

Watermark Homes

Project:

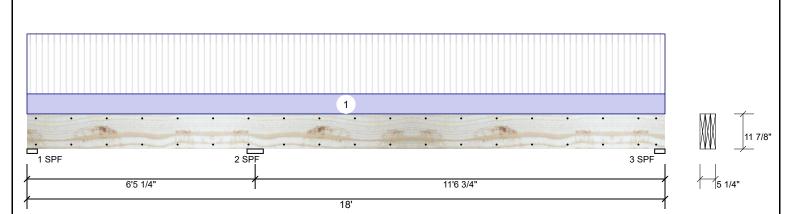
Address: Lot 129 Ballard Woods 8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods Project #: J0822-3956/3958

evel: Level

Page 1 of 13

### 1.750" X 11.875" Kerto-S LVL 3-Ply - PASSED BM1



Member Inforr	nation			Rea	ction	s UNP	ATTERN	IED I	b (Uplift)			
Type:	Girder	Application:	Roof	Brg	Dire	ction	Live		Dead	Snow	Wind	Const
Plies:	3	Slope:	0/12	1	Verti	cal	1162		409	0	0	0
Moisture Condition	: Dry	Design Method:	ASD	2	Verti	cal	8927		3140	0	0	0
Deflection LL:	480	Building Code:	IBC 2012	3	Verti	cal	3771		1326	0	0	0
Deflection TL:	360	Load Sharing:	Yes	ľ								
Importance:	Normal - II	Deck:	Not Checked									
Temperature:	Temp <= 100°F											
				Bea	rings	;						
				Ве	aring	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	SPF	3.500"	Vert	35%	376 / 2355	2731 (-734)	L_	D+L(D+L)
Analysis Result	s			2 -	SPF	5.500"	Vert	100%	3191 / 9072	12263	LL	D+L
Analysis Act	tual Location	Allowed Capac	ity Comb. Cas	<u>.</u> 3 -	SPF	3.500"	Vert	66%	1308 / 3835	5143	_L	D+L

/	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
1	Neg Moment	-12572 ft-lb	6'5 1/4"	31060 ft-lb	0.405 (40%)	D+L	LL
ı	Unbraced	-12572 ft-lb	6'5 1/4"	12575 ft-lb	1.000 (100%)	D+L	LL
F	Pos Moment	11556 ft-lb	13' 11/16"	31060 ft-lb	0.372 (37%)	D+L	_L
ı	Unbraced	11556 ft-lb	13' 11/16"	11563 ft-lb	0.999 (100%)	D+L	_L
5	Shear	5753 lb	7'7 7/8"	13300 lb	0.433 (43%)	D+L	LL
ı	LL Defl inch	0.148 (L/920)	12'5 1/2"	0.283 (L/480)	0.522 (52%)	L	_L
-	TI Deflinch	0.196 (L/695)	12'5 13/16"	0.378 (L/360)	0.518 (52%)	D+L	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 Tie-down connection required at bearing 1 for uplift 734 lb (Combination D+L, Load Case \_L).
- 7 Top must be laterally braced at a maximum of 12'7 5/16" o.c.
- 8 Bottom must be laterally braced at a maximum of 11'4 11/16" o.c.
- 9 Lateral slenderness ratio based on single ply width.

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

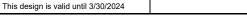
  2 Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

Manufacturer Info 6. For flat roofs provide proper drainage to prevent ponding

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







Project: Address:

Watermark Homes

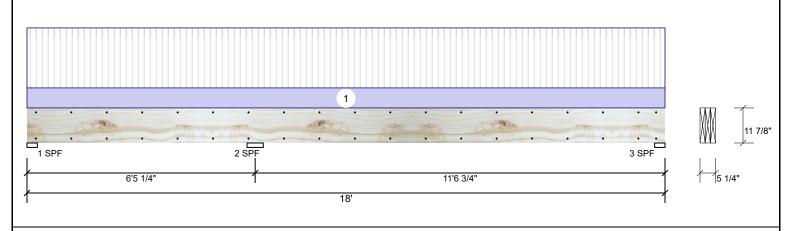
Lot 129 Ballard Woods

Date: 8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods Page 2 of 13

1.750" X 11.875" **Kerto-S LVL** 3-Ply - PASSED BM1

Project #: J0822-3956/3958 \_evel: Level



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	257 PLF	770 PLF	0 PLF	0 PLF	0 PLF	F04	
	Self Weight				14 PLF						

### 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. 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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Project:

Address: Lot 129 Ballard Woods 8/4/2022

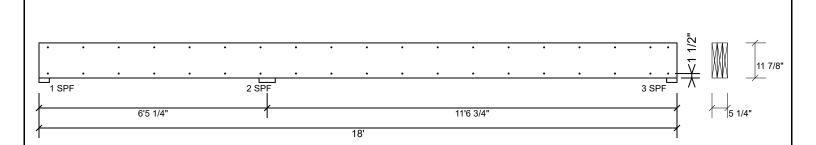
Project #:

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods J0822-3956/3958

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evel: Level

1.750" X 11.875" **Kerto-S LVL** 3-Ply - PASSED BM<sub>1</sub>



## 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

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

- Informing & 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

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Project:

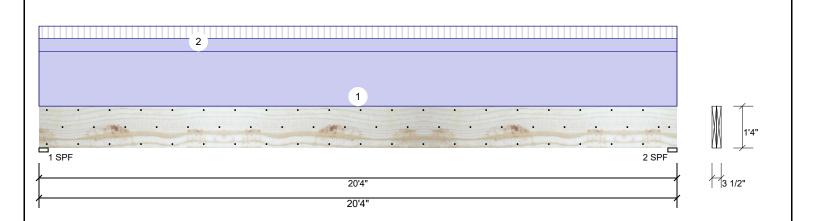
Address: Lot 129 Ballard Woods Date: 8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods Project #: J0822-3956/3958

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2-Ply - PASSED Kerto-S LVL 1.750" X 16.000" BM<sub>3</sub>

Level: Level



### Member Information Reactions UNPATTERNED Ib (Uplift) Wind Type: Application: Brg Direction Live Dead Snow Const Plies: 2 Slope: 0/12 407 2312 Vertical n 0 0 1 Moisture Condition: Dry Design Method: ASD 2 Vertical 407 2312 0 0 0 Deflection LL: 480 **Building Code:** IBC 2012 Deflection TL: 360 Load Sharing: No Importance: Normal - II Deck: Not Checked Temp <= 100°F Temperature: **Bearings** Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. D+L 1-SPF 3.500" Vert 2312 / 407 2719 L 2 - SPF 3.500" Vert 52% 2312 / 407 2719 L D+I

### Analysis Results

-						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	13233 ft-lb	10'2"	34565 ft-lb	0.383 (38%)	D+L	L
Unbraced	13233 ft-lb	10'2"	13276 ft-lb	0.997 (100%)	D+L	L
Shear	2301 lb	1'7 1/2"	11947 lb	0.193 (19%)	D+L	L
LL Defl inch	0.063 (L/3784)	10'2 1/16"	0.497 (L/480)	0.127 (13%)	L	L
TL Defl inch	0.422 (L/566)	10'2 1/16"	0.663 (L/360)	0.636 (64%)	D+L	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 laterally braced at a maximum of 8'11 1/4" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width

o Lateral Sicride	incos ratio basca on single	pry wiatri.								
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	175 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
2	Uniform			Тор	40 PLF	40 PLF	0 PLF	0 PLF	0 PLF	ROOF
	Self Weight				12 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

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

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**Manufacturer Info** 

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Client:

Watermark Homes

Project:

Address: Lot 129 Ballard Woods 8/4/2022

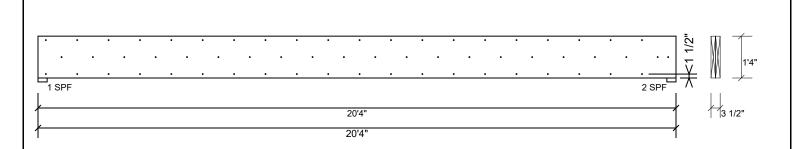
Project #:

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods J0822-3956/3958

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Level: Level

1.750" X 16.000" **Kerto-S LVL** 2-Ply - PASSED BM<sub>3</sub>



## 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

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

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

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

Manufacturer Info

Metsä Wood

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This design is valid until 3/30/2024 CSD DESIGN



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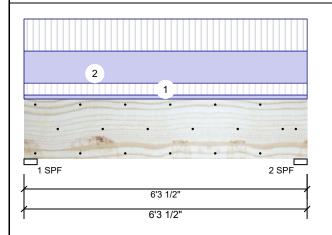
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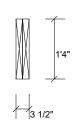
Address: Lot 129 Ballard Woods Date: 8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods Project #: J0822-3956/3958

### 1.750" X 16.000" 2-Ply - PASSED **Kerto-S LVL** BM4

Level: Level





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## **Member Information**

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

Application: Slope: 0/12 Design Method: ASD **Building Code:** IBC 2012 Load Sharing: No

Deck: Not Checked

## Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1746	1471	0	0	0
2	Vertical	1746	1471	0	0	0

## **Bearings**

Bearing Len	gth Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 3.50	00" Vert	62%	1471 / 1746	3216	L	D+L
2 - SPF 3.50	00" Vert	62%	1471 / 1746	3216	L	D+L

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4380 ft-lb	3'1 3/4"	34565 ft-lb	0.127 (13%)	D+L	L
Unbraced	4380 ft-lb	3'1 3/4"	19678 ft-lb	0.223 (22%)	D+L	L
Shear	1572 lb	1'7 1/2"	11947 lb	0.132 (13%)	D+L	L
LL Defl inch	0.011 (L/6369)	3'1 3/4"	0.146 (L/480)	0.075 (8%)	L	L
TL Defl inch	0.020 (L/3457)	3'1 3/4"	0.195 (L/360)	0.104 (10%)	D+L	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 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			Тор	50 PLF	150 PLF	0 PLF	0 PLF	0 PLF	FLOOR
2	Uniform			Тор	405 PLF	405 PLF	0 PLF	0 PLF	0 PLF	J1
	Self Weight				12 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
- 6. For flat roofs provide proper drainage to prevent ponding

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Watermark Homes

Project:

Address: Lot 129 Ballard Woods Date: 8/4/2022

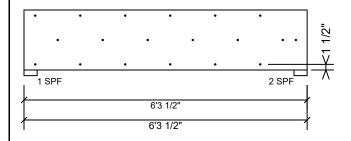
2-Ply - PASSED

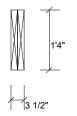
Input by: Anthony Williams Job Name: Lot 129 Ballard Woods

Project #: J0822-3956/3958

1.750" X 16.000" **Kerto-S LVL** BM4

Level: Level





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# 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".

raster an piles asing s rows or roa box rians (							
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

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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

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Project:

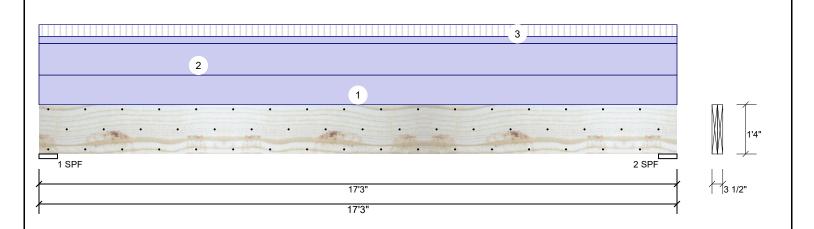
Address: Lot 129 Ballard Woods Date: 8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods Project #: J0822-3956/3958

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**Kerto-S LVL** 2-Ply - PASSED 1.750" X 16.000" **GDH** 

Level: Level



### Member Information Reactions UNPATTERNED Ib (Uplift) Wind Type: Application: Brg Direction Live Dead Snow Const Plies: 2 Slope: 0/12 518 3083 0 Vertical n 0 1 Moisture Condition: Dry Design Method: ASD 2 Vertical 518 3083 0 0 0 Deflection LL: 480 **Building Code:** IBC 2012 Deflection TL: 600 Load Sharing: No Importance: Normal - II Deck: Not Checked Temperature: Temp <= 100°F **Bearings** Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. D+L 1-SPF 6.000" Vert 40% 3083 / 518 3600 L

2 - SPF 6.000"

Vert

40%

3083 / 518

3600 L

D+I

### Analysis Results

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	14027 ft-lb	8'7 1/2"	34565 ft-lb	0.406 (41%)	D+L	L
Unbraced	14027 ft-lb	8'7 1/2"	14050 ft-lb	0.998 (100%)	D+L	L
Shear	2852 lb	1'10"	11947 lb	0.239 (24%)	D+L	L
LL Defl inch	0.045 (L/4374)	8'7 9/16"	0.410 (L/480)	0.110 (11%)	L	L
TL Defl inch	0.313 (L/629)	8'7 9/16"	0.328 (L/600)	0.954 (95%)	D+L	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 laterally braced at a maximum of 8'5 1/16" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width

o Lateral sieriderness ratio based on single pry 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	150 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL	
2	Uniform			Тор	160 PLF	0 PLF	0 PLF	0 PLF	0 PLF	BRICK	
3	Uniform			Тор	35 PLF	60 PLF	0 PLF	0 PLF	0 PLF	Roof/Floor	
	Self Weight				12 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

  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

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851

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Project: Address:

Lot 129 Ballard Woods

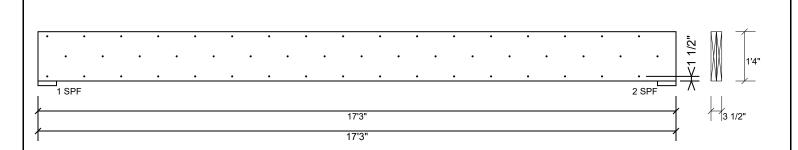
8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods Project #: J0822-3956/3958

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**Kerto-S LVL** 1.750" X 16.000" 2-Ply - PASSED **GDH** 

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

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

- 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

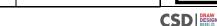
This design is valid until 3/30/2024

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

Manufacturer Info

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







Watermark Homes

Project:

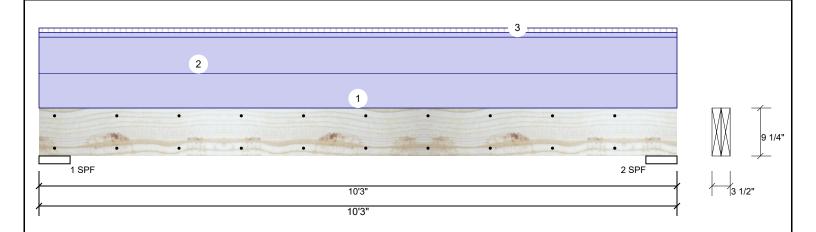
Address: Lot 129 Ballard Woods Date: 8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods Project #: J0822-3956/3958

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1.750" X 9.250" Kerto-S LVL 2-Ply - PASSED GDH-9

Level: Level



Member Inforn	nation		Reactions UNPATTERNED Ib (Uplift)								
Type:	Girder	Application:	Roof	Brg	Direction	Live		Dead	Snow	Wind	Const
Plies:	2	Slope:	0/12	1	Vertical	103		1728	0	0	0
Moisture Condition:	Dry	Design Method:	ASD	2	Vertical	103		1728	0	0	0
Deflection LL:	480	Building Code:	IBC 2012								
Deflection TL:	600	Load Sharing:	No								
Importance:	Normal - II	Deck:	Not Checked								
Temperature:	Temp <= 100°F			_							
				Bea	rings						
				Bea	aring Length	Dir.	Cap. I	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 -	SPF 6.000"	Vert	21%	1728 / 103	1831	L	D+L
A l . d . D lt				2 -	SPF 6.000"	Vert	21%	1728 / 103	1831	L	D+L

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3705 ft-lb	5'1 1/2"	11288 ft-lb	0.328 (33%)	D	Uniform
Unbraced	3924 ft-lb	5'1 1/2"	7663 ft-lb	0.512 (51%)	D+L	L
Shear	1305 lb	8'11 3/4"	6216 lb	0.210 (21%)	D	Uniform
LL Defl inch	0.008 (L/13536)	5'1 1/2"	0.234 (L/480)	0.035 (4%)	L	L
TL Defl inch	0.148 (L/758)	5'1 1/2"	0.188 (L/600)	0.792 (79%)	D+L	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.

ψ ====================================										
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	150 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
2	Uniform			Тор	160 PLF	0 PLF	0 PLF	0 PLF	0 PLF	BRICK
3	Uniform			Тор	20 PLF	20 PLF	0 PLF	0 PLF	0 PLF	Roof
	Self Weight				7 PLF					

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

- Handling & Installation
- I. 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
   Damagee 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 3/30/2024

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851

Manufacturer Info

(800) 622-5850 www.metsawood.com/us ICC-ES: ESR-3633

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Client:

Project:

Address: Lot 129 Ballard Woods

Watermark Homes

8/4/2022

Project #:

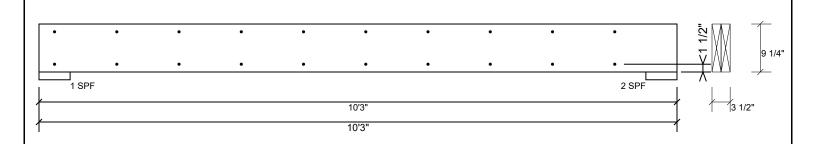
Input by: Anthony Williams Job Name: Lot 129 Ballard Woods

J0822-3956/3958

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1.750" X 9.250" **Kerto-S LVL** 2-Ply - PASSED GDH-9

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

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
- This design is valid until 3/30/2024

For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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





Client: Address:

Project:

Watermark Homes

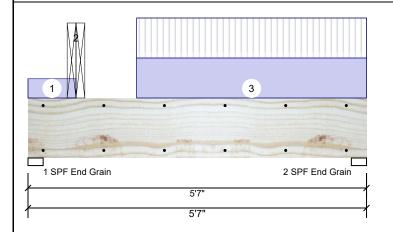
Lot 129 Ballard Woods

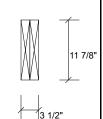
Date: 8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods J0822-3956/3958

Kerto-S LVL **Sliding Door Header** 1.750" X 11.875" 2-Ply - PASSED

Project #: Level: Level





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## **Member Information**

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance:

Normal - II Temp <= 100°F Temperature:

Application: Floor Design Method: ASD **Building Code:** IBC 2012 Load Sharing: No Deck: Not Checked

## Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	684	2489	0	0	0
2	Vertical	709	960	0	0	0

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2327 ft-lb	2'5 3/16"	19911 ft-lb	0.117 (12%)	D+L	L
Unbraced	2327 ft-lb	2'5 3/16"	15061 ft-lb	0.155 (15%)	D+L	L
Shear	1840 lb	1'2 7/8"	8867 lb	0.208 (21%)	D+L	L
LL Defl inch	0.007 (L/9597)	2'9 7/8"	0.174 (L/360)	0.038 (4%)	L	L
TL Defl inch	0.018 (L/3391)	2'7 1/2"	0.260 (L/240)	0.071 (7%)	D+L	L

## **Bearings**

Bearing Le	ngth Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 3.0 End Grain	00" Vert	35%	2489 / 684	3173	L	D+L
2 - SPF 3.0 End Grain	00" Vert	18%	960 / 709	1669	L	D+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.
- $\ensuremath{^{\circ}}$  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.

o zatoral cicinaci ratio zacoa cir cingle pi, matin												
	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 0-9-8		Тор	125 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall Load	
	2	Point	0-9-8		Тор	2312 lb	407 lb	0 lb	0 lb	0 lb	BM3 Brg 1	
		Bearing Length	0-3-8									
	3	Part. Uniform	1-9-8 to 5-7-0		Тор	260 PLF	260 PLF	0 PLF	0 PLF	0 PLF	C2	
		Self Weight				9 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 Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
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**Manufacturer Info** 

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



**Sliding Door Header** 

Client: Project:

Watermark Homes

1.750" X 11.875"

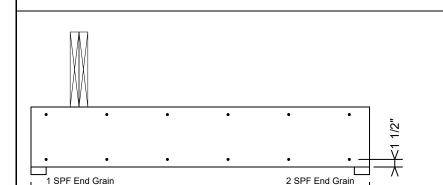
Date: 8/4/2022

Input by: Anthony Williams Job Name: Lot 129 Ballard Woods

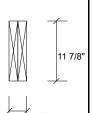
Address: Lot 129 Ballard Woods

Kerto-S LVL

Project #: J0822-3956/3958 2-Ply - PASSED Level: Level



5'7 5'7'



Page 13 of 13

# 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".

rasteri ali piles asirig 2 rows	or roa box mans (.120x5 ) at
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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# Handling & Installation

- Handling & Installation

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