

Version 20.20.044 Powered by iStruct™

Client: Ben Stout F	eal Estate Date:	1/7/2021	Page 2 of 5
Proiect:	Input b		
isDesign Address:		me: Lot 6 Sierra Villas	
	Project		
GDH Kerto-S LVL 1.750" X 18.00	0" 2-Ply - PASSED	Level: Level	
	• • • •	• • • •	•••
• • • • • • •			1'6"
· · · · · · · ·	• • • •	• • • •	
1 SPF End Grain		2 SPF End	d Grain //
¢	16'10"		3 1/2"
f	16'10"		
Multi-Ply Analysis			
Fasten all plies using 3 rows of 10d Box nails (.128x3") a	t 12" o.c. Maximum and distance	not to exceed 6"	
Capacity 0.0 %		not to exceed o	
Load 0.0 PLF			
Yield Limit per Foot245.6 PLFYield Limit per Fastener81.9 lb.			
Yield Mode IV			
Edge Distance 1 1/2"			
Min. End Distance 3"			
Load Combination Duration Factor 1.00			
	6. For flat roofs provide proper drainage to preven		Comtech, Inc. 1001 S. Reilly Road, Suite #639
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. Handling & Installation	ponding prmation multi-ply	Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us	Fayetteville, NC USA 28314 910-864-TRUS
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 subbility of the intended	ponding smatlon multi-ply nd code	301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850	Fayetteville, NC USA 28314

		(Client: E	en Stout Real Est	ate	D	ate:	1/7/2021				Page 3
		1	Project:			In	put by:	David Land	dry			
ÍS	Design		Address:					Lot 6 Sierra				
							roject #:	J0121-010 evel: Level	8			
3M2	Kerto-S L	VL ´	1.750"	X 9.250"	2-Ply -	PASS	ED	evel. Level				
					3			1				
	2											
			(1			<u></u>					
	Contra .			13.8 M	The same							IXIXI
	AND DESCRIPTION OF THE OWNER OF T	2 - 11-1		and the second	A STATISTICS CONTRACTOR]				
1 SPF			5	6"		28	SPF					3 1/2"
/ · · ·				1"			, ,	-				5 1/2
•			-					•				
	formation		1						D lb (Uplift			
Гуре: Plies:	Girder 2		Applicatio Design M			Brg 1	Live 289	Dea 251			Wind 0	Const 0
Moisture Cond			Building C		C 2015	2	289	251			0	0
Deflection LL:			Load Sha	-								
eflection TL:	240 Normal		Deck:	Not Ch	ecked							
mportance: emperature:	Temp <= 100°	°F										
emperature.						Bearing	s					
						Bearing		Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
						1 - SPF	3.500"	73%	2519 / 1265	3784	L	D+S
						2 - SPF	3.500"	73%	2519 / 1265	3784	L	D+S
halysis Re Analysis		Location /	Allowed	Capacity Cor	nb. Case	٦						
/oment	4921 ft-lb		14423 ft-lb	0.341 (34%) D+S								
Jnbraced	4921 ft-lb		10944 ft-lb	0.450 (45%) D+S								
Shear	2540 lb		7943 lb	0.320 (32%) D+8								
	0.026 (L/2581)			0.190 (19%) S	L							
	0.078 (L/863)			0.280 (28%) D+5	6 L							
esign Not			()	(),		1						
	designed to be sup	ported on the	e bottom edge	only.		4						
2 Multiple plie	es must be fastened	together as	per manufactu	•								
3 Top loads r 4 Top braced	nust be supported ed	qually by all p	olies.									
•	ced at bearings.											
6 Lateral sler	nderness ratio based	l on single pl	y width.									
C	Load Type	l	_ocation T	rib Width Side	Dead 0.9		1 Snov		/ind 1.6 Cons	st. 1.25	Commen	ts
	Uniform			Тор	416 PLF	0 PL	F 41	l6 PLF	0 PLF	0 PLF	A2/A1	
!	Uniform			Тор	285 PLF	95 PL	F	0 PLF	0 PLF	0 PLF	F6	
i	Uniform			Тор	120 PLF	0 PL	F	0 PLF	0 PLF	0 PLF	Wall	
	Self Weight				7 PLF							
otes		chemica	als		6. For flat roofs provide p	proper drainage to	prevent	Manufacturer	Info	Co	mtech, Inc.)1 S. Reilly Road	Suite #620
alculated Structured	Designs is responsible only or of this component based on	f the Handling	g & Installation	I	ponding	,		Metsä Wood		100 Fay US	yetteville, NC	, Juile #039
esign criteria and	I loadings shown. It is	the 2. Refer	to manufacturer's	product information				Norwalk, CT 06		283	7 314)-864-TRUS	
nsure the compor	ient suitability of the inter ify the dimensions and loads.	nded fastenin approva	ls	equirements, multi-ply ength values, and code				(800) 622-5850 www.metsawo			-	
umber	ions, unless noted otherwise	 Damage Design : 	ed Beams must not b assumes top edge is	laterally restrained				ICC-ES: ESR-				
. LVL not to be trea	ited with fire retardant or corro	5. Provide lateral d	lateral support at lisplacement and rota	bearing points to avoid ation	This design is valio	l until 2/26/202	3				con	птесн
sion 20.20.044	Powered by iStruct™				-		1					

Tis BM2x	Design Kerto-S L	А	roject: ddress: .750")				-		David Land	-			
		.VL 1	.750" >					b Name:	Lot 6 Sierra	a Villas			
BM2x	Kerto-S L	.VL 1	.750" >				Pre		J0121-010				
				(9.25	0" 2-1	Ply - P	ASSE) Lev	vel: Level				
							3						
	2												
				1									-
													MM
	Constant of the second	- Mine			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	- Alter	-	- Conta	in .				
								2 SF	PF				
				6'									3 1/2"
1				6'7"					1				
	formation									D lb (Upli	-		
⁻ype: Plies:	Girder 2		Application Design Me		loor SD		Brg	Live	Dea			Wind	Const
Aoisture Cond			Building C		3D 3C/IRC 2015		1 2	372 372	289 289			0 0	0 0
Deflection LL:	480		Load Shar	-	lo		-	012	200		•	Ū	0
eflection TL:			Deck:	Ν	lot Checked								
nportance:	Normal	°-											
emperature:	Temp <= 100°	۴F					Bearings						
							Dearings		Can	React D/L lb	Total	Ld. Case	
							Rearing	I onath					
							Bearing 1 - SPF	-					Ld. Comb. D+S
							Bearing 1 - SPF 2 - SPF	3.500"	82% 82%	2897 / 1369 2897 / 1369	4267	L	D+S D+S
nalysis Re							1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis	Actual	Location A		Capacity	Comb.	Case	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis <i>M</i> oment	Actual 6078 ft-lb	3'3 1/2" 1	4423 ft-lb	0.421 (42%) D+S	L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis Aoment Jnbraced	Actual 6078 ft-lb 6078 ft-lb	3'3 1/2" 1 3'3 1/2" 1	4423 ft-lb 0451 ft-lb	0.421 (42% 0.582 (58%	o) D+S o) D+S	L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis Aoment Jnbraced Shear	Actual 6078 ft-lb 6078 ft-lb 2970 lb	3'3 1/2" 1 3'3 1/2" 1 1' 7	4423 ft-lb 0451 ft-lb 943 lb	0.421 (42% 0.582 (58% 0.374 (37%	b) D+S b) D+S b) D+S	L L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis Aoment Jnbraced Shear L Defl inch	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072)	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480)	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23%	5) D+S 5) D+S 5) D+S 5) S	L L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis Moment Jnbraced Shear LL Defl inch TL Defl inch	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665)	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0	4423 ft-lb 0451 ft-lb 943 lb	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23%	5) D+S 5) D+S 5) D+S 5) S	L L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis Moment Jnbraced Shear LL Defl inch TL Defl inch esign Not	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665)	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240)	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36%	5) D+S 5) D+S 5) D+S 5) S	L L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis Moment Jnbraced Shear .L Defl inch IL Defl inch esign Not 1 Girders are	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665) ces	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 90rted on the	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only.	o) D+S o) D+S o) D+S o) D+S o) S o) D+S	L L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis Moment Jnbraced Shear LL Defl inch TL Defl inch esign Not 1 Girders are 2 Multiple plie	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665)	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 ported on the together as p	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge er manufactur	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only.	o) D+S o) D+S o) D+S o) D+S o) S o) D+S	L L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
Analysis Moment Jnbraced Shear L Defl inch L Defl inch C Defl inch esign Not Girders are Multiple plie Top loads n Top loads n	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665) ces designed to be supples must be fastened nust be supported en at bearings.	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 ported on the together as p	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge er manufactur	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only.	o) D+S o) D+S o) D+S o) D+S o) S o) D+S	L L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
nalysis Moment Jnbraced Shear L Defl inch L Defl inch L Defl inch esign Not Girders are Multiple plie Top loads n Top braced Soutom brace	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665) CES a designed to be suppleted en as must be fastened must be supported en at bearings. ced at bearings.	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 yorted on the together as p qually by all p	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge er manufactur lies.	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only.	o) D+S o) D+S o) D+S o) D+S o) S o) D+S	L L L	1 - SPF	3.500"	82%	2897 / 1369	4267	L	D+S
nalysis Moment Inbraced Shear L Defl inch L Defl inch L Defl inch C Girders are Multiple plie Girders are Multiple plie Top loads n Top braced Bottom brace Lateral slem	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665) ces designed to be supples must be fastened nust be supported en at bearings.	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 9 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge er manufactur lies. width.	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only.	o) D+S o) D+S o) D+S o) D+S o) S o) D+S	L L L	1 - SPF 2 - SPF	3.500"	82%	2897 / 1369	4267 4267	L	D+S D+S
Analysis Moment Jnbraced Shear L Defl inch L Defl inch L Defl inch C Defl inch	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665) ces designed to be supper semust be fastened nust be supported ec at bearings. ced at bearings. derness ratio based	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 9 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge er manufactu ies. width.	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only. rer's details) D+S) D+S) D+S) S) D+S		1 - SPF 2 - SPF	3.500" 3.500"	82%	2897 / 1369 2897 / 1369	4267 4267		D+S D+S
Analysis Moment Jnbraced Shear L Defl inch L Defl inch L Defl inch C Defl inch Girders are Multiple plie Top loads n Top loads n S Top loads n S Top loads n S Top loads n S De loads n S D	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665) edesigned to be supported en at bearings. ced at bearings. derness ratio based Load Type	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 9 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge er manufactu ies. width.	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only. rer's details	o) D+S o) D+S o) D+S o) S o) D+S	L L L L Dead 0.9	1 - SPF 2 - SPF	3.500" 3.500" Snow ^	82% 82% 1.15 W PLF	2897 / 1369 2897 / 1369 /ind 1.6 Cor	4267 4267 ist. 1.25 0 PLF	Commen F5	D+S D+S
Analysis Moment Jnbraced Shear L Defl inch TL Defl inch C Defl inch Esign Not Sign Not 2 Multiple plie 3 Top loads n 4 Top braced 5 Bottom braced 5 Bottom braced 5 Bottom braced 6 Lateral slen	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665) Ces a designed to be suppleted end nust be supported end at bearings. ced at bearings. ced at bearings. aderness ratio based Load Type Uniform Uniform	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 9 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge er manufactu ies. width.	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only. rer's details	a) D+S b) D+S b) D+S b) D+S b) D+S c c Side Top Top	L L L L Dead 0.9 337 PLF 416 PLF	1 - SPF 2 - SPF Live 1 113 PLF 0 PLF	3.500" 3.500" Snow 7 5 0 416	82% 82% 1.15 W PLF PLF	2897 / 1369 2897 / 1369 /ind 1.6 Cor 0 PLF 0 PLF	4267 4267 nst. 1.25 0 PLF 0 PLF	Commen F5 A2	D+S D+S
Analysis Moment Jnbraced Shear L Defl inch IL Defl inch I Defl inch esign Not 1 Girders are 2 Multiple plie 3 Top loads n 4 Top braced 5 Bottom brac	Actual 6078 ft-lb 6078 ft-lb 2970 lb 0.035 (L/2072) 0.111 (L/665) es must be fastened nust be supported en at bearings. ced at bearings. ced at bearings. derness ratio based Load Type Uniform	3'3 1/2" 1 3'3 1/2" 1 1' 7 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 9 3'3 1/2" 0 3'3 1/2" 0 3'3 1/2" 0 1 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4423 ft-lb 0451 ft-lb 943 lb .153 (L/480) .306 (L/240) bottom edge er manufactu ies. width.	0.421 (42% 0.582 (58% 0.374 (37% 0.230 (23% 0.360 (36% only. rer's details	o) D+S o) D+S o) D+S o) S o) D+S	L L L D Dead 0.9 337 PLF	1 - SPF 2 - SPF	3.500" 3.500" Snow 7 5 0 416	82% 82% 1.15 W PLF	2897 / 1369 2897 / 1369 /ind 1.6 Cor 0 PLF	4267 4267 ist. 1.25 0 PLF	Commen F5	D+S D+S

CSD DESIGN

Í	isDesign		Project: Address:				Input by: Job Name: Project #:	David Land Lot 6 Sierr J0121-010	a Villas			
BM3	SP #2	2.000"	X 12.00	0" 2-Ply	- PAS			evel: Level	0			
			1									
												M Í
	a sitter			atter po	1 mm							11
	F				2 SPF	ב						
			5'6"		ł	+						∕ − ′ 3"
1			6'1"			1						
	Information					1			D lb (Uplif			
Type: Plies:	Girder 2		Application: Design Meth	Floor od: ASD		Brg 1	Live 0	Dea 126			Wind 0	Const 0
Moisture Co	ondition: Dry		Building Cod	le: IBC/IRC 201	5	2	0	126			0	0
Deflection L			Load Sharing	-								
Deflection ⊺ mportance			Deck:	Not Checked								
Temperatur		00°F										
remperatur		001				Bearin	qs					
							g Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
							F 3.500"	57%	1265 / 1265	2531		D+S
							F 3.500"	57%	1265 / 1265	2531		D+S
nalysis F	Results					·`						
Analysis	Actual	Location A		apacity Comb.	Case							
Moment	3291 ft-lb	3' 1/2" 4		723 (72%) D+S	L							
Unbraced	3291 ft-lb	3' 1/2" 4		789 (79%) D+S	L							
Shear	1560 lb	1'2" 4	1528 lb 0.	345 (34%) D+S	L							
	ch 0.019 (L/3590)		0.141 (L/480) 0.		L							
TL Defl ind	ch 0.038 (L/1795)	3' 1/2" ().281 (L/240) 0.	130 (13%) D+S	L							
esign N	otes											
1 Girders a	are designed to be s					1						
	plies must be fasten			r's details.								
	s must be supported ed at bearings.	a equally by all p	mes.									
5 Bottom b	praced at bearings.											
	lenderness ratio bas	• · ·				<u> </u>						
ID	Load Type	L	ocation Trib	Width Side	Dead 0.9		e 1 Snow		/ind 1.6 Cor		Comment	ts
1	Uniform			Тор	416 PLF	0 F	PLF 41	6 PLF	0 PLF	0 PLF		
							N	lanufacturer	Info	Co	omtech, Inc.	
							Ľ.			10 Fa	01 S. Reilly Road yetteville, NC	I, Suite #639
										28	SA 314	
										91	0-864-TRUS	
					s design is valid	until 2/26/0	023				con	птесн