

Client: Project: Address:

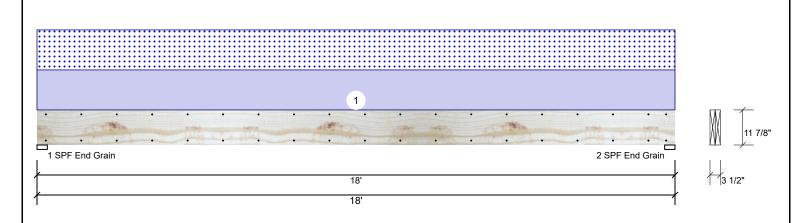
Custom

2/6/2023

Input by: Jonathan Landry Job Name: Moore Residence Project #: J0223-0539

1.750" X 11.875" 2-Ply - PASSED Kerto-S LVL BM1

evel: Level



**Bearings** Bearing Length

End Grain

End Grain

1-SPF 3.500"

2 - SPF 3.500"

wember	intormation
Tyne:	Girder

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 Not Checked Deck: Ceiling: Gypsum 1/2"

## Reactions UNPATTERNED Ib (Uplift)

Dir.

Vert

Vert

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	758	675	0	0
2	Vertical	0	758	675	0	0

Cap. React D/L lb

758 / 675

758 / 675

14%

14%

Total Ld. Case

1433 L

1433 L

Ld. Comb.

D+S

D+S

## **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6125 ft-lb	9'	22897 ft-lb	0.267 (27%)	D+S	L
Unbraced	6125 ft-lb	9'	6135 ft-lb	0.998 (100%)	D+S	L
Shear	1238 lb	1'3 3/8"	10197 lb	0.121 (12%)	D+S	L
LL Defl inch	0.172 (L/1227)	9' 1/16"	0.439 (L/480)	0.391 (39%)	S	L
TL Defl inch	0.364 (L/578)	9' 1/16"	0.585 (L/360)	0.623 (62%)	D+S	L

### **Design Notes**

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

/ Lateral siende	erness ratio based on single	piy wiath.									
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
1	Uniform			Тор	75 PLF	0 PLF	75 PLF	0 PLF	0 PLF	ZB1	
	Self Weight				9 PLF						

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.

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

## 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

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

Manufacturer Info

Comtech Comecn Reilly Road Industrial Park P.O. Box 40408, NO USA 28309 910-864-8787

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isDesign

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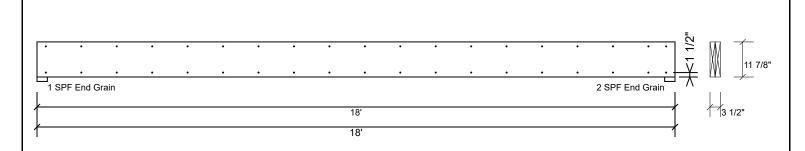
2/6/2023 Input by: Jonathan Landry

Job Name: Moore Residence Project #: J0223-0539

1.750" X 11.875" **Kerto-S LVL** BM1

2-Ply - PASSED

evel: 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

NOtes

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

## Handling & Installation

- Handling & Installation

  1. UVI 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
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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CSD DESIGN



Custom Address:

Date: 2/6/2023

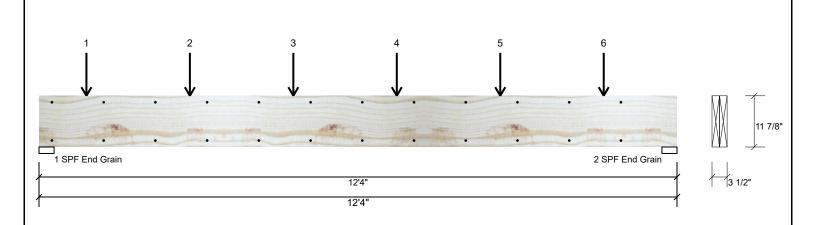
Input by: Jonathan Landry Job Name: Moore Residence Project #: J0223-0539

**Kerto-S LVL** BM<sub>2</sub>

1.750" X 11.875"

2-Ply - PASSED

evel: Level



Member Info	ormation			Rea	ctions UNP	ATTERN	IED lb (Uplif	t)
Type:	Girder	Application:	Floor	Brg	Direction	Live	Dead	
Plies:	2	Design Method:	ASD	1	Vertical	0	1867	
Moisture Conditi	ion: Dry	Building Code:	IBC/IRC 2015	2	Vertical	0	1203	
Deflection LL:	480	Load Sharing:	No					
Deflection TL:	360	Deck:	Not Checked					
Importance:	Normal - II	Ceiling:	Gypsum 1/2"					
Temperature:	Temp <= 100°F							
•	•			Bea	rings			
				Ве	aring Length	Dir.	Cap. React D/	L lb

Analysis	Results
Analysis	Δctu

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9787 ft-lb	4'11"	22897 ft-lb	0.427 (43%)	D+S	L
Unbraced	9787 ft-lb	4'11"	9804 ft-lb	0.998 (100%)	D+S	L
Shear	3243 lb	1'3 3/8"	10197 lb	0.318 (32%)	D+S	L
LL Defl inch	0.137 (L/1042)	6' 1/2"	0.297 (L/480)	0.461 (46%)	S	L
TL Defl inch	0.278 (L/512)	6' 9/16"	0.396 (L/360)	0.703 (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 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 9'5 1/4" o.c.

/ Lateral siende	erness ratio based on single	piy 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	0-11-0		Тор	585 lb	0 lb	585 lb	0 lb	0 lb	B5	
	Bearing Length	0-3-8									
2	Point	2-11-0		Тор	664 lb	0 lb	664 lb	0 lb	0 lb	B4	
	Bearing Length	0-3-8									
3	Point	4-11-0		Тор	603 lb	0 lb	603 lb	0 lb	0 lb	B3	

Continued on page 2...

# Handling & Installation

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- 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
  2 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 Metsä Wood Norwalk, CT 06851 (800) 622-5850

1 - SPF 3.500"

2 - SPF 3.500"

End Grain

End Grain Vert

Vert

36%

23%

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Wind

Total Ld. Case

3677 L

2349 L

0

0

Const

Ld. Comb.

D+S

D+S

0

0

Snow

1810

1146

1867 / 1810

1203 / 1146

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Custom Address:

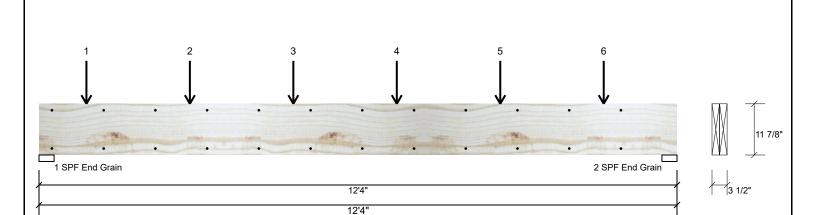
Date: 2/6/2023

Input by: Jonathan Landry Job Name: Moore Residence Project #: J0223-0539

evel: Level

1.750" X 11.875" **Kerto-S LVL** BM<sub>2</sub>

2-Ply - PASSED



page 1									
Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
Bearing Length	0-3-8								
Point	6-11-0		Тор	572 lb	0 lb	572 lb	0 lb	0 lb	B2
Bearing Length	0-3-8								
Point	8-11-0		Тор	457 lb	0 lb	457 lb	0 lb	0 lb	B1-GR
Bearing Length	0-3-8								
Point	10-11-0		Тор	75 lb	0 lb	75 lb	0 lb	0 lb	ZB1
Bearing Length	0-3-8								
Self Weight				9 PLF					
	Load Type Bearing Length Point Bearing Length Point Bearing Length Point Bearing Length	Load Type Location Bearing Length 0-3-8 Point 6-11-0 Bearing Length 0-3-8 Point 8-11-0 Bearing Length 0-3-8 Point 10-11-0 Bearing Length 0-3-8 Point 10-11-0	Load Type Bearing Length Point D-3-8 Point D-3-8 Point D-3-8	Load TypeLocationTrib WidthSideBearing Length0-3-8TopPoint6-11-0TopBearing Length0-3-8TopPoint8-11-0TopBearing Length0-3-8TopPoint10-11-0TopBearing Length0-3-8	Load Type         Location         Trib Width         Side         Dead 0.9           Bearing Length         0-3-8         Top         572 lb           Point         6-11-0         Top         572 lb           Bearing Length         0-3-8         Top         457 lb           Bearing Length         0-3-8         Top         75 lb           Bearing Length         0-3-8         Top         75 lb	Load Type         Location         Trib Width         Side         Dead 0.9         Live 1           Bearing Length         0-3-8         Top         572 lb         0 lb           Bearing Length         0-3-8         Top         457 lb         0 lb           Bearing Length         0-3-8         Top         75 lb         0 lb           Bearing Length         10-11-0         Top         75 lb         0 lb           Bearing Length         0-3-8         Top         75 lb         0 lb	Load Type         Location         Trib Width         Side         Dead 0.9         Live 1         Snow 1.15           Bearing Length         0-3-8         Top         572 lb         0 lb         572 lb           Bearing Length         0-3-8         Top         457 lb         0 lb         457 lb           Bearing Length         0-3-8         Top         75 lb         0 lb         75 lb           Point         10-11-0         Top         75 lb         0 lb         75 lb           Bearing Length         0-3-8         Top         75 lb         0 lb         75 lb	Load Type         Location         Trib Width         Side         Dead 0.9         Live 1         Snow 1.15         Wind 1.6           Bearing Length         0-3-8         Top         572 lb         0 lb         572 lb         0 lb           Bearing Length         0-3-8         Top         457 lb         0 lb         457 lb         0 lb           Bearing Length         0-3-8         Top         75 lb         0 lb         75 lb         0 lb           Point         10-11-0         Top         75 lb         0 lb         75 lb         0 lb           Bearing Length         0-3-8         Top         75 lb         0 lb         75 lb         0 lb	Load Type         Location         Trib Width         Side         Dead 0.9         Live 1         Snow 1.15         Wind 1.6         Const. 1.25           Bearing Length         0-3-8         Top         572 lb         0 lb         572 lb         0 lb         0 lb           Bearing Length         0-3-8         Top         457 lb         0 lb         457 lb         0 lb         0 lb         0 lb           Bearing Length         0-3-8         Top         75 lb         0 lb         75 lb         0 lb         0 lb         0 lb         0 lb           Bearing Length         0-3-8         Top         75 lb         0 lb         75 lb         0 lb         0 lb         0 lb         0 lb           Bearing Length         0-3-8         Top         75 lb         0 lb         75 lb         0 lb         0 lb         0 lb         0 lb

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

## Handling & Installation

- Handling & Installation

  1. IVI 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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This design is valid until 11/3/2024



isDesign

Client: Project: Address:

Custom

2/6/2023

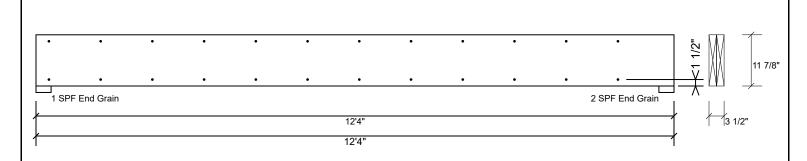
Input by: Jonathan Landry Job Name: Moore Residence Project #: J0223-0539

**Kerto-S LVL** BM<sub>2</sub>

1.750" X 11.875"

2-Ply - PASSED

evel: 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".

1 3		•	,
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

NOtes

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

## Handling & Installation

- Handling & Installation

  1. UVI 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
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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Manufacturer Info

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CSD DESIGN



Client: Project: Address:

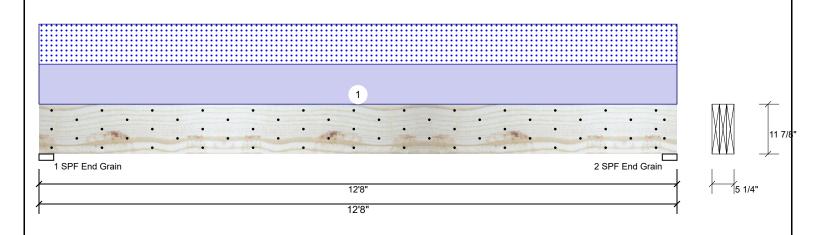
Custom

Date: 2/6/2023

Input by: Jonathan Landry Job Name: Moore Residence

1.750" X 11.875" 3-Ply - PASSED **Kerto-S LVL** BM<sub>3</sub>

Project #: J0223-0539 evel: Level



Bearing Length

1 - SPF 3.500"

2 - SPF 3.500"

End Grain

End Grain Dir.

Vert

Vert

Cap. React D/L lb

33%

2564 / 2476

2564 / 2476

Member Inform	Member Information R					Reactions UNPATTERNED lb (Uplift)				
Type:	Girder	Application:	Floor	Brg	Direction	Live	Dead	Snow		
Plies:	3	Design Method:	ASD	1	Vertical	0	2564	2476		
Moisture Condition	: Dry	Building Code:	IBC/IRC 2015	2	Vertical	0	2564	2476		
Deflection LL:	480	Load Sharing:	Yes							
Deflection TL:	360	Deck:	Not Checked							
Importance:	Normal - II	Ceiling:	Gypsum 1/2"							
Temperature:	Temp <= 100°F									
				Bea	rings					

Δnal	/sis	Resul	tc
Allal	7313	iveani	L

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	14827 ft-lb	6'4"	35719 ft-lb	0.415 (42%)	D+S	L
Unbraced	14827 ft-lb	6'4"	14854 ft-lb	0.998 (100%)	D+S	L
Shear	4808 lb	1'3 3/8"	15295 lb	0.314 (31%)	D+S	L
LL Defl inch	0.147 (L/998)	6'4"	0.305 (L/480)	0.481 (48%)	S	L
TL Defl inch	0.299 (L/490)	6'4"	0.407 (L/360)	0.734 (73%)	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 5 rows of 16d Box nails (.135x3.5") 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 must be laterally braced at a maximum of 9'4 3/16" o.c.
- 6 Lateral slenderness ratio based on single ply width.

		1 7									
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	391 PLF	0 PLF	391 PLF	0 PLF	0 PLF	A10	
	Self Weight				14 PLF						

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- 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
  2 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
  - This design is valid until 11/3/2024
- 6. For flat roofs provide proper drainage to prevent ponding

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Wind

Total Ld. Case

5040 L

5040 L

0

0

Const

Ld. Comb.

D+S

D+S

0

0

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Custom Address:

2/6/2023 Input by:

Jonathan Landry

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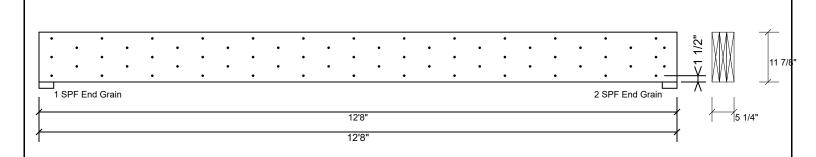
Job Name: Moore Residence Project #: J0223-0539

**Kerto-S LVL** BM<sub>3</sub>

1.750" X 11.875"

3-Ply - PASSED

evel: Level



## Multi-Ply Analysis

Fasten all plies using 5 rows of 16d Box nails (.135x3.5") at 12" o.c.. Nail from both sides. Maximum end distance not to exceed

Capacity	97.2 %
Load	521.3 PLF
Yield Limit per Foot	536.1 PLF
Yield Limit per Fastener	107.2 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+S
Duration Factor	1.15

### Notes

NOtes

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

## Handling & Installation

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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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Member Information

Client: Project: Address:

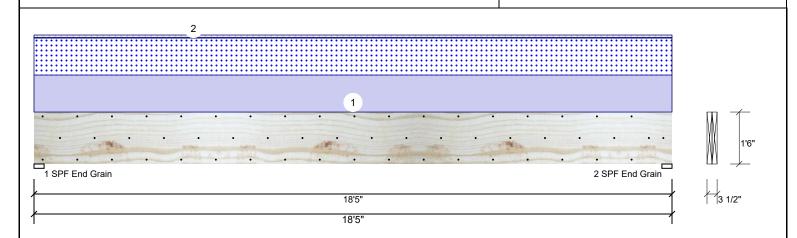
Custom

2/6/2023 Date: Input by:

Jonathan Landry Job Name: Moore Residence Project #: J0223-0539

1.750" X 18.000" 2-Ply - PASSED Kerto-S LVL BM4

Level: Level



### Reactions UNPATTERNED Ib (Uplift) Type: Application: Floor Brg Direction Plies: 2 Design Method: ASD Vertical Moisture Condition: Dry **Building Code: IBC/IRC 2015** Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal - II Ceiling: Gypsum 1/2" Temperature: Temp <= 100°F **Bearings**

2	Vertical	368	3398	3131	0	0

Dead

3398

Snow

3131

Live

368

Dir.

### Analysis Results Analysis Actual Location Allowed Comb. Case Capacity 28648 ft-lb Moment 9'2 1/2" 49428 ft-lb 0.580 (58%) D+S L Unbraced 28648 ft-lb 9'2 1/2" 28811 ft-lb 0.994 (99%) D+S L Shear 5302 lb 1'9 1/2" 15456 lb 0.343 (34%) D+S L LL Defl inch 0.260 (L/830) 9'2 9/16" 0.449 (L/480) 0.579 (58%) S TL Defl inch 0.542 (L/398) 9'2 9/16" 0.599 (L/360) 0.905 (90%) D+S

### Bearing Length Cap. React D/L lb D+S 1 - SPF 3.500" Vert 63% 3398 / 3131 6529 L End Grain D+S 2 - SPF 3.500" Vert 63% 3398 / 3131 6529 L End Grain

## **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 laterally braced at a maximum of 4'5 15/16" o.c.
- 7 Lateral clanderness ratio based on single ply width

7 Lateral sienderness 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			Тор	340 PLF	0 PLF	340 PLF	0 PLF	0 PLF	C2
2	Tie-In Far	0-0-0 to 18-5-0	1-0-0	Far Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor Loads
2	Tie-In Near	0-0-0 to 18-5-0	0-0-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	Floor Loads
	Self Weight				14 PLF					

L

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.

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

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Wind

Total Ld. Case

0

Const

Ld. Comb.

0

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This design is valid until 11/3/2024

isDesign

Client: Project: Address:

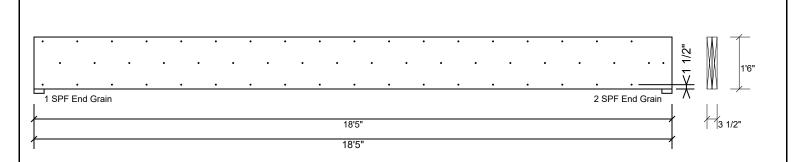
Custom

2/6/2023 Input by: Jonathan Landry

Job Name: Moore Residence Project #: J0223-0539

1.750" X 18.000" 2-Ply - PASSED **Kerto-S LVL** BM4

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	11.2 %	
Load	27.5 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

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.

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

## Handling & Installation

- Infoculing & Installation

  I. VIL 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

  Design assumes top edge is laterally restrained is provide lateral support at bearing points to avoid lateral displacement and rotation
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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CSD DESIGN



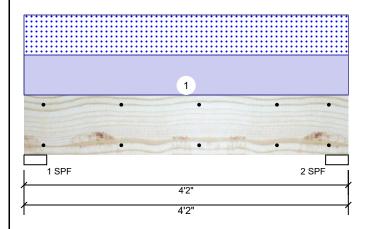
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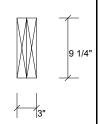
Date: 2/6/2023 Input by: Jonathan Landry

Job Name: Moore Residence Project #: J0223-0539

2.000" X 10.000" 2-Ply - PASSED S-P-F #1 BM<sub>5</sub>

Level: Level





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### **Member Information**

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

Application: Floor Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Not Checked Deck: Ceiling: Gypsum 1/2"

Reactions UNPATTERNED Ib (Uplift) Brg Direction Live Dead Snow Wind Const Vertical 0 625 625 0 0 2 Vertical 0 625 625 0 0

## **Bearings**

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" Vert 28% 625 / 625 1250 L D+S 2 - SPF 3.500" Vert 28% 625 / 625 1250 L D+S

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1031 ft-lb	2'1"	3946 ft-lb	0.261 (26%)	D+S	L
Unbraced	1031 ft-lb	2'1"	3780 ft-lb	0.273 (27%)	D+S	L
Shear	613 lb	1' 3/4"	2872 lb	0.213 (21%)	D+S	L
LL Defl inch	0.005 (L/9657)	2'1 1/16"	0.093 (L/480)	0.050 (5%)	S	L
TL Defl inch	0.009 (L/4828)	2'1 1/16"	0.124 (L/360)	0.075 (7%)	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 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	300 PLF	0 PLF	300 PLF	0 PLF	0 PLF	C3

This design is valid until 11/3/2024

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Custom

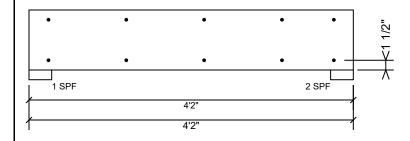
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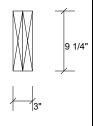
Job Name: Moore Residence Project #: J0223-0539

2.000" X 10.000" 2-Ply - PASSED BM<sub>5</sub> S-P-F #1

Address:

Level: Level





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## Multi-Ply Analysis

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

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	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

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This design is valid until 11/3/2024



Client: Project: Address:

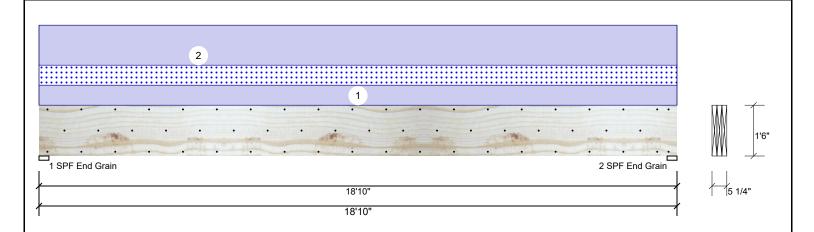
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2/6/2023

Input by: Jonathan Landry Job Name: Moore Residence Project #: J0223-0539

3-Ply - PASSED **Kerto-S LVL** 1.750" X 18.000" **GDH** 

Level: Level



1

Vertical

Bearing Length

1 - SPF 3.500"

2 - SPF 3.500"

End Grain

End Grain

Туре:	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	Ceiling:	Gypsum 1/2"
Temperature:	Temp <= 100°F		

### Reactions UNPATTERNED Ib (Uplift) Wind Brg Direction Live Dead Snow

6130

1978

0

Dir.

Vert

Vert

Bea	rings					
2	Vertical	Ü	6130	1978	Ü	0

6130 / 1978

6130 / 1978

Cap. React D/L lb

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	36421 ft-lb	9'5"	77108 ft-lb	0.472 (47%)	D+S	L
Unbraced	36421 ft-lb	9'5"	36512 ft-lb	0.998 (100%)	D+S	L
Shear	6597 lb	1'9 1/2"	23184 lb	0.285 (28%)	D+S	L
LL Defl inch	0.117 (L/1889)	9'5 1/16"	0.460 (L/480)	0.254 (25%)	S	L
TL Defl inch	0.479 (L/461)	9'5 1/16"	0.613 (L/360)	0.781 (78%)	D+S	L

Member Information

# **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 mu	st be supported equally by a	all plies.									
6 Top must be I	aterally braced at a maximu	m of 5'5 1/8"	o.c.								
7 Lateral slende	erness 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			Тор	210 PLF	0 PLF	210 PLF	0 PLF	0 PLF	C1GE	

### 0 PLF 0 PI F 2 Uniform Top 420 PLF 0 PI F 0 PLF Brick 21 PLF Self Weight

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

- 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

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Const

Ld. Comb.

D+S

D+S

0

0

Total Ld. Case

8108 L

8108 L







Address:

Custom

Input by:

2/6/2023 Jonathan Landry Job Name: Moore Residence

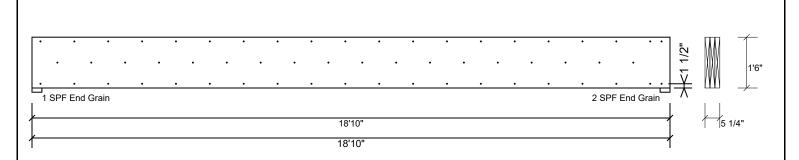
J0223-0539

Page 13 of 13

1.750" X 18.000" 3-Ply - PASSED **Kerto-S LVL GDH** 

Level: Level

Project #:



## 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

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

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.

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

## Handling & Installation

- Infoculing & Installation

  I. VIL 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

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