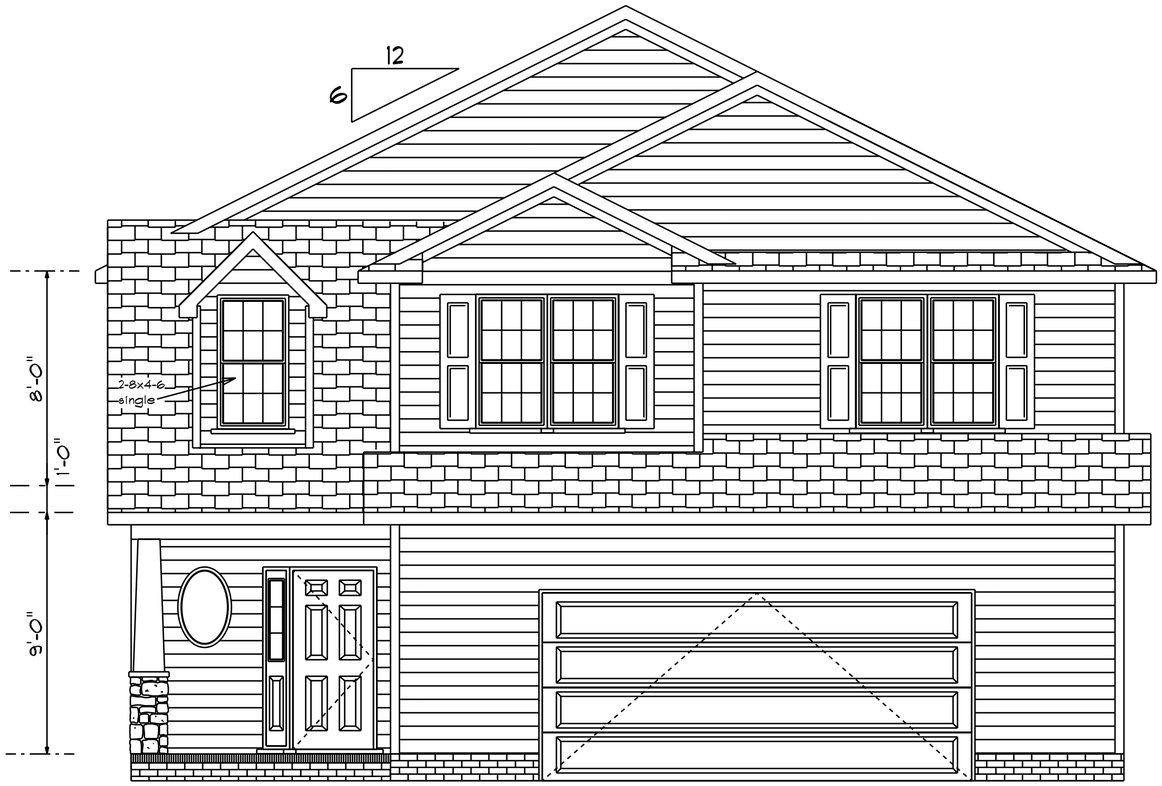


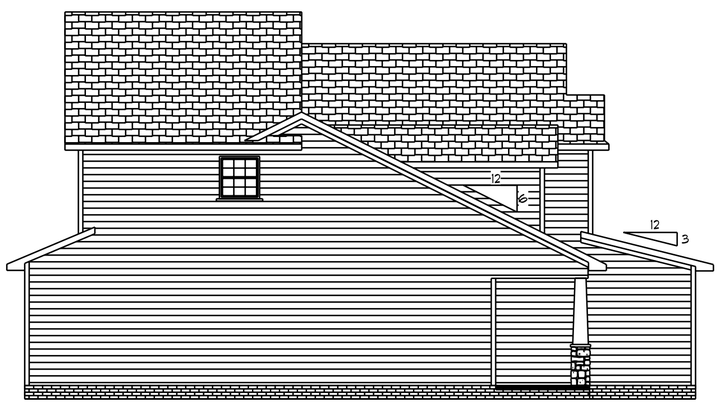
Front Elevation
Scale: 1/4"= 1'-0"

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

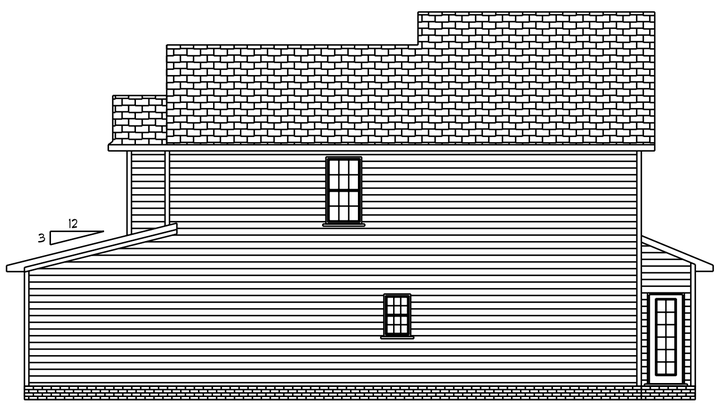
01/29/2021

Harnett COUNTY NORTH CAROLINA



Left Elevation
Scale: 1/8"= 1'-0"

Rear Elevation
Scale: 1/8"= 1'-0"



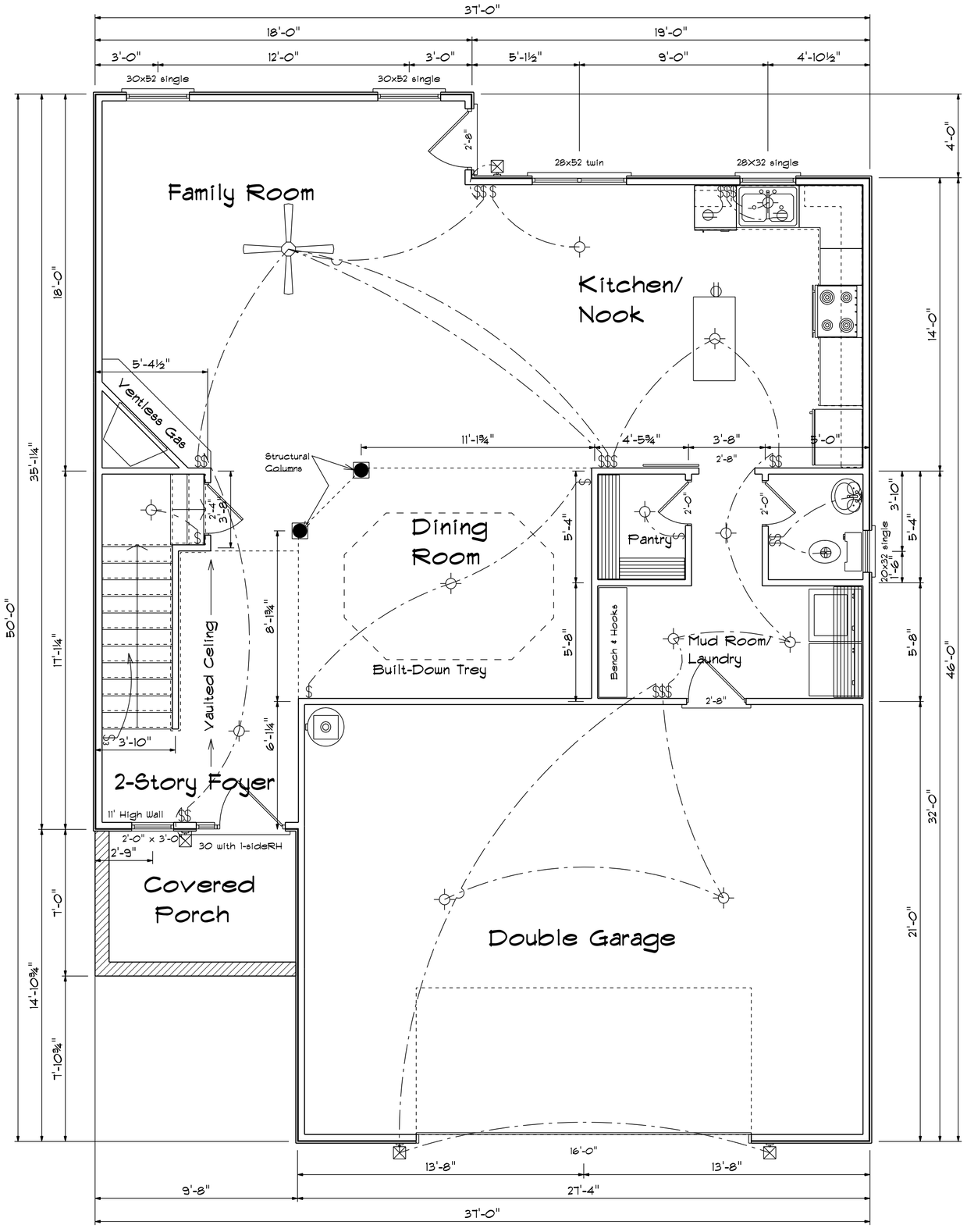
Right Elevation
Scale: 1/8"= 1'-0"

Bass Designs
2727 Chimney Pt.
Linden N.C. 28356
910-864-1253

DATE Thursday, August 22, 2019
REVISED
DRAWING#

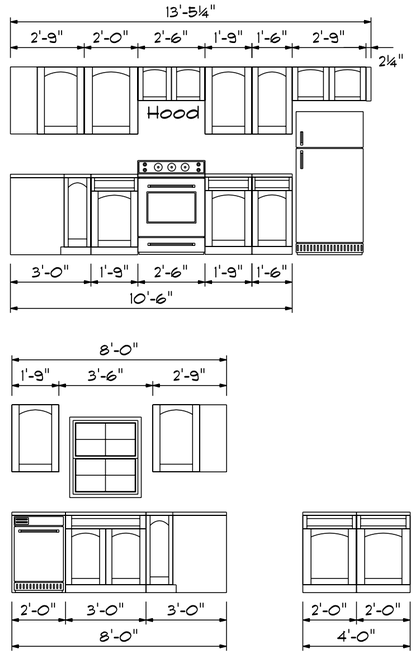
SCALE 1/4"
DRAWN BY
APPROVED

BBH-2221



First Floor Plan

Kitchen Cabinets



Dimensions

Exterior measurements are to outside of sheathing on siding walls.
Interior measurements are to center of interior walls and outside of sheathing to exterior walls.

Areas

First Flr. Sq.ft.	1068
Second Flr. Sq.ft.	1165
Total Heated	2233
Garage	585
Porch	66

First Floor Openings

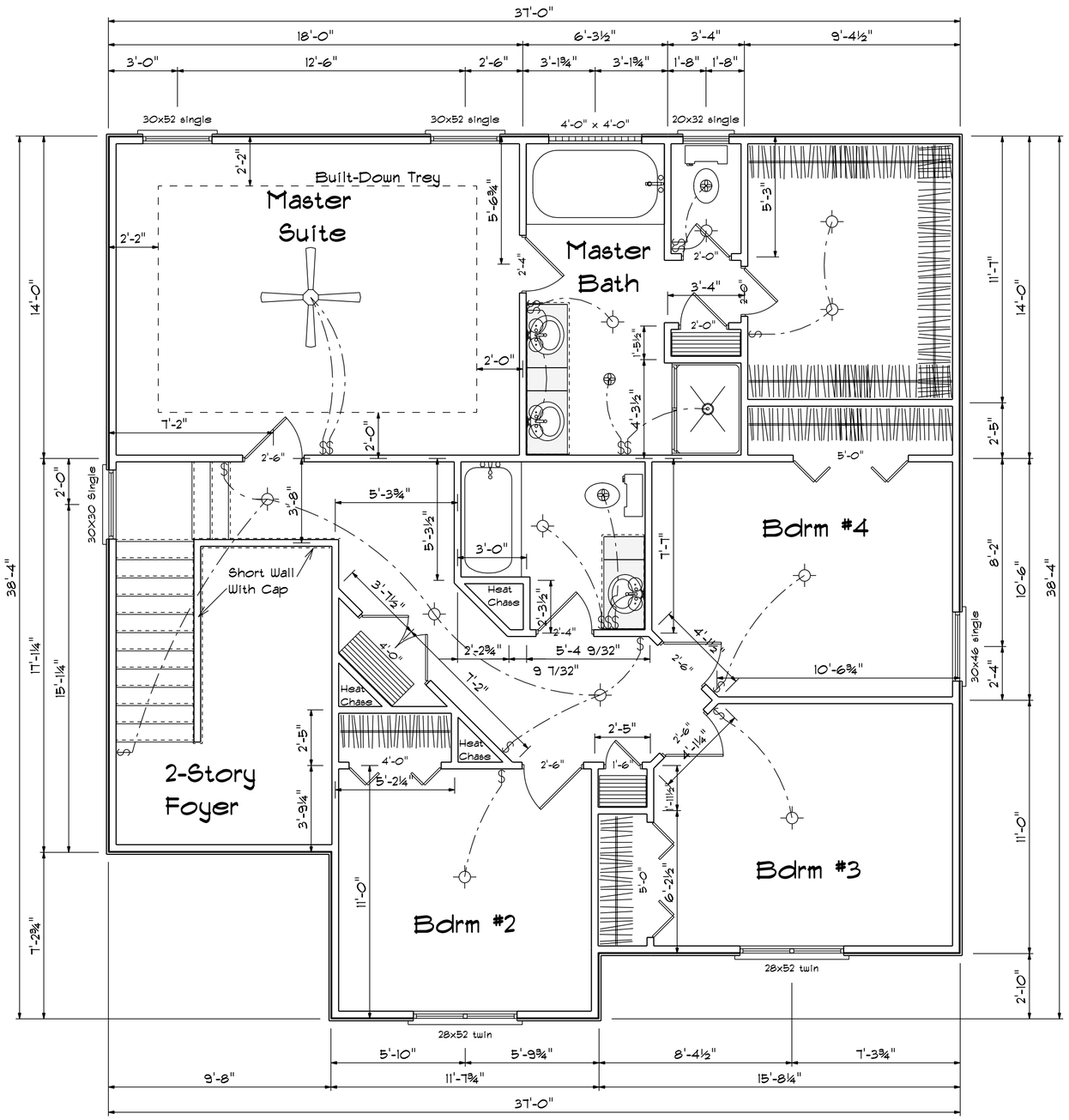
OPENING SCHEDULE			
PRODUCT CODE	SIZE	HINGE	COUNT
30 with 1-sideRH	4'-3"	NA	1
32X80 FRENCH A 1	2'-8"	R	1
192X84 - 1 PANEL	16'-0"	U	1
36x80 BARN DOOR	2'-8"	L	1
2-0 Door Unit	2'-0"	L	1
2-0 Door Unit	2'-0"	R	1
2-4 Door Unit	2'-4"	L	1
2-8 Door Unit	2'-8"	R	1
20x32 single	2'-0" x 3'-2"	N	1
28X32 single	2'-8" x 3'-2"	N	1
28x52 twin	4'-6" x 5'-2"	NN	1
30x52 single	3'-0" x 5'-2"	N	2
24X36 OVAL	2'-0" x 3'-0"	N	1

Bass Designs
2127 Chimney Pt.
Linden N.C. 28356
910-864-1253

DATE Thursday, August 22, 2019
REVISED
DRAWING#

SCALE 1/4"
DRAWN BY
APPROVED

BBH-2221



Second Floor Plan

Second Floor Openings

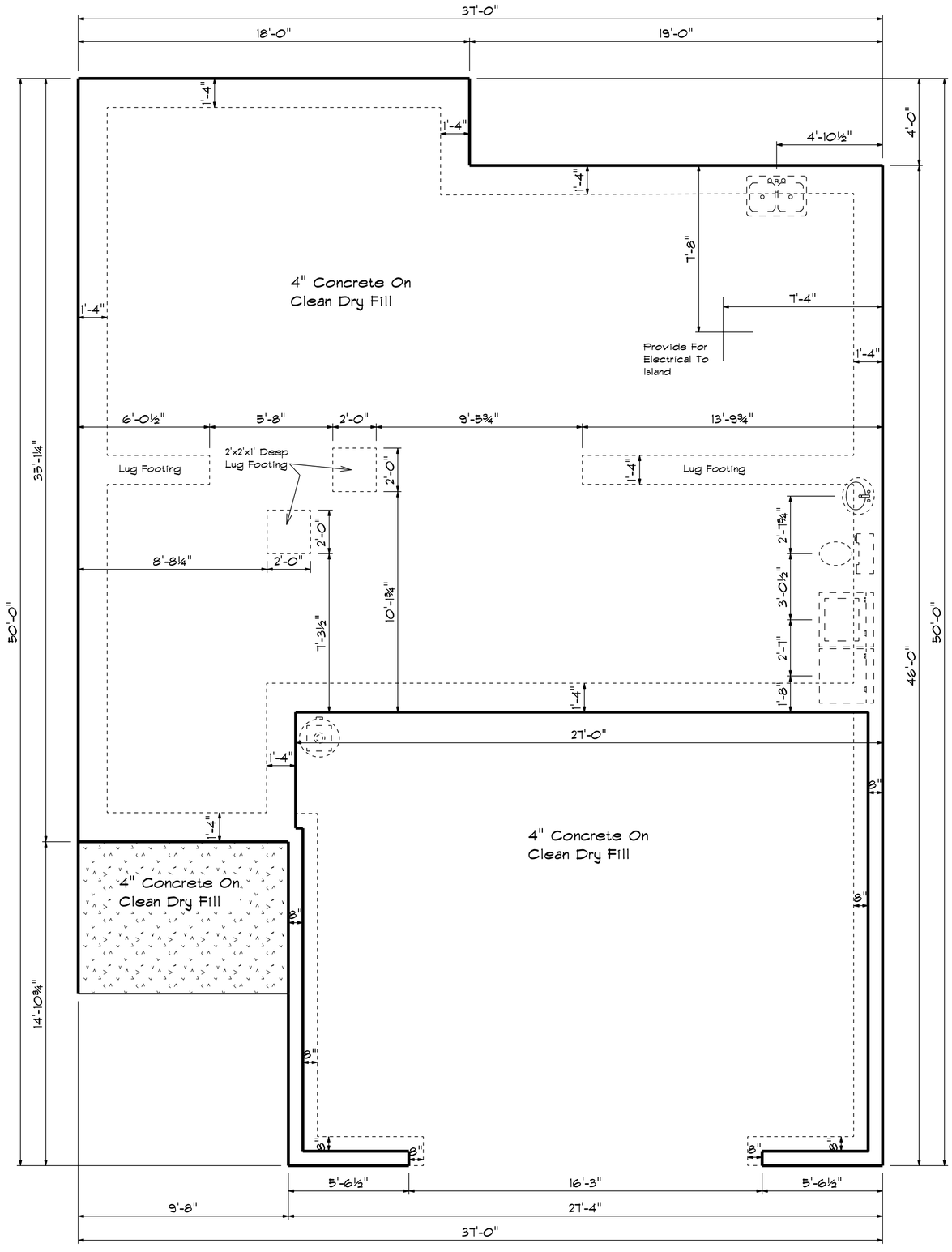
PRODUCT CODE	SIZE	HINGE DIRECTION	COUNT	R.O. WIDTH
4O Bifold	4'-0"	LR	1	4'-0"
5O Bifold	5'-0"	LR	2	5'-0"
1-6 Door Unit RH	1'-6"	R	1	1'-8"
2-0 Door Unit LH	2'-0"	L	1	2'-2"
2-0 Door Unit RH	2'-0"	R	2	2'-2"
2-4 Door Unit LH	2'-4"	L	2	2'-6"
2-6 Door Unit LH	2'-6"	L	3	2'-8"
2-6 Door Unit RH	2'-6"	R	1	2'-8"
4-0 Double Hung Door Unit	4'-0"	LR	1	4'-2"
30X30 Single	3'-0" x 3'-0"	N	1	3'-0"
28x46 single	2'-8" x 4'-6"	N	1	2'-8"
28x52 twin	4'-6" x 5'-2"	NN	2	4'-6"
30x46 single	3'-0" x 4'-6"	N	1	3'-0"
30x52 single	3'-0" x 5'-2"	N	2	3'-0"
20x32 single	2'-0" x 3'-2"	N	1	2'-0"
8X8 GLASS BLOCK	4'-0" x 4'-0"	N	1	4'-0½"

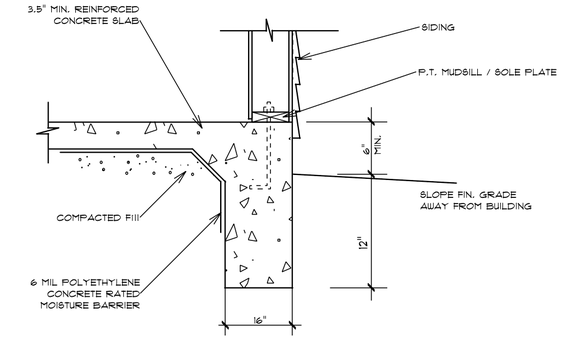
Base Designs
2121 Chimney Pt.
Linden N.C. 28356
910-864-1253

DATE Thursday, August 22, 2019
REVISED
DRAWING#

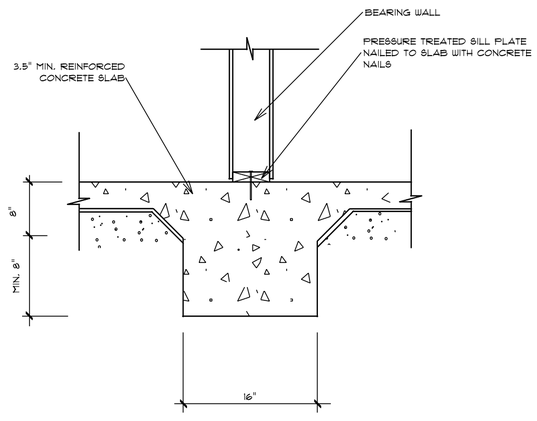
SCALE 1/4"
DRAWN BY
APPROVED

BBH-2221





TURN-DOWN
FOOTING DETAIL



INTEGRAL SLAB FOOTING
DETAIL AT BEARING WALL

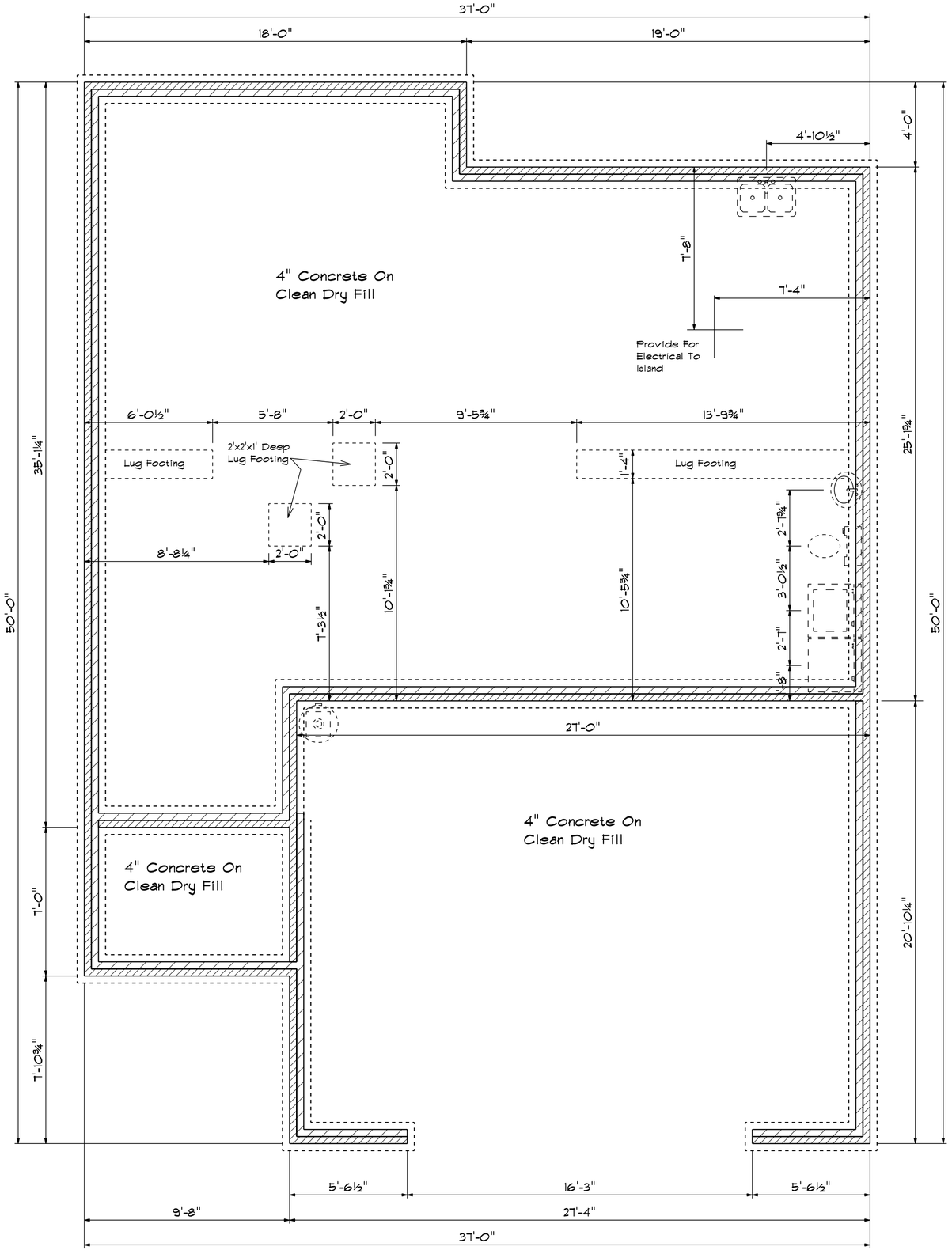
Foundation Plan

Bass Designs
2727 Chimney Pt.
Linden N.C. 28356
910-864-1253

DATE Thursday, August 22, 2019
REVISED
DRAWING#

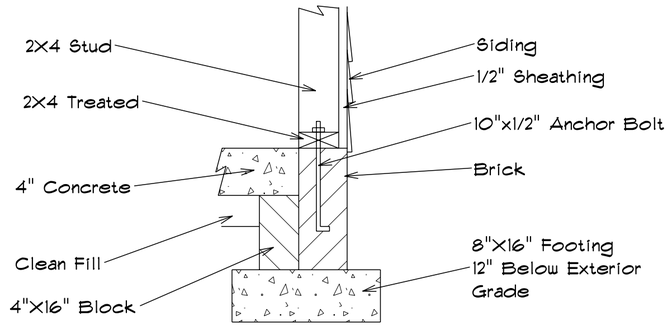
SCALE 1/4"
DRAWN BY
APPROVED

BBH-2221

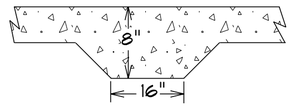


Foundation Plan

Foundation Detail
Siding



Lug Footing Detail



Bass Designs
2727 Chimney Pt.
Linden N.C. 28356
910-864-1253

DATE Thursday, August 22, 2019
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SCALE 1/4"
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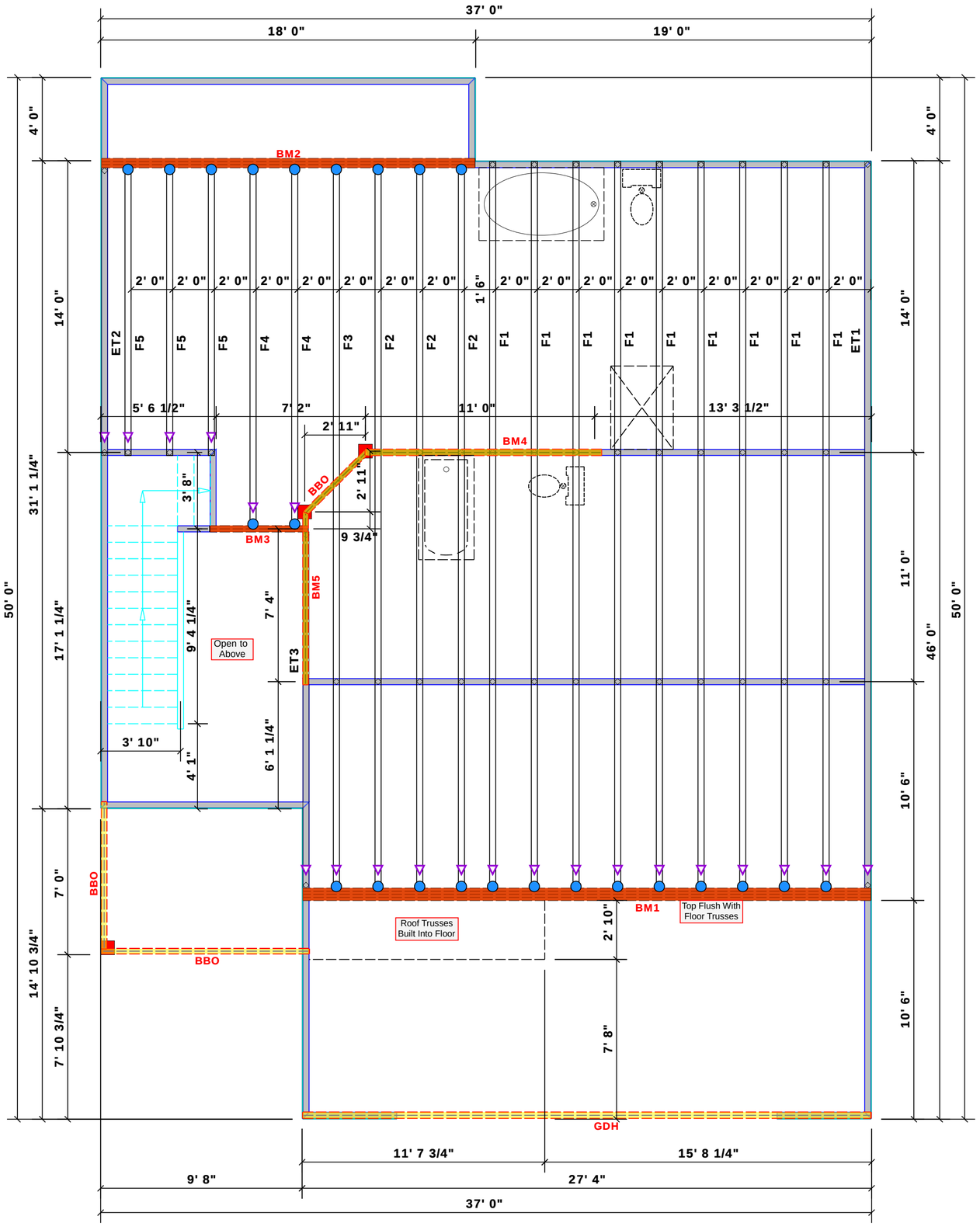
BBH-2221



Dimension Notes
1. All exterior wall to wall dimensions are to face of sheathing unless noted otherwise 2. All interior wall dimensions are to face of frame wall unless noted otherwise 3. All exterior wall to truss dimensions are to face of frame wall unless noted otherwise

All Walls Shown Are Considered Load Bearing

Plumbing Drop Notes
1. Plumbing drop locations shown are NOT exact. 2. Contractor to verify ALL plumbing drop locations prior to setting Floor Trusses. 3. Adjust spacing as needed not to exceed 24"oc.

Connector Information					Nail Information	
Sym	Product	Manuf	Qty	Supported Member	Header	Truss
●	HUS410	USP	24	Varies	16d/3-1/2"	16d/3-1/2"

Products				
PlotID	Length	Product	Plies	Net Qty
BM1	28' 0"	1-3/4"x 23-7/8" LVL Kerto-S	4	4
BM2	18' 0"	1-3/4"x 16" LVL Kerto-S	3	3
BM3	5' 0"	1-3/4"x 14" LVL Kerto-S	2	2
BM4	12' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2
BM5	10' 0"	2x10 SPF No.2	2	2
GDH	28' 0"	1-3/4"x 16" LVL Kerto-S	2	2

1 Truss Placement Plan
Scale: 1/4"=1'

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_____

David Landry

LOAD CHART FOR JACK STUDS

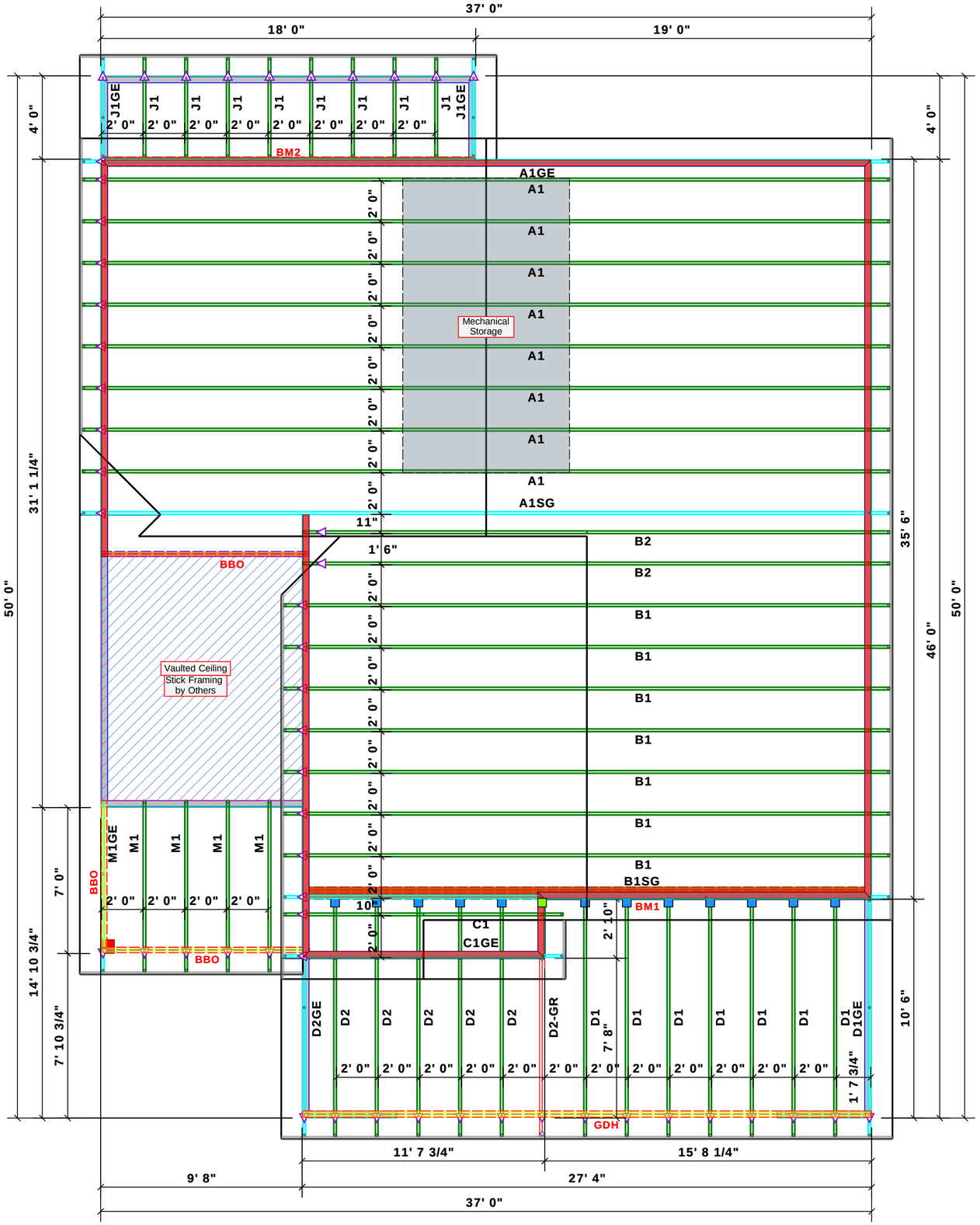
(BASED ON TABLES R502.5(1) & (2))

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

END REACTION (lbs)	REQ'D STUDS FOR (2) 2"x4" HEADER	END REACTION (lbs)	REQ'D STUDS FOR (3) 2"x4" HEADER	END REACTION (lbs)	REQ'D STUDS FOR (4) 2"x4" 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	Ben Stout Real Estate
JOB NAME	Lot 1 Sierra Villas
PLAN	Wilmington
SEAL DATE	N/A
QUOTE #	Quote #
JOB #	J0121-0103
COUNTY	Cumberland
ADDRESS	15 North Dakota Ct
MODEL	Roof
DATE REV.	01/07/21
DRAWN BY	David Landry
SALESMAN	Marshall Naylor

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



Dimension Notes

1. All exterior wall to wall dimensions are to face of sheathing unless noted otherwise
2. All interior wall dimensions are to face of frame wall unless noted otherwise
3. All exterior wall to truss dimensions are to face of frame wall unless noted otherwise

All Walls Shown Are Considered Load Bearing

Roof Area = 2292.76 sq.ft.
Ridge Line = 61.53 ft.
Hip Line = 0 ft.
Horiz. OH = 168.47 ft.
Raked OH = 216.04 ft.
Decking = 79 sheets

Hatch Legend

- Padded HVAC
- Second Floor Walls
- Vaulted Ceiling

Connector Information					Nail Information	
Sym	Product	Manuf	Qty	Supported Member	Header	Truss
	HUS26	USP	12	Varies	16d/3-1/2"	16d/3-1/2"
	THD26-2	USP	1	Varies	16d/3-1/2"	10d/3"

Products				
PlotID	Length	Product	Plies	Net Qty
BM1	28' 0"	1-3/4"x 23-7/8" LVL Kerto-S	4	4
BM2	18' 0"	1-3/4"x 16" LVL Kerto-S	3	3
BM3	5' 0"	1-3/4"x 14" LVL Kerto-S	2	2
BM4	12' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2
BM5	10' 0"	2x10 SPF No.2	2	2
GDH	28' 0"	1-3/4"x 16" LVL Kerto-S	2	2

1 Truss Placement Plan
Scale: 1/4"=1'

COMTECH
ROOF & FLOOR TRUSSES & BEAMS
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Phone: (910) 864-8787
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Signature _____
David Landry

LOAD CHART FOR JACK STUDS

BASED ON TABLES R502.5(1) & (3)

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

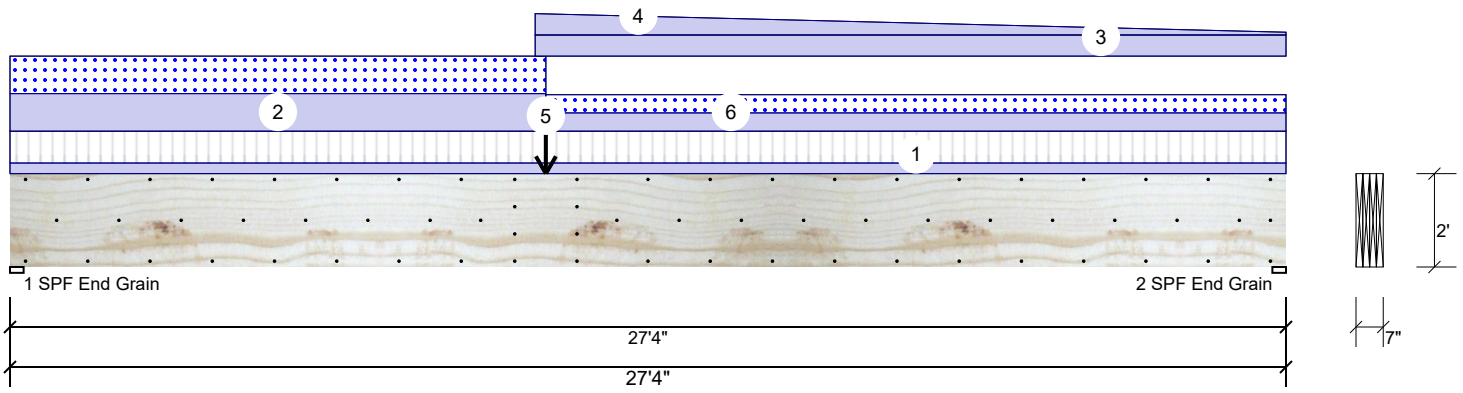
END REACTION (LBS)	REQ'D STUDS FOR (2) 2"X MEMBER	END REACTION (LBS)	REQ'D STUDS FOR (3) 2"X MEMBER	END REACTION (LBS)	REQ'D STUDS FOR (4) 2"X MEMBER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

BUILDER	Ben Stout Real Estate
JOB NAME	Lot 1 Sierra Villas
PLAN	Wilmington
SEAL DATE	N/A
QUOTE #	Quote #
JOB #	J0121-0103
COUNTY	Cumberland
ADDRESS	15 North Dakota Ct
MODEL	Roof
DATE REV.	01/07/21
DRAWN BY	David Landry
SALESMAN	Marshall Naylor

Client:	Ben Stout Real Estate	Date:	1/7/2021
Project:		Input by:	David Landry
Address:		Job Name:	Lot 1 Sierra Villas
		Project #:	J0121-0104

BM1 Kerto-S LVL 1.750" X 24.000" 4-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	4	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		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	2460	5185	2893	0	0
2	2460	5403	2018	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	43%	5185 / 4015	9200	L	D+0.75(L+S)
2 - SPF End Grain	3.500"	41%	5403 / 3359	8762	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	64272 ft-lb	12'7 1/2"	175059 ft-lb	0.367 (37%)	D+0.75(L+S)	L
Unbraced	64272 ft-lb	12'7 1/2"	64355 ft-lb	0.999 (100%)	D+0.75(L+S)	L
Shear	7607 lb	25'1 3/8"	35840 lb	0.212 (21%)	D+L	L
LL Defl inch	0.221 (L/1459)	13'3 7/8"	0.672 (L/480)	0.330 (33%)	0.75(L+S)	L
TL Defl inch	0.553 (L/584)	13'6 3/16"	0.897 (L/360)	0.620 (62%)	D+0.75(L+S)	L

Design Notes

1 Fasten all plies using 3 rows of WS6 at 16" o.c. Maximum end distance not to exceed 8".
2 Refer to last page of calculations for fasteners required for specified loads.
3 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
4 Simpson fasteners applied from a single side of the member use tip values where published.
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 a maximum of 5'6 3/8" o.c.
8 Bottom braced at 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			Far Face	60 PLF	180 PLF	0 PLF	0 PLF	0 PLF	F1-F3
2	Part. Uniform	0-0-0 to 11-5-12		Near Face	212 PLF	0 PLF	212 PLF	0 PLF	0 PLF	D2
3	Part. Uniform	11-3-0 to 27-4-0		Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
4	Tapered Start	11-3-0		Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	B1SG

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

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 2/26/2023

Manufacturer Info

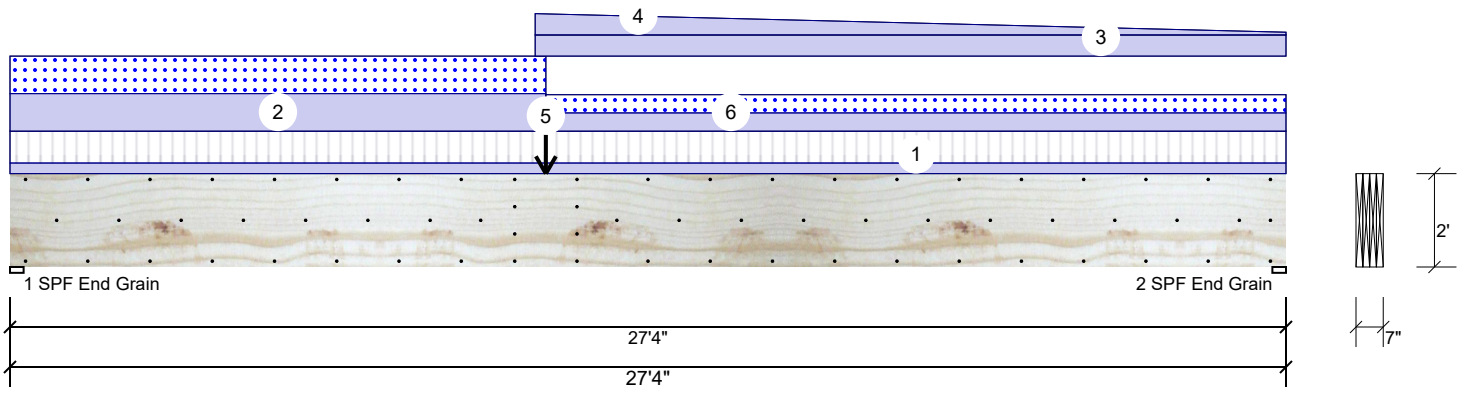
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us
ICC-ES: ESR-3633

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

Client:	Ben Stout Real Estate	Date:	1/7/2021
Project:		Input by:	David Landry
Address:		Job Name:	Lot 1 Sierra Villas
		Project #:	J0121-0104

BM1 Kerto-S LVL 1.750" X 24.000" 4-Ply - PASSED

Level: Level



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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
	End	27-4-0			15 PLF	0 PLF	0 PLF	0 PLF	0 PLF	
5	Point	11-5-12		Near Face	845 lb	0 lb	845 lb	0 lb	0 lb	D2-GR
6	Part. Uniform	11-5-12 to 27-4-0		Near Face	103 PLF	0 PLF	103 PLF	0 PLF	0 PLF	D1
	Self Weight				37 PLF					

Notes

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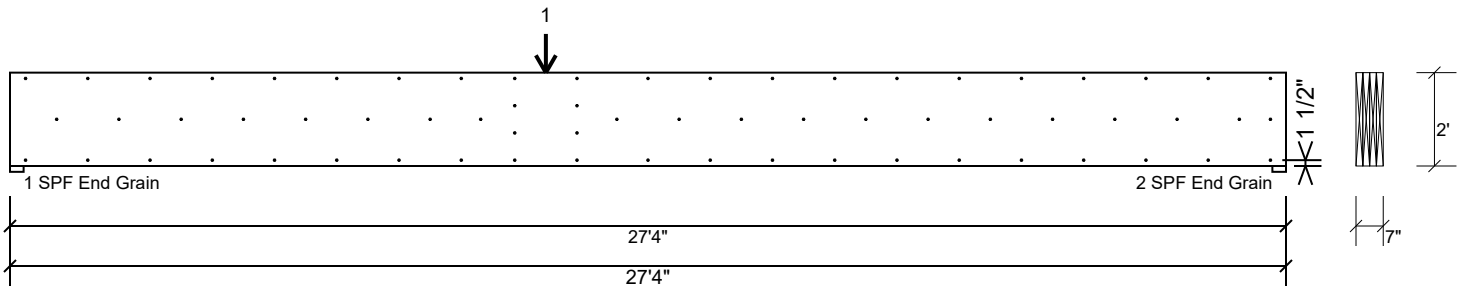
Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us
ICC-ES: ESR-3633

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

BM1 Kerto-S LVL 1.750" X 24.000" 4-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of WS6 at 16" o.c.. except for regions covered by concentrated load fastening. Fasteners shall be replicated on both sides. Maximum end distance not to exceed 8"

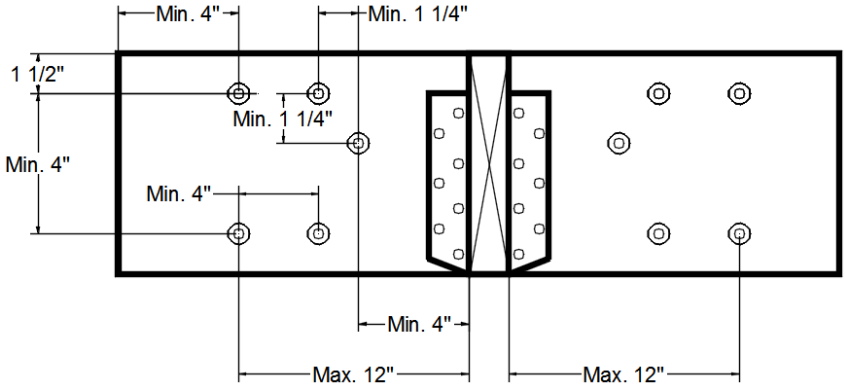
Capacity	67.9 %
Load	318.0 PLF
Yield Limit per Foot	468.3 PLF
Yield Limit per Fastener	208.2 lb.
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	4"
Load Combination	D+S
Duration Factor	1.15

Concentrated Load

Fasten at concentrated side load at 11-5-12 with a minimum of (8) – WS6 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	76.1 %
Load	1267.5lb.
Total Yield Limit	1665.2 lb.
Cg	1.0000
Yield Limit per Fastener	208.2 lb.
Yield Mode	Lookup
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



Notes

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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
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 2/26/2023

Manufacturer Info

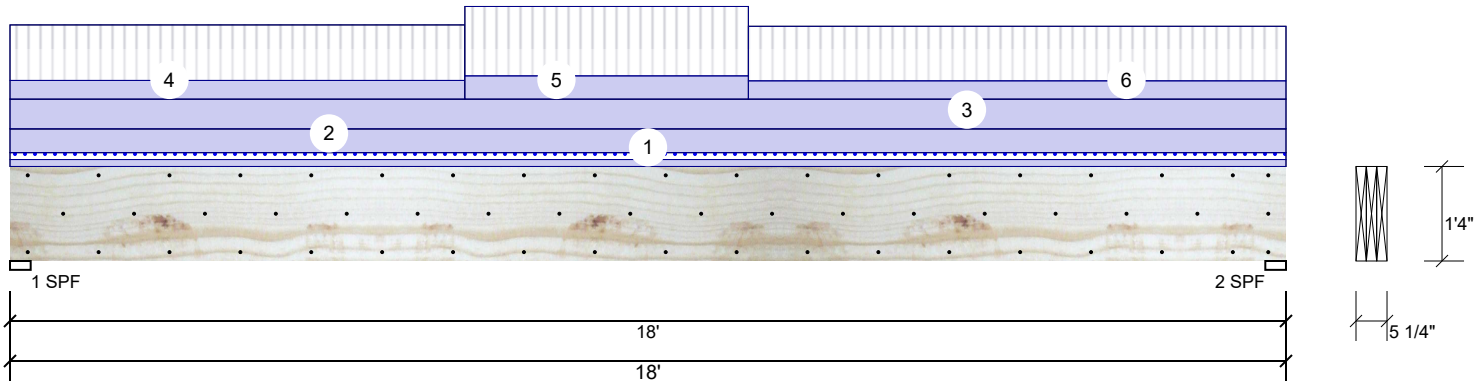
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us
ICC-ES: ESR-3633

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

Client:	Ben Stout Real Estate	Date:	1/7/2021
Project:		Input by:	David Landry
Address:		Job Name:	Lot 1 Sierra Villas
		Project #:	J0121-0104

BM2 Kerto-S LVL 1.750" X 16.000" 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		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	2662	3805	315	0	0
2	2621	3790	315	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	83%	3805 / 2662	6467	L	D+L
2 - SPF	3.500"	82%	3790 / 2621	6410	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	28237 ft-lb	8'11 3/16"	53922 ft-lb	0.524 (52%)	D+L	L
Unbraced	28237 ft-lb	8'11 3/16"	28334 ft-lb	0.997 (100%)	D+L	L
Shear	5430 lb	1'6 5/8"	17920 lb	0.303 (30%)	D+L	L
LL Defl inch	0.197 (L/1069)	8'11 11/16"	0.439 (L/480)	0.450 (45%)	L	L
TL Defl inch	0.473 (L/445)	8'11 13/16"	0.585 (L/360)	0.810 (81%)	D+L	L

Design Notes

1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
2 Refer to last page of calculations for fasteners required for specified loads.
3 Girders are designed to be supported on the bottom edge only.
4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at a maximum of 6'1 1/2" o.c.
6 Bottom braced at bearings.
7 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			Far Face	35 PLF	0 PLF	35 PLF	0 PLF	0 PLF	J1
2	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
3	Uniform			Top	150 PLF	0 PLF	0 PLF	0 PLF	0 PLF	A1GE
4	Part. Uniform	0-0-0 to 6-5-0		Top	94 PLF	280 PLF	0 PLF	0 PLF	0 PLF	F5
5	Part. Uniform	6-5-0 to 10-5-0		Top	117 PLF	350 PLF	0 PLF	0 PLF	0 PLF	F4
6	Part. Uniform	10-5-0 to 18-0-0		Top	92 PLF	275 PLF	0 PLF	0 PLF	0 PLF	F2 & F3
	Self Weight				19 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 2/26/2023

Manufacturer Info

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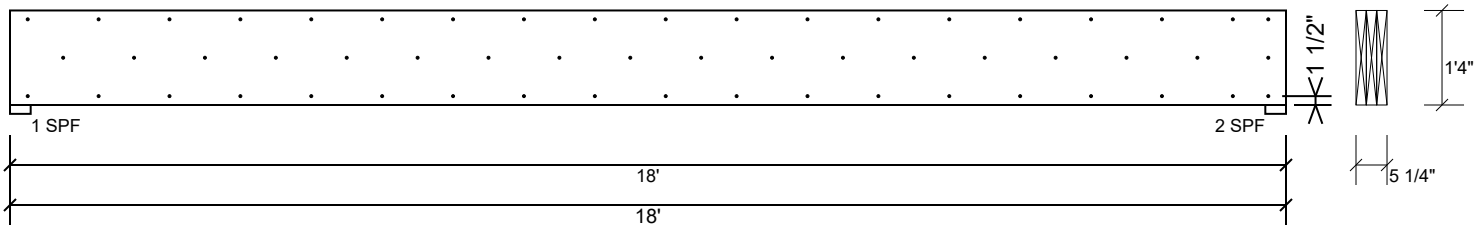
910-864-TRUS

BM2 Kerto-S LVL 1.750" X 16.000" 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	16.5 %
Load	46.7 PLF
Yield Limit per Foot	282.4 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

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 2/26/2023

Manufacturer Info

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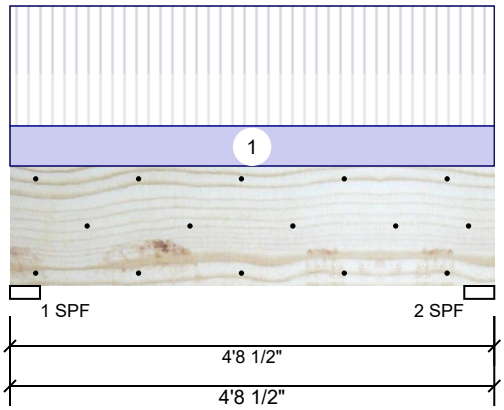
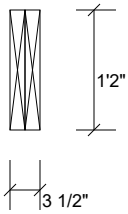
BM3 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

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		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	824	301	0	0	0
2	824	301	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	22%	301 / 824	1125	L	D+L
2 - SPF	3.500"	22%	301 / 824	1125	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1079 ft-lb	2'4 1/4"	26999 ft-lb	0.040 (4%)	D+L	L
Unbraced	1079 ft-lb	2'4 1/4"	21231 ft-lb	0.051 (5%)	D+L	L
Shear	1003 lb	1'4 3/4"	10453 lb	0.096 (10%)	D+L	L
LL Defl inch	0.003 (L/14727)	2'4 5/16"	0.106 (L/480)	0.030 (3%)	L	L
TL Defl inch	0.005 (L/10786)	2'4 5/16"	0.142 (L/360)	0.030 (3%)	D+L	L

Design Notes

1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
2 Refer to last page of calculations for fasteners required for specified loads.
3 Girders are designed to be supported on the bottom edge only.
4 Top braced at bearings.
5 Bottom braced at bearings.
6 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			Far Face	117 PLF	350 PLF	0 PLF	0 PLF	0 PLF	F4
	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

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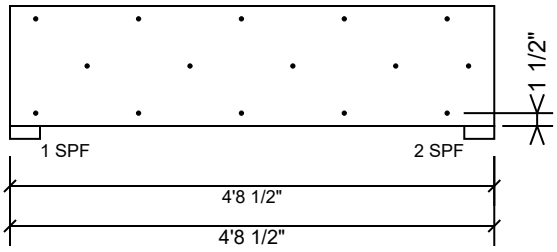
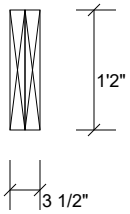
BM3 Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

Level: Level





Multi-Ply Analysis

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

Capacity	95.1 %
Load	233.5 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	D+L
Duration Factor	1.00

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

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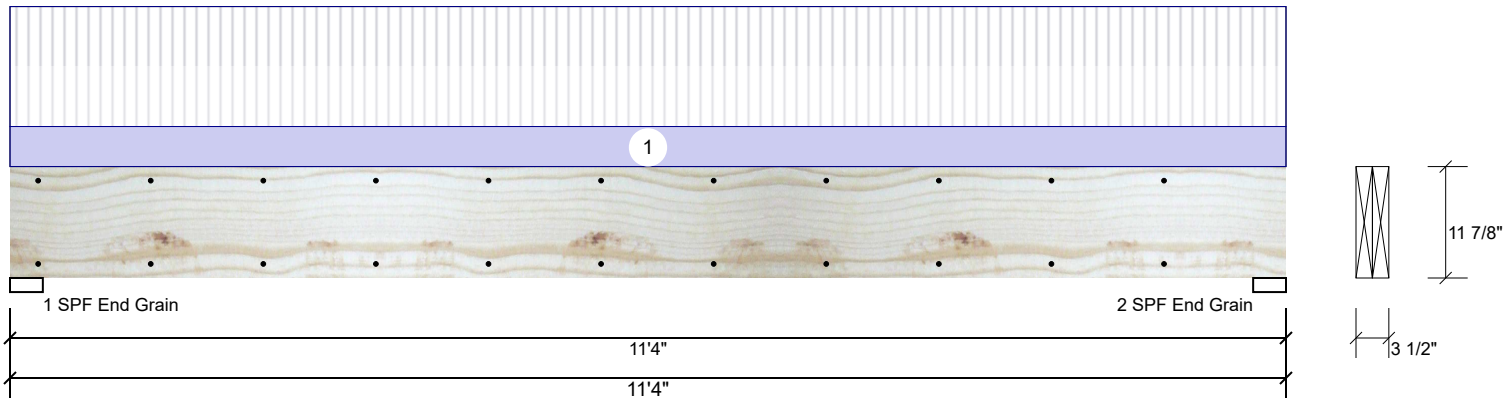
Fayetteville, NC
USA
28314
910-864-TRUS

Client:	Ben Stout Real Estate	Date:	1/7/2021
Project:		Input by:	David Landry
Address:		Job Name:	Lot 1 Sierra Villas
		Project #:	J0121-0104

BM4 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		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	3088	1084	0	0	0
2	3088	1084	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	39%	1084 / 3088	4172	L	D+L
2 - SPF End Grain	3.500"	39%	1084 / 3088	4172	L	D+L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10884 ft-lb	5'8"	19911 ft-lb	0.547 (55%)	D+L	L
Unbraced	10884 ft-lb	5'8"	10893 ft-lb	0.999 (100%)	D+L	L
Shear	3275 lb	10'1 3/8"	8867 lb	0.369 (37%)	D+L	L
LL Defl inch	0.198 (L/659)	5'8"	0.272 (L/480)	0.730 (73%)	L	L
TL Defl inch	0.267 (L/488)	5'8"	0.362 (L/360)	0.740 (74%)	D+L	L

Design Notes

1. Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
2. Refer to last page of calculations for fasteners required for specified loads.
3. Girders are designed to be supported on the bottom edge only.
4. Top loads must be supported equally by all plies.
5. Top must be laterally braced at a maximum of 8'1 1/8" o.c.
6. Bottom braced at bearings.
7. 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	182 PLF	545 PLF	0 PLF	0 PLF	0 PLF	F1 & F2
	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

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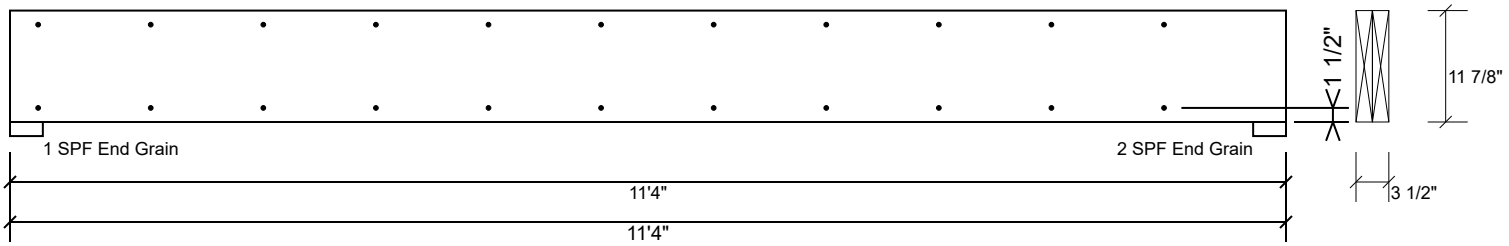
910-864-TRUS

Client:	Ben Stout Real Estate	Date:	1/7/2021
Project:		Input by:	David Landry
Address:		Job Name:	Lot 1 Sierra Villas
		Project #:	J0121-0104

BM4 Kerto-S LVL 1.750" X 11.875" 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 2/26/2023

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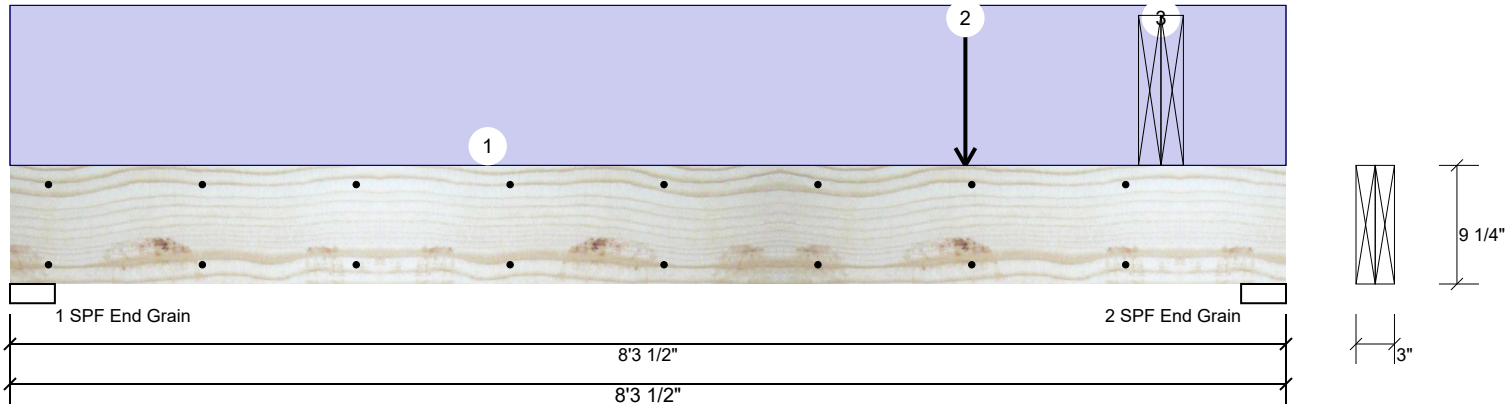
BM5 S-P-F #2 2.000" X 10.000" 2-Ply - PASSED

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		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	61	662	142	0	0
2	763	1234	458	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	18%	662 / 153	814	L	D+0.75(L+S)
2 - SPF End Grain	3.500"	48%	1234 / 915	2150	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2560 ft-lb	6'2 1/2"	3946 ft-lb	0.649 (65%)	D+0.75(L+S)	L
Unbraced	2560 ft-lb	6'2 1/2"	3281 ft-lb	0.780 (78%)	D+0.75(L+S)	L
Shear	1603 lb	7'3 1/2"	2498 lb	0.642 (64%)	D+L	L
LL Defl inch	0.028 (L/3410)	4'7 7/8"	0.196 (L/480)	0.140 (14%)	0.75(L+S)	L
TL Defl inch	0.093 (L/1009)	4'5 3/8"	0.261 (L/360)	0.360 (36%)	D+0.75(L+S)	L

Design Notes

1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
2 Refer to last page of calculations for fasteners required for specified loads.
3 Girders are designed to be supported on the bottom edge only.
4 Top loads must be supported equally by all plies.
5 Top braced at bearings.
6 Bottom braced at bearings.
7 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	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Above
2	Point	6-2-8		Top	600 lb	0 lb	600 lb	0 lb	0 lb	Roof Load
3	Point	7-5-12		Top	301 lb	824 lb	0 lb	0 lb	0 lb	B3 Brg 2

This design is valid until 2/26/2023

Manufacturer Info

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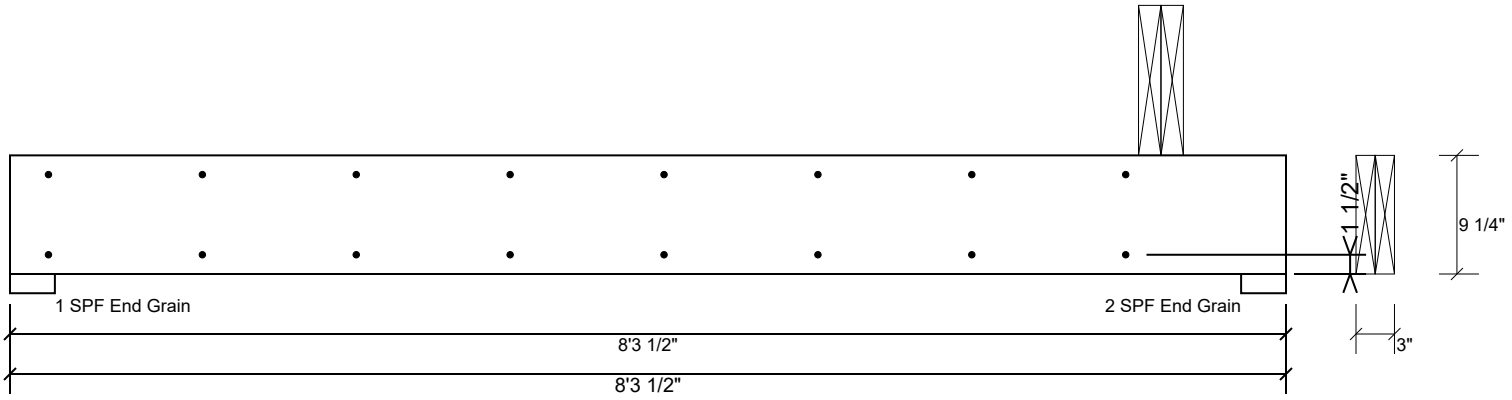
910-864-TRUS

BM5 S-P-F #2 2.000" X 10.000" 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	157.4 PLF
Yield Limit per Fastener	78.7 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

This design is valid until 2/26/2023

Manufacturer Info

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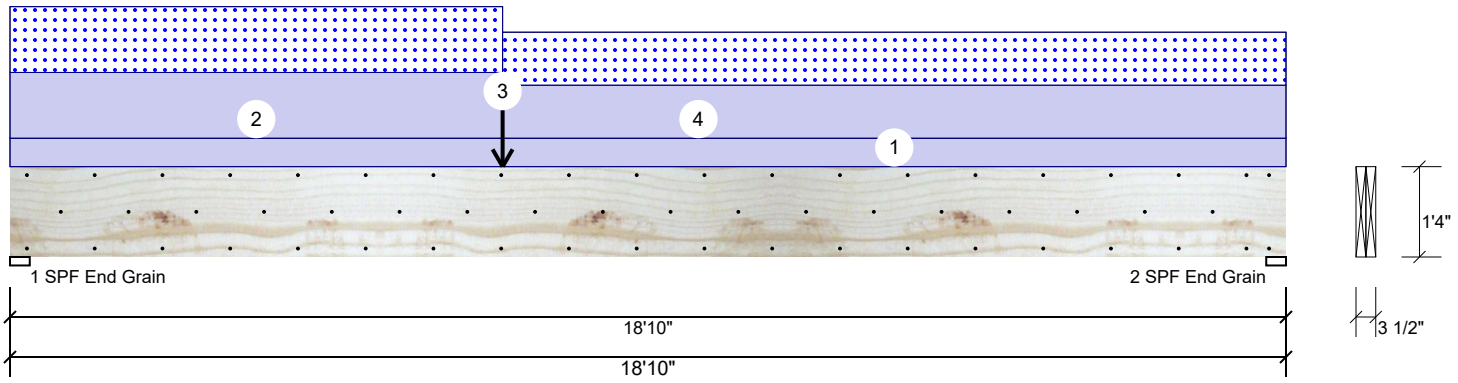
Client:	Ben Stout Real Estate	Date:	1/7/2021
Project:		Input by:	David Landry
Address:		Job Name:	Lot 1 Sierra Villas
		Project #:	J0121-0104

GDH Kerto-S LVL 1.750" X 16.000" 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		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind	Const
1	0	2090	1408	0	0
2	0	1894	1212	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	33%	2090 / 1408	3498	L	D+S
2 - SPF End Grain	3.500"	29%	1894 / 1212	3105	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15592 ft-lb	8'4 5/16"	39750 ft-lb	0.392 (39%)	D+S	L
Unbraced	15592 ft-lb	8'4 5/16"	15639 ft-lb	0.997 (100%)	D+S	L
Shear	2954 lb	1'6 5/8"	13739 lb	0.215 (22%)	D+S	L
LL Defl inch	0.170 (L/1298)	9'2 3/16"	0.460 (L/480)	0.370 (37%)	S	L
TL Defl inch	0.425 (L/520)	9'2 13/16"	0.613 (L/360)	0.690 (69%)	D+S	L

Design Notes

1. Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
2. Refer to last page of calculations for fasteners required for specified loads.
3. Girders are designed to be supported on the bottom edge only.
4. Top loads must be supported equally by all plies.
5. Top must be laterally braced at a maximum of 7'6 3/4" o.c.
6. Bottom braced at bearings.
7. 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	Wall Above
2	Part. Uniform	0-0-0 to 7-3-4		Top	139 PLF	0 PLF	139 PLF	0 PLF	0 PLF	D2
3	Point	7-3-4		Top	314 lb	0 lb	314 lb	0 lb	0 lb	D2-GR
4	Part. Uniform	7-3-4 to 18-10-0		Top	112 PLF	0 PLF	112 PLF	0 PLF	0 PLF	D1
	Self Weight				12 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 2/26/2023

Manufacturer Info

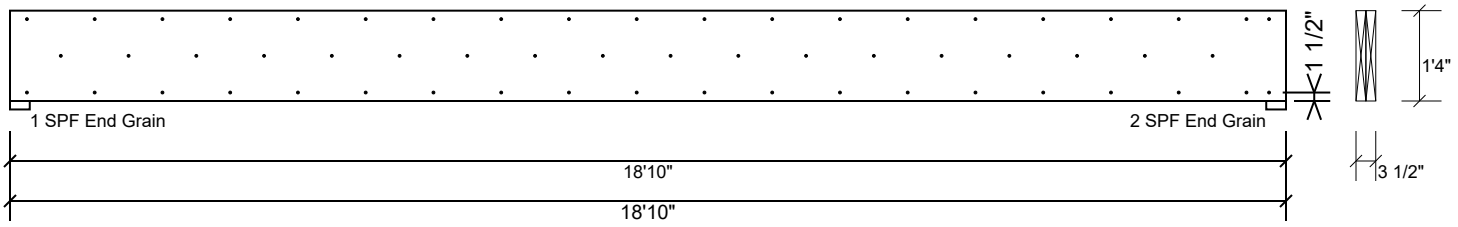
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us
ICC-ES: ESR-3633

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

Client:	Ben Stout Real Estate	Date:	1/7/2021
Project:		Input by:	David Landry
Address:		Job Name:	Lot 1 Sierra Villas
		Project #:	J0121-0104

GDH Kerto-S LVL 1.750" X 16.000" 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
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