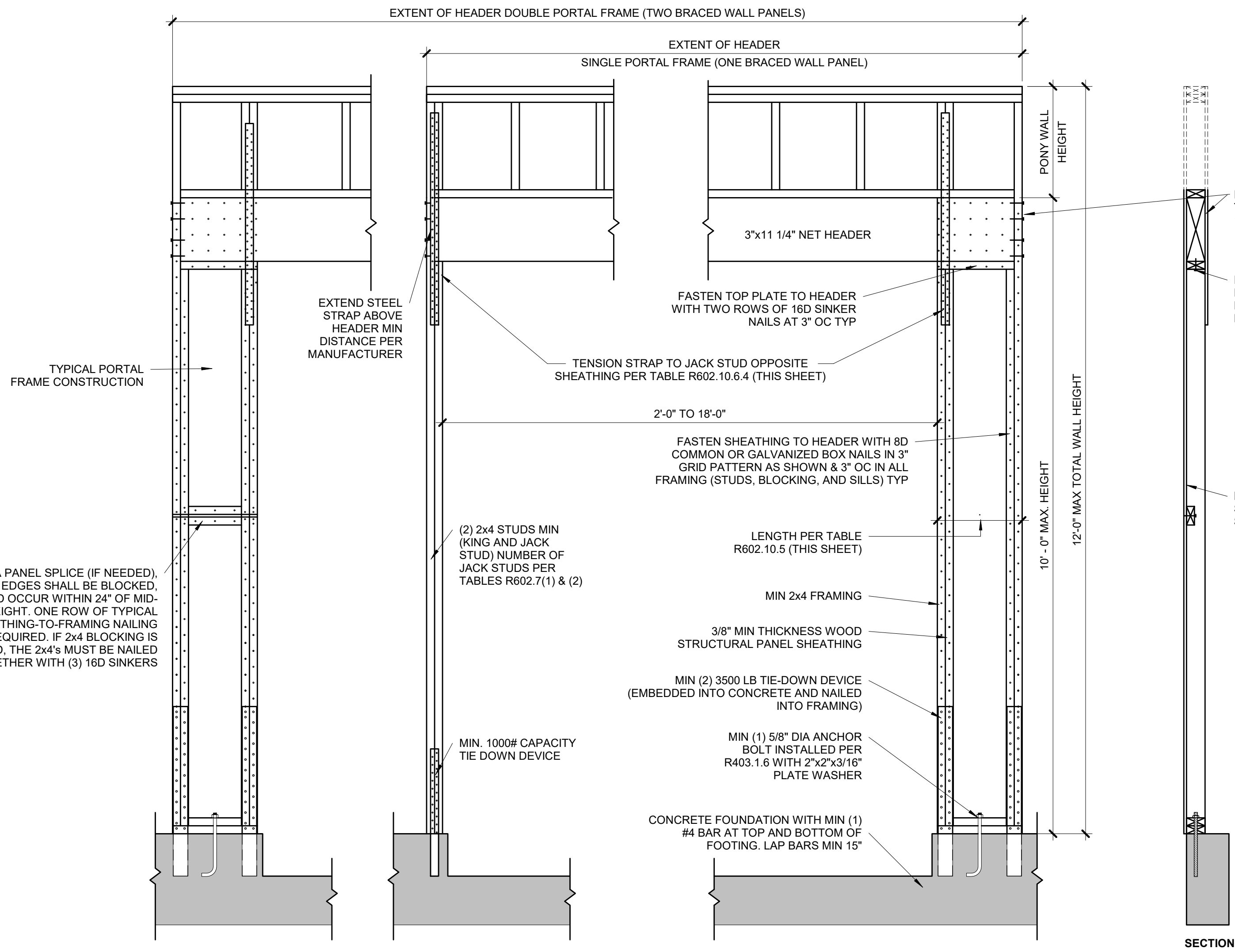
S3.1 | NOT TO SCAL



SHEET:

FRAMING DETAILS

S3.2



PORTAL FRAME AT GARAGE DOOR WITHOUT HOLD DOWNS (METHOD PFG)

1
S4.0 ALT 3/4" = 1'-0" (ALT ALLOWED AT GARAGE DOOR ONLY) (PER IRC R602.10.6.3)

TABLE R602.10.5 (PARTIAL)						
METHOD	MINIMUM LENGTH OF BRACED WALL PANELS					
	MIN LENGTH (INCHES)					
	8 FEET	9 FEET	10 FEET	11 FEET	12 FEET	
1. SUPPORTING ROOF ONLY	16	16	16	16	16	
2. ONE STORY AND ROOF	24	24	24	24	24	
PFG	24	27	30	30	30	

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

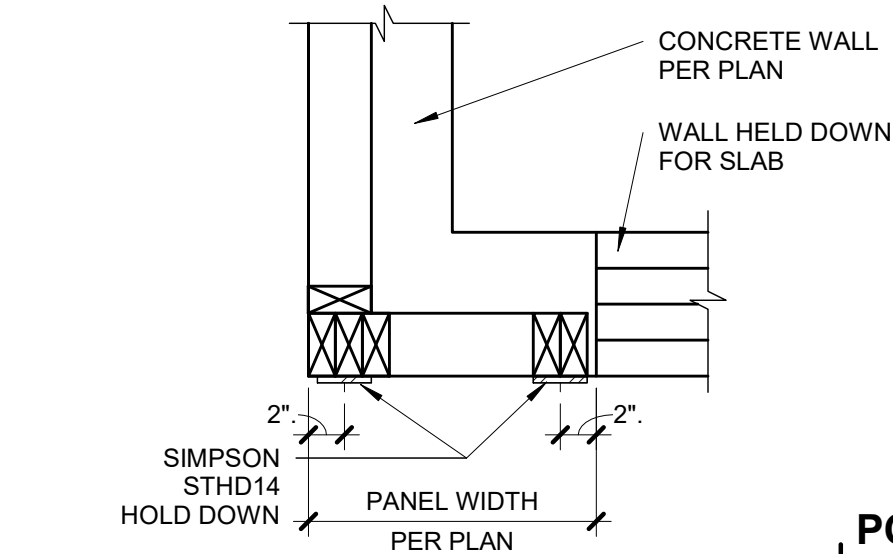
TABLE R602.10.6.4

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

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

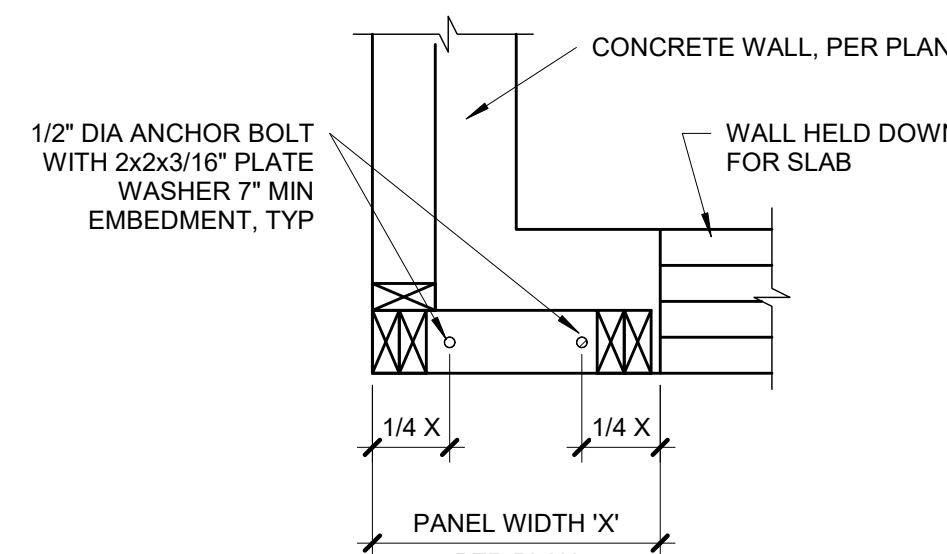
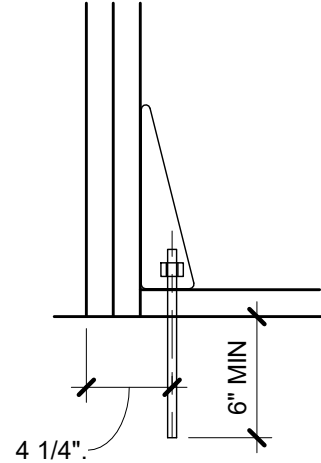
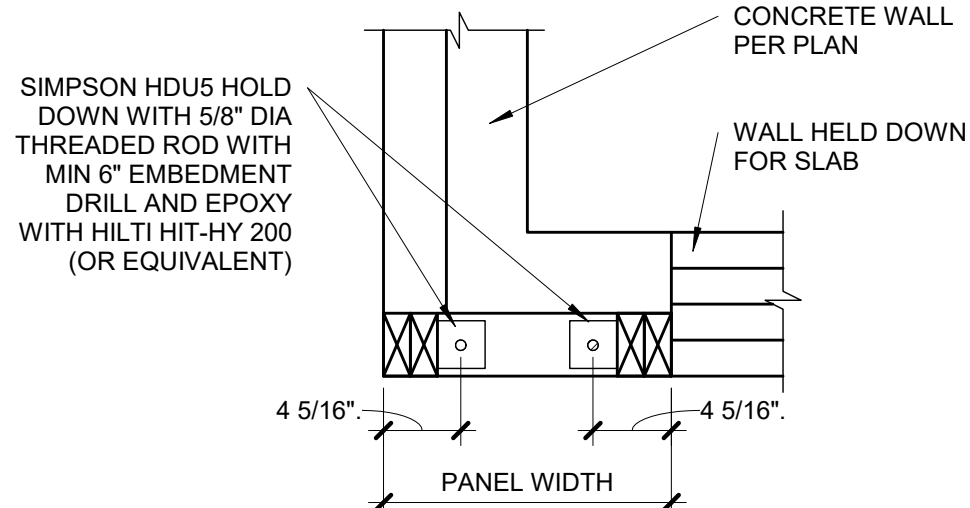
XXXX EXTERIOR BRACED WALLS:
WSP METHOD:
WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" WITH MINIMUM SPAN RATING OF 24/0 FOR 16" OC STUD SPACING WITH 6d COMMON NAILS AT 6" OC EDGES AND 12" OC FIELD OR SHEATHING THICKNESS NOT LESS THAN 7/16" WITH MINIMUM SPAN RATING OF 24/16 FOR 24"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

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



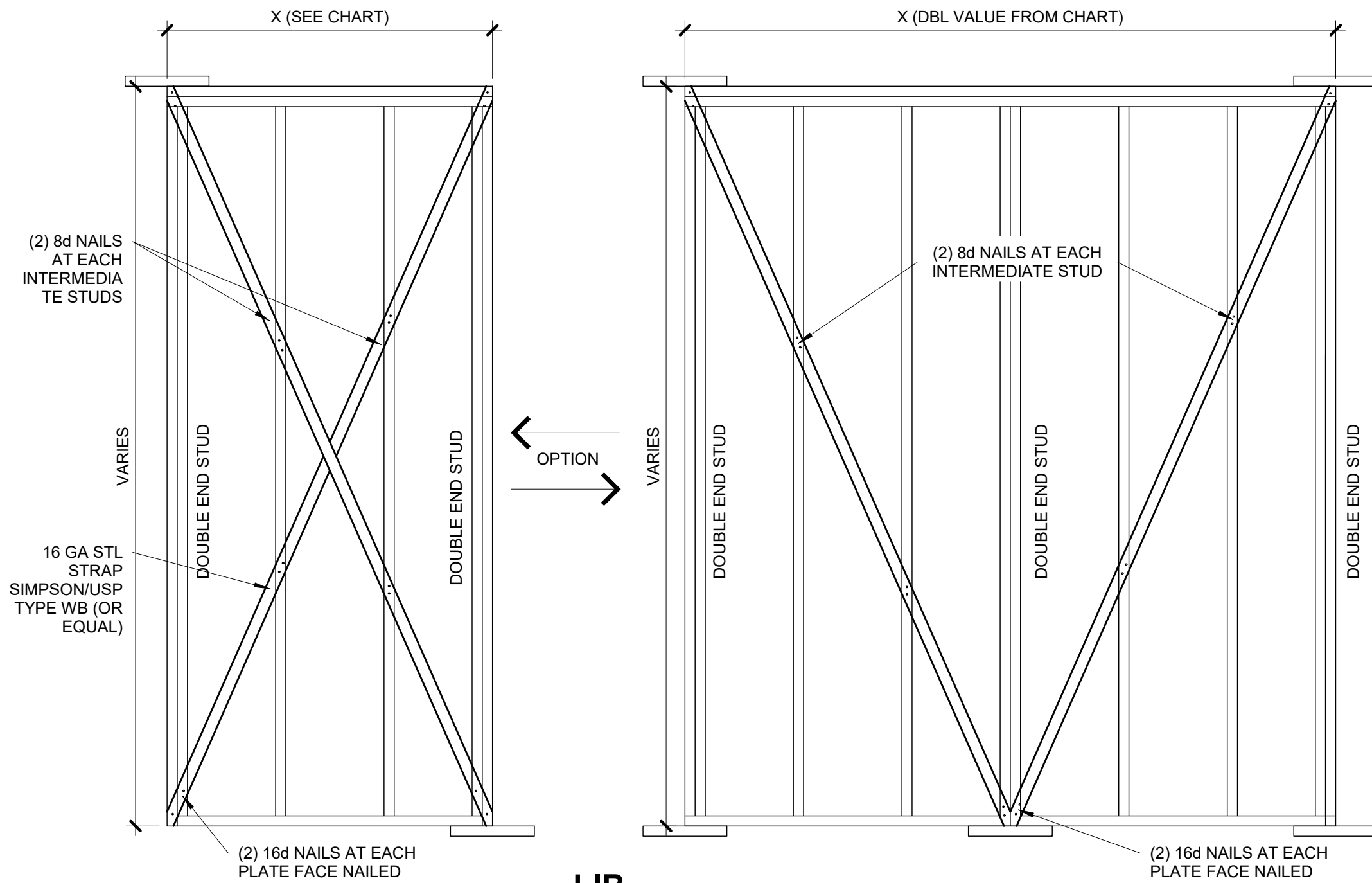
PORTAL FRAME WITH HOLD DOWNS (METHOD PFH)

1
S4.0 3/4" = 1'-0" (PER IRC R602.10.6.2)



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

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



BRACED WALL PANEL-IRC METHODS LIB AND GB

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

