

BM₁

Client:

Signature Home Builders

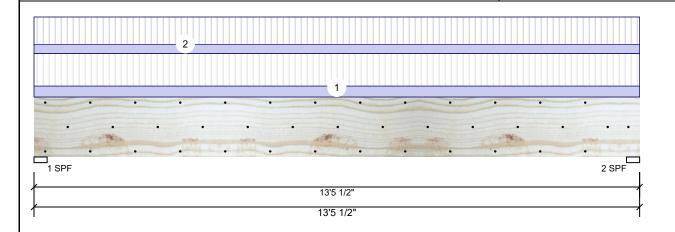
Project:

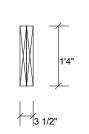
Address: Lot 17 Williams Farms Date: 1/17/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0123-0255 & 0256

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

Level: Level





Page 1 of 6

Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Normal - II

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	3768	1342	0	0	0
2	Vertical	3768	1342	0	0	0

Bearings

Bearing	Length	Dir.	Cap. F	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	98%	1342 / 3768	5110	L	D+L
2 - SPF	3.500"	Vert	98%	1342 / 3768	5110	L	D+L

Analysis Results

Temperature:

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	16095 ft-lb	6'8 3/4"	34565 ft-lb	0.466 (47%)	D+L	L
Unbraced	16095 ft-lb	6'8 3/4"	16135 ft-lb	0.997 (100%)	D+L	L
Shear	4889 lb	1'7 1/2"	11947 lb	0.409 (41%)	D+L	L
LL Defl inch	0.176 (L/888)	6'8 3/4"	0.326 (L/480)	0.541 (54%)	L	L
TL Defl inch	0.239 (L/655)	6'8 3/4"	0.434 (L/360)	0.550 (55%)	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 must be laterally braced at a maximum of 7'3 1/4" o.c.

Temp <= 100°F

- 6 Bottom 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			Near Face	102 PLF	305 PLF	0 PLF	0 PLF	0 PLF	F04
2	Uniform			Far Face	85 PLF	255 PLF	0 PLF	0 PLF	0 PLF	f10
	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.

- 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
- This design is valid until 11/3/2024

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

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







Signature Home Builders

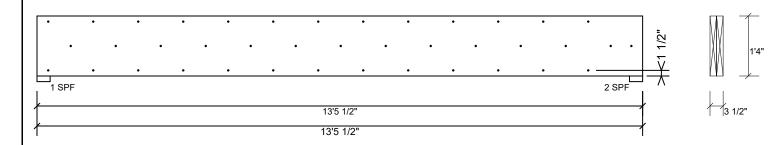
Project:

Address: Lot 17 Williams Farms 1/17/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0123-0255 & 0256 Page 2 of 6

1.750" X 16.000" **Kerto-S LVL** 2-Ply - PASSED BM₁

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".

1 3		,	,
Capacity	82.9 %		
Load	203.5 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

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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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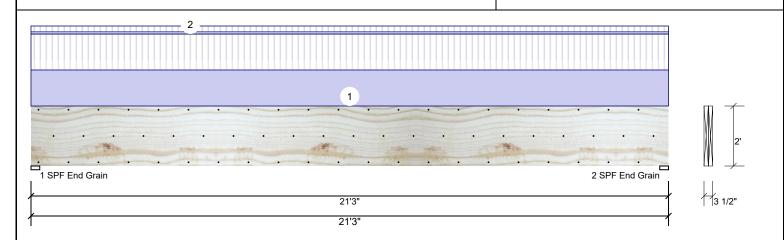
Project:

Address: Lot 17 Williams Farms 1/17/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0123-0255 & 0256

2-Ply - PASSED **Kerto-S LVL** 1.750" X 24.000" BM₂

Level: Level



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

Member Information

Application: Floor Design Method: ASD **Building Code:** IBC 2012 Load Sharing: No Deck: Not Checked Reactions UNPATTERNED Ib (Uplift) Wind Brg Direction Live Dead Snow Const 3060 2993 0 Vertical n 0 1 2 Vertical 3060 2993 0 0 0

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Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	30845 ft-lb	10'7 1/2"	73185 ft-lb	0.421 (42%)	D+L	L
Unbraced	30845 ft-lb	10'7 1/2"	30998 ft-lb	0.995 (100%)	D+L	L
Shear	4785 lb	18'11 1/2"	17920 lb	0.267 (27%)	D+L	L
LL Defl inch	0.172 (L/1451)	10'7 9/16"	0.520 (L/480)	0.331 (33%)	L	L
TL Defl inch	0.341 (L/733)	10'7 9/16"	0.694 (L/360)	0.491 (49%)	D+L	L

Bearings

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.500" 6053 L Vert 2993 / 3060 D+I End Grain 2 - SPF 3.500" 2993 / 3060 6053 L D+L Vert 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 5'8 3/4" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width

6 Edicial Sicildeniess 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	248 PLF	248 PLF	0 PLF	0 PLF	0 PLF	B1	
	2	Uniform			Тор	15 PLF	40 PLF	0 PLF	0 PLF	0 PLF	FLOOR	
		Self Weight				19 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
- For flat roofs provide proper drainage to prevent ponding

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This design is valid until 11/3/2024





BM₂

Client:

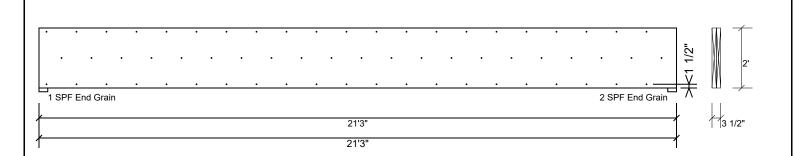
Signature Home Builders

Project:

Address: Lot 17 Williams Farms Date: 1/17/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0123-0255 & 0256

1.750" X 24.000" **Kerto-S LVL** 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

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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

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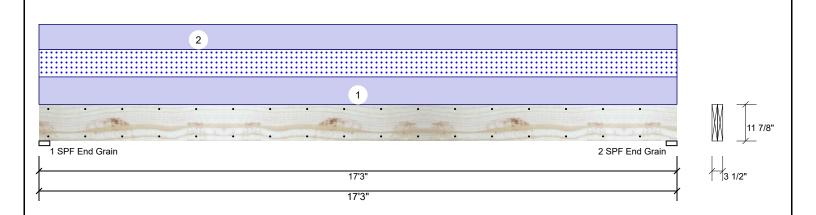
Project:

Address: Lot 17 Williams Farms Date: 1/17/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0123-0255 & 0256

Kerto-S LVL 2-Ply - PASSED 1.750" X 11.875" **GDH**

Level: Level



Bearings Bearing Length

End Grain

End Grain

1 - SPF 3.500"

2 - SPF 3.500"

Dir.

Vert

Vert

Cap. React D/L lb

22%

1529 / 759

1529 / 759

Member Information Reactions UNPATTERNED Ib (Uplift) Application: Live Type: Floor Brg Direction Dead Plies: 2 Design Method: ASD 0 1529 Vertical 1 Moisture Condition: Dry **Building Code:** IBC 2012 2 Vertical 0 1529 Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal - II Temp <= 100°F Temperature:

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9348 ft-lb	8'7 1/2"	22897 ft-lb	0.408 (41%)	D+S	L
Unbraced	9348 ft-lb	8'7 1/2"	9362 ft-lb	0.998 (100%)	D+S	L
Shear	1957 lb	15'11 5/8"	10197 lb	0.192 (19%)	D+S	L
LL Defl inch	0.170 (L/1187)	8'7 9/16"	0.420 (L/480)	0.404 (40%)	S	L
TL Defl inch	0.512 (L/394)	8'7 9/16"	0.560 (L/360)	0.914 (91%)	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 10' 1/16" o.c.
- 7 Bottom must be laterally braced at end bearings.

8 Lateral slend	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	88 PLF	0 PLF	88 PLF	0 PLF	0 PLF	B1	
2	Uniform			Тор	80 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL	
	Self Weight				9 PLF						

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 LVL not to be treated with fire retardant or corrosive

Handling & Installation

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Wind

Total Ld. Case

2288 L

2288 L

0

0

Const

Ld. Comb.

D+S

D+S

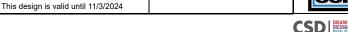
0

0

Snow

759

759





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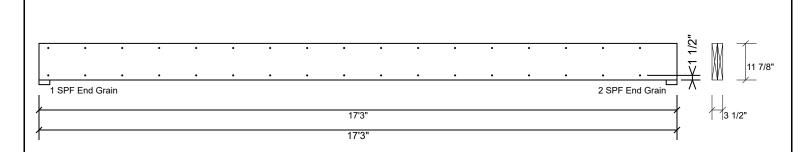
Project:

Address: Lot 17 Williams Farms 1/17/2023

Input by: Anthony Williams Job Name: The Clark 1960 Project #: J0123-0255 & 0256 Page 6 of 6

Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED **GDH**

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".

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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Handling & Installation

- Handling & Installation

 1. UVI beams must not be cut or drilled

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