


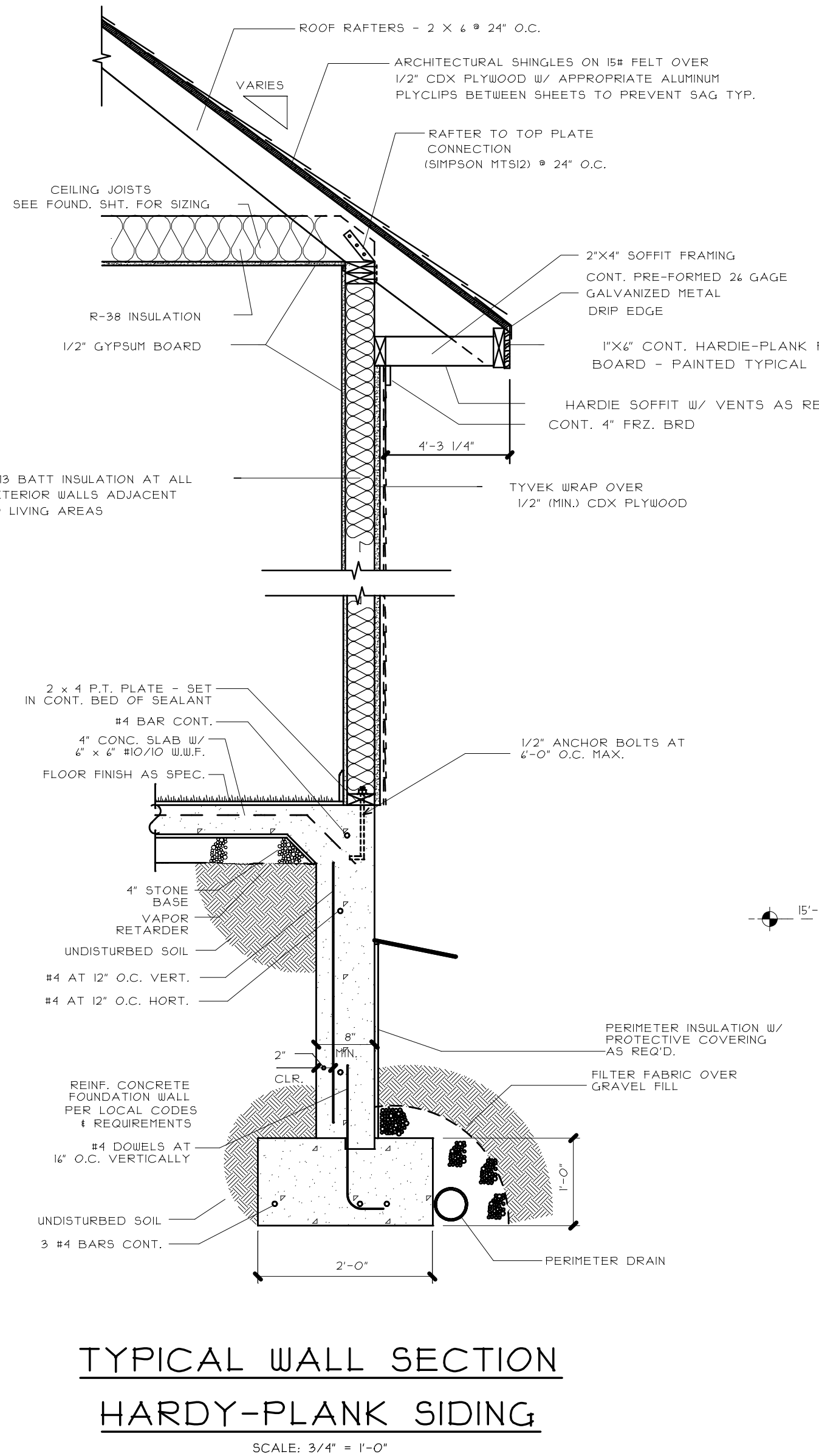
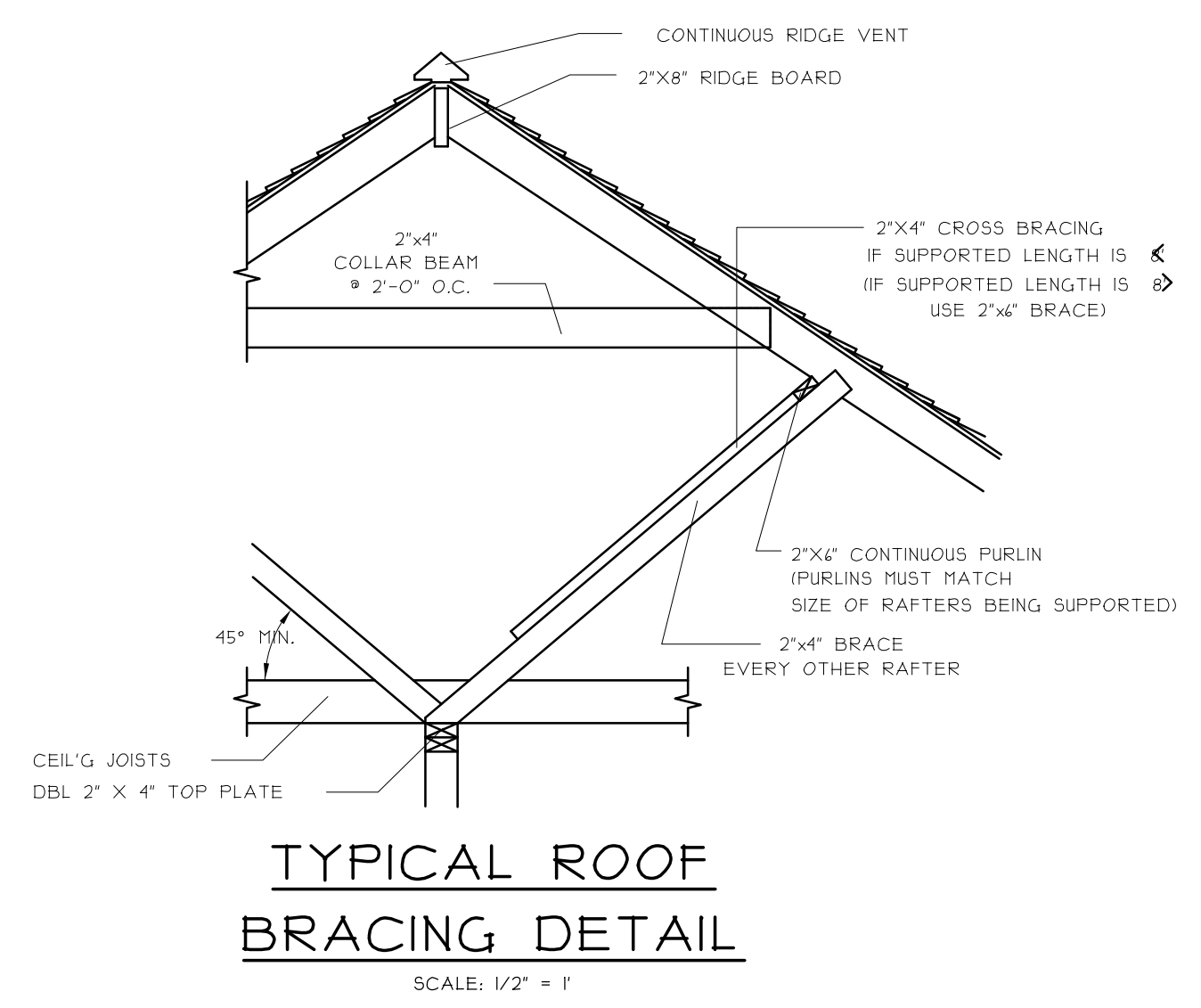
**NOTICE TO CONTRACTOR**  
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

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

04/26/2022




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ALL VENTS AND ROOF PENETRATIONS TO BE LOCATED ON REAR OR SIDE OF ROOF ONLY  
COORDINATE VENT SIZES WITH SUB-CONTRACTORS & G.C.

RESIDENCE OF  
**MATTHEW  
 FERGUSON**

Project

**MADDEN**  
 HOME DESIGN

**A | B D**

8315 Rushing  
 Road  
 Dermott Springs,  
 Louisiana 70126  
 Phone: (225) 791-2912

Project No: Myrtle Beach  
 DATE: DECEMBER 10, 2021  
 DRAWN BY: Steven Madden  
 DESIGNED BY: Steven Madden

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 Sheet Title  
**FRONT & REAR ELEVATIONS**

Preliminary Dwg.  
 Bidding Doc.  
 Construction Doc.

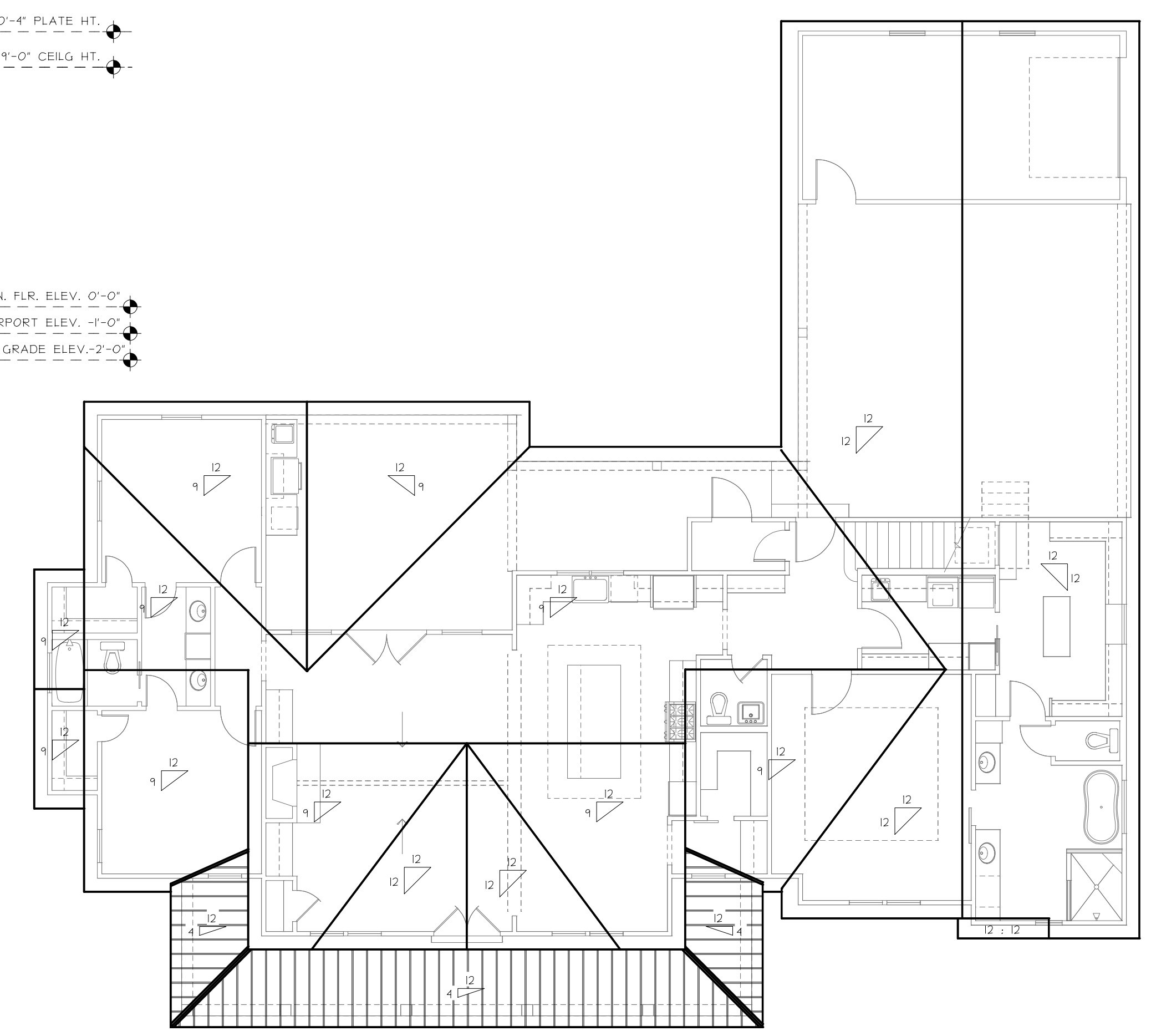
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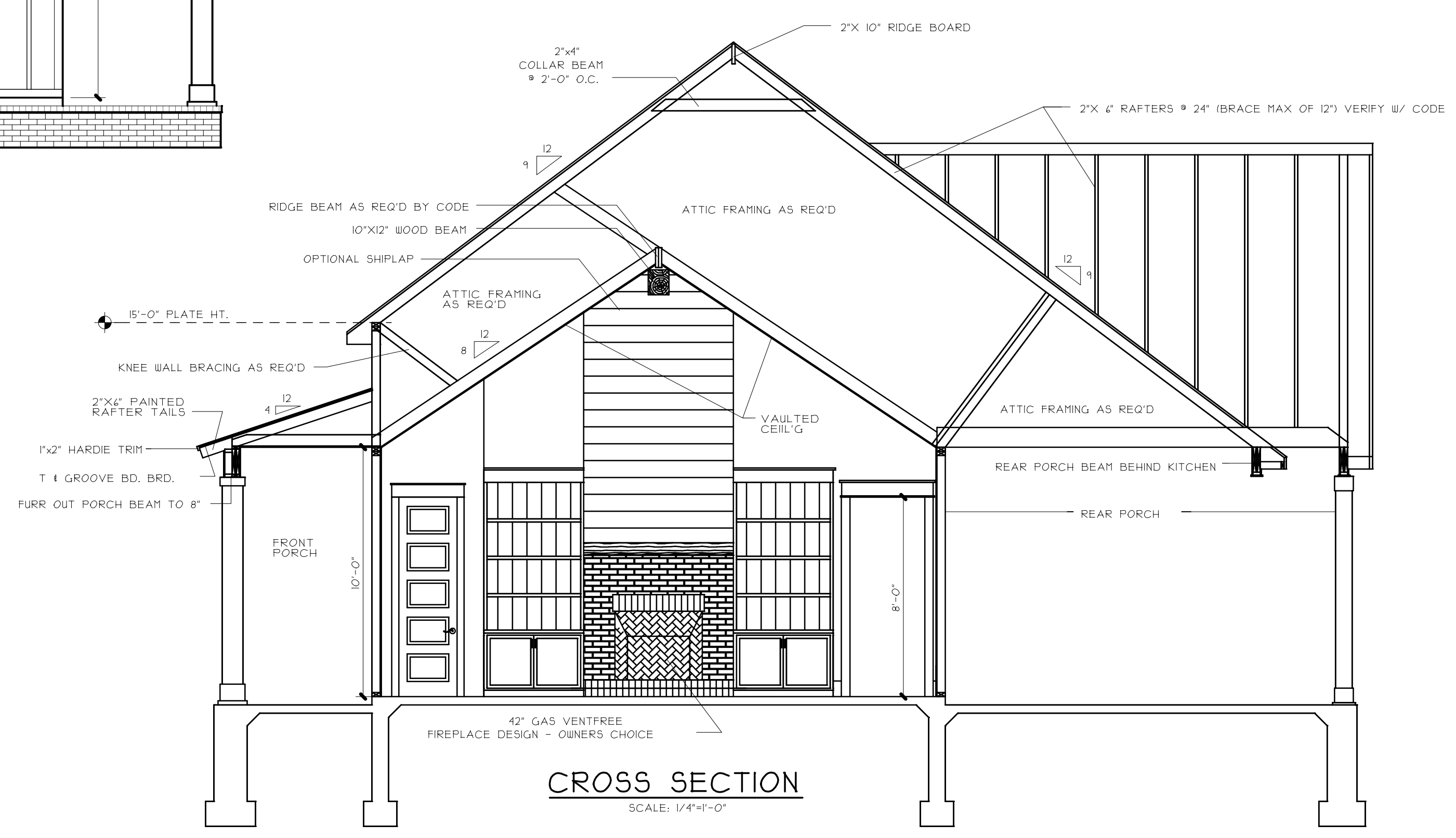
**RIGHT SIDE ELEVATION**  
SCALE: 1/4"=1'-0"



**LEFT SIDE ELEVATION**  
SCALE: 1/4"=1'-0"



**ROOF PLAN**  
SCALE: 1/8"=1'-0"



**CROSS SECTION**  
SCALE: 1/4"=1'-0"

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RESIDENCE OF  
**MATTHEW  
FERGUSON**

Project

**MADDEN**  
HOMEDESIGN

**A | B D**

8315 Rushing  
Road  
Denham Springs,  
Louisiana 70126  
Phone: (225) 191-2912

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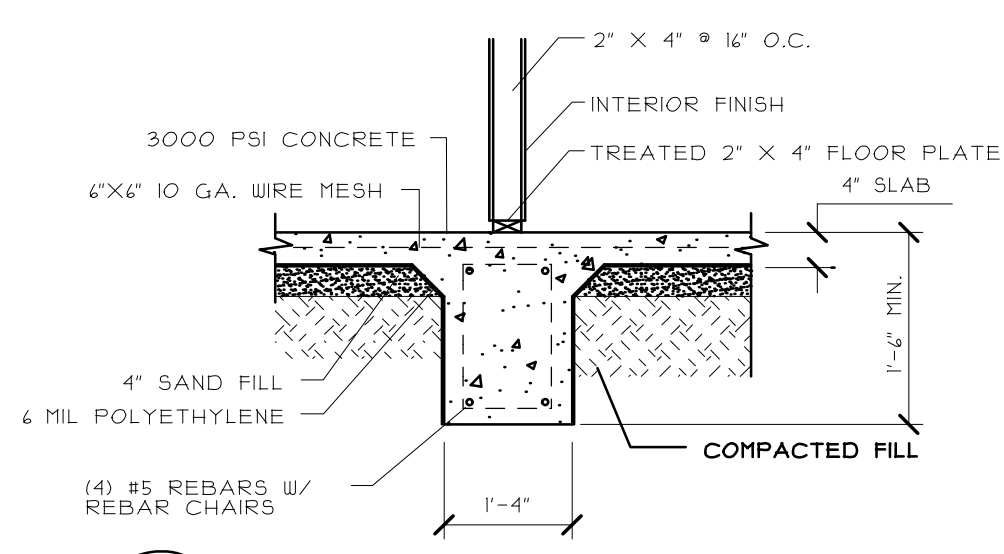
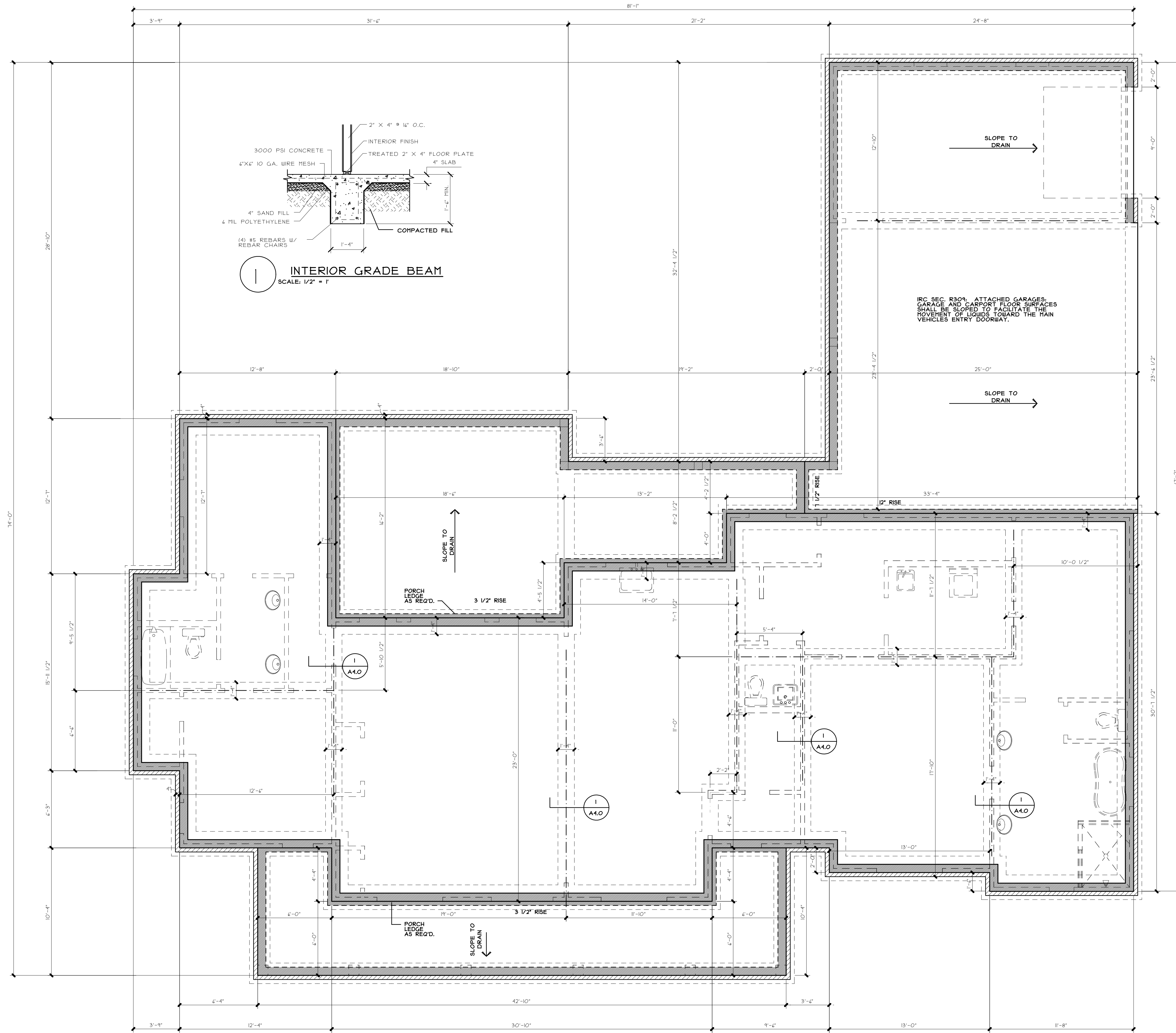
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**ELEVATIONS  
& ROOF PLAN**

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**1** INTERIOR GRADE BEAM  
SCALE: 1/2" = 1'

IRC SEC. R309. ATTACHED GARAGES:  
GARAGE AND CARPORT FLOOR SURFACES  
SHALL BE SLOPED TO FACILITATE THE  
MOVEMENT OF LIQUIDS TOWARD THE MAIN  
VEHICLES ENTRY DOORWAY.

**CONCRETE NOTES:**

- REFER TO BUILDING PLANS FOR DOOR OPENINGS AND EXACT DIMENSIONS.
- USE CONCRETE BRICK SUPPORTS TO MAINTAIN REINFORCING CLEARANCES. DO NOT USE CMU OR FACE BRICK.
- FOUNDATION DESIGN BASED ON A-4 FILL DIRT COMPACTED TO 95% DENSITY (ASTM D-1557). FILL PLACED 8" MAX. LIFTS.
- ALL CONCRETE SHALL DEVELOP 3,000 PSI COMPRESSIVE STRENGTH \* 28 DAYS. PLACE CONCRETE W/ MAXIMUM SLUMP OF 6". PROVIDE SLUMP TEST AND CYLINDERS AT BEGINNING AND MIDPOINT OF POUR.
- GRADE 40 DEFORMED REINFORCING.
- ASTM-105 WWF REINFORCING.
- APPLY A LIQUID MEMBRANE CURING CHEMICAL TO ALL CONCRETE SURFACES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. W.R. GRACE PRODUCT OR EQUAL.
- CONTRACTOR SHALL COORDINATE ALL DOOR LOCATIONS AND OMIT NOTCHES ACCORDINGLY.
- 2" CLEARANCE FOR REBAR, SIDES AND BOTTOM.
- MINIMUM SLAB THICKNESS SHALL BE 4" ON HOUSE AND ANY SIDEWALKS INCLUDING DRIVEWAY.
- FINISH GRADE TO SLOPE AWAY FROM THE HOUSE.
- REFER TO ELECTRICAL PLAN FOR IN-SLAB WIRING AND OUTLET REQUIREMENTS.
- CONTRACTOR SHALL EXCAVATE ALL FOOTINGS TO SOLID, UNDISTURBED SOIL.
- SLABS AND FOOTINGS SHALL BE PLACED MONOLITHICALLY IN A CONTINUOUS POUR. CONSTRUCTION JOINTS FOR THE PURPOSE OF POUR INTERRUPTION SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY THE OWNER.
- ALL DRIVEWAY POURS SHALL HAVE THE PROPER CONSTRUCTION AND CONTROL JOINTS AT A DISTANCE NO GREATER THAN 15' WITH A JOINT DOWN THE CENTER. RADIUS BENDS SHALL HAVE A CONTROL JOINT AT THE CENTER OF THEM.

**FOUNDATION AND SITE WORK NOTES:**

- CHECK ELECTRICAL PLAN FOR ANY CONDUIT OR FLOOR RECEPTACLES.
- TERMITE TREAT THE SOIL PRIOR TO POURING CONCRETE AND RETAIN CERTIFICATE FOR OWNER.
- GRADE LOT TO DRAIN AWAY FROM THE FOUNDATION A MINIMUM OF 6 INCHES IN THE FIRST 10 FEET.
- CARPORT AND FRONT PORCH BEAMS ARE NOT SHOWN FOR CLARITY PURPOSES.
- CONTRACTOR SHALL EXCAVATE ALL FOOTINGS TO SOLID, COMPACTED UNDISTURBED FILL MEETING 90% MODIFIED PROCTOR AS TESTED.
- ALL WELDED WIRE FABRIC SHALL BE 6x6 10/10 WWF.
- POLYETHYLENE VAPOR BARRIER SHALL BE 6 MIL. THICKNESS.

**NOTE:**  
THIS GENERIC FOUNDATION PLAN IS DESIGNED FOR NON EXPANSIVE SOILS WITH A BEARING CAPACITY OF AT LEAST 2500 PSF. MADDEN HOME DESIGN IS NOT AN ENGINEER AND RECOMMENDS THAT A PROFESSIONAL ENGINEER BE CONSULTED FOR YOUR SPECIFIC LOT AS THE DESIGNER HAS NOT BEEN PROVIDED ANY INFORMATION BY THE CLIENT REGARDING THE BEARING CAPACITY OF THE SOILS FOR THIS LOT AND ASSUMES NO RESPONSIBILITY FOR THE STRUCTURAL PERFORMANCE OF THIS DESIGN.

**NOTE:**  
ALL EXTERIOR GRADE BEAMS TO EXTEND BELOW UNDISTURBED SOIL A MINIMUM OF 12".

**RAISED SLAB FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"

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RESIDENCE OF  
**MATTHEW  
FERGUSON**

Project

**MADDEN HOME DESIGN**  
8315 Rushing Road  
Denham Springs, Louisiana 70726  
Phone: (225) 791-2912

**AIBD**

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**FOUNDATION PLAN**

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DOOR SCHEDULE		
MARK	SIZE	DESCRIPTION
1	DBL 4' X 8'0"	EXTERIOR 4 LITE 3/4 FRENCH SOLID WOOD DOORS
2	DBL 3'0" X 8'0"	EXTERIOR 4 LITE FULL FRENCH WOOD DOORS
3	3'0" X 8'0"	EXTERIOR 4 LITE 1/2 FRENCH METAL DOOR
4	3'0" X 8'0"	EXTERIOR 4 PANEL METAL DOOR
5	3'0" X 8'0"	CASED OPENING
6	2'0" X 8'0"	INTERIOR HORIZONTAL 4 PANEL H.C. HASONITE DOOR
7	2'4" X 8'0"	INTERIOR HORIZONTAL 4 PANEL H.C. HASONITE DOOR
8	2'8" X 8'0"	INTERIOR HORIZONTAL 4 PANEL H.C. HASONITE DOOR
9	3'0" X 8'0"	INTERIOR HORIZONTAL 4 PANEL H.C. HASONITE DOOR
10	2'0" X 8'0"	INT. HORIZONTAL 4 PANEL H.C. HASONITE POCKET DOOR
11	2'0" X 8'0"	INTERIOR SOLID WOOD SLIDING BARN DOOR - OWNER SELECT
12	2'8" X 8'0"	INTERIOR SOLID WOOD SLIDING BARN DOOR - OWNER SELECT
13	2'4" X 8'8"	INTERIOR HORIZONTAL 4 PANEL H.C. HASONITE DOOR
14	2'8" X 8'8"	INTERIOR HORIZONTAL 4 PANEL H.C. HASONITE DOOR
15	2'4" X 8'8"	SOLID CORE HASONITE ATTIC ACCESS DOOR
16	9'0" X 8'0"	EXT. O.H. METAL INSULATED GARAGE DOOR W/ OPENER

WINDOW SCHEDULE		
MARK	OPENING SIZE	DESCRIPTION
A	DBL 2'4" X 10'0"	(2) 2/2 LITE VINYL SINGLE HUNG WINDOWS W/ 4" WALL BETWEEN
B	2'4" X 4'0"	2/2 LITE VINYL SINGLE HUNG WINDOW INSULATED
C	2'0" X 4'0"	2/2 LITE VINYL FIXED WINDOW INSULATED
D	2'0" X 3'4"	4 LITE VINYL FIXED WINDOW INSULATED (SEE ELEV'S)
E	4'0" X 4'0"	DBL 4 LITE VINYL CASEMENT WINDOW INSULATED
F	3'0" X 4'0"	2/2 LITE VINYL SINGLE HUNG WINDOW INSULATED
G	3'0" X 10'0"	2/2 LITE VINYL SINGLE HUNG WINDOW INSULATED
H	5'0" X 5'0"	DBL 4 LITE VINYL CASEMENT WINDOW INSULATED
J	3'0" X 5'0"	2/2 LITE VINYL SINGLE HUNG WINDOW INSULATED
K	3'0" X 10'0"	TRANSOM WINDOW INSULATED
L	3'0" X 5'0"	(2) 2/2 LITE VINYL SINGLE HUNG WINDOWS W/ 4" WALL BETWEEN

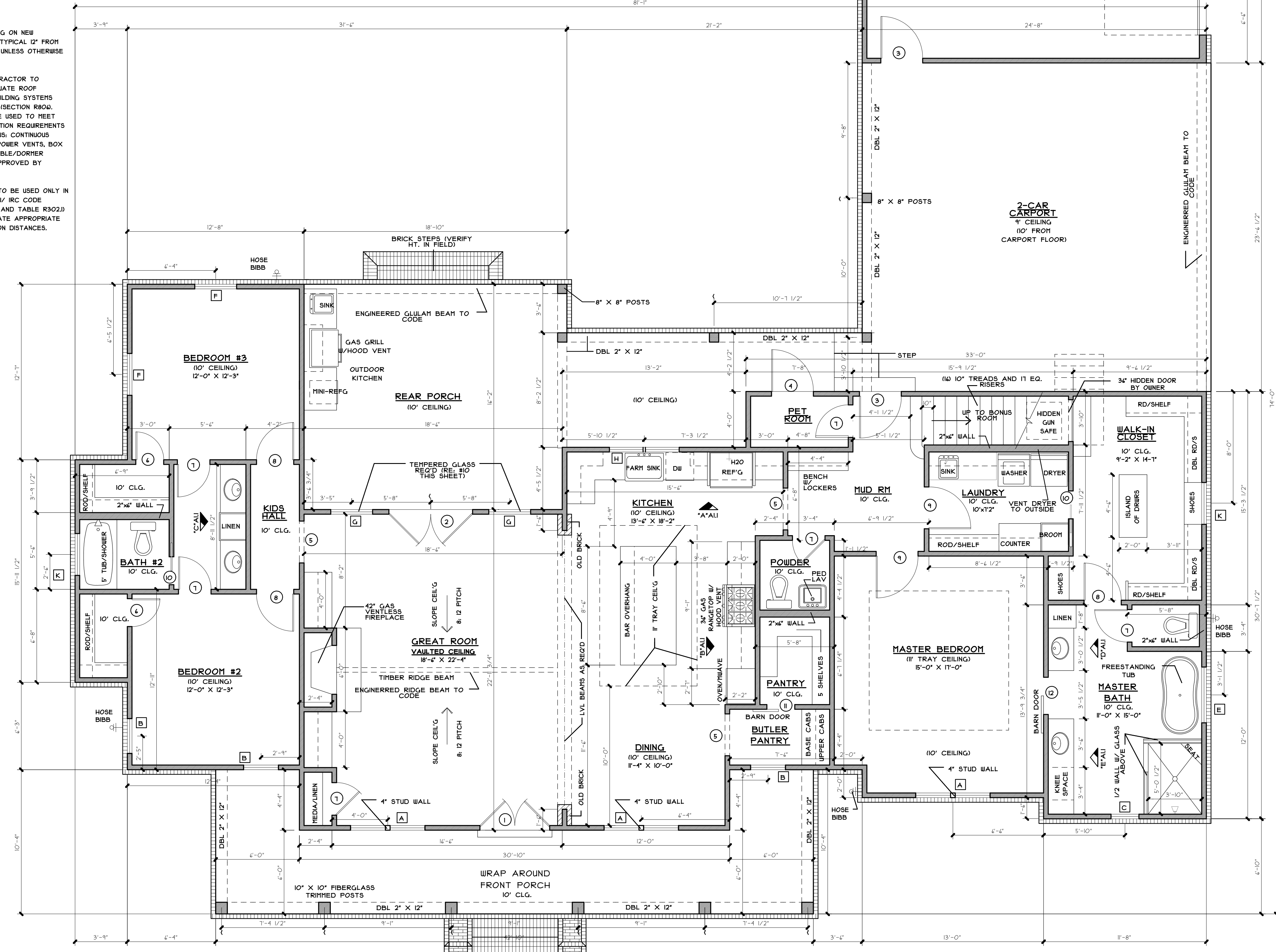
**IMPORTANT NOTE:**  
 ALL EGRESS OR RESCUE WINDOWS FROM SLEEPING ROOMS MUST HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET. GRADE FLOOR WINDOWS MAY HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET. THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 20". THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20". MAXIMUM SILL HEIGHT - 44" A.F.F.

**WIND ZONE NOTES**  
 1. VERIFY WINDOW CODE REQUIREMENTS AT EACH BUILDING LOCATION, AND INSTALL WINDOWS AS PER CODE. REQUIREMENTS WILL VARY FROM DOUBLE INSULATED VINYL TO IMPACT RESISTANT DOUBLE INSULATED VINYL WINDOWS.  
 2. ALL WINDOWS SHALL COMPLY WITH THE GOVERNING IRC/IBC WINDOW REQUIREMENTS.  
 3. CONTRACTOR RESPONSIBLE FOR ANCHORAGE OF BOTTOM PLATE AND WALL STUDS TO FOUNDATION IN COMPLIANCE WITH THE GOVERNING EDITION OF IRC/IBC 2015.

**GENERAL NOTES:**

1. ALL KITCHEN AND UTILITY COUNTERTOPS ARE SHOWN AS 2" O.W. UNLESS STATED OTHERWISE.
2. ALL BATHROOM LAVATORY COUNTERTOPS SHOWN AS 2" O.W.
3. ALL EXTERIOR OVERALL DIMENSIONS ARE FROM EDGE OF FOUNDATION.
4. ALL INTERIOR DIMENSIONS ARE FROM STUD FACE TO STUD FACE.
5. ALL INTERIOR WALL THICKNESS SHOWN AS 4" UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK.
7. BRICK VENEER WALL TIES (MAX 24" O.C. EACH WAY).
8. PURCHASER OF THIS PLAN ASSUMES LIABILITY FOR ANY MODIFICATIONS MADE TO THE LAYOUT OF THIS PLAN.
9. ALL WOOD FRAMING SHALL BE NO. 2 GRADE - SOUTHERN PINE LUMBER. ALL CEILING JOISTS SPANS ARE BASED ON TABLE R802.5.1 (2) OF THE IRC 2015 AND ARE DESIGNED FOR ATTICS WITH LIMITED STORAGE. (REFER TO FOUNDATION SHEET FOR SPANS).
10. RE. SEC. 308 GLAZING IN HAZARDOUS LOCATIONS 1. TEMPERED GLASS FOR WINDOWS THAT ARE WITHIN 24" OF THE DOOR IN THE CLOSED POSITION, PROVIDING THE WINDOW IS LESS THAN 40" ABOVE THE FLOOR. (R308 I.R.C. 2015).
11. MASONRY VENEER SHALL BE ANCHORED TO THE SUPPORTING WALL WITH CORROSION-RESISTANT METAL TIES SPACED NOT MORE THAN 24" ON CENTER HORIZONTALLY AND VERTICALLY AND SHALL SUPPORT NOT MORE THAN 24 SQ. FEET OF WALL PER SECTION R103.1.4.1.
12. VENT HOOD IN KITCHEN MUST VENT TO THE OUTSIDE. MICROWAVE HOODS MUST VENT TO THE OUTSIDE WHERE APPLICABLE.
13. DRYER VENT MUST HAVE MAX LENGTH 25'.
14. ATTIC SPACES MUST PROVIDE 1 SQ. FT. VENTILATION PER 150 SQ. FT. OF AREA UNLESS OTHERWISE SPECIFIED. (ATTICS R-30)

**NOTE:**  
 ROOF OVERHANG ON NEW CONSTRUCTION TYPICAL 12" FROM FACE OF STUD UNLESS OTHERWISE NOTED.  
 GENERAL CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION BUILDING SYSTEMS PER IRC CODE (SECTION R900). SYSTEMS TO BE USED TO MEET ROOF VENTILATION REQUIREMENTS ARE AS FOLLOWS: CONTINUOUS RIDGE VENTS, POWER VENTS, BOX VENTS, AND GABLE/DORMER VENTS WHEN APPROVED BY OWNER.  
 SOFFIT VENTS TO BE USED ONLY IN ACCORDANCE W/ IRC CODE (SECTION R302 AND TABLE R302.1) TO ACCOMMODATE APPROPRIATE FIRE SEPARATION DISTANCES.



**FLOOR PLAN**  
 SCALE: 1/4" = 1'-0"

**GENERAL MATERIALS:**

1. EXTERIOR WALLS:
  - REINFORCED CEMENTITIOUS SIDING
  - TYVEK® BUILDING WRAP
  - 1/2" O.S.B. SHEATHING
  - R-13 BATT INSULATION
2. INTERIOR WALLS:
  - 2X4 STUDS @ 1'-4" O.C.
  - 1/2" GYPSUM BOARD INTERIOR
3. CEILING:
  - 2X JOISTS @ 1'-4" O.C.
  - R38 INSULATION
  - 1/2" GYPSUM BOARD
4. ROOF SYSTEM:
  - 30 YEAR FIBERGLASS SHINGLES
  - 5/8" O.S.B. OR CDX PLYWOOD
  - HISFELT
  - 2X4 RAFTERS @ 2'-0" O.C.

**CODE DISCLAIMER:**  
 1. THESE PLANS WERE DESIGNED TO MEET IRC 2015 AT THE TIME OF THEIR CREATION AND FOR SPECIFICALLY THE INITIAL LOCAL CODES OF THE SOUTH LOUISIANA AREA. IT IS HIGHLY RECOMMENDED THAT THESE PLANS BE REVIEWED BY A LOCAL STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.  
 2. BEAMS AND FLOOR JOISTS ARE NOT SIZED DUE TO THE MANY GEOGRAPHIC LOCATIONS THESE PLANS ARE SOLD. THESE ITEMS SHALL BE SIZED BY A LOCAL ENGINEER OR MANUFACTURER.  
 3. ALL CEILING & FLOOR JOISTS (IF CONVENTIONAL FRAMING) SHOULD BE SIZED USING THE LATEST VERSION OF THE IRC OR APPLICABLE CODES AT THE TIME OF THE LOCAL REQUIREMENTS SUCH AS SNOW LOADS AND OTHER FACTORS THAT THE CEILING JOIST MANUFACTURER PRESENTS. THESE ITEMS SHALL BE SIZED USING THE 2015 IRC AT THE TIME OF THEIR CREATION. THEY MUST BE VERIFIED AND OPIED AS REQUIRED TO MEET THE LATEST EDITION OF THE IRC/INTERNATIONAL RESIDENTIAL CODE.  
 4. ALL FOUNDATION AND FOOTING DETAILS SHALL BE REVIEWED AND APPROVED BY A LOCAL ENGINEER.  
 5. CONTRACTOR SHALL PROVIDE ALL HIGH WIND STRAPPING AND ANCHOR BOLT AS REQUIRED BY THE LOCAL CODE REQUIREMENTS AND THE LATEST VERSION OF THE IRC.

SQUARE FOOTAGE	
MAIN LIVING	2214
FRONT PORCH	304
REAR PORCH/STO. CLOSET	413
CARPOR	400
TOTAL SQ. FT.	3598
OPTIONAL BONUS RM	319
TOTAL LIVING W/ BONUS	2535
TOTAL UNDER ROOF W/ BONUS	3411

CONTRACTOR TO LOCATE WATER HEATER & A/C UNITS ON SITE

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RESIDENCE OF  
**MATTHEW FERGUSON**

Project  
**MADDEN HOME DESIGN**  
**ABD**  
 8315 Rushing  
 Boudinham Springs,  
 Louisiana 70126  
 Phone: (225) 791-2912

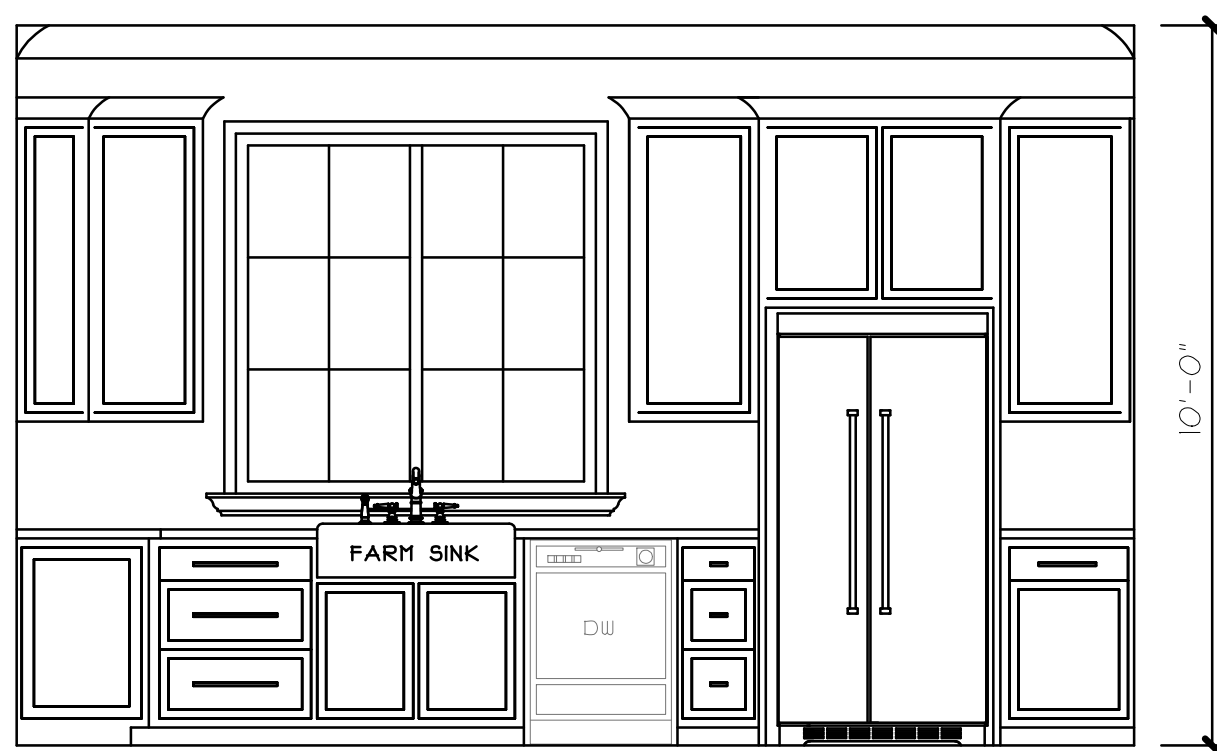
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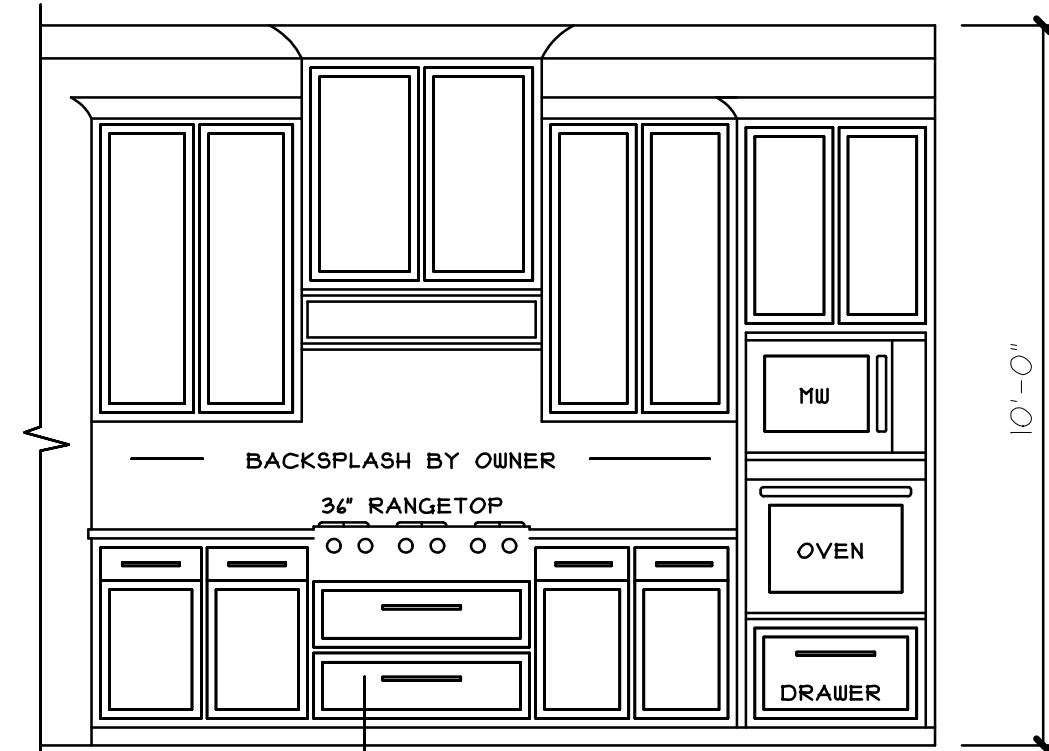
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**FLOOR PLAN**

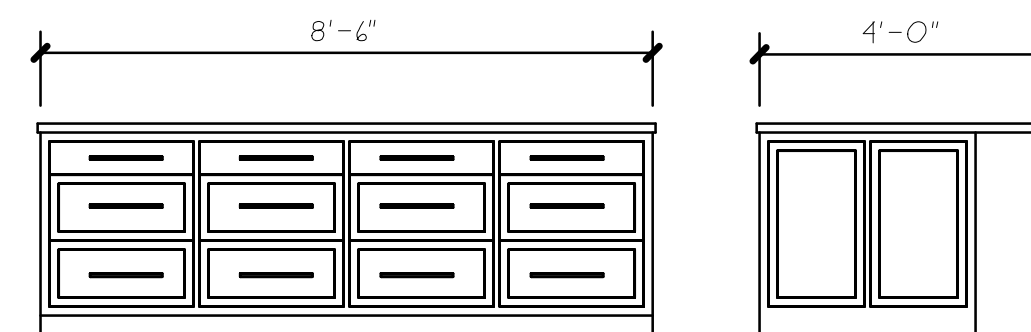
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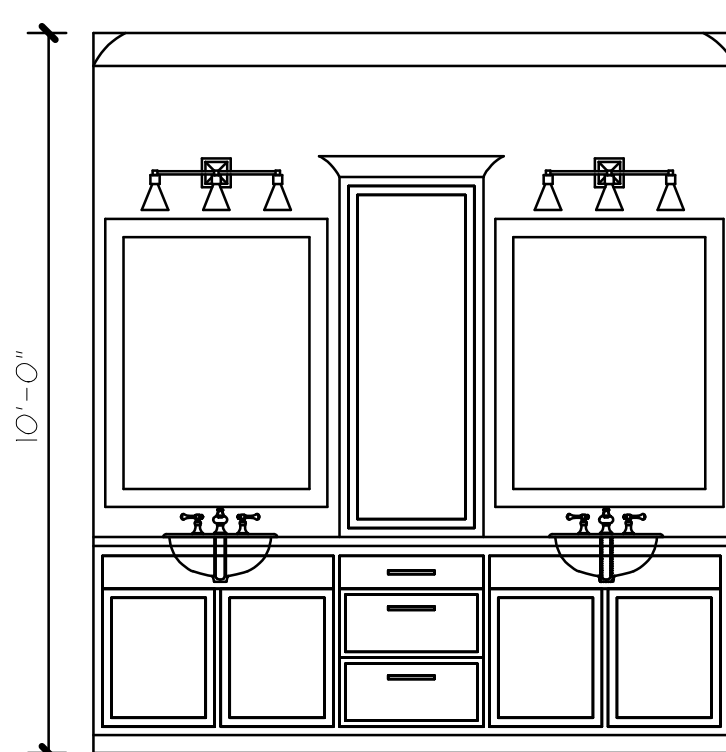
**A KITCHEN**  
SCALE: 3/8" = 1'-0"



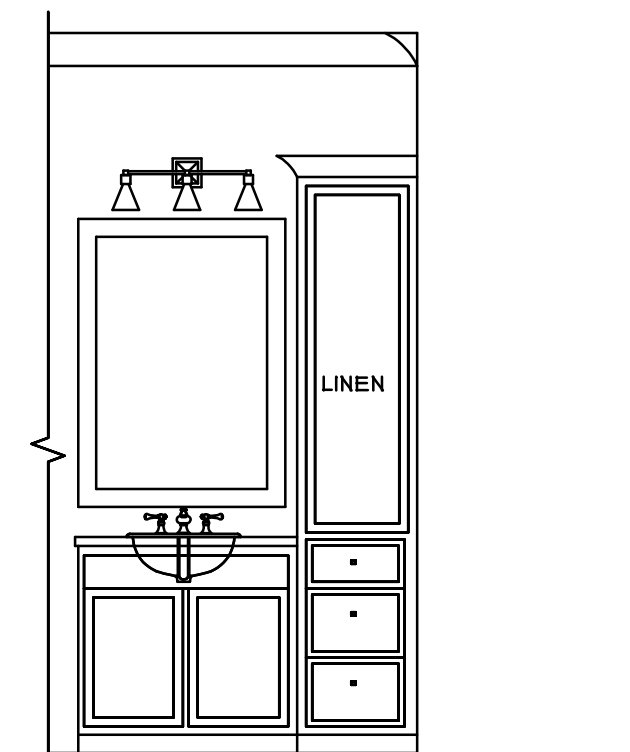
**B KITCHEN**  
SCALE: 3/8" = 1'-0"



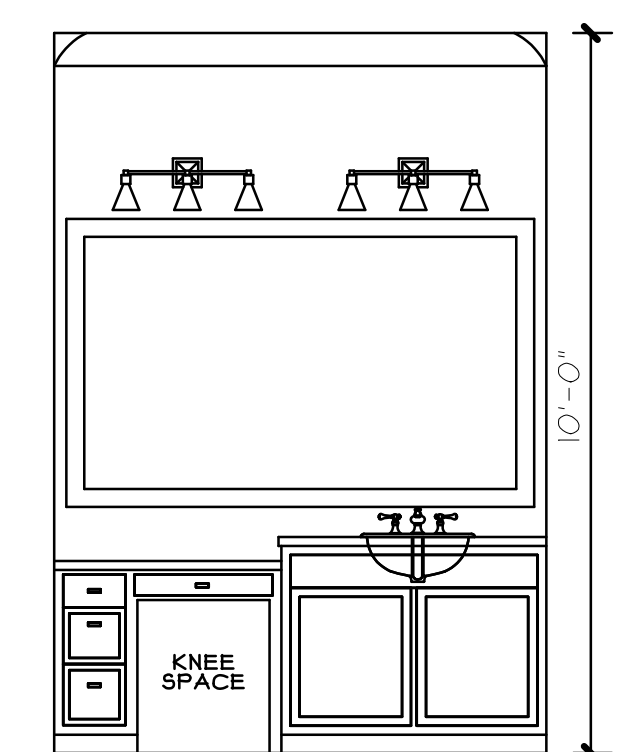
**ISLAND ELEVS.**  
SCALE: 3/8" = 1'-0"



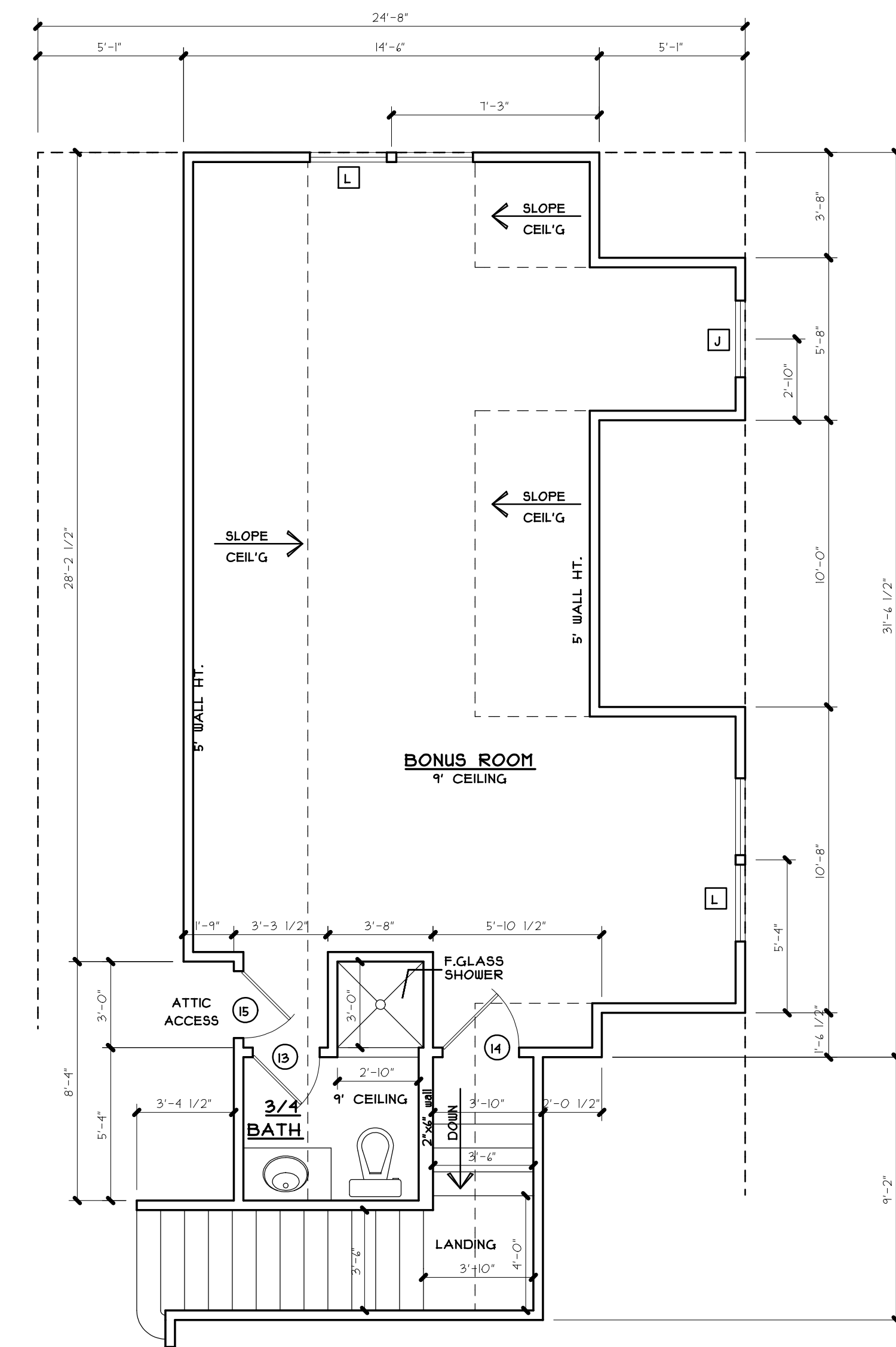
**C BATH #3**  
SCALE: 3/8" = 1'-0"



**D MASTER BATH**  
SCALE: 3/8" = 1'-0"



**E MASTER BATH**  
SCALE: 3/8" = 1'-0"



**BONUS ROOM FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

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**MATTHEW  
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HOME DESIGN

**A | B D**

837E Rushing  
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Denham Springs,  
Louisiana 70124  
Phone: (225) 791-2912

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**BONUS ROOM  
FLOOR PLAN**

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 ELECTRICAL WORK. THE CONTRACTOR  
 EFFORT HAS BEEN MADE TO INSURE ALL  
 ENVIRONMENTAL REGULATIONS HAVE BEEN MET.  
 THE CONTRACTOR AND/OR DESIGNER HAS OWN  
 CONTRACTOR AND/OR DESIGNER RESPONSIBILITY OF  
 THE DRAFTING SERVICE PROVIDED IN THE FIELD AND  
 CONTRACTOR RESPONSIBILITY IN THE FIELD AND  
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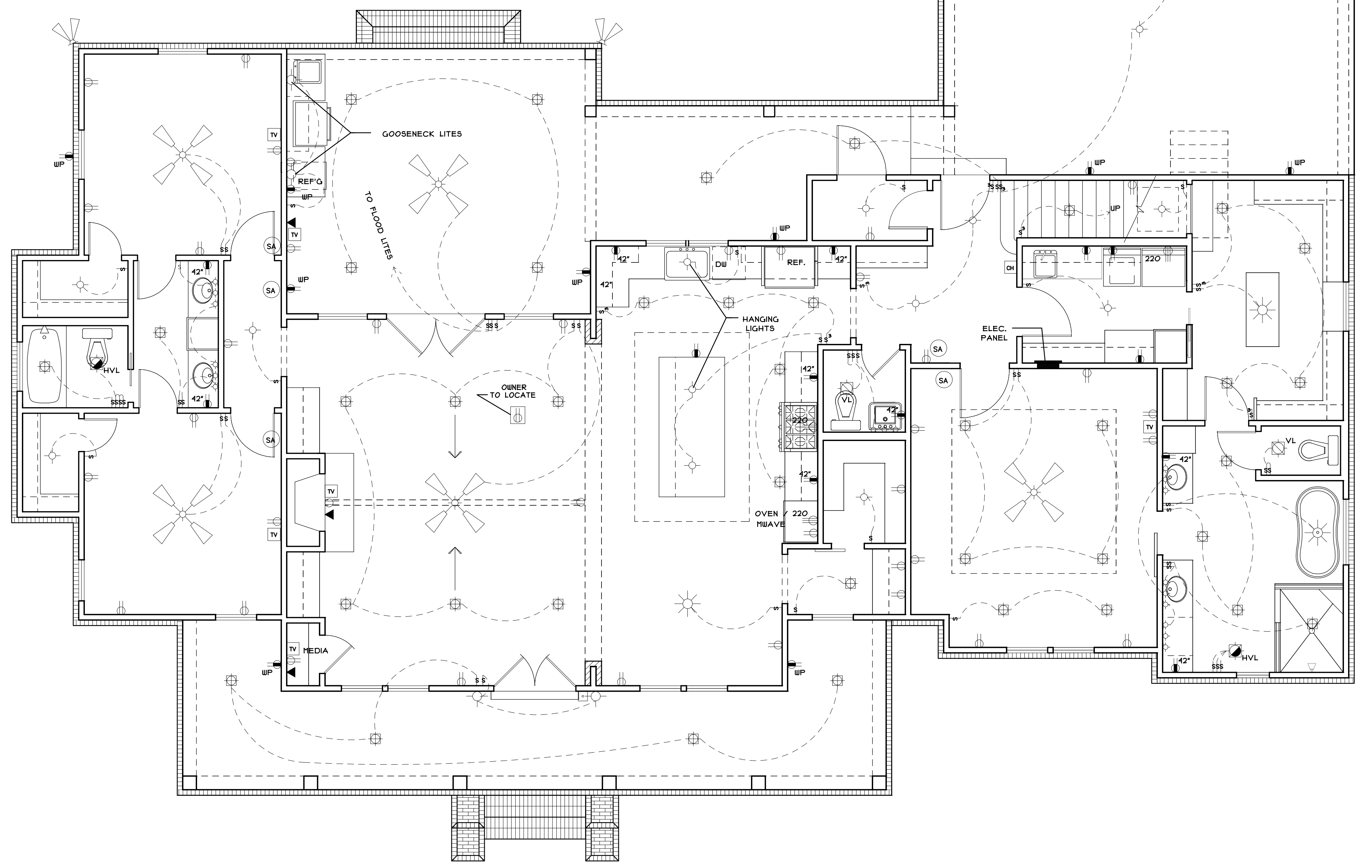
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**ELECTRICAL  
 PLAN**

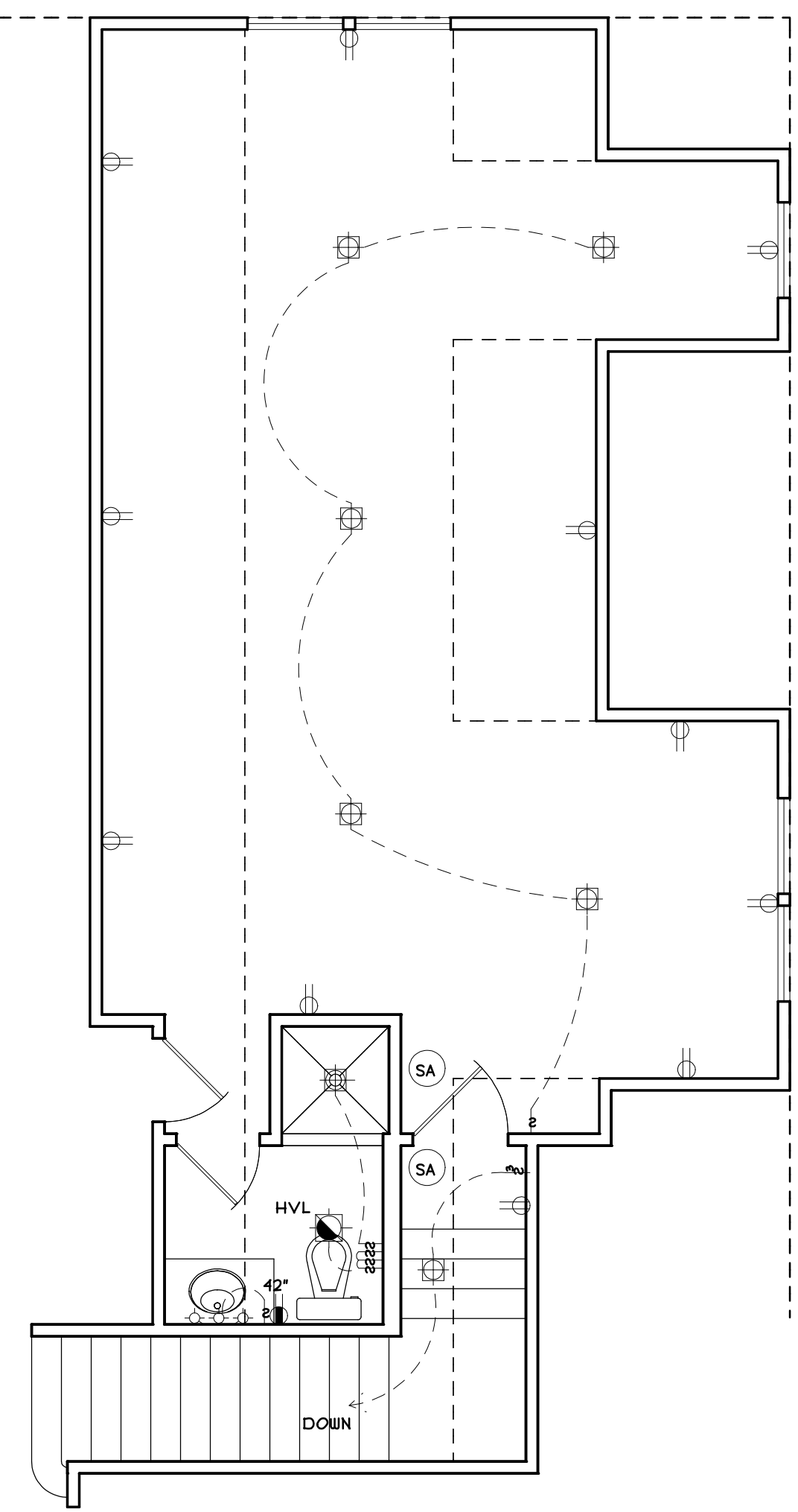
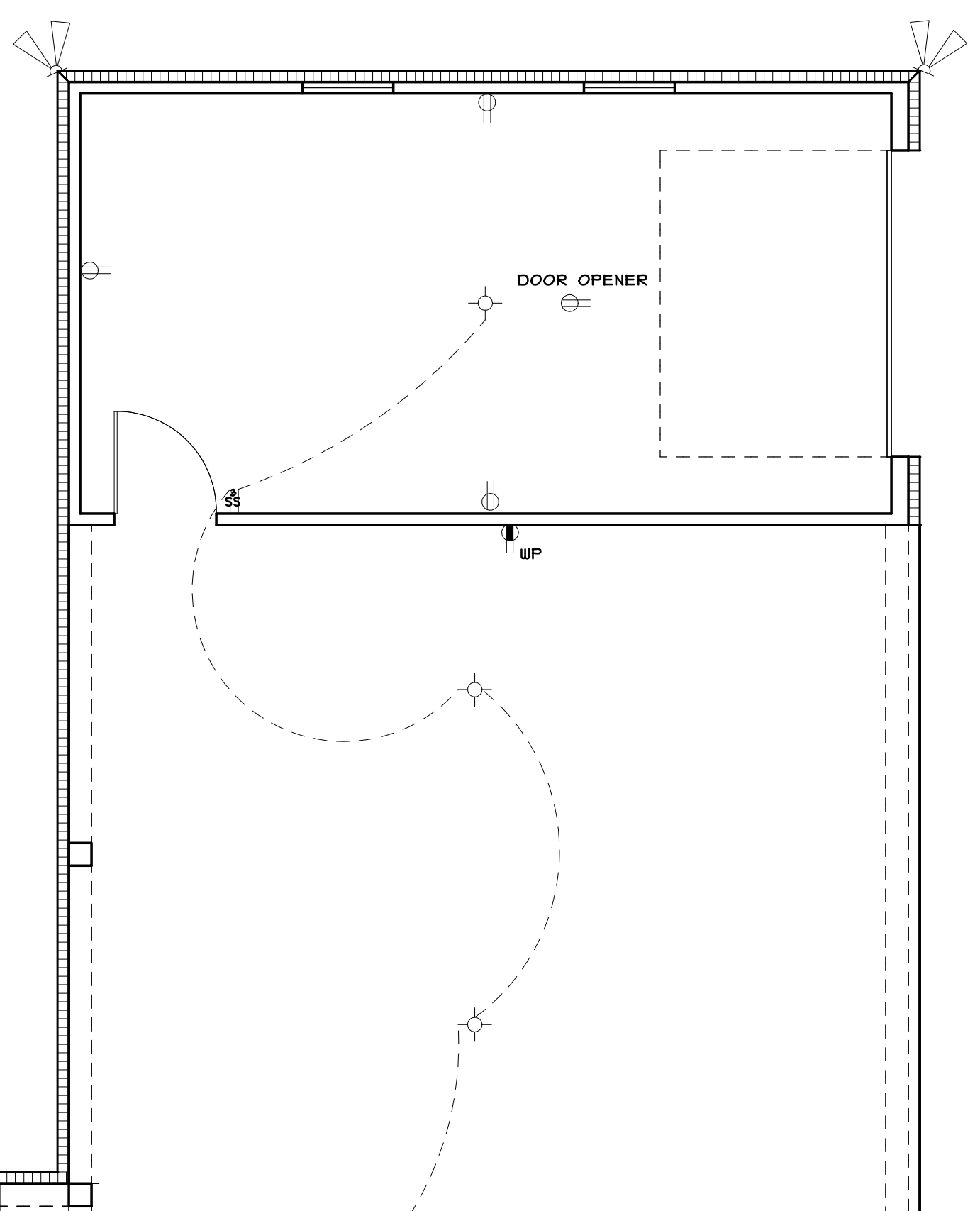
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ELECTRICAL SYMBOL LEGEND		
TV	CABLE OUTLET	ELEC. DOOR BELL
▽	TELEPHONE/ ETHERNET OUTLET	DOORBELL CHIME
⊕	RECEPTACLE, 15A, 125V, 2 POLE 3 WIRE, GROUNDED, DUPLEX	DIMMER SWITCH
⊕	FLOOR DUPLEX RECEPTACLE	LIGHT FIXTURE, INCANDESCENT CEILING MOUNTED
⊕	GROUND-FAULT-CIRCUIT-INTERLIFT RECEPTACLE-USE SQUARE D QUICK GUARD FOR WP LOCATIONS	LIGHT FIXTURE, INCANDESCENT EXTERIOR FLOODS
220	RECEPTACLE, 50A, 220V, 2 POLE 3 WIRE, GROUNDED	CEILING FAN W/ LIGHT- PROVIDE SEPERATE SWITCHES FOR F I L
⊕	TOGGLE SWITCH, SINGLE POLE, 15A	LIGHT FIXTURE - CHANDELIER W/ INCANDESCENT BULBS
⊕	TOGGLE SWITCH, 3 WAY, 15A	LED RECESSED LIGHT
⊕		LIGHT FIXTURE - FLOURESCENT
SA		SNOKE ALARM - 100V ELEC. W/ CARBON MONOXIDE DETECTOR
⊕		VANITY LIGHT
HVL		HEAT/VENT/LIGHT
V/L		VENT/LIGHT ONLY
V/L		VENT/LIGHT RECESSED CAN
⊕		SCONCE LIGHT
⊕		ELECTRIC LANTERN



**ELECTRICAL PLAN**  
 SCALE: 1/4" = 1'-0"



**BONUS ROOM**  
 SCALE: 1/4" = 1'-0"

**PRE-WIRE FOR THE FOLLOWING:**

- TELEPHONE #ONE INCOMING LINE#
- CABLE VISION #ONE OUTLET PER ROOM MINIMUM#
- SECURITY SYSTEM - COORDINATE W/ OWNER
- COORDINATE ELECTRICAL SYSTEM WITH MECHANICAL CONTRACTOR
- ALL WIRING TO BE COPPER MIN. 12/2 W/ GROUND
- VERIFY LOCATION OF FLOOR OUTLETS IN FAMILY ROOM
- PROVIDE 110V OUTLET FOR GARAGE DISPOSAL UNDER KITCHEN SINK
- PROVIDE 110V OUTLET FOR WHIRLPOOL TUB MOTOR UNDER WHIRLPOOL TUB IN MASTER BATH
- PROVIDE 220V OUTLET FOR CLOTHES DRYER
- COORDINATE SURROUND SYSTEM W/ OWNER

**ELECTRICAL NOTES:**

- MAIN FEED INTO HOUSE TO BE TRENCHED UNDERGROUND FROM SUPPLY POLE TO METER THEN MAIN DISCONNECT OUTSIDE.
- ALL SMOKE DETECTORS TO BE ELECTRIC POWERED WITH BATTERY BACKUP AND WIRED TO SET ALL ALARMS OFF IF ONE IS TRIPPED.
- ALL EXTERIOR, KITCHEN, AND BATH OUTLETS TO BE GROUND FAULT CIRCUIT INTERRUPT EQUIPPED AND ON A SEPARATE CIRCUIT.
- ELECTRICAL DISCONNECTS ARE TO BE AT A/C UNIT, CONDENSING UNIT, AND WATER HEATER.
- HEAT VENT LIGHTS ARE TO BE ON A SEPARATE CIRCUIT.
- OUTLETS, INCLUDING PHONE AND CABLE, MAY BE ADDED OR CHANGED UPON OWNERS REQUEST.
- ELECTRICAL CONTRACTOR TO VERIFY EQUIPMENT TYPE AND SIZE.
- INSTALL LIGHTS IN ATTIC SPACE W/ SWITCH AT FOOT OF DISP. STAIRS
- ELECTRICAL SERVICE TO BE A 42 CIRCUIT 200 AMP MAIN LOCATED IN THE UTILITY.
- A SUB-PANEL MAY NEED TO BE ADDED FOR ENOUGH CIRCUITS.
- HOUSE TO BE WIRED FOR A SECURITY SYSTEM.
- ALL KITCHEN OUTLETS ARE TO BE GFI EXCEPT APPLIANCE OUTLETS NOT EASILY ACCESSIBLE.
- ARC FAULT BREAKERS ARE TO BE USED IN ALL BEDROOMS.
- IF GAS FIRED APPLIANCES ARE USED IN HOME, CARBON MONOXIDE ALARMS ARE NEEDED (IRC R315).



# 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#.

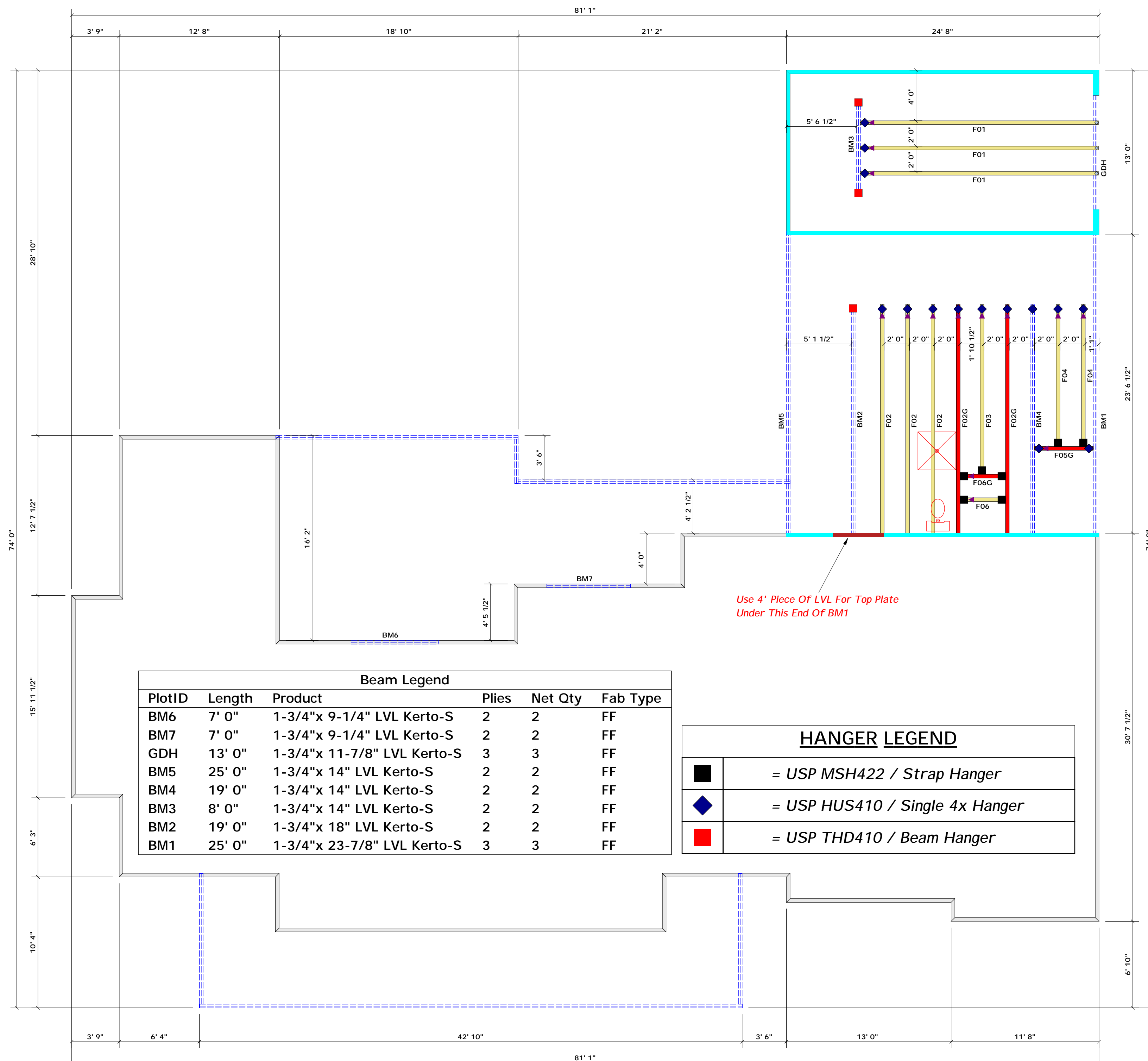
Signature Curtis Quick

Curtis Quick

### LOAD CHART FOR JACK STUDS

(BASED ON TABLES ROEBELIC 6 (3))

NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADERS/STRIPS		NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADERS/STRIPS	
END REACTION (IP TO)	REQ'D STUDS FOR JOINT/FLOOR	END REACTION (IP TO)	REQ'D STUDS FOR JOINT/FLOOR
1700	1	2550	1
3400	2	5100	2
5100	3	7650	3
6800	4	10200	4
8500	5	12750	5
10200	6	15300	6
11900	7		
13600	8		
15300	9		



Beam Legend					
PlotID	Length	Product	Plies	Net Qty	Fab Type
BM6	7' 0"	1-3/4"x 9-1/4" LVL Kerto-S	2	2	FF
BM7	7' 0"	1-3/4"x 9-1/4" LVL Kerto-S	2	2	FF
GDH	13' 0"	1-3/4"x 11-7/8" LVL Kerto-S	3	3	FF
BM5	25' 0"	1-3/4"x 14" LVL Kerto-S	2	2	FF
BM4	19' 0"	1-3/4"x 14" LVL Kerto-S	2	2	FF
BM3	8' 0"	1-3/4"x 14" LVL Kerto-S	2	2	FF
BM2	19' 0"	1-3/4"x 18" LVL Kerto-S	2	2	FF
BM1	25' 0"	1-3/4"x 23-7/8" LVL Kerto-S	3	3	FF

HANGER LEGEND	
■	= USP MSH422 / Strap Hanger
◆	= USP HUS410 / Single 4x Hanger
■	= USP THD410 / Beam Hanger

▲ = Denotes Left End of Truss  
(Reference Engineered Truss Drawing)  
Do Not Erect Trusses Backwards

Hatch Legend	
	Garage Walls Dropped 1'

Truss Placement Plan  
SCALE: 3/16" = 1'

BUILDER	WEAVER DEVELOPMENT	CITY / CO.	HARNETT CO. / HARNETT
JOB NAME	Ferguson Residence	ADDRESS	Cooper Store Rd.
PLAN	Plan	MODEL	Floor
SEAL DATE	Seal Date	DATE REV.	04/05/22
QUOTE #	Quote #	DRAWN BY	Curtis Quick
JOB #	J0422-1808	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.



**ROOF & FLOOR TRUSSES & BEAMS**

Reilly Road Industrial Park  
Fayetteville, N.C. 28309  
Phone: (910) 864-8787  
Fax: (910) 864-4444

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. The individual design sheets for each truss identified on the placement drawing. The building designer is responsible for the accuracy and completeness 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 trusses, consult ICC-ES E-1000 and ICC-ES E-1001 provided with the truss delivery package or visit [www.comtech.com](http://www.comtech.com).

Signature: **Curtis Quick**  
Curtis Quick

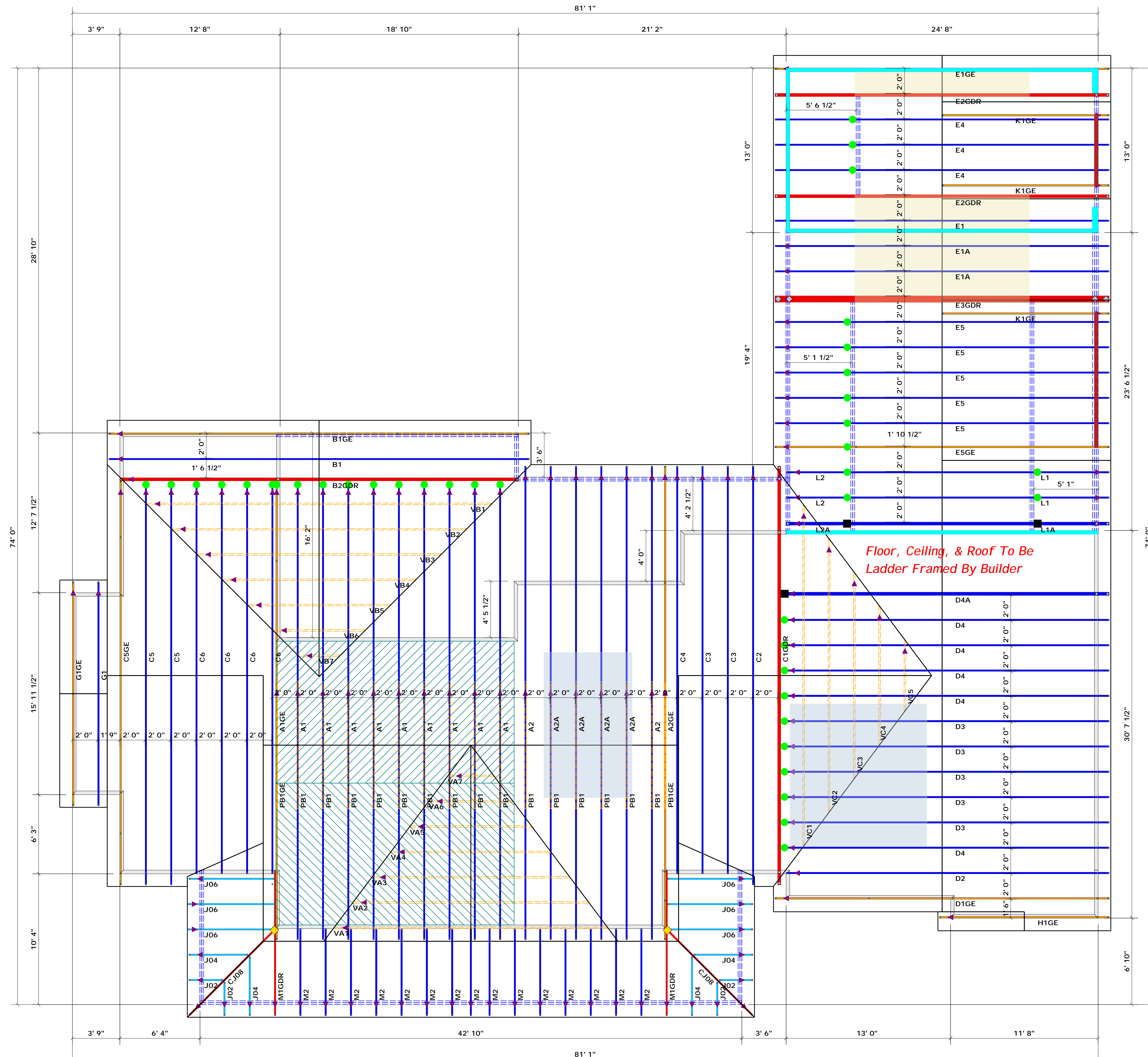
Curtis Quick

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#.

CITY / CO.	Harnett Co. / Harnett
ADDRESS	Cooper Store Rd.
MODEL	Roof
DATE REV.	03/29/22
DRAWN BY	Curtis Quick
SALES REP.	Lenny Norris

BUILDER	Weaver Development
JOB NAME	Ferguson Residence
PLAN	Butler Garage
SEAL DATE	NONE
QUOTE #	B0222-0642
JOB #	J0322-1696

LOAD CHART FOR JACK STUDS			
NUMBER OF JACK STUDS REQUIRED @ 4' ON CENTER			
TRUSS HEIGHT (ft)	TRUSS SPACING (ft)	TRUSS WEIGHT (lb/ft)	NUMBER OF JACK STUDS
1700	1	2550	1
3400	2	5100	2
5100	3	7650	3
6800	4	10200	4
8500	5	12750	5
10200	6	15300	6
11900	7		
13600	8		
15300	9		



**Hatch Legend**

	1st Floor Walls Dropped 1'
	2nd Floor Bearing Walls @ 9' 1-1/2"
	Bonus Room, 40 lbs. Live Load
	Tray Ceiling
	Cathedral Ceiling

**HANGER LEGEND**

	= USP THD28-2 / Double 2x Hanger
	= USP HUS26 / Single 2x Hanger
	= USP HJC26 / Hip Hanger

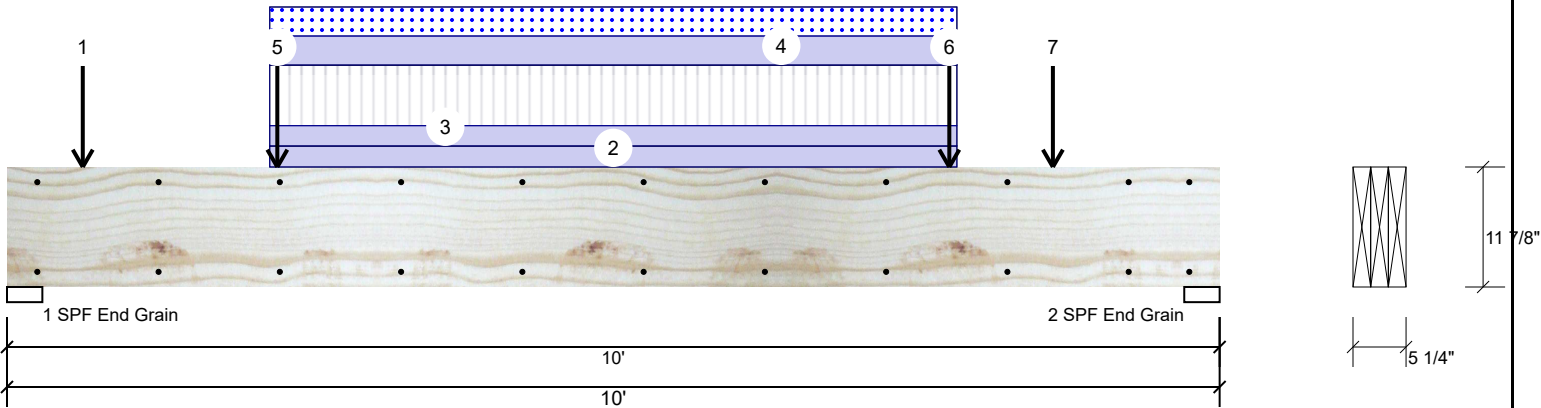
= Denotes Left End of Truss  
(Reference Engineered Truss Drawing)  
Do Not Erect Trusses Backwards

**Truss Placement Plan**  
SCALE: 1/4" = 1'



**GDH Kerto-S LVL 1.750" X 11.875" 3-Ply - PASSED**

Level: Level



**Member Information**

Type: Girder	Application: Floor
Plies: 3	Design Method: ASD
Moisture Condition: Dry	Building Code: IBC/IRC 2015
Deflection LL: 480	Load Sharing: Yes
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	1102	3310	2489	0	0
2	Vertical	1102	3063	2243	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	39%	3310 / 2694	6003	L	D+0.75(L+S)
2 - SPF End Grain	3.500"	Vert	36%	3063 / 2509	5571	L	D+0.75(L+S)

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11627 ft-lb	5'2 7/8"	35719 ft-lb	0.326 (33%)	D+0.75(L+S)	L
Unbraced	11627 ft-lb	5'2 7/8"	14613 ft-lb	0.796 (80%)	D+0.75(L+S)	L
Shear	5567 lb	8'8 5/8"	15295 lb	0.364 (36%)	D+0.75(L+S)	L
LL Defl inch	0.071 (L/1603)	5' 15/16"	0.239 (L/480)	0.299 (30%)	0.75(L+S)	L
TL Defl inch	0.154 (L/744)	5'1"	0.318 (L/360)	0.484 (48%)	D+0.75(L+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.

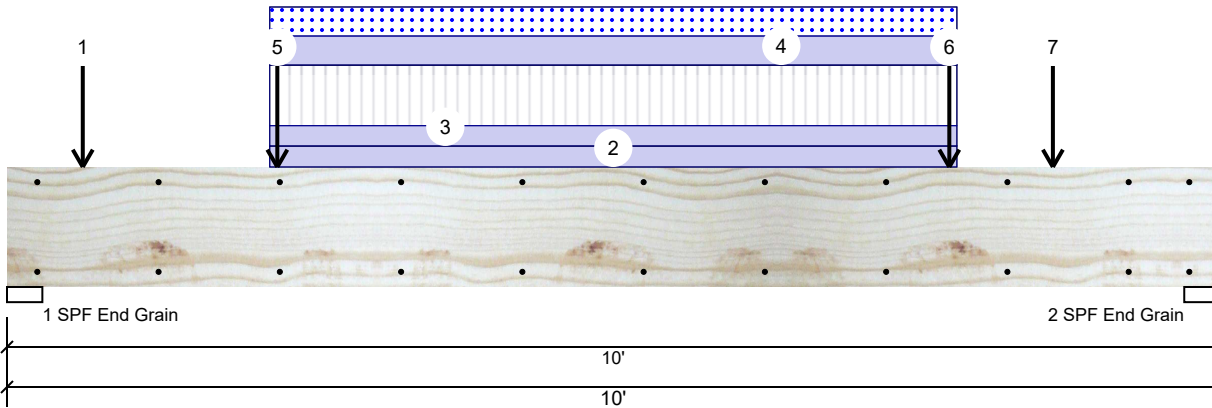
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Point	0-7-8		Top	1570 lb	0 lb	1570 lb	0 lb	0 lb	E2GDR
	Bearing Length	0-3-8								
2	Part. Uniform	2-2-0 to 7-10-0		Top	135 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
3	Part. Uniform	2-2-0 to 7-10-0		Top	130 PLF	389 PLF	0 PLF	0 PLF	0 PLF	F01
4	Part. Uniform	2-2-0 to 7-10-0		Top	186 PLF	0 PLF	186 PLF	0 PLF	0 PLF	E4

Continued on page 2...

<p><b>Notes</b></p> <p>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.</p> <p><b>Lumber</b></p> <ol style="list-style-type: none"> <li>1. Dry service conditions, unless noted otherwise</li> <li>2. LVL not to be treated with fire retardant or corrosive chemicals</li> </ol>	<p><b>Handling &amp; Installation</b></p> <ol style="list-style-type: none"> <li>1. LVL beams must not be cut or drilled</li> <li>2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals</li> <li>3. Damaged Beams must not be used</li> <li>4. Design assumes top edge is laterally restrained</li> <li>5. Provide lateral support at bearing points to avoid lateral displacement and rotation</li> </ol>	<p>6. For flat roofs provide proper drainage to prevent ponding</p>	<p><b>Manufacturer Info</b></p> <p>Metsä Wood          301 Merritt 7 Building, 2nd Floor          Norwalk, CT 06851          (800) 622-5850  <a href="http://www.metsawood.com/us">www.metsawood.com/us</a></p>	<p>Comtech, Inc.          1001 S. Reilly Road, Suite #639          Fayetteville, NC          USA          28314          910-864-TRUS</p>
			<p>This design is valid until 11/3/2024</p>	

**GDH Kerto-S LVL 1.750" X 11.875" 3-Ply - PASSED**

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
5	Point	2-2-12		Top	269 lb	0 lb	269 lb	0 lb	0 lb	K1GE
	Bearing Length	0-3-8								
6	Point	7-9-4		Top	269 lb	0 lb	269 lb	0 lb	0 lb	K1GE
	Bearing Length	0-3-8								
7	Point	8-7-8		Top	1570 lb	0 lb	1570 lb	0 lb	0 lb	E2GDR
	Bearing Length	0-3-8								
	Self Weight				14 PLF					

**Notes**

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**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 11/3/2024

**Manufacturer Info**

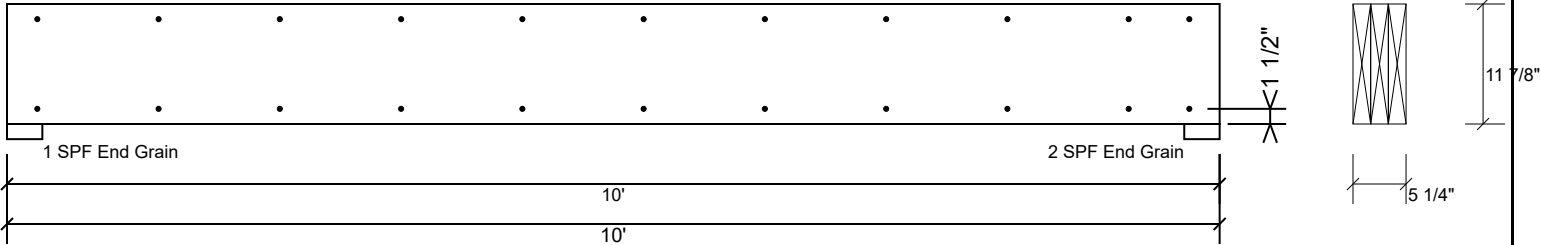
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**GDH Kerto-S LVL 1.750" X 11.875" 3-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Nail from both sides. 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.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**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 11/3/2024

**Manufacturer Info**

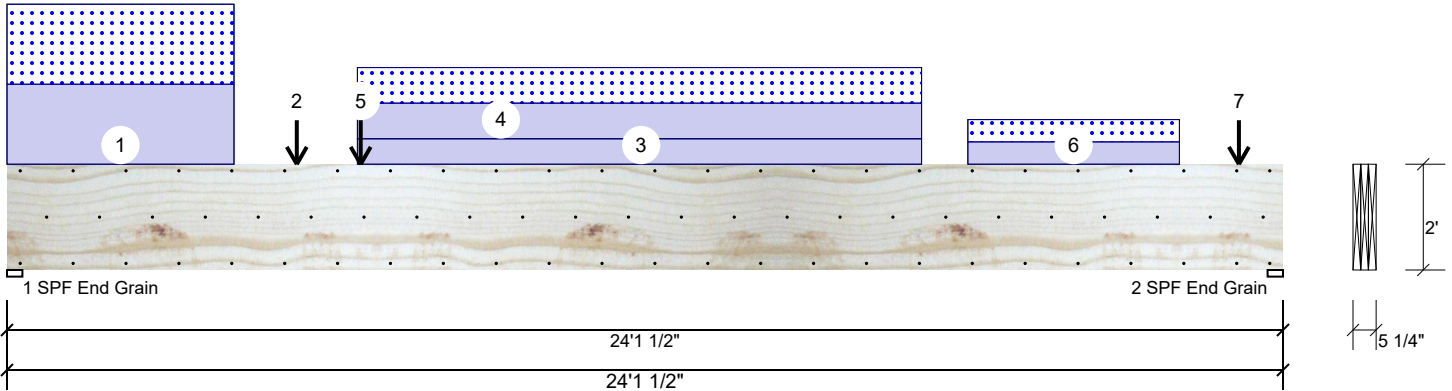
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**BM1 Kerto-S LVL 1.750" X 24.000" 3-Ply - PASSED**

Level: Level



**Member Information**

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	Yes
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	7314	6250	0	0
2	Vertical	0	4060	3009	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	88%	7314 / 6250	13564	L	D+S
2 - SPF End Grain	3.500"	Vert	46%	4060 / 3009	7069	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	60911 ft-lb	8' 5/16"	131295 ft-lb	0.464 (46%)	D+S	L
Unbraced	60911 ft-lb	8' 5/16"	60978 ft-lb	0.999 (100%)	D+S	L
Shear	11617 lb	2'3 1/2"	30912 lb	0.376 (38%)	D+S	L
LL Defl inch	0.235 (L/1208)	10'11 15/16"	0.592 (L/480)	0.397 (40%)	S	L
TL Defl inch	0.546 (L/521)	11'1 15/16"	0.790 (L/360)	0.691 (69%)	D+S	L

**Design Notes**

- 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.
- Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- Refer to last page of calculations for fasteners required for specified loads.
- Girders are designed to be supported on the bottom edge only.
- Top loads must be supported equally by all plies.
- Top must be laterally braced at a maximum of 4'4 3/16" o.c.
- Bottom must be laterally braced at end bearings.
- 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	Part. Uniform	0-0-0 to 4-3-8		Top	423 PLF	0 PLF	423 PLF	0 PLF	0 PLF	E1
2	Point	5-5-12		Top	4228 lb	0 lb	4228 lb	0 lb	0 lb	E3GDR
	Bearing Length	0-3-8								
3	Part. Uniform	6-7-8 to 17-3-8		Top	135 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall

Continued on page 2...

**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**

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

**Handling & Installation**

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- 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 11/3/2024

**Manufacturer Info**

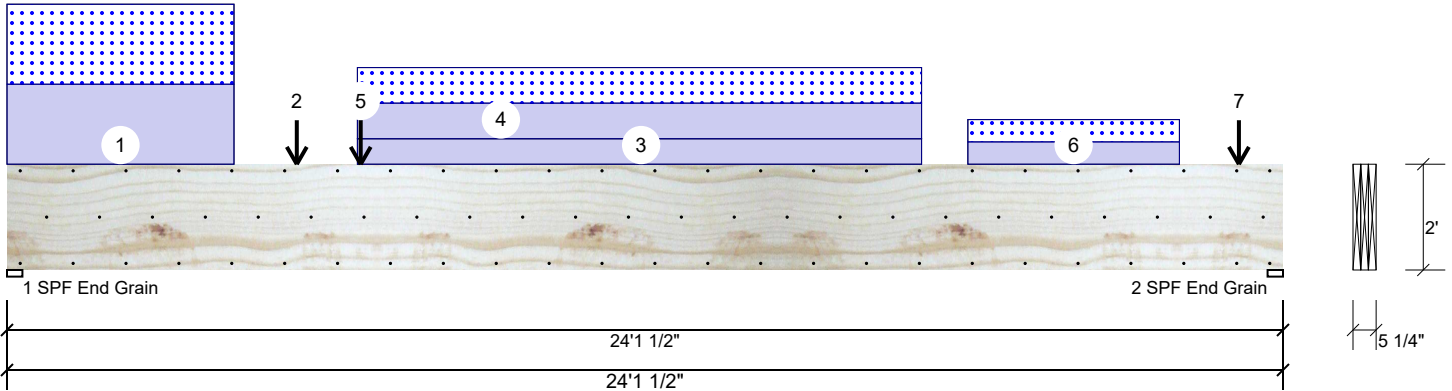
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**BM1 Kerto-S LVL 1.750" X 24.000" 3-Ply - PASSED**

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
4	Part. Uniform	6-7-8 to 17-3-8		Top	188 PLF	0 PLF	188 PLF	0 PLF	0 PLF	E4
5	Point	6-8-4		Top	269 lb	0 lb	269 lb	0 lb	0 lb	K1GE
	Bearing Length	0-3-8								
6	Part. Uniform	18-2-0 to 22-2-0		Top	118 PLF	0 PLF	118 PLF	0 PLF	0 PLF	L1
7	Point	23-3-8		Top	469 lb	0 lb	469 lb	0 lb	0 lb	L1A
	Bearing Length	0-3-8								
	Self Weight				28 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

**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

**Manufacturer Info**

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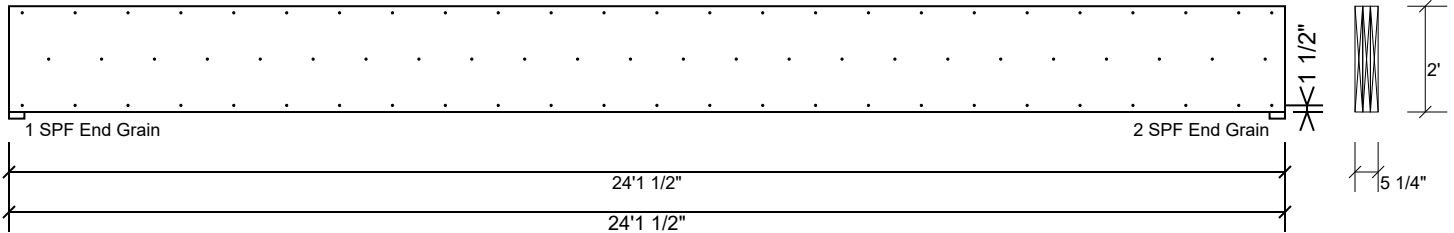
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 USA  
 28314  
 910-864-TRUS



This design is valid until 11/3/2024

**BM1 Kerto-S LVL 1.750" X 24.000" 3-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Nail from both sides. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**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 11/3/2024

**Manufacturer Info**

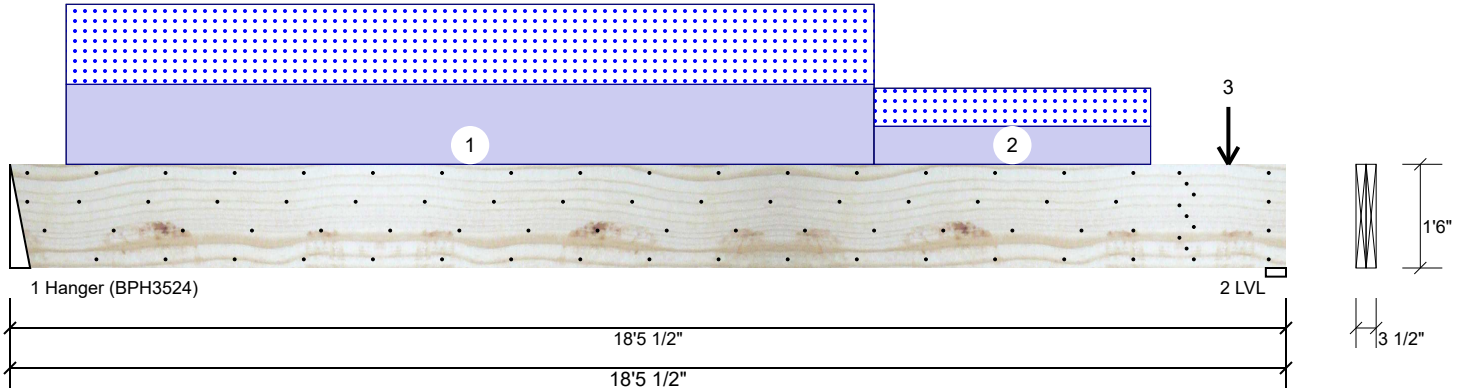
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 USA  
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**BM2 Kerto-S LVL 1.750" X 18.000" 2-Ply - PASSED**

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	2873	2744	0	0
2	Vertical	0	2737	2607	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.500"	Vert	64%	2873 / 2744	5617	L	D+S
2 - LVL	3.500"	Vert	79%	2737 / 2607	5344	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	25885 ft-lb	8'9 5/16"	49428 ft-lb	0.524 (52%)	D+S	L
Unbraced	25885 ft-lb	8'9 5/16"	25961 ft-lb	0.997 (100%)	D+S	L
Shear	5936 lb	16'8"	15456 lb	0.384 (38%)	D+S	L
LL Defl inch	0.238 (L/910)	9' 11/16"	0.452 (L/480)	0.527 (53%)	S	L
TL Defl inch	0.487 (L/445)	9' 11/16"	0.602 (L/360)	0.809 (81%)	D+S	L

**Design Notes**

- 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.
- Fasten all plies using 4 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- Refer to last page of calculations for fasteners required for specified loads.
- Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Top must be laterally braced at a maximum of 5' 9/16" o.c.
- Bottom must be laterally braced at end bearings.
- 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	Part. Uniform	0-9-12 to 12-6-0		Far Face	345 PLF	0 PLF	345 PLF	0 PLF	0 PLF	E4
2	Part. Uniform	12-6-0 to 16-6-0		Far Face	164 PLF	0 PLF	164 PLF	0 PLF	0 PLF	L2
3	Point	17-7-8		Far Face	663 lb	0 lb	663 lb	0 lb	0 lb	L2A
	Self Weight				14 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**

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

**Handling & Installation**

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- 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 11/3/2024

**Manufacturer Info**

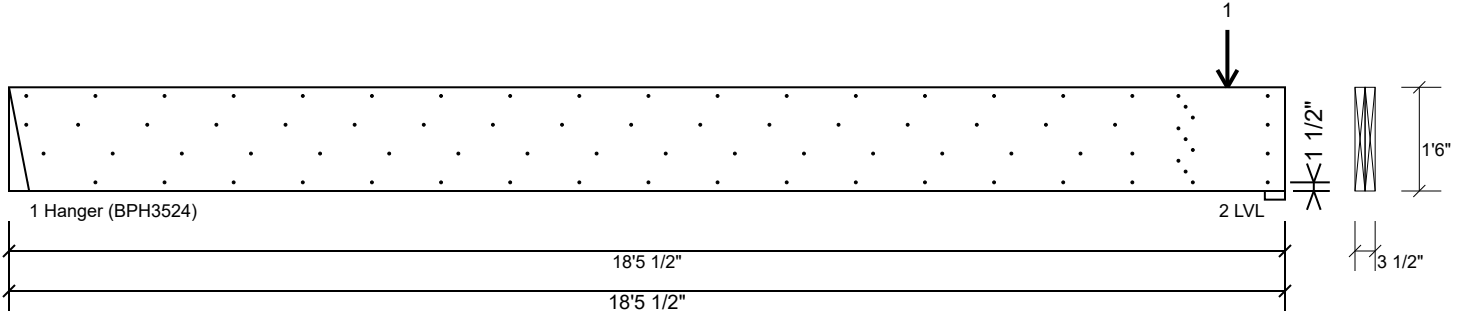
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**BM2 Kerto-S LVL 1.750" X 18.000" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 4 rows of 10d Box nails (.128x3") at 12" o.c.. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 6".

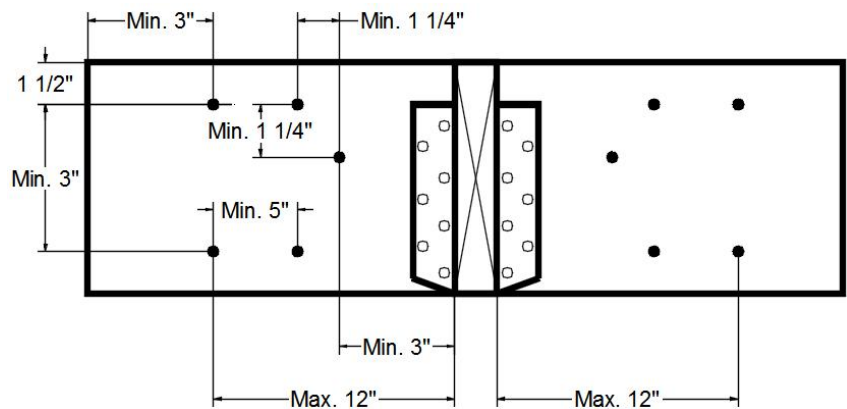
Capacity	91.6 %
Load	345.0 PLF
Yield Limit per Foot	376.5 PLF
Yield Limit per Fastener	94.1 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+S
Duration Factor	1.15

**Concentrated Load**

Fasten at concentrated side load at 17-7-8 with a minimum of (9) – 10d Box nails (.128x3") in the pattern shown.

Capacity	78.3 %
Load	663.0lb.
Total Yield Limit	847.0 lb.
Cg	0.9998
Yield Limit per Fastener	94.1 lb.
Yield Mode	IV
Load Combination	D+S
Duration Factor	1.15

**Min/Max fastener distances for Concentrated Side Loads**



**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 11/3/2024

**Manufacturer Info**

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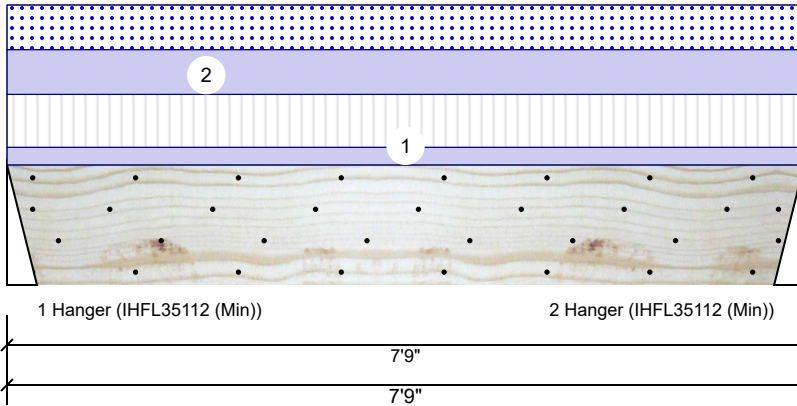
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**BM3 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED**

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	1519	1832	1283	0	0
2	Vertical	1519	1832	1283	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.500"	Vert	45%	1832 / 2101	3934	L	D+0.75(L+S)
2 - Hanger	3.500"	Vert	45%	1832 / 2101	3934	L	D+0.75(L+S)

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6902 ft-lb	3'10 1/2"	31049 ft-lb	0.222 (22%)	D+0.75(L+S)	L
Unbraced	6902 ft-lb	3'10 1/2"	13942 ft-lb	0.495 (50%)	D+0.75(L+S)	L
Shear	2749 lb	1'5"	10453 lb	0.263 (26%)	D+L	L
LL Defl inch	0.031 (L/2835)	3'10 9/16"	0.184 (L/480)	0.169 (17%)	0.75(L+S)	L
TL Defl inch	0.058 (L/1514)	3'10 9/16"	0.246 (L/360)	0.238 (24%)	D+0.75(L+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 4 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 Fill all hanger nailing holes.
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be laterally braced at end bearings.
- 8 Bottom must be laterally braced at end bearings.
- 9 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			Near Face	131 PLF	392 PLF	0 PLF	0 PLF	0 PLF	F01
2	Uniform			Top	331 PLF	0 PLF	331 PLF	0 PLF	0 PLF	E4
	Self Weight				11 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 11/3/2024

**Manufacturer Info**

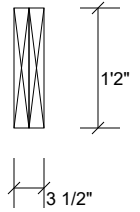
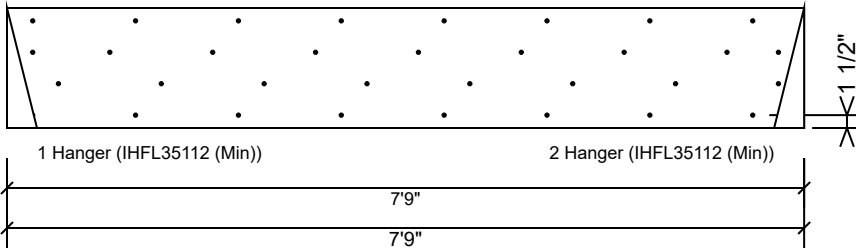
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**BM3 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 4 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	79.9 %
Load	261.5 PLF
Yield Limit per Foot	327.4 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

**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 11/3/2024

**Manufacturer Info**

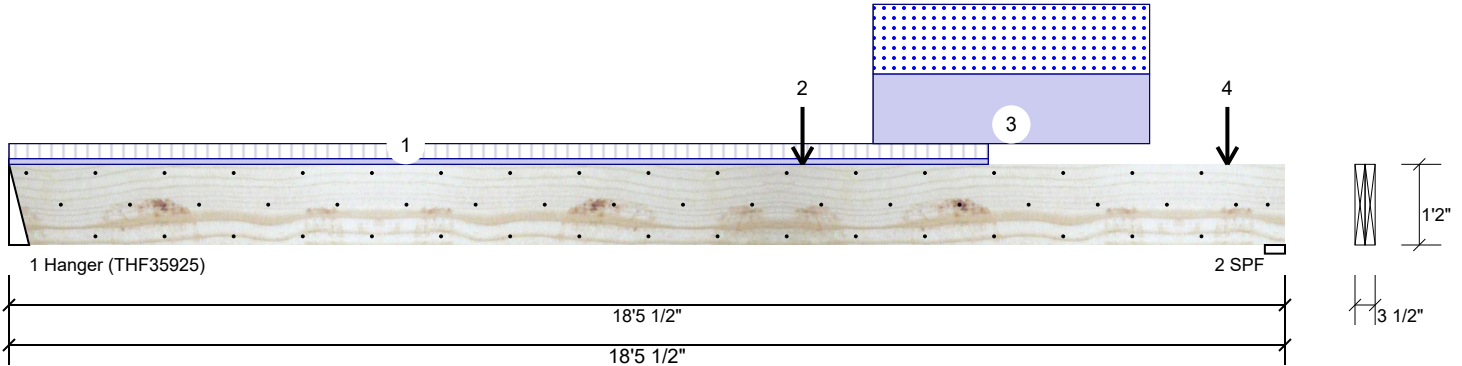
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**BM4 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED**

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	556	475	174	0	0
2	Vertical	565	1518	1220	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.500"	Vert	14%	475 / 556	1031	L	D+L
2 - SPF	3.500"	Vert	55%	1518 / 1339	2857	L	D+0.75(L+S)

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7343 ft-lb	11'5 3/4"	26999 ft-lb	0.272 (27%)	D+L	L
Unbraced	7908 ft-lb	11'5 3/4"	7920 ft-lb	0.998 (100%)	D+0.75(L+S)	L
Shear	2240 lb	17'	12021 lb	0.186 (19%)	D+0.75(L+S)	L
LL Defl inch	0.149 (L/1457)	9'11"	0.452 (L/480)	0.329 (33%)	0.75(L+S)	L
TL Defl inch	0.282 (L/771)	9'11 9/16"	0.603 (L/360)	0.467 (47%)	D+0.75(L+S)	L

**Design Notes**

- 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.
- Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- Refer to last page of calculations for fasteners required for specified loads.
- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Top loads must be supported equally by all plies.
- Top must be laterally braced at a maximum of 14'7 7/16" o.c.
- Bottom must be laterally braced at end bearings.
- 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	Part. Uniform	0-0-0 to 14-2-0		Top	15 PLF	40 PLF	0 PLF	0 PLF	0 PLF	Floor
2	Point	11-5-12		Top	185 lb	555 lb	0 lb	0 lb	0 lb	F05G
	Bearing Length	0-3-8								
3	Part. Uniform	12-6-0 to 16-6-0		Top	185 PLF	0 PLF	185 PLF	0 PLF	0 PLF	L1

Continued on page 2...

**Notes**

Calculated Structural 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**

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

**Handling & Installation**

- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

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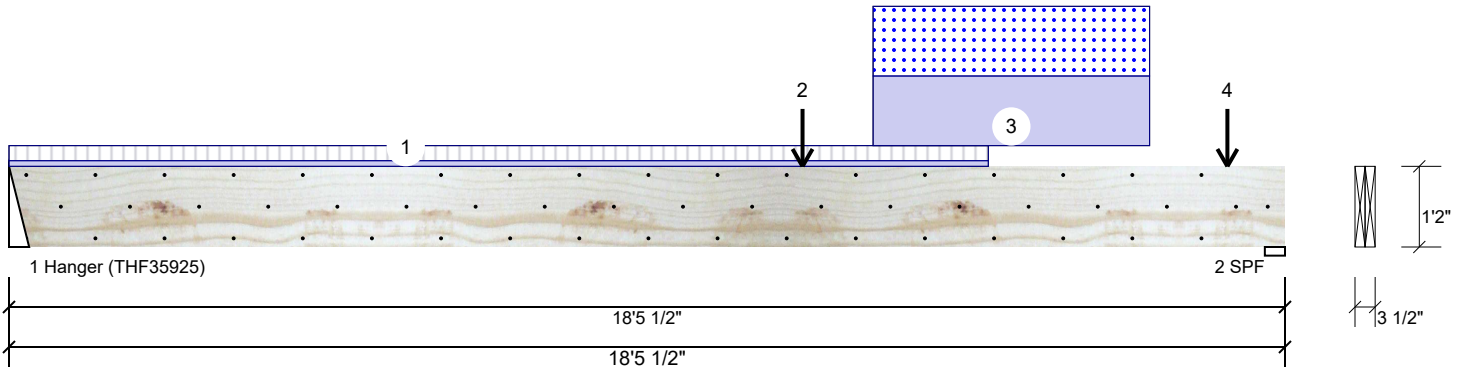
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This design is valid until 11/3/2024

**BM4 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: Level



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
4	Point	17-7-8		Top	654 lb	0 lb	654 lb	0 lb	0 lb	L1A
	Bearing Length	0-3-8								
	Self Weight				11 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

**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 11/3/2024

**Manufacturer Info**

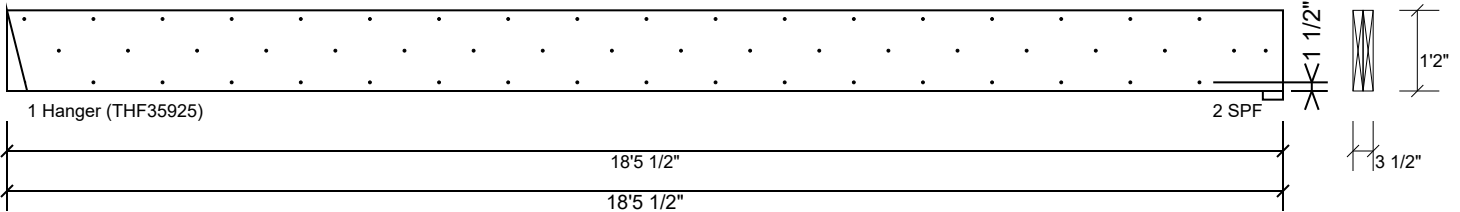
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**BM4 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 3 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	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**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 11/3/2024

**Manufacturer Info**

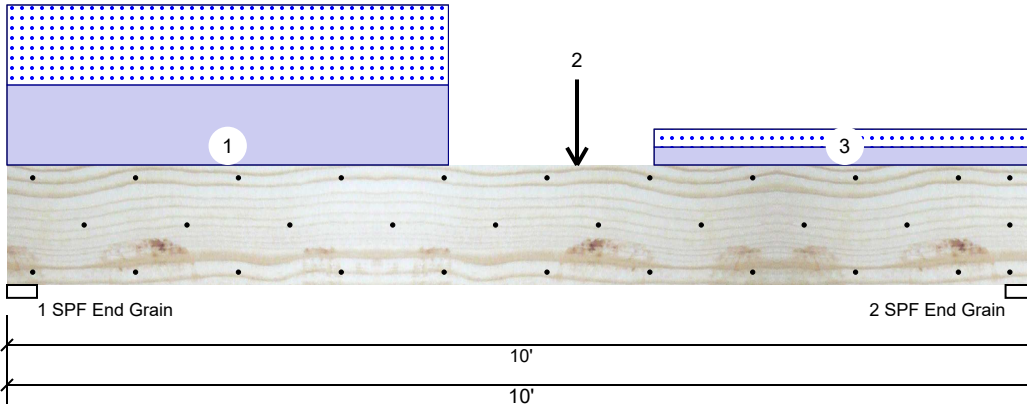
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**BM5 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: Level



**Member Information**

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

**Reactions UNPATTERNED Ib (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	4097	4043	0	0
2	Vertical	0	3891	3836	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	79%	4097 / 4043	8140	L	D+S
2 - SPF End Grain	3.500"	Vert	75%	3891 / 3836	7727	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	30739 ft-lb	5'6 1/2"	31049 ft-lb	0.990 (99%)	D+S	L
Unbraced	30739 ft-lb	5'6 1/2"	31049 ft-lb	0.990 (99%)	D+S	L
Shear	7447 lb	8'6 1/2"	12021 lb	0.619 (62%)	D+S	L
LL Defl inch	0.166 (L/689)	5'5 1/16"	0.318 (L/360)	0.522 (52%)	S	L
TL Defl inch	0.334 (L/343)	5'5 1/16"	0.477 (L/240)	0.700 (70%)	D+S	L

**Design Notes**

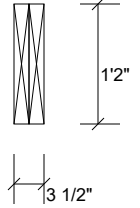
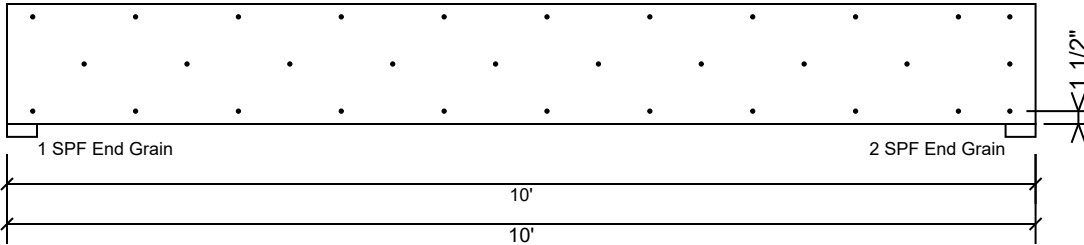
- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page 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 continuously laterally braced.
- 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	Part. Uniform	0-0-0 to 4-3-8		Top	424 PLF	0 PLF	424 PLF	0 PLF	0 PLF	E1A
2	Point	5-6-8		Top	5707 lb	0 lb	5707 lb	0 lb	0 lb	E3GDR
	Bearing Length	0-3-14								
3	Part. Uniform	6-3-8 to 10-0-0		Top	95 PLF	0 PLF	95 PLF	0 PLF	0 PLF	E4
	Self Weight				11 PLF					

<p><b>Notes</b></p> <p>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.</p> <p><b>Lumber</b></p> <ol style="list-style-type: none"> <li>1. Dry service conditions, unless noted otherwise</li> <li>2. LVL not to be treated with fire retardant or corrosive chemicals</li> </ol>	<p><b>Handling &amp; Installation</b></p> <ol style="list-style-type: none"> <li>1. LVL beams must not be cut or drilled</li> <li>2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals</li> <li>3. Damaged Beams must not be used</li> <li>4. Design assumes top edge is laterally restrained</li> <li>5. Provide lateral support at bearing points to avoid lateral displacement and rotation</li> </ol>	<p>6. For flat roofs provide proper drainage to prevent ponding</p>	<p><b>Manufacturer Info</b></p> <p>Metsä Wood          301 Merritt 7 Building, 2nd Floor          Norwalk, CT 06851          (800) 622-5850  <a href="http://www.metsawood.com/us">www.metsawood.com/us</a></p>	<p>Comtech, Inc.          1001 S. Reilly Road, Suite #639          Fayetteville, NC          USA          28314          910-864-TRUS</p>
			<p>This design is valid until 11/3/2024</p>	

**BM5 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED**

Level: Level



**Multi-Ply Analysis**

Fasten all plies using 3 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	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**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 11/3/2024

**Manufacturer Info**

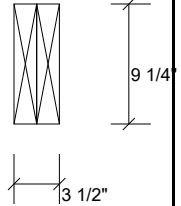
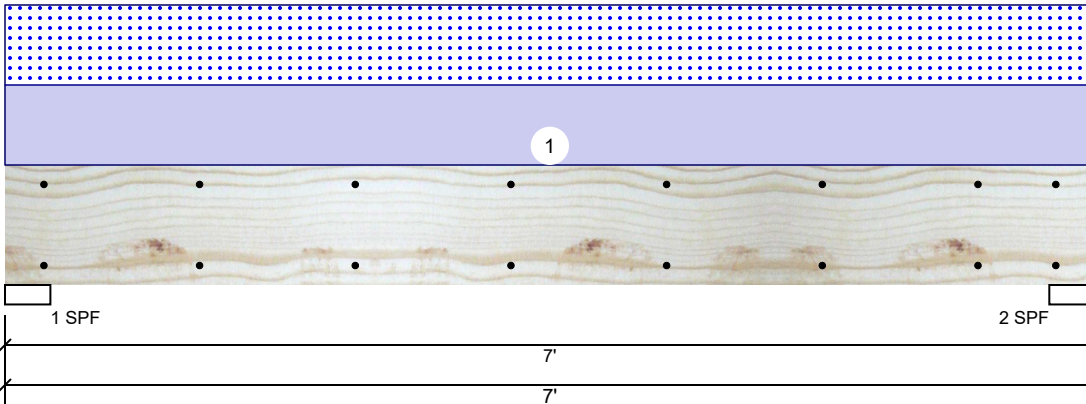
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 Fayetteville, NC  
 USA  
 28314  
 910-864-TRUS



**BM6 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED**

Level: Level



**Member Information**

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360
Importance:	Normal - II
Temperature:	Temp <= 100°F

Application:	Floor
Design Method:	ASD
Building Code:	IBC/IRC 2015
Load Sharing:	No
Deck:	Not Checked

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1656	1631	0	0
2	Vertical	0	1656	1631	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	63%	1656 / 1631	3287	L	D+S
2 - SPF	3.500"	Vert	63%	1656 / 1631	3287	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5024 ft-lb	3'6"	14423 ft-lb	0.348 (35%)	D+S	L
Unbraced	5024 ft-lb	3'6"	10052 ft-lb	0.500 (50%)	D+S	L
Shear	2295 lb	1' 3/4"	7943 lb	0.289 (29%)	D+S	L
LL Defl inch	0.050 (L/1556)	3'6"	0.164 (L/480)	0.309 (31%)	S	L
TL Defl inch	0.102 (L/772)	3'6"	0.218 (L/360)	0.466 (47%)	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	Uniform			Top	466 PLF	0 PLF	466 PLF	0 PLF	0 PLF	A1
	Self Weight				7 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 11/3/2024

**Manufacturer Info**

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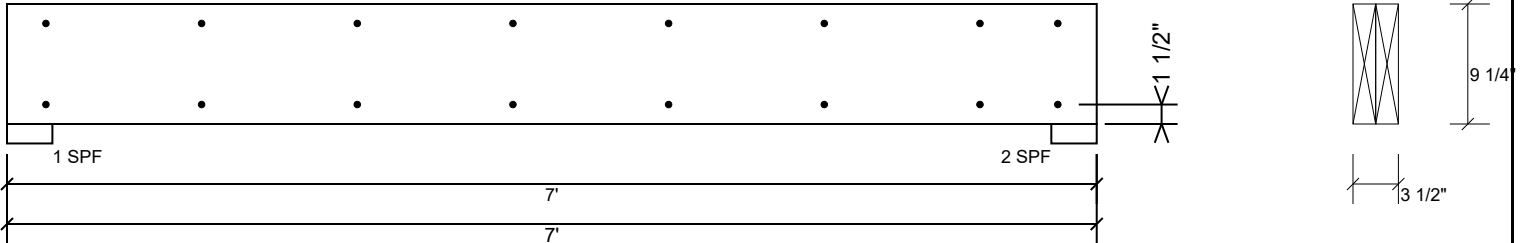
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 910-864-TRUS





**BM6 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED**

Level: Level



**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.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**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 11/3/2024

**Manufacturer Info**

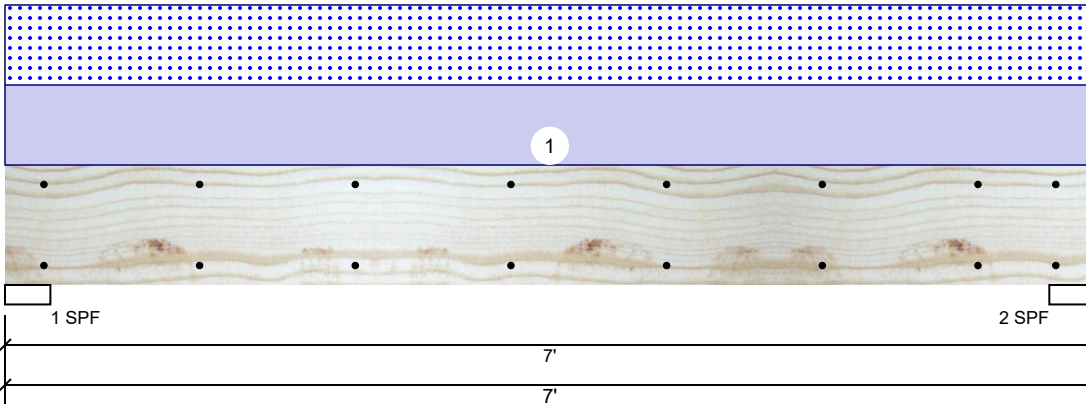
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 1001 S. Reilly Road, Suite #639  
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**BM7 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED**

Level: Level



**Member Information**

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360
Importance:	Normal - II
Temperature:	Temp <= 100°F

Application:	Floor
Design Method:	ASD
Building Code:	IBC/IRC 2015
Load Sharing:	No
Deck:	Not Checked

**Reactions UNPATTERNED lb (Uplift)**

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1772	1747	0	0
2	Vertical	0	1772	1747	0	0

**Bearings**

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	68%	1772 / 1747	3518	L	D+S
2 - SPF	3.500"	Vert	68%	1772 / 1747	3518	L	D+S

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5377 ft-lb	3'6"	14423 ft-lb	0.373 (37%)	D+S	L
Unbraced	5377 ft-lb	3'6"	10052 ft-lb	0.535 (53%)	D+S	L
Shear	2456 lb	1' 3/4"	7943 lb	0.309 (31%)	D+S	L
LL Defl inch	0.054 (L/1453)	3'6"	0.164 (L/480)	0.330 (33%)	S	L
TL Defl inch	0.109 (L/721)	3'6"	0.218 (L/360)	0.499 (50%)	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	Uniform			Top	499 PLF	0 PLF	499 PLF	0 PLF	0 PLF	A2A
	Self Weight				7 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  
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**Handling & Installation**  
 1. LVL beams must not be cut or drilled  
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6. For flat roofs provide proper drainage to prevent ponding

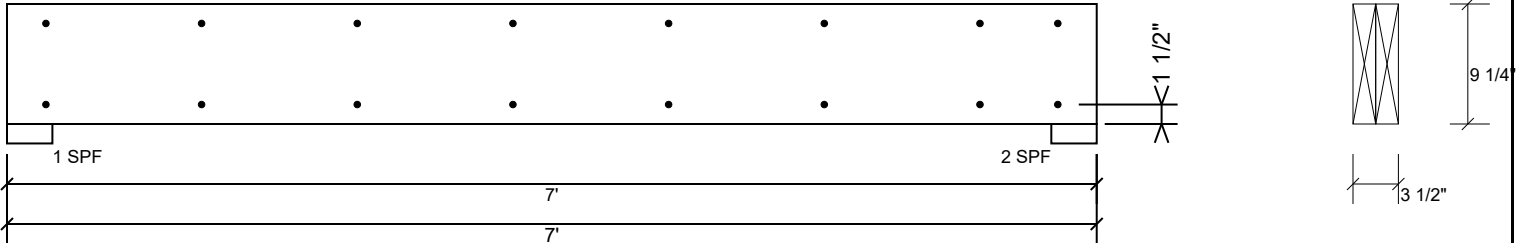
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**BM7 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED**

Level: Level



**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.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

**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**

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2. LVL not to be treated with fire retardant or corrosive

chemicals

**Handling & Installation**

1. LVL beams must not be cut or drilled
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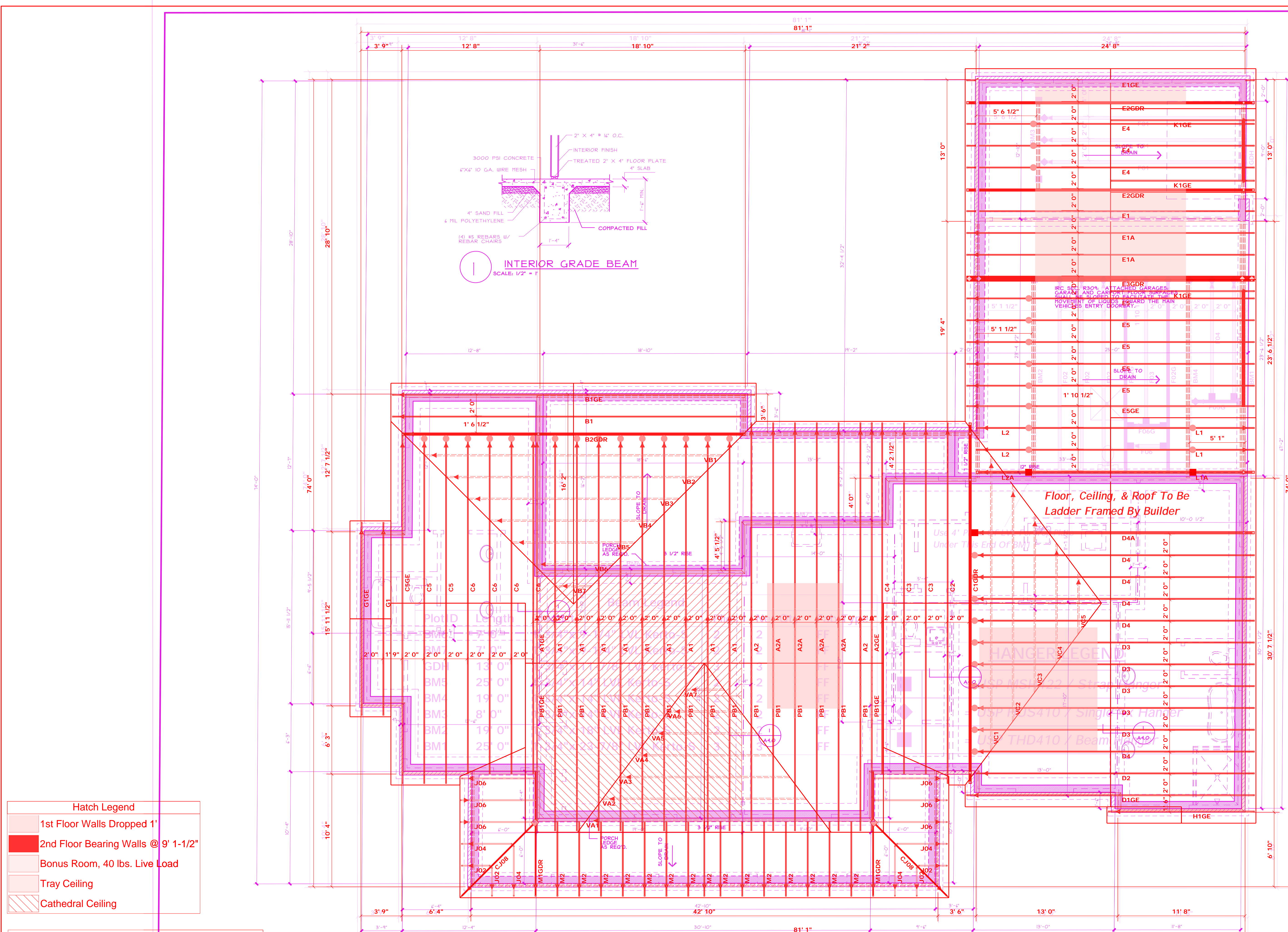
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**Hatch Legend**

	1st Floor Walls Dropped 1'
	2nd Floor Bearing Walls @ 9' 1-1/2"
	Bonus Room, 40 lbs. Live Load
	Tray Ceiling
	Cathedral Ceiling

**HANGER LEGEND**

	= USP THD28-2 / Double 2x Hanger
	= USP HUS26 / Single 2x Hanger
	= USP HJC26 / Hip Hanger

**RAISED SLAB FOUNDATION PLAN**  
 SCALE: 1/4" = 1'-0"

**Truss Placement Plan**  
 SCALE: 3/16" = 1'

**Truss Placement Plan**  
 SCALE: 1/4" = 1'

**NOTE:**  
 ALL EXTERIOR GRADE BEAMS TO EXTEND BELOW UNDISTURBED SOIL A MINIMUM OF 12".

**CONCRETE NOTES:**

- REFER TO BUILDING PLANS FOR DOOR OPENINGS AND EXACT DIMENSIONS.
- USE CONCRETE BRICK SUPPORTS TO MAINTAIN REINFORCING CLEARANCES. DO NOT USE CMU OR FACE BRICK.
- FOUNDATION DESIGN BASED ON A-1 FILL DIRT COMPACTED TO 95% DENSITY (ASTM D-1557). FILL PLACED @ 8" MAX. LIFTS.
- ALL CONCRETE SHALL DEVELOP 3000 PSI COMPRESSIVE STRENGTH @ 28 DAYS. PLACE CONCRETE W/ MAXIMUM SLUMP OF 4". PROVIDE SLUMP TESTS AND CYLINDERS AT BEGINNING AND MIDDLE OF POUR.
- GRADE 40 DEFORMED REINFORCING
- ASTM-105 WUWF REINFORCING.
- APPLY A LIQUID MEMBRANE CURING CHEMICAL TO ALL CONCRETE SURFACES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. U.R. GRACE PRODUCT OR EQUAL.
- CONTRACTOR SHALL COORDINATE ALL DOOR LOCATIONS AND OMIT NOTCHES, ACCORDINGLY.
- 2" CLEARANCE FOR REBAR, SIDES AND BOTTOM.
- MINIMUM SLAB THICKNESS SHALL BE 4" ON HOUSE AND ANY SIDEWALKS INCLUDING DRIVEWAYS.
- FINISH GRADE TO SLOPE AWAY FROM HOUSE.
- REFER TO ELECTRICAL PLAN FOR WIRING AND OUTLET REQUIREMENTS.
- CONTRACTOR SHALL EXCAVATE ALL FOOTINGS TO SOLID, UNDISTURBED SOIL.
- SLABS AND FOOTINGS SHALL BE PLACED MONTHLICHALLY IN A CONTINUOUS POUR. CONSTRUCTION JOINTS FOR THE PURPOSE OF POUR INTERRUPTION SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY THE OWNER.
- ALL DRIVEWAY POURS SHALL HAVE A MINIMUM DISTANCE NO GREATER THAN 15' BETWEEN CONTROL JOINTS AT THE CENTER OF THEM.

**LOAD CHART FOR JACK STUDS**

SPAN (ft)	NO. OF STUDS REQUIRED @ 6" END OF HEADERS/BEAMS	MAX. REACTION (lb)	MAX. REACTION (kip)
17'00"	1	2550	1.400
34'00"	2	5100	2.800
51'00"	3	7650	4.200
68'00"	4	10200	5.600
85'00"	5	12750	7.000
102'00"	6	15300	8.400
119'00"	7		
136'00"	8		

**FOUNDATION AND SITE WORK NOTES:**

- CHECK ELECTRICAL PLAN FOR ANY CONDUIT OR FLOOR RECEPTACLES.
- TERMITE TREAT THE SOIL PRIOR TO POURING CONCRETE AND RETAIN CERTIFICATE FROM INSPECTOR.
- GRADE LOT TO DRAIN AWAY FROM THE HOUSE TO A MINIMUM OF 1/4" INCHES IN THE FIRST 10 FEET.
- CARPENT AND FRONT PORCH BEAMS TO BE SHOWN FOR CLARITY PURPOSES.
- CONTRACTOR SHALL EXCAVATE ALL FOOTINGS MEETING 90% MODIFIED PROCTOR AS TESTED.
- ALL WELDED WIRE FABRIC SHALL BE EXPOSED TO SOIL. COMPACTED AND RETAIN CERTIFICATE FROM INSPECTOR.
- POLYETHYLENE VAPOR BARRIER SHALL BE 4 MIL THICKNESS.

**NOTE:**  
 THIS GENERIC FOUNDATION PLAN IS FOR NON EXPANSIVE SOILS WITH A BEARING CAPACITY OF AT LEAST 3000 PSF. HADEN HOME DESIGN IS NOT AN ENGINEER AND RECOMMENDATIONS OF A PROFESSIONAL ENGINEER BE CONSULTED FOR YOUR SPECIFIC LOT AND ASSURANCE HAS NOT BEEN PROVIDED ANY INFORMATION HAS BEEN REGARDING THE BEARING CAPACITY OF SOILS FOR THIS LOT AND ASSURANCE HAS NOT BEEN PROVIDED ANY INFORMATION HAS BEEN REGARDING THE PERFORMANCE OF THIS DESIGN.

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BUILDER	JOB NAME	PLAN	SEAL DATE	QUOTE #	JOB #
Hadent Development	Reilly Road Industrial Park	Builder Garage	NONE	B0222-0642J8	J0322-1696

**CONCRETE NOTES:**

- REFER TO BUILDING PLANS FOR DOOR OPENINGS AND EXACT DIMENSIONS.
- USE CONCRETE BRICK SUPPORTS TO MAINTAIN REINFORCING CLEARANCES. DO NOT USE CMU OR FACE BRICK.
- FOUNDATION DESIGN BASED ON A-1 FILL DIRT COMPACTED TO 95% DENSITY (ASTM D-1557). FILL PLACED @ 8" MAX. LIFTS.
- ALL CONCRETE SHALL DEVELOP 3000 PSI COMPRESSIVE STRENGTH @ 28 DAYS. PLACE CONCRETE W/ MAXIMUM SLUMP OF 4". PROVIDE SLUMP TESTS AND CYLINDERS AT BEGINNING AND MIDDLE OF POUR.
- GRADE 40 DEFORMED REINFORCING
- ASTM-105 WUWF REINFORCING.
- APPLY A LIQUID MEMBRANE CURING CHEMICAL TO ALL CONCRETE SURFACES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. U.R. GRACE PRODUCT OR EQUAL.
- CONTRACTOR SHALL COORDINATE ALL DOOR LOCATIONS AND OMIT NOTCHES, ACCORDINGLY.
- 2" CLEARANCE FOR REBAR, SIDES AND BOTTOM.
- MINIMUM SLAB THICKNESS SHALL BE 4" ON HOUSE AND ANY SIDEWALKS INCLUDING DRIVEWAYS.
- FINISH GRADE TO SLOPE AWAY FROM HOUSE.
- REFER TO ELECTRICAL PLAN FOR WIRING AND OUTLET REQUIREMENTS.
- CONTRACTOR SHALL EXCAVATE ALL FOOTINGS TO SOLID, UNDISTURBED SOIL.
- SLABS AND FOOTINGS SHALL BE PLACED MONTHLICHALLY IN A CONTINUOUS POUR. CONSTRUCTION JOINTS FOR THE PURPOSE OF POUR INTERRUPTION SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY THE OWNER.
- ALL DRIVEWAY POURS SHALL HAVE A MINIMUM DISTANCE NO GREATER THAN 15' BETWEEN CONTROL JOINTS AT THE CENTER OF THEM.

**LOAD CHART FOR JACK STUDS**

SPAN (ft)	NO. OF STUDS REQUIRED @ 6" END OF HEADERS/BEAMS	MAX. REACTION (lb)	MAX. REACTION (kip)
17'00"	1	2550	1.400
34'00"	2	5100	2.800
51'00"	3	7650	4.200
68'00"	4	10200	5.600
85'00"	5	12750	7.000
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- GRADE LOT TO DRAIN AWAY FROM THE HOUSE TO A MINIMUM OF 1/4" INCHES IN THE FIRST 10 FEET.
- CARPENT AND FRONT PORCH BEAMS TO BE SHOWN FOR CLARITY PURPOSES.
- CONTRACTOR SHALL EXCAVATE ALL FOOTINGS MEETING 90% MODIFIED PROCTOR AS TESTED.
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