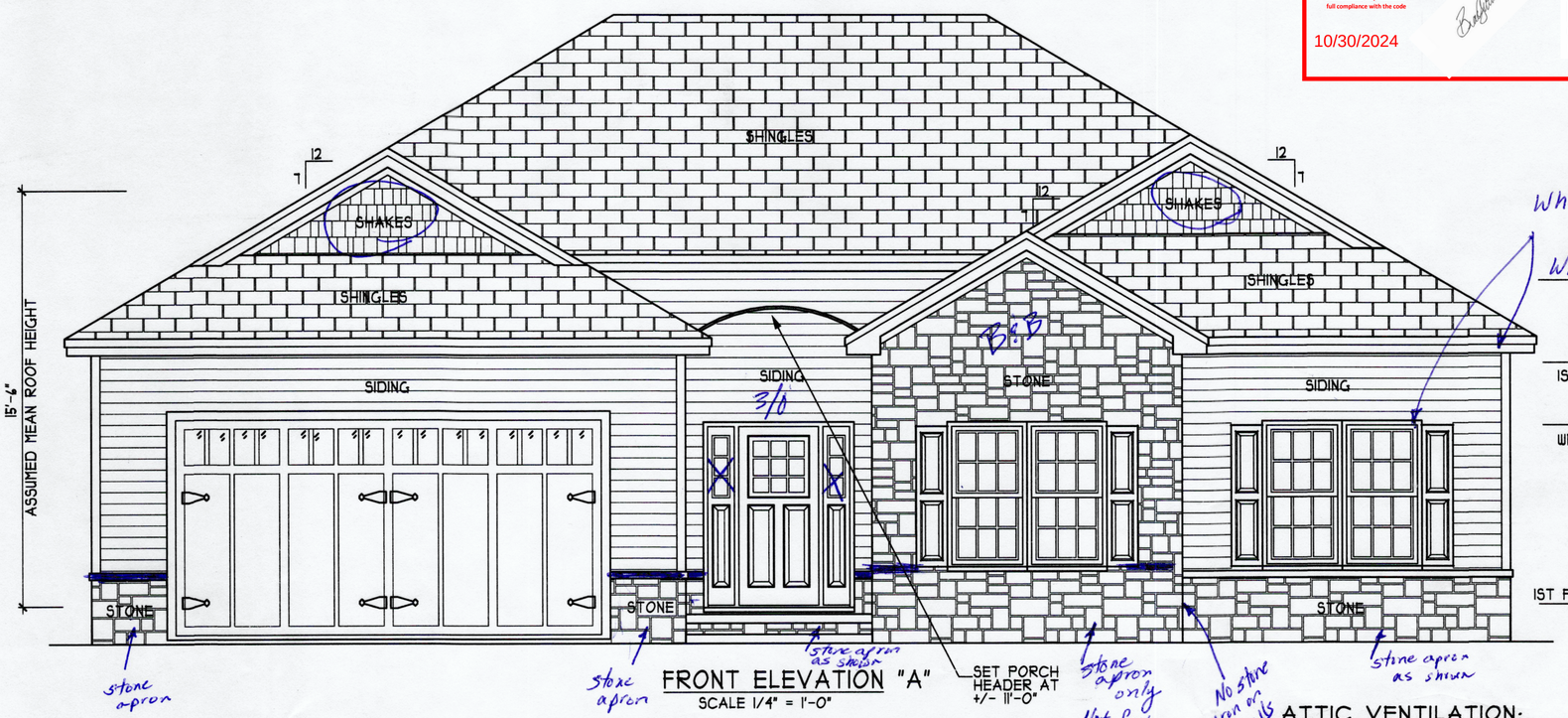
NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

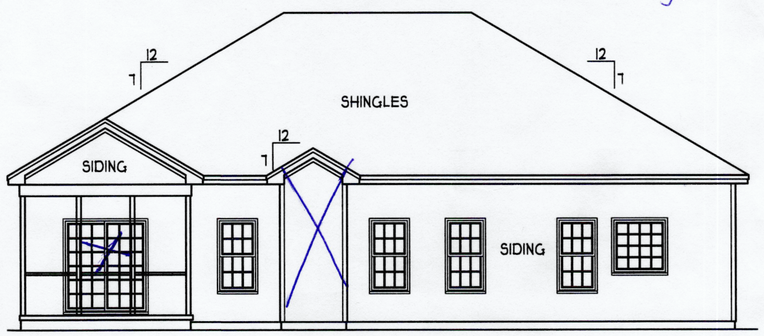
APPROVED
Limited building only review
Permit holder responsible for full compliance with the code

10/30/2024

Harnett COUNTY NORTH CAROLINA



FRONT ELEVATION "A"
SCALE 1/4" = 1'-0"



REAR ELEVATION "A"
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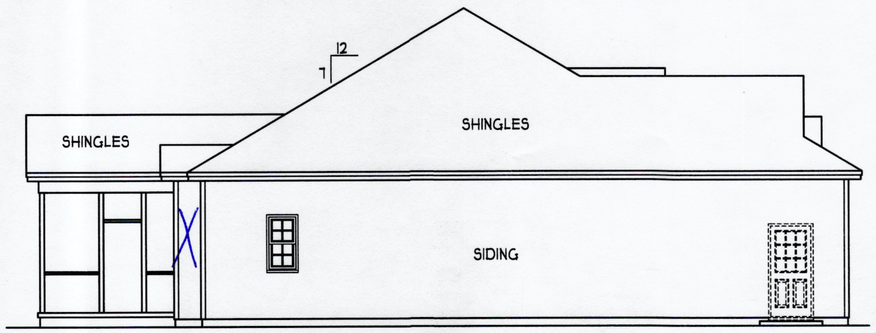

LEFT ELEVATION "A"
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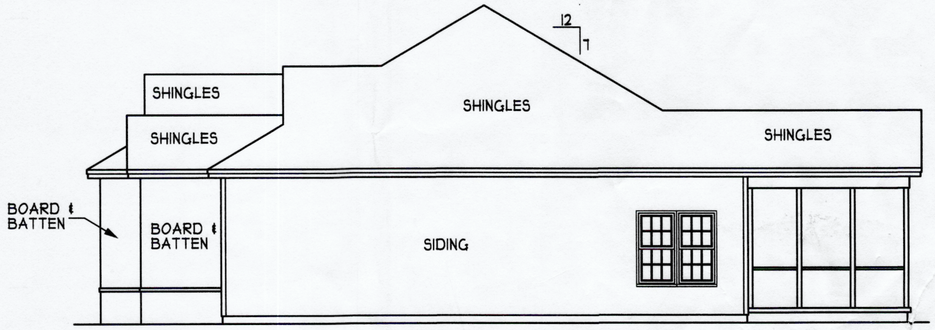


RIGHT ELEVATION "A"
SCALE 1/8" = 1'-0"

ATTIC VENTILATION:

THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1 TO 150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT THE AREA MAY BE 1 TO 300 , PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION TO BE PROVIDED BY EAVE OR CORNICE VENTS.

GROSS ATTIC AREA TO BE VENTILATED 2348 SQ.FT.

2348/150 = 15.65 SQ.FT. NET FREE AREA

ENERGY COMPLIANCE
ZONE 3A = MAX. GLAZING U-FACTOR .35
R-VALUE = CEILING R38, WALLS R15, FLOORS R19

ZONE 4 = MAX. GLAZING U-FACTOR .35
R-VALUE = CEILING R38, WALLS R15, FLOORS R19

THE CHARLESTON

S&S HOMES

HEATED FOOTAGE: #1769

SQUARE FOOTAGE:
FIRST FLOOR = 1769
FRONT PORCH = 28
OPT. COVD PORCH = 152
GARAGE = 541

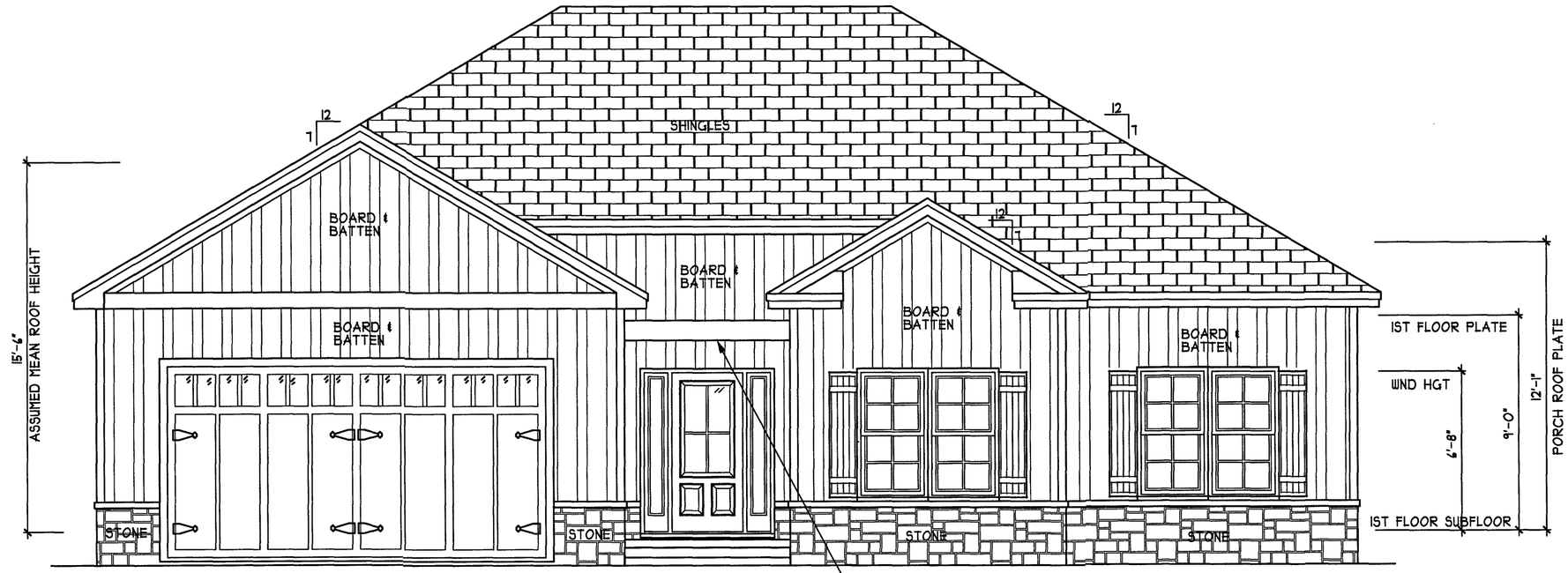
DESIGNED BY:
HEATHER or JOHNATHAN HALL
165 HEATHERSTONE CT
BENSON NC 27504
(919) 207-1403

H SQUARED HOME DESIGN, INC.

DATE: 09/12/2023

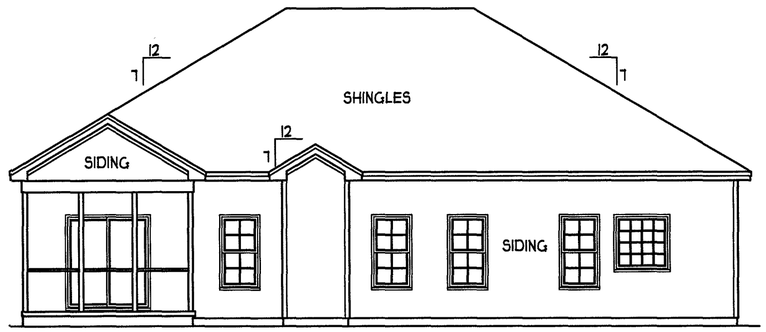
1 STORY

FILE: 092920



FRONT ELEVATION "B"

SCALE 1/4" = 1'-0"



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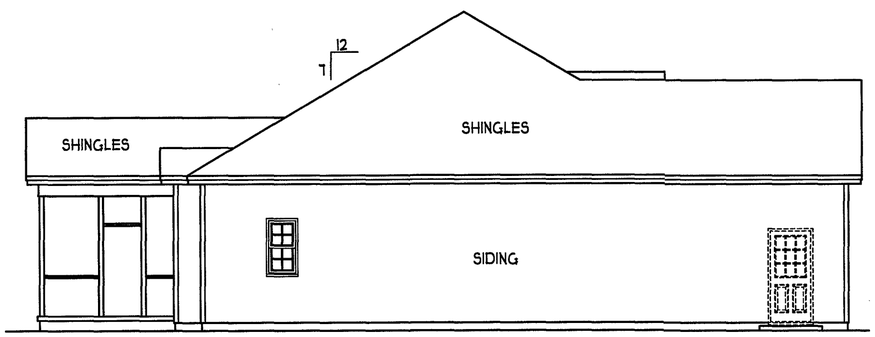

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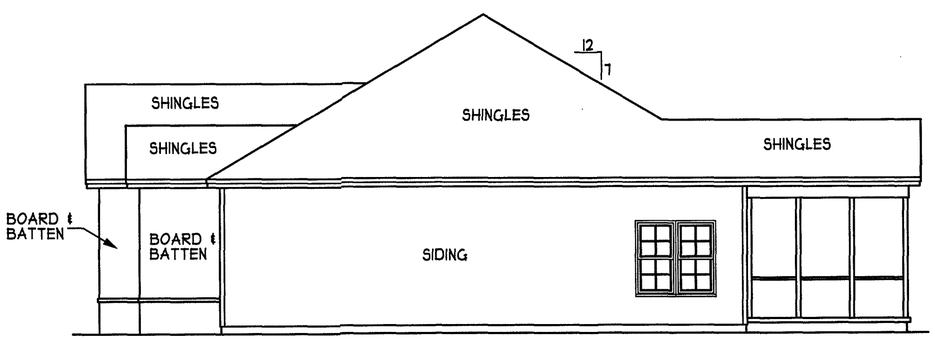

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THE CHARLESTON

S&S HOMES

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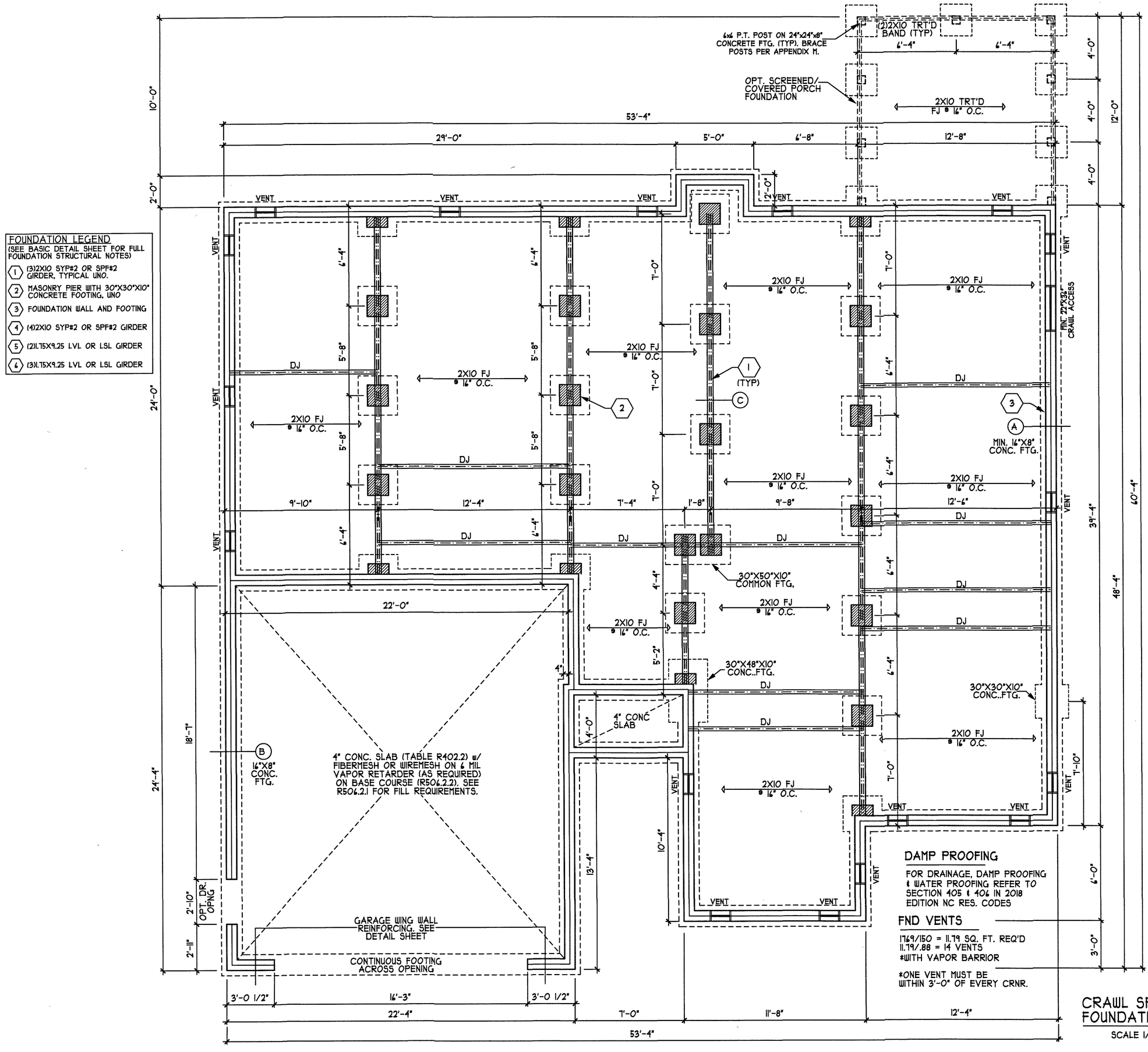

FOUNDATION LEGEND

(SEE BASIC DETAIL SHEET FOR FULL FOUNDATION STRUCTURAL NOTES)

1. (3)2X10 SYP#2 OR SPF#2 GIRDER, TYPICAL UNO.
2. MASONRY PIER WITH 30"X30"X10" CONCRETE FOOTING, UNO
3. FOUNDATION WALL AND FOOTING
4. (4)2X10 SYP#2 OR SPF#2 GIRDER
5. (2)1.75X9.25 LVL OR LSL GIRDER
6. (3)1.75X9.25 LVL OR LSL GIRDER

DAMP PROOFING

FOR DRAINAGE, DAMP PROOFING & WATER PROOFING REFER TO SECTION 405 & 406 IN 2018 EDITION NC RES. CODES

FND VENTS

1769/150 = 11.79 SQ. FT. REQ'D
11.79/.88 = 14 VENTS
*WITH VAPOR BARRIOR

*ONE VENT MUST BE WITHIN 3'-0" OF EVERY CRNR.

CRAWL SPACE FOUNDATION PLAN

SCALE 1/4" = 1'-0"

THE CHARLESTON

S&S HOMES

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DATE: 09/12/2023

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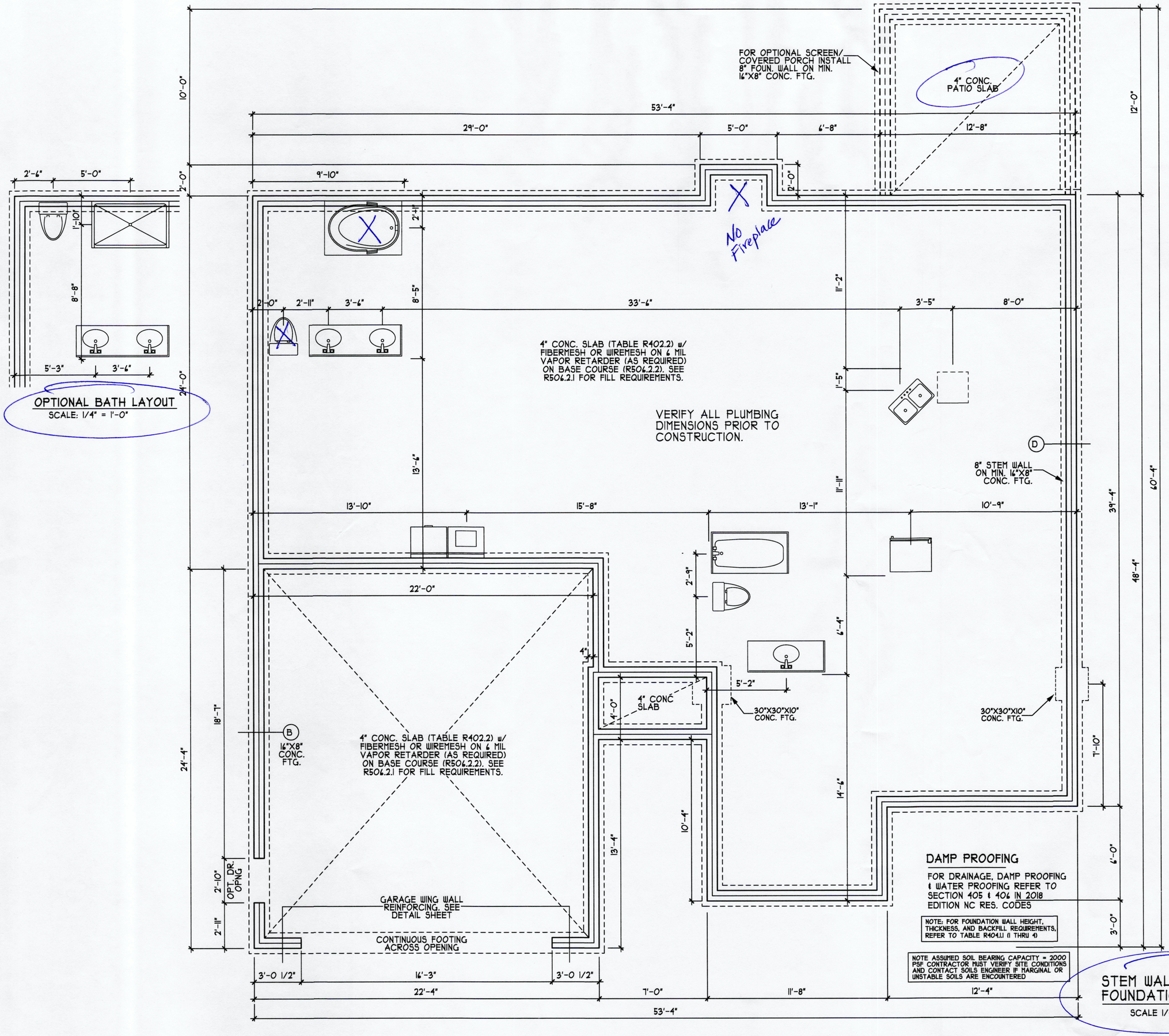

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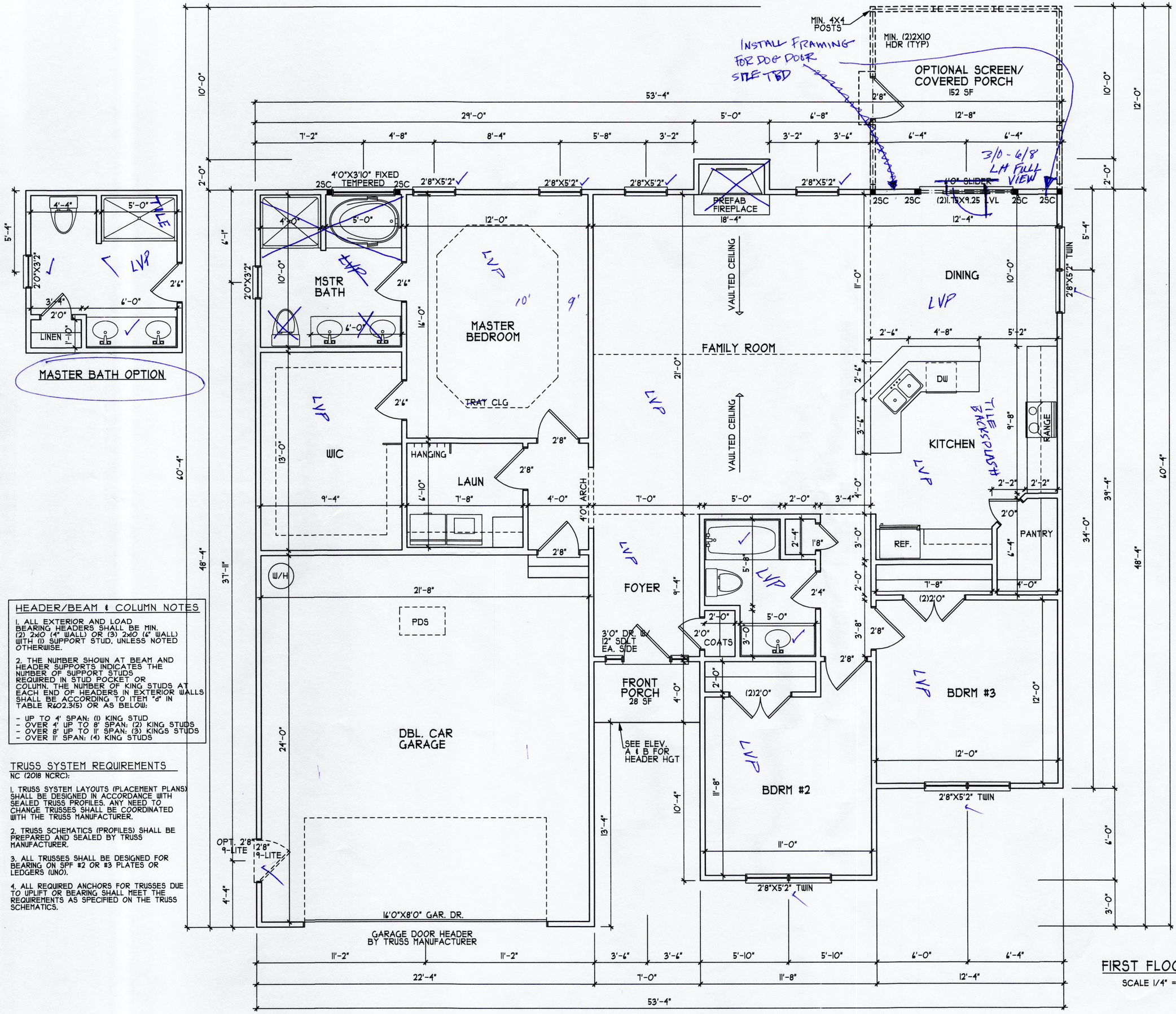

HEADER/BEAM & COLUMN NOTES

1. ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2) 2x10 (4" WALL) OR (3) 2x10 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.

2. THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW:

- UP TO 4' SPAN: (1) KING STUD
- OVER 4' UP TO 8' SPAN: (2) KING STUDS
- OVER 8' UP TO 11' SPAN: (3) KINGS STUDS
- OVER 11' SPAN: (4) KING STUDS

TRUSS SYSTEM REQUIREMENTS

NC (2018 NCRC):

1. TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH SEALED TRUSS PROFILES. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH THE TRUSS MANUFACTURER.

2. TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.

3. ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).

4. ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

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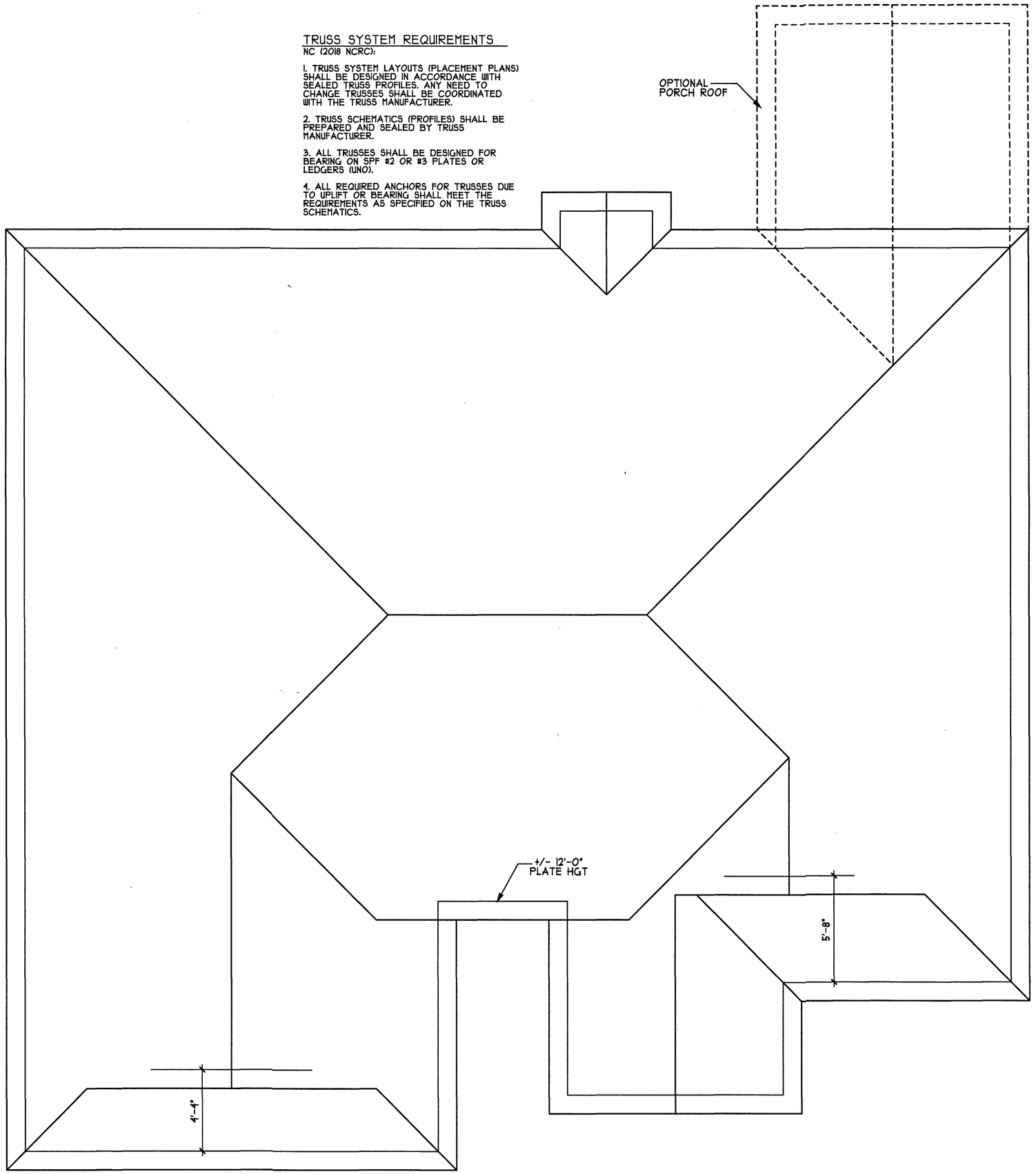

ROOF PLAN "A"

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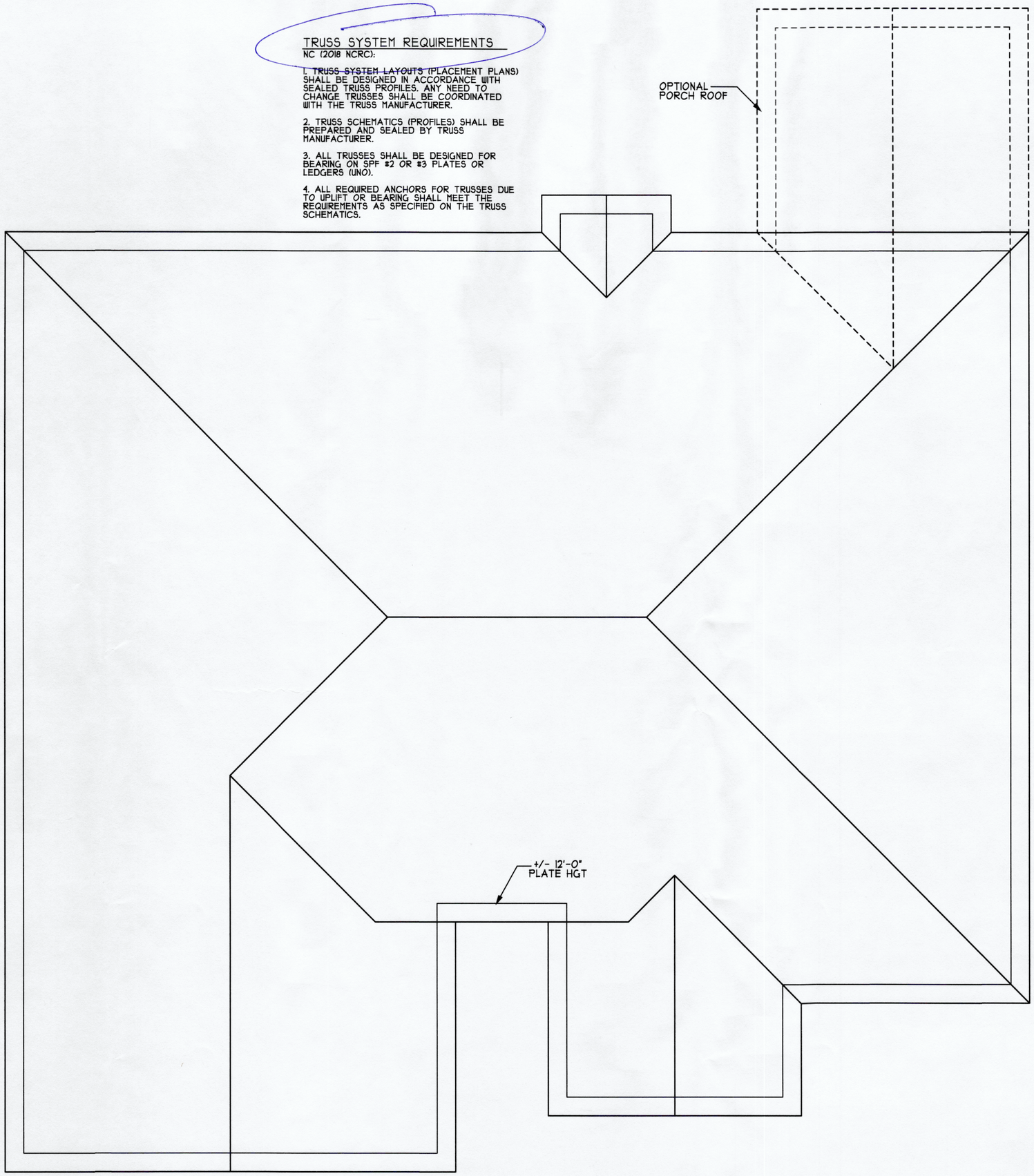

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STRUCTURAL NOTES

1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA STATE RESIDENTIAL CODE - 2018 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER OR DESIGNER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER OR DESIGNER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. "CONSTRUCTION REVIEW" SERVICES ARE NOT PART OF OUR CONTRACT. ALL MEMBERS SHALL BE FRAMED, ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.

2) DESIGN LOADS (R301.4)

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (LL)
ROOMS OTHER THAN SLEEPING ROOMS	40	10	L/360
SLEEPING ROOMS	30	10	L/360
ATTIC WITH PERMANENT STAIR	40	10	L/360
ATTIC WITH OUT PERMANENT STAIR	20	10	L/360
ATTIC WITH OUT STORAGE	10	10	L/240
STAIRS	40	--	L/360
EXTERIOR BALCONIES	60	10	L/360
DECKS	40	10	L/360
GUARDRAILS AND HANDRAILS	200	--	----
PASSENGER VEHICLE GARAGES	50	10	L/360
FIRE ESCAPES	40	10	L/360
SNOW	20	--	----

WIND LOAD (BASED ON 130 MPH WIND VELOCITY & EXPOSURE B)

3) WALL BRACING: BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO SECTION R602.10.3.
THE AMOUNT AND LOCATION OF BRACING SHALL COMPLY WITH TABLE R602.10.1.
THE LENGTH OF BRACED PANELS SHALL BE DETERMINED BY SECTION R602.10.4.
LATERAL BRACING SHALL BE SATISFIED PER METHOD 3 BY CONTINUOUSLY SHEATHING WALLS WITH STRUCTURAL SHEATHING PER SECTION R602.10.3.
NOTE THAT ANY SPECIFIC BRACED WALL DETAIL SHALL BE INSTALLED AS SPECIFIED.

4) CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIR ENTRAINED PER TABLE 402.2. ALL CONCRETE SHALL BE PROPORTIONED, MIXED, HANDLED, SAMPLED, TESTED, AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES FOR PUMPING SHALL BE TAKEN FROM THE EXIT END OF THE PUMP.

5) ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000 PSF. THE CONTRACTOR MUST CONTACT A GEOTECHNICAL ENGINEER AND THE STRUCTUAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE, AND SHALL BE GRADED SO AS TO DRAINSURFACE WATER AWAY FROM FOUNDATION WALLS.

6) ALL FRAMING LUMBER SHALL BE SPF #2 (Fb = 875 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE SYP # 2 (Fb=975 PSI). PLATE MATERIAL MAY BE SPF # 3 OR SYP #3 (Fc⊥perp) = 425 PSI - MIN).

7) ALL WOODEN BEAMS AND HEADERS SHALL HAVE THE FOLLOWING END SUPPORTS: (1) 2x4 STUD COLUMN FOR 4'-0" MAX. BEAM SPAN (UNO), (2) 2X4 STUDS FOR BEAM SPAN GREATER THAN 4'-0" (UNO).

8) L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2400 PSI, Fv=285 PSI, E=1.9x10⁶ PSI.
P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2900 PSI, Fv=290 PSI, E=2.0x10⁶ PSI.
L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55x10⁶ PSI.
INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.

9) ALL ROOF TRUSS AND I-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH ANY SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURE'S SPECIFICATIONS. ANY CHANGE IN TRUSS OR I-JOIST LAYOUT SHALL BE COORDINATED WITH DESIGNER OR ENGINEER.

10) ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDED THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C. .
ALL STEEL TUBING SHALL BE ASTM A500.

11) REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60.

12) FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED UNDER THE THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" O.C. (MAX), AND STAGGERED AT THE TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 6" FROM EACH END.

13) BRICK LINTELS SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6"x4"x5/16" STEEL ANGLE WITH 6" LEG VERTICAL FOR SPANS UP TO 9'-0" (UNO).

14) THE POSITIVE AND NEGATIVE DESIGN PRESSURE FOR DOORS AND WINDOWS FOR A MEAN ROOF HEIGHT OF 35 FEET OR LESS SHALL BE 25 PSF.

15) THE POSITIVE AND NEGATIVE DESIGN PRESSURES REQUIRED FOR ANY ROOF OR WALL CLADDING APPLICATION NOT SPECIFICALLY ADDRESSED IN THE NORTH CAROLINA STATE RESIDENTIAL CODE - 2018 EDITION SHALL BE AS FOLLOWS:

ROOF:
45.4 PSF - 2.25:12 PITCH OR LESS
34.8 PSF - 2.25:12 TO 7:12 PITCH
21 PSF - 7:12 TO 12:12 PITCH

WALLS:
24.1 PSF - WALLS

HEADER/BEAM & COLUMN NOTES

1. ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2) 2x10 (4" WALL) OR (3) 2x10 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.

2. THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW:

- UP TO 4' SPAN: (1) KING STUD
- OVER 4' UP TO 8' SPAN: (2) KING STUDS
- OVER 8' UP TO 11' SPAN: (3) KINGS STUDS
- OVER 11' SPAN: (4) KING STUDS

TRUSS SYSTEM REQUIREMENTS

NC (2018 NCRC):

1. TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH SEALED STRUCTURAL PLANS. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.

2. TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.

3. ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).

4. ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

FOUNDATION STRUCTURAL NOTES:

NC (2018 NCRC): 130 MPH

(1) (3) 2x10 SYP #2 OR SPF#2 GIRDER, TYPICAL UNO.

(2) CONCRETE BLOCK PIER SIZE SHALL BE:

SIZE	HOLLOW MASONRY	SOLID MASONRY
8 x 16	UP TO 32" HIGH	UP TO 5'-0" HIGH
12 x 16	UP TO 48" HIGH	UP TO 9'-0" HIGH
16 x 16	UP TO 64" HIGH	UP TO 12'-0" HIGH
24 x 24	UP TO 96" HIGH	

WITH 30" x 30" x 10" CONCRETE FOOTING, UNO.

(3) WALL FOOTING AS FOLLOWS:
DEPTH: 8" - UP TO 2-1/2 STORY
10" - 3 STORY

WIDTH: SIDING (OR EQUAL)
- 16" - UP TO 2-1/2 STORY
- 20" - 3 STORY

BRICK VENEER
- 16" - 1 STORY
- 20" - 2 STORY
- 24" - 3 STORY

FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL CODE TABLE R404.1.1 (1 THRU 4)
NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF.
CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

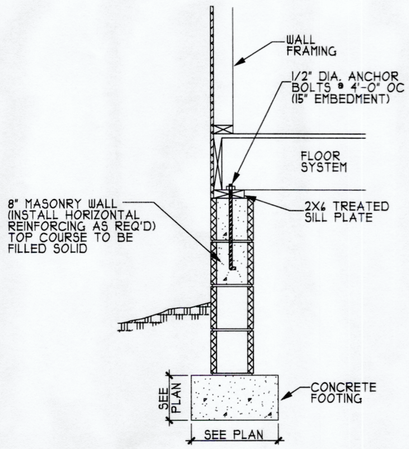
(4) (4) 2x10 SYP#2 OR SPF#2 GIRDER.

(5) (2) 1.75X9.25 LVL OR LSL GIRDER

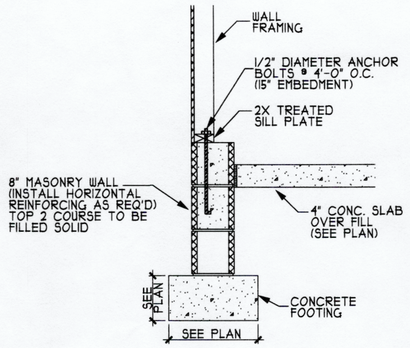
(6) (3) 1.75X9.25 LVL OR LSL GIRDER

7. "■" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.

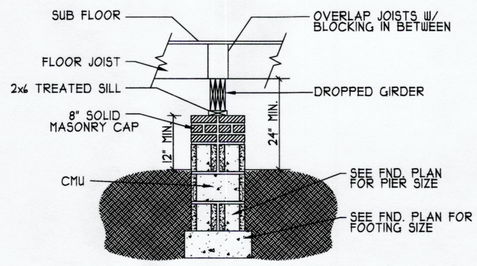
8. ABBREVIATIONS:
"SJ" = SINGLE JOIST
"DJ" = DOUBLE JOIST
"TJ" = TRIPLE JOIST



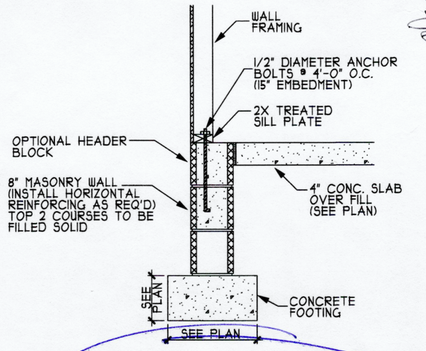
(A) CRAWL SPACE FOOTING
(SIDING)



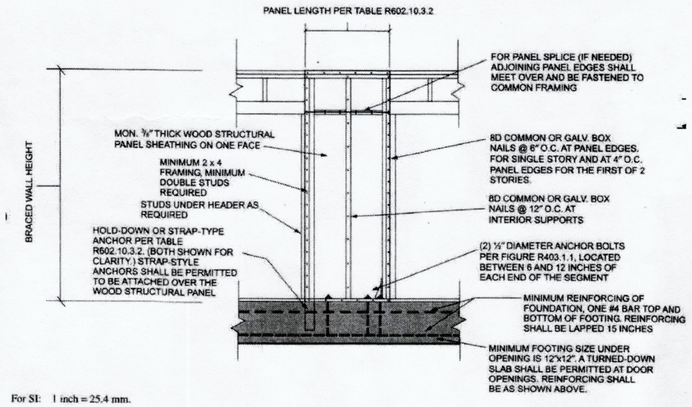
(B) GARAGE WALL FOOTING



(C) DROPPED GIRDER

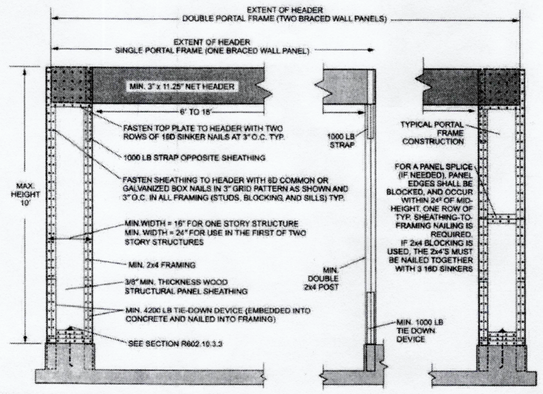


(D) STEM WALL FOOTING



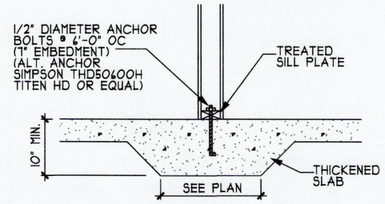
For SI: 1 inch = 25.4 mm.

FIGURE R602.10.3.2
ALTERNATE BRACED WALL PANEL

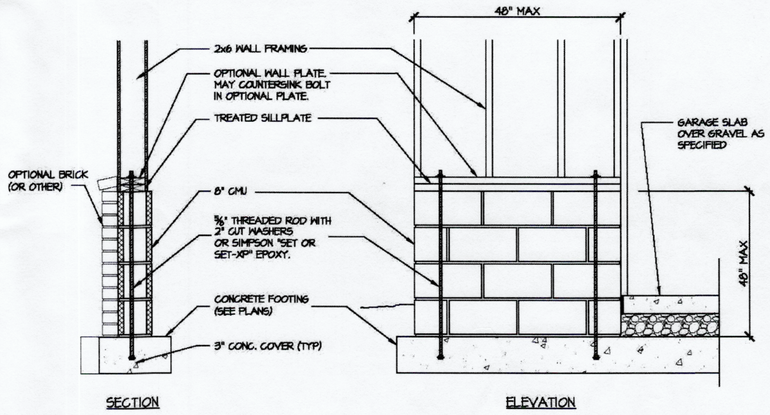


For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound force = 4.448 N.

FIGURE R602.10.3.3
METHOD PFH: PORTAL FRAME WITH HOLD-DOWNS



(E) THICKENED SLAB
(INTERIOR BEARING WALL)



GARAGE 'WING WALL' REINFORCING
PER IRC FIGURE R602.10.4.3

BASIC BUILDING
DETAIL SHEET FOR 130 MPH

*PLEASE NOTE THAT NOT ALL DETAILS APPLY TO EVERY PLAN.

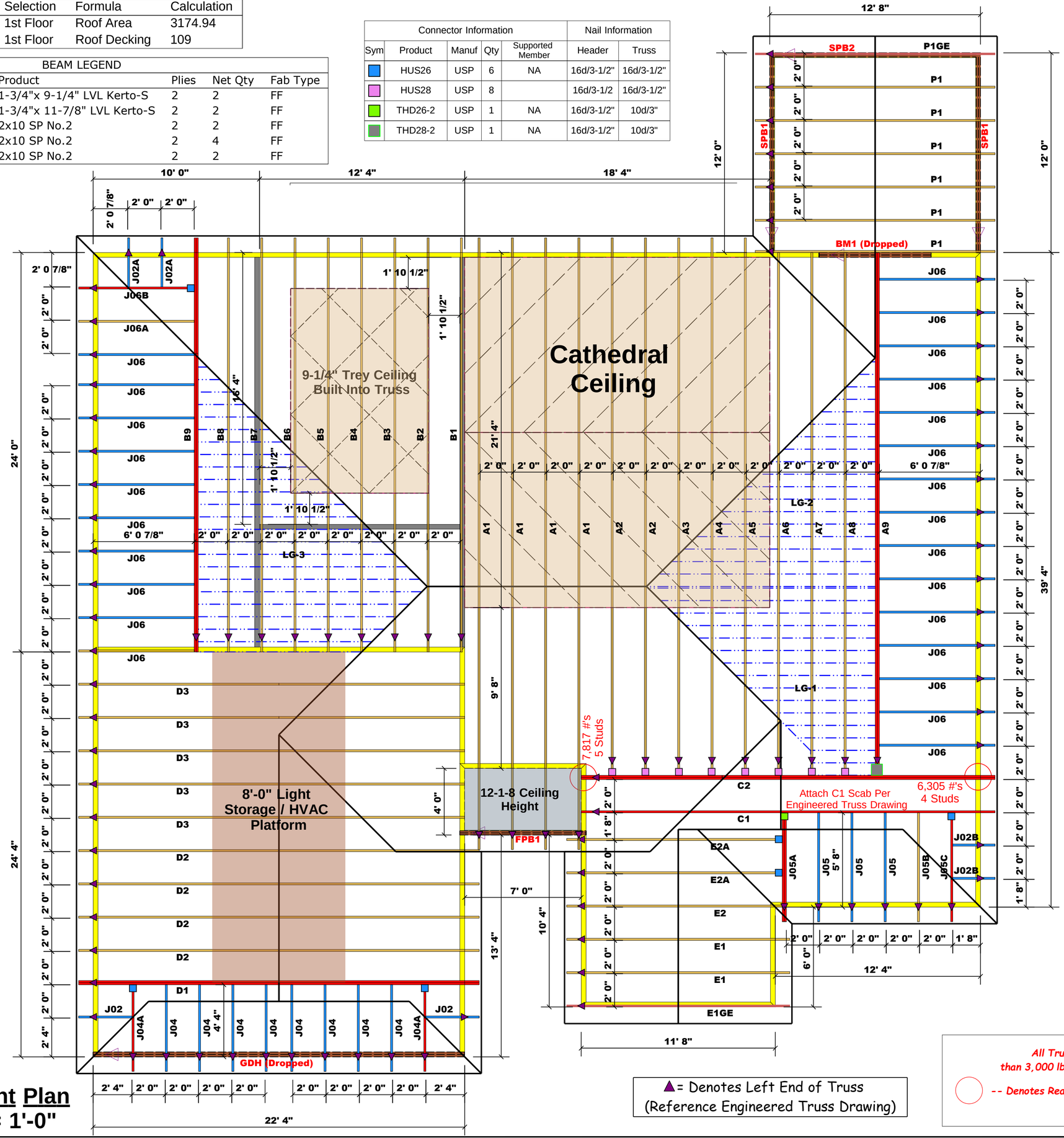
HEATHER HALL
165 HEATHERSTONE CT
BENSON NC 27504
(919) 207-1403

H SQUARED HOME DESIGN, INC.

Estimation			
Name	Selection	Formula	Calculation
Roof Area	1st Floor	Roof Area	3174.94
Roof Decking	1st Floor	Roof Decking	109

BEAM LEGEND					
PlotID	Length	Product	Plies	Net Qty	Fab Type
BM1 (Dropped)	7' 0"	1-3/4"x 9-1/4" LVL Kerto-S	2	2	FF
GDH (Dropped)	23' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
SPB2	14' 0"	2x10 SP No.2	2	2	FF
SPB1	12' 0"	2x10 SP No.2	2	4	FF
FPB1	8' 0"	2x10 SP No.2	2	2	FF

Connector Information					Nail Information	
Sym	Product	Manuf	Qty	Supported Member	Header	Truss
	HUS26	USP	6	NA	16d/3-1/2"	16d/3-1/2"
	HUS28	USP	8		16d/3-1/2	16d/3-1/2"
	THD26-2	USP	1	NA	16d/3-1/2"	10d/3"
	THD28-2	USP	1	NA	16d/3-1/2"	10d/3"



Truss Placement Plan
SCALE: 1/4" = 1'-0"

▲= Denotes Left End of Truss
(Reference Engineered Truss Drawing)

All Truss Reactions are Less than 3,000 lbs. Unless Noted Otherwise.

-- Denotes Reaction Greater than 3,000 lbs. Reaction / # of Studs

COMTECH
ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park
Fayetteville, N.C. 28309
Phone: (910) 864-8787
Fax: (910) 864-4444

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

Signature Lenny Norris

Lenny Norris

LOAD CHART FOR JACK STUDS

(BASED ON TABLES R502.5(1) & (b))

NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADER/GIRDER

END REACTION (UP TO)	REQ'D # STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ'D # STUDS FOR (3) PLY HEADER	END REACTION (UP TO)	REQ'D # STUDS FOR (4) PLY HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

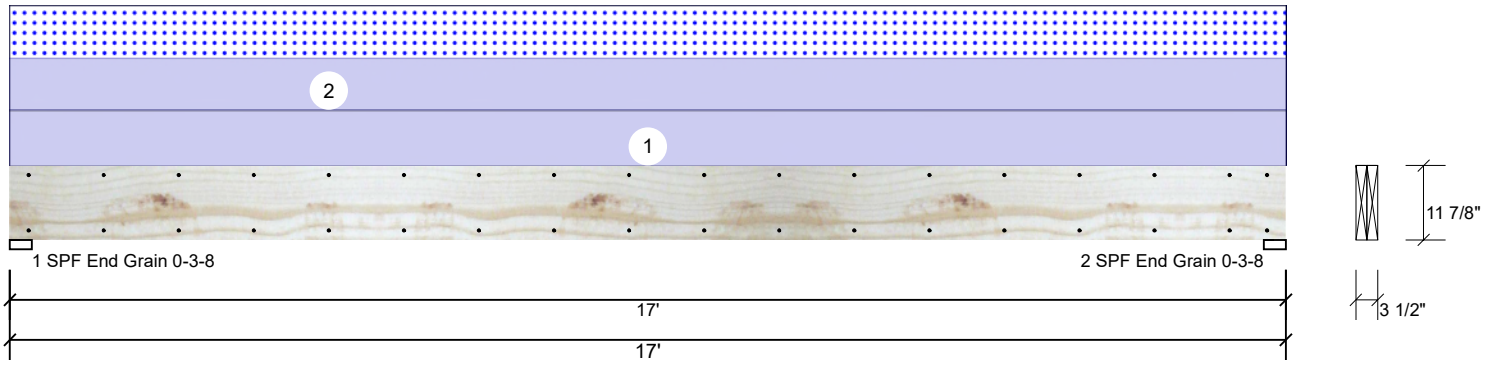
BUILDER	S&S Constructors, LLC
JOB NAME	8618 NC 27 Coats
PLAN	Charleston A
SEAL DATE	Seal Date
QUOTE #	Quote #
JOB #	J1024-5732
CITY / CO.	Coats / Harnett
ADDRESS	8618 NC 27
MODEL	ROOF
DATE REV.	10/23/24
DRAWN BY	Lenny Norris
SALES REP.	Lenny Norris

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com

Client:	S&S Homes	Date:	10/24/2024
Project:	Charleston	Input by:	LENNY NORRIS
Address:	Charleston	Job Name:	Charleston
		Project #:	

GDH 16' FL Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1065	476	0	0
2	Vertical	0	1065	476	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	15%	1065 / 476	1541	L	D+S
2 - SPF End Grain	3.500"	Vert	15%	1065 / 476	1541	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6199 ft-lb	8'6"	22897 ft-lb	0.271 (27%)	D+S	L
Unbraced	6199 ft-lb	8'6"	6203 ft-lb	0.999 (100%)	D+S	L
Shear	1317 lb	1'3 3/8"	10197 lb	0.129 (13%)	D+S	L
LL Defl inch	0.102 (L/1948)	8'6 1/16"	0.414 (L/480)	0.246 (25%)	S	L
TL Defl inch	0.330 (L/602)	8'6 1/16"	0.551 (L/360)	0.598 (60%)	D+S	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at a maximum of 16' 11/16" o.c.
7. Bottom must be laterally braced at end bearings.
8. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	DEAD WALL
2	Uniform			Top	56 PLF	0 PLF	56 PLF	0 PLF	0 PLF	J04
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/29/2026

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:	S&S Homes	Date:	10/24/2024
Project:	Charleston	Input by:	LENNY NORRIS
Address:	Charleston	Job Name:	Charleston
		Project #:	

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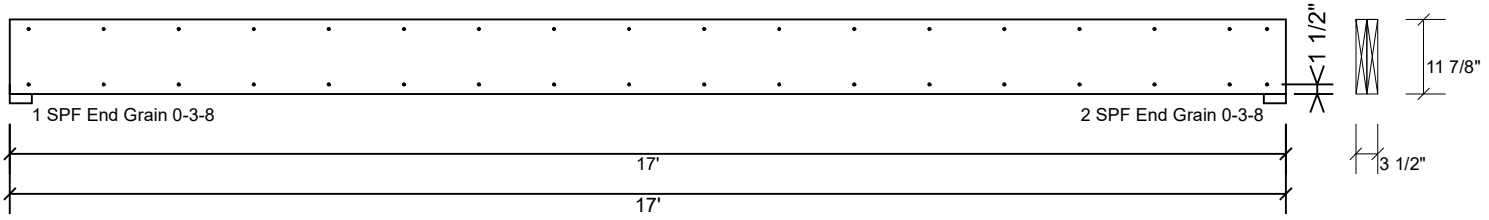

Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
C_M	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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Lumber

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Address:	Charleston	Job Name:	Charleston
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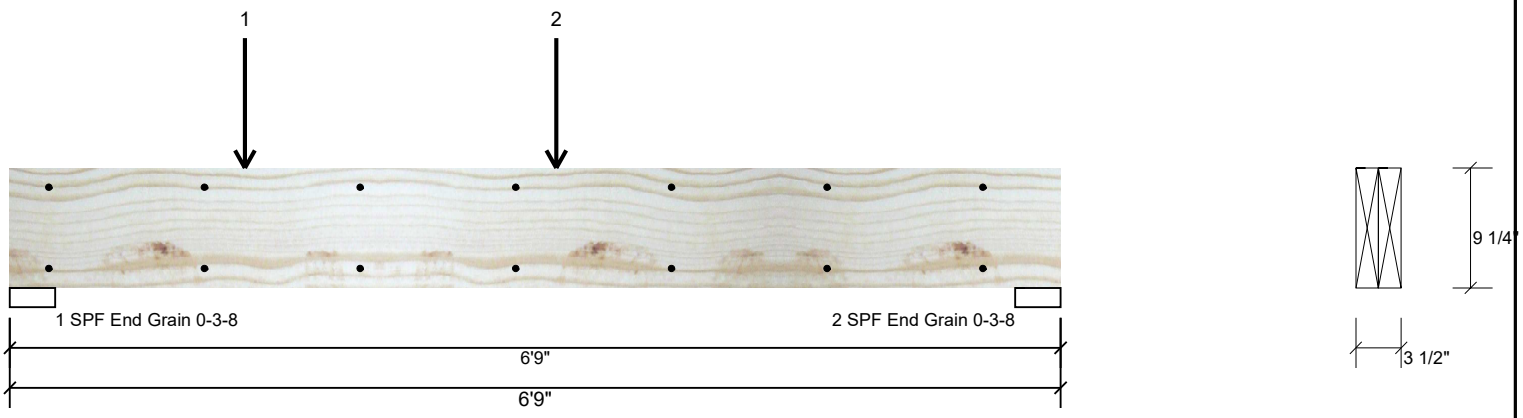
BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



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Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1090	1066	0	0
2	Vertical	0	775	751	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	21%	1090 / 1066	2157	L	D+S
2 - SPF End Grain	3.500"	Vert	15%	775 / 751	1526	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4556 ft-lb	3'6 1/8"	14423 ft-lb	0.316 (32%)	D+S	L
Unbraced	4556 ft-lb	3'6 1/8"	10290 ft-lb	0.443 (44%)	D+S	L
Shear	2155 lb	1' 3/4"	7943 lb	0.271 (27%)	D+S	L
LL Defl inch	0.038 (L/1984)	3'6 1/8"	0.157 (L/480)	0.242 (24%)	S	L
TL Defl inch	0.077 (L/983)	3'6 1/8"	0.210 (L/360)	0.366 (37%)	D+S	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at end bearings.
7. Bottom must be laterally braced at end bearings.
8. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Point	1-6-2		Top	619 lb	0 lb	619 lb	0 lb	0 lb	A8
	Bearing Length	0-3-8								
2	Point	3-6-2		Top	1198 lb	0 lb	1198 lb	0 lb	0 lb	A9
	Bearing Length	0-3-8								
	Self Weight				7 PLF					

Notes

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Lumber

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Handling & Installation

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2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
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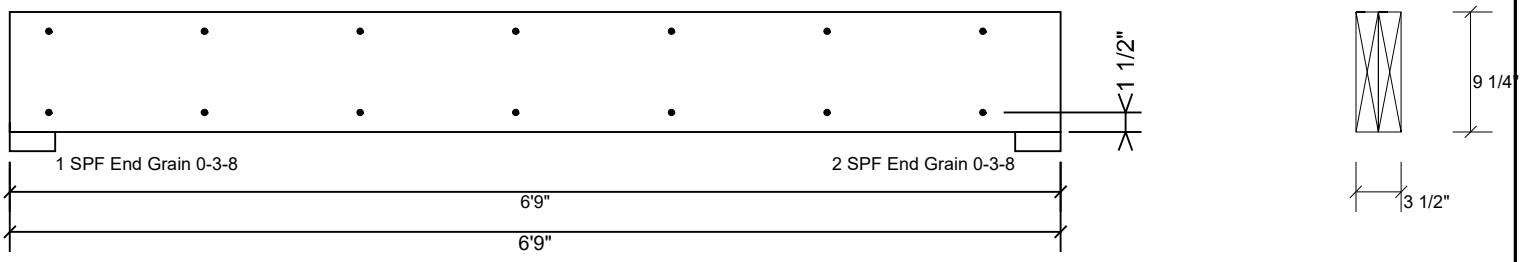

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Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
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Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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