LL = L/360 TL = L/240

Hugh Surles Builders - Woodward Residence (LVL Beams) Beam - Floor8 - LVL Ceiling Beam @ Sitting Area/Back Porch BFAM

6"											9"	
425psi				16'	7 1/2" (	16' Clear	-)				425p	si
				10	11/2 (		)					
			Project	Design Loads : F	loor: Liv	0-10 0 ng	f Dead-1(	1 0 pcf				
LUADS	Annlied	l ive+De	(T)h I her	Live I d(I)		e-40.0 pa	l ocatior	0.0 psi n*				
# Shane		@Start	@Fnd	@Start @End	I DF	Span#	Starts	Fi	nds	Additional Info		
1 Uniform (plf)		100.0		57.1	115%	0	0'	16	6' 7 1/2"	Back Porch Rafter Load		
2 Partial (plf)		150.0		85.7	115%	Õ	0'	10	)' )'	Main Rafter Load		
3 Concentrated (lbs)		500.0		400.0	100%	Õ	8'		•	Ceiling Beam Per Plan		
Uniform (plf)		10.96				0	0'	16	6' 7 1/2"	Self Weight		
If "Applied To" is blank	. all plies a	are assur	ned to be I	oaded equally.		-	-		=	g		
*Dimensions measure	d from left	end whe	n span# is	0, otherwise, from	n left en	d of the s	pecified spa	an.				
SUPPORTS (Ibs	:)											1
	<b>?</b> )	1	2									
Max Reaction		2602	1880									
Max 100%		208	192									
Max 115%		1074	732									
Min Reaction		1321	955									
Min 100%		208	192									
Min 115%		1074	732									
DL Reaction		1321	955									
Min Bearing		1.61"	1.50"	[Based on bea	aring stre	ess below	′]					
Brg Stress (psi)		425	425		-							
DESIGN												
		Actual	Span	Location		Group	Allow	LDF	Ratio			
V(lbs)		1427	1	0' 3"		31	9080	115%	0.16			
M(ft-lbs)		9481	1	8'		61	24470	115%	0.39			
LtRn(lbs)		2395	0	0'		31	8925		0.27	See Note 4		
RtRn(lbs)		1687	0	16' 7 1/2"		31	13388		0.13	See Note 4		
LLDefl(")		0.40	1	8' 3"		61	0.78		L/497			

USE: onCENTER LVL 2.0E 1 3/4" x 11 7/8" 2 Plies onCENTER® LVL by BlueLinx

0.91

1

Grade, Depth, Plies selected by user

L/218

1.00

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

61

## NOTES

TLDefl(")

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

8' 3"

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100\%+125\%), 80= D + 0.75(10\%+125\%), 80= D + 0 0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

Version: 18.0.2.0

JC

Max Deflection:

D

Doma Sizer™ © 2011	-2018 Blu	eLinx Cor	poration							Version: 1
Project: MemberID: Usage: Max Deflection:	Hugh Sur Beam - F BEAM LL = L/36	rles Build loor10 - L i0 TL = L/	lers - Woo .VL Beam 240	odward Resid @ Great Roo Repetitive	ence (LVL om / Dining Incr:	Beams) J Room A Yes	rea			
6" 425psi 2' 9"		8" 425psi			10	' 6"				8" 6" 425psi 425p 2' 9"
			Project	Design Loads	: Floor: Liv	/e=40.0 ps	sf, Dead=10	.0 psf		
	Applied	Live+De	ead Ld(T)	Live Ld(L)			Location	*		
# Shape	To:	@Start	@End	@Start @E	nd LDF	Span#	Starts	Ends	6	Additional Info
Area (pst)		50.0		40.0	100%	0	0'	16'		16" o.c. Base Uniform Load (Spcg Sen)
1 Uniform (pif)		420.0		280.0 685.7	115%	0	0' Q' 2"	10		Lower Ratters @ Great Room
Liniform (nlf)		1200.0		000.7	11370	0	0.0	16'		Self Weight
If "Applied To" is blank	c. all plies	are assur	ned to be l	oaded equally	1.	U	0	10		
*Dimensions measure	d from left	t end whe	n span# is	0, otherwise,	from left er	nd of the s	pecified spa	an.		
	NS (* =	snan l	oaded)							
		1	2	3						
1		*	*	*						
2		*		*						
3			*							
4		*	*							
5			*	*						
SUPPORTS (lbs	5)		2	2	4					
Max Position	-	117	<b>Z</b> 6/63	<b>э</b> 6574	4					
Max 100%		71	0403 511	0074 511	-15Z 71					
Max 115%		371	3273	3336	371					
Min Reaction		-1774	2125	2149	-1810					
Min 100%		-152	147	147	-152					
Min 115%		-1064	770	770	-1085					
DL Reaction		-558	2679	2726	-573					
Uplift		1774	0	0	1810					
Min Bearing		1.50"	3.00"	3.00"	1.50"	[Based o	on bearing st	tress below	]	
Brg Stress (psi)		425	425	425	425					
DESIGN		A . f I	0	1		0	A.II		Defie	
V/lba)		2014	Span	10' 2"		Group 435	40612	115%	0 10	
v(iDS) M(ff_lbs)		2014 0335	2	5'6"		433	23800	115%	0.19	
l tRn(lbs)		-187	0	0'		32	13388	110/0	0.03	See Note 5
RtRn(lbs)		-203	0	16'		32	13388		0.02	See Note 5
IntRn(lbs)		6063	Õ	13' 3"		35	17850		0.34	See Note 5
LLDefl(")		-0.25	1	0'		433	0.26		2L/265	
TLDefl(")		-0.38	1	0'		433	0.39		2L/174	
LLDefl(")		0.30	2	5' 3"		433	0.49		L/415	

#### USE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 3 Plies onCENTER® LVL by BlueLinx

0.49

-0.25

-0.38

Grade, Depth, Plies selected by user

L/257

2L/263

2L/172

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom). Specified attachment is from each face. Offset fasteners on back face halfway between fasteners on front face.

0.74

0.26

0.39

# NOTES

TLDefl(")

LLDefl(")

TLDefl(")

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge laterally supported @16" o.c. 3. Allowable negative moment is calculated based on bottom edge laterally supported @16" o.c.

433

433

433

4. Analysis valid for dry-use only (less than 16% moisture content).

2

3

3

5' 3"

2'9"

2'9"

5. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

Version: 18.0.2.0

6" 425psi

#### PROFESSIONAL BUILDERS SUPPLY

3941 US Highway 421 North Wilmington NC 28401 Doma Sizer™ © 2011-2018 BlueLinx Corporation JC 910-386-4300

Version: 18.0.2.0

Project: Hugh Surles Builders - Woodward Residence (LVL Beams) MemberID: Beam - Floor10 - LVL Beam @ Great Room / Dining Room Area

6. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

7. When required by the building code, a registered design professional or building official should verify the input loads and product application. 8. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

9. Design assumes a 4% increase in bending stress for repetitive member use.

10. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

11. Provide approved uplift resistance at supports with negative reactions. This member also evaluated with those bearings neglected if the uplift is higher than 1500 lbs.

12. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%) 13. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

3941 US Highway 421 North Wilmington NC 28401 Doma Sizer™ © 2011-2018 BlueLinx Corporation

Project:	Hugh Surles Builders - Wo	odward Residence (L\	/L Beams)
MemberID:	Beam - Floor9 - LVL Ceilin	g Beam @ Great Roon	n Area
Usage:	BEAM	Repetitive Incr:	Yes
Max Deflection:	LL = L/360 TL = 1.00"		

6" 425psi		6" 425psi
	22' 6" (22' Clear)	·
		1

Ľ	OADS	Project Design Loads : Floor: Live=40.0 pst, Dead=10.0 pst									
		Applied	Live+De	ead Ld(T)	Live Ld	(L)			Location*		
#	Shape	To:	@Start	@End	@Start	@End	LDF	Span#	Starts	Ends	Additional Info
1	Concentrated (lbs)		2100.0		1200.0		115%	0	6' 6"		Header PT Load From Above
2	Concentrated (lbs)		2100.0		1200.0		115%	0	15' 6"		Header PT Load From Above
3	Trapezoidal (plf)		0.0	40.0	0.0	0.0	90%	0	0'	11' 3"	Gable End Wall
4	Trapezoidal (plf)		40.0	0.0	0.0	0.0	90%	0	11' 3"	22' 6"	Gable End Wall
	Uniform (plf)		22.17					0	0'	22' 6"	Self Weight
lf '	"Applied To" is blank	, all plies	are assui	med to be I	oaded eq	ually.					
*D	*Dimensions measured from left end when span# is 0, otherwise, from left end of the specified span.										
S	LIPPORTS (lbs	<u>.</u>									

SUPPORTS (IDS)	1	2						
Max Reaction	2818	2724						
Max 115%	1227	1173						
Min Reaction	1591	1551						
Min 115%	1227	1173						
DL Reaction	1591	1551						
Min Bearing	1.50"	1.50"	[Based on bear	ing stress belov	v]			
Brg Stress (psi)	425	425	-	-	-			
DESIGN		_		_				
	Actual	Span	Location	Group	Allow	LDF	Ratio	
V(lbs)	1957	1	0' 3"	31	18354	115%	0.11	
M(ft-lbs)	18546	1	11' 3"	31	59871	115%	0.31	
LtRn(lbs)	2818	0	0'	31	13388		0.21	
RtRn(lbs)	2724	0	22' 6"	31	13388		0.20	
LLDefl(")	0.43	1	11' 3"	31	1.06		L/621	
TLDefl(")	0.98	1	11' 3"	31	1.00		L/276	

#### USE: onCENTER LVL 2.0E 1 3/4" x 16" 3 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 3 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row mid-depth, one row 2" from bottom). Specified attachment is from each face. Offset fasteners on back face halfway between fasteners on front face.

# NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge laterally unsupported between bearing locations.

3. Analysis valid for dry-use only (less than 16% moisture content).

4. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

5. When required by the building code, a registered design professional or building official should verify the input loads and product application.

6. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

7. Design assumes a 4% increase in bending stress for repetitive member use.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100\%+125\%), 80= D + 0.75(10\%+125\%), 80= D + 0 0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%) 10. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Version: 18.0.2.0

JC 910-386-4300 Project: MemberID: Hugh Surles Builders - Woodward Residence (LVL Beams)

Beam - Floor12 - LVL Ceiling Beam Kitchen Area

JC 910-386-4300

Version: 18.0.2.0

Usage: BEAM Max Deflection: LL = L/360 TL = L/2406" 6" 4" 425psi 425psi 425psi 5' 9' 13' 4' LOADS Project Design Loads : Floor: Live=20.0 psf, Dead=10.0 psf Applied Live+Dead Ld(T) Live Ld(L) Location\* # Shape @Start @End @Start @End LDF Span# Starts Ends Additional Info To: 1 Concentrated (lbs) 2000.0 1600.0 100% 0 Ceiling Beam PT Load Per Plan 2 2 Uniform (plf) 80.0 0.0 90% 0 0' 19'1" Gable End Wall 22.9 0' 19'1" 3 Uniform (plf) 40.0 115% 0 Gable End Wall Roof 19' 1" 50.0 33.3 100% 0' 4 Uniform (plf) 0 Ceiling Joist Load Right Side Of Beam 240.0 160.0 100% 0 0' 19'1" 5 Uniform (plf) Ceiling Joist Load Left Side Of Beam 6 Uniform (plf) 100.0 57.1 115% 0 0' 19'1" Low Rafter Load 0' 19'1" Self Weight Uniform (plf) 10.4 0 If "Applied To" is blank, all plies are assumed to be loaded equally. \*Dimensions measured from left end when span# is 0, otherwise, from left end of the specified span. LOAD PATTERNS (\* = span loaded) 2 1 2 3 SUPPORTS (lbs) 1 2 3 1924 9369 3386 Max Reaction Max 100% 1484 3313 1064 11-7/8" LVL Beam Can Be Installed In-Lieu Of Max 115% 440 213 1097 11-1/4" If Supplier Does Not Stock Size As Called Min Reaction -510 4959 1825 Out On Plan. Typ. Uno. Min 100% -522 1278 -50 -216 -7 Min 115% 255 **DL Reaction** 228 4959 1882 0 0 510 Uplift 2.02" 1.50" 5.56" Min Bearing [Based on bearing stress below] Brg Stress (psi) 425 425 425 DESIGN Actual Span Location Allow LDF Ratio Group V(lbs) 2589 2 0'3" 21 7482 100% 0.35 9633 2 0' 21 19061 100% 0.51 M(ft-lbs) LtRn(lbs) 1711 0 0' 22 8925 0.19 See Note 5 0 19'1" 63 RtRn(lbs) 3010 5950 0.51 See Note 5 21 8272 0 5'9" 8925 0.93 IntRn(lbs) See Note 5 0.03 1 22 L/2395 LLDefl(") 2' 10 1/2" 0.27 63 TLDefl(") -0.05 1 2' 10 1/2" 0.41 L/-1322 LLDefl(") 0.20 2 6' 8 1/2" 63 0.63 L/785 0.53 2 63 0.94 L/304 TLDefl(") 6' 8 1/2" USE: onCENTER LVL 2.0E 1 3/4" x 11 1/4" 2 Plies onCENTER® LVL by BlueLinx Grade, Depth, Plies selected by user Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

#### NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support.

3. Allowable negative moment is calculated based on bottom edge laterally supported @16" o.c.

4. Analysis valid for dry-use only (less than 16% moisture content).

5. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

6. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

7. When required by the building code, a registered design professional or building official should verify the input loads and product application.

#### PROFESSIONAL BUILDERS SUPPLY

3941 US Highway 421 North Wilmington NC 28401 Doma Sizer™ © 2011-2018 BlueLinx Corporation JC 910-386-4300

 Project:
 Hugh Surles Builders - Woodward Residence (LVL Beams)

 MemberID:
 Beam - Floor12 - LVL Ceiling Beam Kitchen Area

This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.
 Provide approved uplift resistance at supports with negative reactions.

10. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

11. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 100%, 30= D + 100\%, 30= D

0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

12. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

# Hugh Surles Builders - Woodward Residence (LVL Beams)

Usage: Max Deflection:

3 1/2"

750psi

Project:

MemberID:

Beam - Roof2 - LVL Beam Ceiling @ Large Dormer Garage Area BEAM (Roof)

LL = L/240 TL = L/180

S

0/12

3 1/2"

425psi

I											I
LOADS			Project	Design Loads : R	oof: Live	e=20.0 ps	f, Dead=15	5.0 psf			
	Applied	Live+De	ad Ld(T)	Live Ld(L)			Locatio	า*			
# Shape	To:	@Start	@End	@Start @End	LDF	Span#	Starts	Enc	ls	Additional Info	
1 Uniform (plf)		80.0		45.7	115%	0	0'	18'	8 1/2"	Ceiling Load	
2 Uniform (plf)		210.0		120.0	115%	0	0'	18'	8 1/2"	Rafter Load	
Uniform (plf)		12.94				0	0'	18'	8 1/2"	Self Weight	
If "Applied To" is blank	, all plies a	are assun	ned to be I	oaded equally.							
*Dimensions measure	d from left	end when	n span# is	0, otherwise, from	n left en	d of the s	pecified sp	an.			
SUPPORTS (Ibs	5)										
	1	1	2								
Max Reaction		2834	2834								
Max 115%		1550	1550								
Min Reaction		1284	1284								
Min 115%		1550	1550								
DL Reaction		1284	1284								
Min Bearing		1.50"	1.91"	[Based on bea	aring stre	ess below	1				
Brg Stress (psi)		750	425	-	0		-				
DESIGN											
		Actual	Span	Location		Group	Allow	LDF	Ratio		
V(lbs)		2436	1	0' 1 3/4"		31	10707	115%	0.23		
M(ft-lbs)		13254	1	9' 4 1/4"		31	32936	115%	0.40		
LtRn(lbs)		2834	0	0'		31	9188		0.31		
RtRn(lbs)		2834	0	18' 8 1/2"		31	5206		0.54		
LLDefl(")		0.29	1	9' 4 1/4"		31	0.94		L/787		
TLDefl(")		0.52	1	9' 4 1/4"		31	1.25		L/430		

18' 8 1/2" (18' 5" Clear)

#### USE: onCENTER LVL 2.0E 1 3/4" x 14" 2 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 3 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row mid-depth, one row 2" from bottom).

# NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge laterally supported @16" o.c. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

5. Roof Usage: Install with minimum 1/4:12 slope for adequate drainage.

6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

8. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 100%, 100%+125%), 80= D + 100%, 100%+125\%), 80= D + 100\%

0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

9. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Version: 18.0.2.0

JC 910-386-4300

PROFESSIONAL BUIL	DERS S	UPPLY	NC 28401			JC 910	386-4300				9/	21/2020	11:08 AM
Doma Sizer™ © 2011-2	018 Blue	Linx Cor	poration									Version:	18.0.2.0
Project: He MemberID: Be Usage: Be Max Deflection: LI	ugh Sur eam - Ro EAM (R L = L/24(	les Build oof4 - LV oof) ) TL = L/	lers - Woo ′L 2-ply Ra 180	dward Resic after @ Large	lence (LVL e Dormer G	Beams) arage Ar	ea			Slope:	12/12		
4" 750psi 4' 2"		6" 425psi					17' 7 1/8"					1 3/2 750p	t" Isi
LOADS			Project	Design Loads	s : Roof: Live	e=20.0 ps	f, Dead=15	.0 psf					
# Shane 1	Applied	Live+De	@End	Live Ld(L)	nd IDF	Snan#	Location	ř Fn	ds	Additional Info			
1 Concentrated (lbs) F 2 Partial (plf) Uniform (plf) FP= Front Ply (side or to	pp); if bla	1550.0 70.0 8.54 nk, all pli	es are ass	885.7 40.0 umed to be lo	115% 115% 115% baded equal	0 0 0 1 9.	9' 1 1/2" 0' 0'	10' 21'	9 1/8"	LVL Large Dorm Dormer Gable Er Self Weight	er PT Load nd Wall		
*Dimensions measured	from left	end whe	n span# is	0, otherwise,	from left en	d of the s	pecified spa	an.					
LOAD PATTERN	S (* =	span lo	oaded)										
1		*	*										
SUPPORTS (lbs)		4	2	2									
Max Reaction Max 115% Min Reaction Min 115% DL Reaction Uplift Min Bearing Brg Stress (psi)		-474 -538 -1013 -538 -474 1013 1.50" 750	2 3313 1683 1631 1683 1631 0 3.00" 425	3 336 141 195 141 195 0 1.50" 750	[Based on	bearing s	stress below	]					
DESIGN		Astual	Curan	Leastion		0	All		Datia				
V(Ibs) M(ft-Ibs) LtRn(Ibs) RtRn(Ibs) IntRn(Ibs) LLDefI(") TLDefI(") LLDefI(")		Actual 1280 5040 -474 336 3313 -0.02 -0.04 0.28 0.56	<b>Span</b> 2 2 0 0 0 1 1 2 2	Location 0' 3" 0' 21' 9 1/8" 4' 2" 2' 0 1/2" 2' 0 1/2" 8' 10 5/8" 8' 10 5/8"		<b>Group</b> 31 31 31 31 31 31 31 31 31 31 31	Allow 7075 14668 10500 4594 8925 0.29 0.39 1.24 1.50	LDF 115% 115%	Ratio 0.18 0.34 0.05 0.07 0.37 L/-3560 L/-1853 L/1055 L/530	)			
	D I V	20⊏	1 2//"	0 1// 2	Dlice								

#### SE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 2 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

## NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support.

3. Allowable negative moment is calculated based on bottom edge laterally unsupported between bearing locations.

4. Analysis valid for dry-use only (less than 16% moisture content).

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

Project:	Hugh Surles Builders - Woodward Reside	nce (LVL Beams)	
Doma Sizer™ ©	2011-2018 BlueLinx Corporation		Version: 18.0.2.0
3941 US Highwa	ay 421 North Wilmington NC 28401	910-386-4300	
PROFESSIONA	L BUILDERS SUPPLY	JC	9/21/2020 11:08 AM

 MemberID:
 Beam - Roof4 - LVL 2-ply Rafter @ Large Dormer Garage Área

 6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. Provide approved uplift resistance at supports with negative reactions.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 100%, 20= D + 100\%

0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

10. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

3941 US Highway 421 North Wilmington NC 28401 Doma Sizer™ © 2011-2018 BlueLinx Corporation

Hugh Surles Builders - Woodward Residence (LVL Beams)

/lemberID: Jsage: /lax Deflection:	Beam - R BEAM (F LL = L/24	Roof1 - LV Roof) 40 TL = L/1	L 2-ply R 180	after @ Smal	l Dormer G	arage Ar	ea			Slope:	12/12	
4" 425psi		4" 425nsi										1 3/4"   750nsi
<u> </u>		425951				-	17' 7 1/8"					
I	I											I
OADS			Project	Design Loads	s : Roof: Live	e=20.0 ps	f, Dead=15	5.0 psf				
Shana	Applied	Live+De	ad Ld(T)	Live Ld(L)	nd IDE	Snon#	Location	1 <sup>*</sup> נ	Indo	Additional Info		
Area (nsf)	10:	25.0	@Ena		115%	Span#	Starts	1	201' Q 1/8"	16" o c Base Ur	niform Load (S	Shoa Sen)
Partial (nlf)		105.0		60.0	115%	0	0'	2	a' 1 1/2"	Dormer Rafters		pog den)
Partial (plf)		80.0		0.0	90%	Õ	0'	ç	9' 1 1/2"	Dormer Wall		
Concentrated (lbs)		525.0		300.0	115%	0	9' 1 1/2"			Dormer Header		
Uniform (plf)		8.54				0	0'	2	21' 9 1/8"	Self Weight		
f "Applied To" is blan	k, all plies	are assum	ned to be	loaded equally	<i>/</i> .					-		
Dimensions measure	d from lef	ft end wher	n span# is	s 0, otherwise,	from left en	d of the s	pecified spa	an.				
OAD PATTER	NS (* =	span lo	paded)									
		*	*									
UPPORTS (Ibs	5)	4	2	2								
lay Reaction	-	1 -317	∠ /160	<b>3</b> 60/								
lax 115%		-312	1405	244								
Ain Reaction		-629	2674	360								
lin 115%		-312	1495	244								
L Reaction		-317	2674	360								
Jplift		629	0	0								
lin Bearing		1.50"	3.00"	1.50"	[Based on	bearing s	stress below	v]				
rg Stress (psi)		425	425	750								
DESIGN		Actual	Snan	Location		Group	Allow		Ratio			
(lbs)		1405	2	0' 2"		31	7075	115%	6 0 20			
l(ft-lbs)		5258	2	0'		31	14664	115%	0.36			
tRn(lbs)		-317	0	0'		10	5950		0.05			
tRn(lbs)		604	0	21' 9 1/8"		31	4594		0.13			
ntRn(lbs)		4169	0	4' 2"		31	5950		0.70			
LDefl(")		-0.01	1	2' 1"		31	0.29		L/-5006			
LDefl(")		-0.03	1	2' 1"		31	0.39		L/-2093			
LDefl(")		0.25	2	8' 10 1/8"		31	1.24		L/1218			
LDefl(")		0.60	2	8' 10 1/8"		31	1.50		L/498			
ISE: onCEN onCEN	TER LV Ter® L	/L 2.0E _VL by I	1 3/4" : BlueLii	x 9 1/4" 2   nx	Plies	Grade, [	Depth, Plies	s select	ted by user			
Connect p	lies toge	ther with 2	2 rows of	0.131" x 3 1/	2" nails @ <sup>-</sup>	12" o.c. (	one row 2"	' from t	op, one row 2	2" from bottom).		
	Ũ				5	,				,		
IOTES												

JC

910-386-4300

9/21/2020 10:33 AM

Version: 18.0.2.0

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Allowable negative moment is calculated based on bottom edge laterally unsupported between bearing locations.

4. Analysis valid for dry-use only (less than 16% moisture content).

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. Provide approved uplift resistance at supports with negative reactions.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+115%)+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%) 10. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Hugh Surles Builders - Woodward Residence (LVL Beams)
Beam - Floor2 - LVL Under Gable End Wall @ Bump-Out Area
BEAM

Max Deflection: LL = L/360 TL = L/240

Project: MemberID: Usage:

425psi 11' 7" (11' 2" Clear)	425	spsi

L	OADS		Pro	ject Design	Loads : F	loor: Liv	e=40.0 ps	f, Dead=	10.0 psf		
-	0,120	Applied	Live+Dead Lo	d(T) Live L	d(L)		-	Locatio	on*		
#	Shape	To:	@Start @En	d @Star	t @End	LDF	Span#	Starts	Ends	Additional Info	
1	Concentrated (lbs)		2600.0	2080.0	)	100%	0	0' 4"		Garage Ceiling Beam	
2	Uniform (plf)		200.0	160.0		100%	0	0'	11' 7"	Bonus Room Floor Load	
3	Uniform (plf)		80.0	0.0		90%	0	0'	11' 7"	Gable End Wall Load	
4	Concentrated (lbs)		1200.0	685.7		115%	0	8'		Ridge Beam Above	
	Uniform (plf)		8.54				0	0'	11' 7"	Self Weight	
lf '	"Applied To" is blank	, all plies	are assumed to	be loaded e	qually.						
*D	imensions measure	d from left	end when spar	n# is 0, othe	wise, fror	n left en	d of the s	pecified s	pan.		
S	UPPORTS (lbs	5)	1 2								
Ма	ax Reaction		4876 288	33							
Ма	ax 100%		2947 987	7							
Ma	ax 115%		212 474	1							
Mi	in Reaction		1717 142	23							
Mi	in 100%		2947 987	7							

Group

21

21

21

61

61

61

Allow

6152

13320

8925

5950

0.55

0.82

LDF

100%

100%

Ratio

0.30

0.53

0.52

0.42

L/404

L/179

See Note 4

See Note 4

USE:	onCENTER LVL 2.0E 1 3/4" x 9 1/4" 2 Plies
	onCENTER® LVL by BlueLinx

212

1717

3.14"

425

Actual

1850

7090

4664

2518

0.34

0.78

474 1423

1.69"

425

Span

1

1

0

0

1

1

Location

0'3"

5' 10"

11'7"

5' 10"

5' 10"

0'

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

[Based on bearing stress below]

# NOTES

Min 115%

V(lbs)

M(ft-lbs)

LtRn(lbs)

RtRn(lbs)

LLDefl(")

TLDefl(")

**DL Reaction** 

Min Bearing

Brg Stress (psi) DESIGN

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application. 7. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+115%), 90= D + 0.75(100%+125%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

10. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Usage:

LOADS

		1
3 1/2"		3 1/2"
750psi 12' 3 1/2" (12' Clear)	I	]750ps

Project Design Loads : Floor: Live=40.0 psf, Dead=10.0 psf

JC

910-386-4300

		Applied	Live+De	ad Ld(T)	Live Ld(L)			Location	*		
#	Shape	To:	@Start	@End	@Start @End	LDF	Span#	Starts	E	Ends	Additional Info
	Area (psf)		50.0		40.0	100%	0	0'	1	2' 3 1/2"	16" o.c. Base Uniform Load (Spcg Sen)
1	Uniform (plf)		200.0		114.3	115%	0	0'	1	2' 3 1/2"	Rafter Support Load
	Uniform (plf)		8.54				0	0'	1	2' 3 1/2"	Self Weight
lf "	Applied To" is blank	, all plies a	are assur	ned to be l	baded equally.						
*D	imensions measured	d from left	end whe	n span# is	0, otherwise, from	n left end	d of the sp	ecified spa	ın.		
SI	UPPORTS (lbs	;)									
		,	1	2							
Ма	ax Reaction		1965	1965							
Ma	ax 100%		328	328							
Ма	ax 115%		702	702							
Mi	n Reaction		935	935							
Mi	n 100%		328	328							
Mi	n 115%		702	702							
DL	Reaction		935	935							
Mi	n Bearing		1.50"	1.50"	[Based on bearing stress below]						
Br	g Stress (psi)		750	750							
D	ESIGN			•			•			D. (1	
			Actual	Span	Location		Group	Allow		Ratio	
V(I	ids)		1027	1	0 1 3/4		01	/0/5	115%	0.15	
IM(	ft-lbs)		5247	1	6' 1 3/4"		61	15318	115%	0.34	
Lti	Rn(Ibs)		1708	0	0.		61	9188		0.19	See Note 4
Rt	Kn(IDS)		1/08	U	12'3 1/2"		61	9188		0.19	See Note 4
	Defl(")		0.28	1	6'1 3/4"		61	0.58		L/527	
ΪL	Defl(")		0.62	1	6 1 3/4"		61	0.87		L/239	

#### USE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 2 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

## NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100\%+125\%), 80= D + 0.75(10\%+125\%), 80= D + 0 0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%) 10. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Usage:

MemberID:

#### Hugh Surles Builders - Woodward Residence (LVL Beams) Beam - Floor3 - LVL Under Kneewall In Garage Area Back side Repetitive Incr: BFAM Yes Max Deflection: LL = L/360 TL = L/240

3 1/2" 750psi	12: 2 1 (2): (12: Clear)	37	3 1/2" 750psi
	Drainet Deairen Landa : Elear: Live-40.0 nef Dead-10.0 nef		
LOADS	Applied Live+Dead Ld(T) Live Ld(L) Live=40.0 pst, Dead=10.0 pst Applied Live+Dead Ld(T) Live Ld(L) Location*		

		/ ppnoa		//// = = = = = = = = = = = = = = = = =	=======================================			Loodation			
#	Shape	To:	@Start	@End	@Start @End	LDF	Span#	Starts	Enc	ls	Additional Info
_	Area (psf)		50.0		40.0	100%	0	0'	12'	3 1/2"	16" o.c. Base Uniform Load (Spcg Sen)
1	Uniform (plf)		200.0		114.3	115%	0	0'	12'	3 1/2"	Rafter Support Load
2	Concentrated (lbs)		1200.0		960.0	100%	0	9'			Rafter Pt Load From Above
	Uniform (plf)		12.81				0	0'	12'	3 1/2"	Self Weight
lf "	'Applied To" is blank	, all plies a	are assur	ned to be l	oaded equally.						
*D	imensions measured	d from left	end whe	n span# is	0, otherwise, from	left en	d of the sp	ecified spa	n.		
S	UPPORTS (lbs	;)									
-		1	1	2							
Ма	ax Reaction		2324	2881							
Ма	ax 100%		585	1031							
Ма	ax 115%		702	702							
Mi	in Reaction		1036	1148							
Mi	in 100%		585	1031							
Mi	in 115%		702	702							
DL	- Reaction		1036	1148							
Mi	in Bearing		1.50"	1.50"	[Based on bea	ring stre	ess below				
Br	g Stress (psi)		750	750							
D	ESIGN						-				
			Actual	Span	Location		Group	Allow	LDF	Ratio	
V(	lbs)		1403	1	12' 1 3/4"		21	9228	100%	0.15	
M(	(ft-lbs)		6213	1	7' 7 3/4"		21	20781	100%	0.30	
Lt	Rn(lbs)		2002	0	0'		61	13781		0.15	See Note 4
Rt	Rn(lbs)		2448	0	12' 3 1/2"		61	13781		0.18	See Note 4
LL	_Defl(")		0.29	1	6' 1 3/4"		61	0.58		L/513	
ΤL	.Defl(")		0.56	1	6' 1 3/4"		61	0.87		L/265	

#### USE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 3 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom). Specified attachment is from each face. Offset fasteners on back face halfway between fasteners on front face.

## NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

8. Design assumes a 4% increase in bending stress for repetitive member use.

9. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

10. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 100%, 30= D + 100\%, 30= D 0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%) 11. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Project: MemberID:

Usage:

#### Hugh Surles Builders - Woodward Residence (LVL Beams) Beam - Floor4 - LVL Under Kneewall In Garage Area Front side Repetitive Incr: BFAM Yes Max Deflection: LL = L/360 TL = L/240

1/2"	П	3 1/2"
12' 3 1/2" (12' Clear)		750psi

Ľ	UAD2		1	TUJECL	Design Lt	1003.11	001. LIV	5- <del>4</del> 0.0 p3	i, Deau-10.0 p	31	
		Applied	Live+Dead	Ld(T)	Live Ld(	L)			Location*		
ŧ	Shape	To:	@Start @E	End	@Start	@End	LDF	Span#	Starts	Ends	Additional Info
	Area (psf)		50.0		40.0		100%	Ö	0'	12' 3 1/2"	16" o.c. Base Uniform Load (Spcg Sen)
1	Uniform (plf)		200.0		114.3		115%	0	0'	12' 3 1/2"	Rafter Support Load
2	Concentrated (lbs)		1200.0		960.0		100%	0	4'		Rafter PT Load From Above
3	Concentrated (lbs)		1200.0		960.0		100%	0	8'		Rafter PT Load From Above
	Uniform (plf)		12.81					0	0'	12' 3 1/2"	Self Weight
f'	'Applied To" is blank	, all plies	are assumed	to be l	oaded eq	Jally.					-
۴D	imensions measured	d from left	end when sp	oan# is	0, otherw	ise, fron	n left en	d of the sp	pecified span.		
S	UPPORTS (lbs	;)									
		')	1 2	2							
Ma	ax Reaction		3231 3	3174							
Ma	ax 100%		1311 1	265							
Ma	ax 115%		702 7	702							
Mi	n Reaction		1218 1	206							
∕li	n 100%		1311 1	265							
Mi	n 115%		702 7	702							

Project Design Loads : Floor: Live-10.0 nsf. Dead-10.0 nsf

#### USE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 3 Plies onCENTER® LVL by BlueLinx

1218

1.50"

750

Actual

1651

8969

2728

2682

0.42

0.74

1206

1.50"

750

Span

1

1

0

0

1

1

I ocation

0' 1 3/4"

6' 1 3/4"

12' 3 1/2"

6' 1 3/4"

6' 1 3/4"

0'

Grade, Depth, Plies selected by user

Group

21

21

61

61

61

61

Allow

9228

20781

13781

13781

0.58

0.87

LDF

100%

100%

Ratio

0.18

0.43

0.20

0.19

L/347

L/200

See Note 4

See Note 4

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom). Specified attachment is from each face. Offset fasteners on back face halfway between fasteners on front face.

## NOTES

DL Reaction

Min Bearing

V(lbs)

M(ft-lbs)

LtRn(lbs)

RtRn(lbs)

LLDefl(")

TLDefl(")

**Brg Stress (psi)** DESIGN

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

[Based on bearing stress below]

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

8. Design assumes a 4% increase in bending stress for repetitive member use.

9. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

10. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 100%, 30= D + 100\%, 30= D 0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

11. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Version: 18.0.2.0

JC 910-386-4300 910-386-4300

Version: 18.0.2.0

Project: MemberID: Usage: Max Deflection: Hugh Surles Builders - Woodward Residence (LVL Beams) Beam - Floor7 - LVL Stair Stringer In Garage Area BEAM LL = L/360 TL = L/240

3 1/2"		3 1/2"
425psi		750ps
	12' 3 1/2" (12' Clear)	

JC

LOADS			Project	Design Loads : F	loor: Live	e=40.0 ps	f, Dead=10	0.0 psf			
	Applied	Live+De	ad Ld(T)	Live Ld(L)			Location	ז*			
# Shape	To:	@Start	@End	@Start @End	LDF	Span#	Starts	End	ls	Additional Info	
Area (psf)		50.0		40.0	100%	0	0'	12'	3 1/2"	16" o.c. Base Uniform Load (Spcg Sen)	
1 Uniform (plf)		80.0		0.0	90%	0	0'	12'	3 1/2"	Wall Above	
2 Concentrated (lbs)		500.0		400.0	100%	0	2'			Stair Header PT Load	
3 Concentrated (lbs)		1540.0		1232.0	100%	0	8' 8"			Header PT Load In Bath Area Of Garage	
Uniform (plf)		8.54				0	0'	12'	3 1/2"	Self Weight	
If "Applied To" is blank, all plies are assumed to be loaded equally.											
*Dimensions measured from left end when span# is 0, otherwise, from left end of the specified span.											
SUPPORTS (lbs	;)										
	~/	1	2								
Max Reaction		2086	2380								
Max 100%		1026	1262								
Min Reaction		1060	1119								
Min 100%		1026	1262								
DL Reaction		1060	1119								
Min Bearing		1.50"	1.50"	[Based on be	aring stre	ess below	]				
Brg Stress (psi)		425	750								
DESIGN											
		Actual	Span	Location		Group	Allow	LDF	Ratio		
V(lbs)		1555	1	12' 1 3/4"		21	6152	100%	0.25		
M(ft-lbs)		7356	1	7' 7 3/4"		21	13320	100%	0.55		
LtRn(lbs)		2086	0	0'		21	5206		0.40		
RtRn(lbs)		2380	0	12' 3 1/2"		21	9188		0.26		
LLDefl(")		0.45	1	6' 1 3/4"		21	0.58		L/326		
TLDefl(")		0.86	1	6' 1 3/4"		21	0.87		L/172		

## USE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 2 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

## NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

- 4. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).
- 5. When required by the building code, a registered design professional or building official should verify the input loads and product application.
- 6. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

7. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

8. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+115%), 90= D + 0.75(100%+125%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%) 9. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Usage:

#### Hugh Surles Builders - Woodward Residence (LVL Beams) MemberID: Beam - Floor6 - LVL Under Door Header PT Load In Bath Area Of Garage BFAM Max Deflection: LL = L/360 TL = L/240

		]
3 1/2" 425psi	12' 3 1/2" (12' Clear)	3 1/2" 750ps

LOADS			Project	Design Loads : Fl	loor: Liv	e=40.0 ps	sf, Dead=1	0.0 psf		
	Applied	Live+De	ead Ld(T)	Live Ld(L)			Locatio	า*		
# Shape	To:	@Start	@End	@Start @End	LDF	Span#	Starts	End	S	Additional Info
Area (psf)		50.0		40.0	100%	0	0'	12' 3	3 1/2"	16" o.c. Base Uniform Load (Spcg Sen)
1 Concentrated (lbs	5)	1950.0		1560.0	100%	0	8' 8"			Header PT Load From Above
Uniform (plf)		8.54				0	0'	12' 3	3 1/2"	Self Weight
If "Applied To" is blar	nk, all plies	are assur	ned to be I	oaded equally.						
*Dimensions measur	ed from left	end whe	n span# is	0, otherwise, from	n left en	d of the s	pecified sp	an.		
SUPPORTS (lb	s)									
	•/	1	2							
Max Reaction		1093	1893							
Max 100%		788	1428							
Min Reaction		305	465							
Min 100%		788	1428							
DL Reaction		305	465							
Min Bearing		1.50"	1.50"	[Based on bea	aring stre	ess below	/]			
Brg Stress (psi)		425	750	-	-		-			
DESIGN										
		Actual	Span	Location		Group	Allow	LDF	Ratio	
V(lbs)		1284	1	12' 1 3/4"		21	6152	100%	0.21	
M(ft-lbs)		6308	1	8' 8"		21	13320	100%	0.47	
LtRn(lbs)		1093	0	0'		21	5206		0.21	
RtRn(lbs)		1893	0	12' 3 1/2"		21	9188		0.21	
LLDefl(")		0.47	1	6' 1 3/4"		21	0.58		L/312	
TLDefl(")		0.63	1	6' 1 3/4"		21	0.87		L/234	

#### USE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 2 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

## NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

5. When required by the building code, a registered design professional or building official should verify the input loads and product application.

6. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

7. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

8. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D +

0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

9. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Version: 18.0.2.0

JC

Hugh Surles Builders - Woodward Residence (LVL Beams) Project: MemberID: Beam - Floor1 - Garage Door Header BEAM Usage: Max Deflection: LL = L/480 TL = L/240LC 1 2 lf " \*Di รเ Ма Ма Ma Mir Mir

#### USE: onCENTER LVL 2.0E 1 3/4" x 11 1/4" 2 Plies onCENTER® LVL by BlueLinx

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

## NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge laterally unsupported between bearing locations.

Grade, Depth, Plies selected by user

3. Analysis valid for dry-use only (less than 16% moisture content).

4. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100\%+125\%), 80= D + 0.75(10\%+125\%), 80= D + 0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

6" 425psi										6" 425psi		
L			9'	6" (9' Cl	ear)					12000		
Γ												
LOADS			Project	Design Lo	oads : Fl	oor: Live	e=40.0 ps	sf, Dead=1	0.0 psf			
	Applied	Live+De	ead Ld(T)	Live Ld	(L)			Locatio	n*			
# Shape	To:	@Start	@End	@Start	@End	LDF	Span#	Starts	End	s	Additional Info	
1 Uniform (plf)		40.0		32.0		100%	0	0'	9' 6'	•	Floor Load	
2 Uniform (plf)		490.0		280.0		115%	0	0'	9' 6'		Rafter Loads	
Uniform (plf)		10.4					0	0'	9' 6'	'	Self Weight	
If "Applied To" is bla	ank, all plies	are assur	ned to be I	oaded eq	ually.							
*Dimensions measu	red from left	end whe	n span# is	0, otherw	rise, fron	n left en	d of the s	pecified sp	an.			
SUPPORTS (I	bs)											
	,	1	2									
Max Reaction		3016	3016									
Max 100%		152	152		44.7	7/0"   )		dara Ca	n Do Inc			
Max 115%		1330	1330		11-1	/0 L\						
Min Reaction		1534	1534		Sup	plier L	oes N	ot Stock	Size As	Called	Out On Plan. Typ. Uno.	
Min 100%		152	152									
Min 115%		1330	1330									
DL Reaction		1534	1534									
Min Bearing		1.93"	1.93"	[Base	d on bea	aring stre	ess below	v]				
Brg Stress (psi)		425	425									
DESIGN												
		Actual	Span	Locat	ion		Group	Allow	LDF	Ratio		
V(lbs)		1519	1	0' 3"			31	8604	115%	0.18		
M(ft-lbs)		6803	1	4' 9"			31	20873	115%	0.33		
LtRn(lbs)		2864	0	0'			31	8925		0.32	See Note 4	
RtRn(lbs)		2864	0	9' 6"			31	8925		0.32	See Note 4	
LLDefl(")		0.12	1	4' 9"			31	0.34		L/923		
TLDefl(")		0.27	1	4' 9"			31	0.67		L/428		

Project:	Hugh Surles Builders - Woodward Residence (LVL Beams)
MemberID:	Beam - Floor11 - LVL Header @ Dining Room Slider
Usage:	BEAM
Max Deflection:	LL = L/360 TL = L/240

4" 425psi			4" 425psi
	12' 4" (12' Clear)		
	Project Design Loads : Floor: Live=40.0 psf. Dead=10.0 psf		

<b>L</b>							,		
		Applied	Live+Dead Ld(T)	Live Ld(L)			Location*		
#	Shape	To:	@Start @End	@Start @End	LDF	Span#	Starts	Ends	Additional Info
	Area (psf)		50.0	40.0	100%	0	0'	12' 4"	16" o.c. Base Uniform Load (Spcg Sen)
1	Concentrated (lbs)		1200.0	685.7	115%	0	6'		6x16 Timber Beam PT Load
2	Uniform (plf)		40.0	22.9	115%	0	0'	12' 4"	Gable End Wall Roof
3	Uniform (plf)		80.0	0.0	90%	0	0'	12' 4"	Gable End Wall
	Uniform (plf)		8.54			0	0'	12' 4"	Self Weight

If "Applied To" is blank, all plies are assumed to be loaded equally.

\*Dimensions measured from left end when span# is 0, otherwise, from left end of the specified span.

# 

SUPPORTS (IDS)	1	2							
Max Reaction	2124	2091							
Max 100%	329	329							
Max 115%	493	475							
Min Reaction	1302	1288							
Min 100%	329	329							
Min 115%	493	475							
DL Reaction	1302	1288							
Min Bearing	1.50"	1.50"	[Based on beari	ng stress below	/]				
Brg Stress (psi)	425	425							
DESIGN	Actual	Snon	Location	Crown	Allow		Detie		
V/lbc)	1207	Span 1		Group	7075	115%	0.17		
V(IDS) M(ft lbc)	7/52	1	0 Z 6'	61	1519/	115%	0.17		
l tPn(lbc)	1018	0	0	61	5050	11370	0.49	See Note /	
DtDp(lbc)	1910	0	0 10' /"	61	5050		0.32	See Note 4	
	0.28	1	12 4 6' 0"	61	0.58		0.5Z	See Note 4	
	0.20	1	0 Z 6' 2"	61	0.00		1/183		
	0.01	I	0 2	UI	0.07		L/103		

#### USE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 2 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

#### NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge laterally supported @16" o.c. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. This reaction is based on the combination of loads & duration factors that produces the highest stress ratio and may be less than maximum reaction. Therefore, when reaction values are required, use Max Reaction from 'Supports' section above.

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application. 7. This member has been sized for residential use. A concentrated load check, per the building code, must be performed for commercial uses.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100\%+125\%), 80= D + 0.75(10\%+125\%), 80= D + 0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

10. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Doma Sizer™ © 2011-2018 BlueLinx Corporation Hugh Surles Builders - Woodward Residence (LVL Beams) MemberID:

Usage: Max Deflection:

Project:

### Beam - Roof1-MB - LVL Rafter Beam @ Master Bedroom Area, Typ. BEAM (Roof) LL = L/240 TL = L/180

Γ	3 1/2"	3 1/2"
L	425psi	750psi
	16' 3 1/2" (16' Clear)	

			Drojoct I	Docian	ande · De	of: Live	-20 0 pcf	Dood-16	0 pcf				
LUADS	Applied			Liveld	Jaus . Nu (1 )	JOI. LIVE	=20.0 psi	, Deau-ro	a*				
# Shane 1		@Start	@End	@Start	(⊑) @End		Snan#	Starte	' ı	Ende	Additional Info		
Area (nef)	10.	35.0	@LIIU	20.0	@LIIU	115%				16' 3 1/2"	16" o.c. Base Uniform Load (Spcg Sen)		
1 Transzoidal (nlf)		200.0	0.0	11/1 3	0.0	115%	0	0'		16' 3 1/2"	Pafter Loads		
Uniform (plf)		8.54	0.0	114.5	0.0	11370	0	0'		16' 3 1/2"	Self Weight		
If "Applied To" is blank.	all plies a	are assur	ned to be lo	baded eq	ded equally.								
*Dimensions measured	from left	end whe	n span# is	0, otherw	vise, from	n left end	d of the sp	ecified sp	an.				
SUPPORTS (lbs)				,	,								
		1	2										
Max Reaction		1825	1185										
Max 115%		838	528										
Min Reaction		987	658										
Min 115%		838	528										
DL Reaction		987	658										
Min Bearing		1.50"	1.50"	[Base	d on bea	ring stre	ess below	1					
Brg Stress (psi)		425	750	-		•	-						
DESIGN													
		Actual	Span	Locat	ion		Group	Allow	LDF	Ratio			
V(lbs)		1223	1	0' 1 3/	4"		31	7075	115%	6 0.17			
M(ft-lbs)		6195	1	7' 1 3/	4"		31	15318	115%	6 0.40			
LtRn(lbs)		1825	0	0'			31	5206		0.35			
RtRn(lbs)		1185	0	16' 3	1/2"		31	9188		0.13			
LLDefl(")		0.58	1	8' 1 3/	4"		31	1.15		L/480			
TLDefl(")		1.27	1	8' 1 3/	4"		31	1.50		L/218			

#### USE: onCENTER LVL 2.0E 1 3/4" x 9 1/4" 2 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

# NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

4. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

5. When required by the building code, a registered design professional or building official should verify the input loads and product application.

6. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

7. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+125\%), 80= D + 0.75(100\%+125\%), 80= D + 0.75(10\%+125\%), 80= D + 0.75

0.75(100%+115%+160%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

8. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

Version: 18.0.2.0

Slope:

12/12

3941 US Highway 4 Doma Sizer™ © 20	21 North W 11-2018 Blu	ilmington eLinx Cor	NC 28401 poration		910-386-4300								
Project: MemberID: Usage:	Hugh Sur Beam - R BEAM (F	rles Build oof5 - LV Roof)	lers - Woo ′L Ridge B	dward Resid eam @ Gara	ence (LVL ge Stair Ar	Beams) ea							
Max Deflection:	LL = L/24	0 TL = L/	180							Slope:	12/12		
4" 425psi 4	10"		" 25psi				14' 10	0"				4" 425psi	
LOADS			Project	Design Loads	: Roof: Live	e=20.0 ps	sf, Dead=15	5.0 psf					
	Applied	Live+De	ead Ld(T)	Live Ld(L)		•	Location	n* .					
# Shape	To:	@Start	@End	@Start @E	nd LDF	Span#	Starts	Enc	ls	Additional Inf	o		
1 Uniform (plf)		120.0		68.6	115%	0	0'	19'	8" o"	Rafter Support	Load		
If "Applied To" is blo	unk all plice	10.4 aro accun	nod to bo l		,	0	0	19	0	Sell weight			
*Dimensions measu	ired from left	are assur	n enan# is	Oaueu equaliy	'. from left en	d of the s	nacified sn	an					
							specilieu sp	an.					
LUAD PATTE	RN3 (" =	span io	oaded)										
1		1 *	۲ *										
SUPPORTS (II	bs)	4	2	2									
Max Reaction		I _177	∠ 2/52	3 Q21	11_7/8"		an Be Ir	nstalled	In-Lieu (	Of 11_1/4" I	VI If	7	
Max 115%		-139	1078	410	Supplie		Not Ste	ock Sizo		od Out On [			
Min Reaction		-316	1374	522							iaii.		
Min 115%		-139	1078	410	p yp. O	10.							
DL Reaction		-177	1374	522									
Uplift		316	0	0									
Min Bearing		1.50"	3.00"	1.50"	[Based on	bearing s	stress belov	v]					
Brg Stress (psi)		425	425	425		-							
DESIGN		Actual	Span	Location		Group	Allow	LDF	Ratio				
V(lbs)		850	2	0' 2"		31	8604	115%	0.10				
M(ft-lbs)		3348	2	0'		31	21879	115%	0.15				
LtRn(lbs)		-177	0	0'		10	5950		0.03				
RtRn(lbs)		931	0	19' 8"		31	5950		0.16				
IntRn(lbs)		2452	0	4' 10"		31	5950		0.41				
LLDefl(")		-0.01	1	2' 5"		31	0.34		L/-1186	0			
TLDefl(")		-0.02	1	2' 5"		31	0.46		L/-5215				
LLDefl(")		0.10	2	7' 5"		31	1.05		L/2631				
TLDefl(")		0.22	2	7' 5"		31	1.40		L/1157				

JC

9/21/2020 3:51 PM

#### USE: onCENTER LVL 2.0E 1 3/4" x 11 1/4" 2 Plies onCENTER® LVL by BlueLinx

PROFESSIONAL BUILDERS SUPPLY

Grade, Depth, Plies selected by user

Connect plies together with 2 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row 2" from bottom).

#### NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Allowable negative moment is calculated based on bottom edge laterally supported @16" o.c.

4. Analysis valid for dry-use only (less than 16% moisture content).

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others).

6. When required by the building code, a registered design professional or building official should verify the input loads and product application.

7. Provide approved uplift resistance at supports with negative reactions.

8. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

9. Load Combinations: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 0.75(100%+115%), 90= D + 0.75(100%+125%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)

10. Group = Load Combination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

 Project:
 Hugh Surles Builders - Woodward Residence (LVL Beams)

 MemberID:
 Beam - Roof3 - LVL Ridge Beam @ Garage Area

 Usage:
 BEAM (Roof)

 Max Deflection:
 LL = L/240 TL = 1.50"

 Slope:
 0/12

ſ	4"	6"	4"
L	J <sub>750psi</sub> L	」425psi	425psi
	8' 6"	27' 6"	·

JC

910-386-4300

			Project	Design Loads	· Roof: Live	=20 0 ns	f Dead=1	5 0 nsf		
LUADS	Annlied	l ive+De	(T)h I he		. 11001. LIW	5-20.0 p3	l ocatio	n*		
# Shape	То:	@Start	@End	@Start @E	nd LDF	Span#	Starts	 Ends		Additional Info
1 Concentrated (lbs)		604.0	<u>e</u>	345.1	115%	0	4'			DBL Rafter PT Load
2 Concentrated (lbs)		604.0		345.1	115%	0	8' 6"			DBL Rafter PT Load
3 Concentrated (lbs)		604.0		345.1	115%	0	15' 6"			DBL Rafter PT Load
4 Concentrated (lbs)		604.0		345.1	115%	0	20'			DBL Rafter PT Load
5 Concentrated (lbs)		604.0		345.1	115%	0	27'			DBL LVL Rafter PT Load
6 Concentrated (lbs)		604.0		345.1	115%	0	31' 6"			DBL Rafter PT Load
7 Uniform (plf)		100.0		100.0	115%	0	0'	36'		Rafter Load
Uniform (plf)		12.94				0	0'	36'		Self Weight
If "Applied To" is blank,	all plies a	are assur	ned to be I	oaded equally						5
*Dimensions measured	from left	end whe	n span# is	0, otherwise, 1	from left en	d of the s	pecified sp	an.		
LOAD PATTERN	IS (* = ·	full sn	ow load	, ½ = half	snow lo	ad)				
	`	1	2			,				
1		*	1/2							
2		1/2	*							
3		*	*							
SUPPORTS (lbs)	)	4	0	0						
May Depation		1	2	3						
Max Reaction		-300	0407	2294						
Wax 115%		-100	4/01	1705						
Win Reaction		-1309	1/30	209						
NIN 115%		-1004	2000	043 590						
DL Reaction		-300 1260	1730	209						
Uplift Min Booring		1509	U 1 26"	0	[Doood on	hooring o	traca bala	]		
Real Strace (noi)		1.30	4.30	1.34	[based on	bearing s	stress below	vj		
		750	420	420						
DESIGN		Actual	Span	Location		Group	Allow	LDF	Ratio	
V(lbs)		3069	2	0' 3"		33	10707	115%	0.29	
M(ft-lbs)		16025	1	8' 6"		33	32936	115%	0.49	
LtRn(lbs)		-306	0	0'		10	10500		0.03	
RtRn(lbs)		2294	0	36'		32	5950		0.39	
IntRn(lbs)		6487	0	8' 6"		33	8925		0.73	
LLDefl(")		-0.05	1	4' 2 1/2"		32	0.43		L/-2015	
TLDefl(")		-0.07	1	4' 2 1/2"		32	0.57		L/-1528	
LLDefl(")		0.69	2	13' 9 1/2"		32	1.38		L/478	
TLDefl(")		0.94	2	13' 9 1/2"		32	1.50		L/351	

# USE: onCENTER LVL 2.0E 1 3/4" x 14" 2 Plies onCENTER® LVL by BlueLinx

Grade, Depth, Plies selected by user

Connect plies together with 3 rows of 0.131" x 3 1/2" nails @ 12" o.c. (one row 2" from top, one row mid-depth, one row 2" from bottom).

## NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Allowable negative moment is calculated based on bottom edge laterally supported @16" o.c.

4. Analysis valid for dry-use only (less than 16% moisture content).

5. Bearing length (Min Bearing) based on allowable stress of support material (Bearing Stress); support material capacity shall be verified (by others). 6. Roof Usage: Install with minimum 1/4:12 slope for adequate drainage.

7. When required by the building code, a registered design professional or building official should verify the input loads and product application.

8. Provide approved uplift resistance at supports with negative reactions.

9. Company, product or brand names referenced are trademarks or registered trademarks of their respective owners.

#### PROFESSIONAL BUILDERS SUPPLY

3941 US Highway 421 North Wilmington NC 28401 Doma Sizer™ © 2011-2018 BlueLinx Corporation JC 910-386-4300

Project:	Hugh Surles Builders - Woodward Residence (LVL Beams)
MemberID:	Beam - Roof3 - LVL Ridge Beam @ Garage Area
10. Load Combinati	ons: 10= D, 20= D + 100%, 30= D + 115%, 40= D + 125%, 50= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 160%, 60= D + 0.75(100%+115%), 70= D + 0.75(100%+125%), 80= D + 160%, 80= D + 0.75(100%+115%), 70= D + 0.75(100%+125\%), 80= D + 160\%
0.75(100%+115%+1	60%), 90= D + 0.75(100%+125%+160%), 100= 0.6D + 160%, 110= D + Commercial (100%), 120= D + 0.75(100%+160%)
11. Group = Load C	ombination Number + Load Pattern number. (For simple span, Load pattern = 1 for LL, 0 for DL).

3941 US Highway 421 Doma Sizer™ © 2011		910-386-4300							Version: 18.0.2.0			
Project: MemberID: Usage: Max Deflection:	Hugh Sur Beam - Ro BEAM (R LL = L/240	ugh Surles Builders - Woodward Residence (LVL Beams) ₃am - Roof6 - LVL Ridge Beam @ Great Room Area EAM (Roof) ₋ = L/240 TL = 1.50"								Slope:	12/12	
6" 425psi				3,	2' 6" (32	2' Clear)						6" 425psi
LOADS	Anneliad	LiverDe	Project	Design Loads : R	oof: Live	e=20.0 ps	f, Dead=15	5.0 psf				
# Shape	Applied To:	@Start	@End	@Start @End	LDF	Span#	Starts	n" End	ds	Additional Info		
1 Uniform (plf) Uniform (plf)	11 - 12	100.0 22.16		100.0	115%	0	0' 0'	32' 32'	6" 6"	Self Weight		
*Dimensions measure	d from left	end wher	ied to be i span# is	0. otherwise, from	n left en	d of the si	pecified sp	an.				
SUPPORTS (lbs	s)	1	2	-,,,								
Max Reaction Max 115% Min Reaction Min 115% DL Reaction		2134 1625 509 1625 509	2134 1625 509 1625 509									
Min Bearing Brg Stress (psi)		1.50"[Based on bearing stress below]425425										
DESIGN V(lbs)		<b>Actual</b> 1300	<b>Span</b> 1	Location 0' 3"		<b>Group</b> 31	<b>Allow</b> 18354	<b>LDF</b> 115%	<b>Ratio</b> 0.07			
M(ft-lbs) LtRn(lbs) RtRn(lbs)		17341 2134 2134	1 0 0	16' 3" 0' 32' 6"		31 31 31	86899 8925 8925	115%	0.20 0.24 0.24			
LLDefl(") TLDefl(")		0.62 0.82	1 1	16' 3" 16' 3"		31 31	2.30 1.50		L/886 L/675			

JC

9/21/2020 4:28 PM

USE: onCENTER LVL 2.0E 1 3/4" x 16" 1 Ply onCENTER® LVL by BlueLinx

PROFESSIONAL BUILDERS SUPPLY

Grade, Depth, Plies selected by user

## NOTES

1. Designed in accordance with National Design Specifications for Wood Construction and applicable approvals or research reports.

2. Provide full depth lateral support at all bearing locations. Allowable positive moment is calculated based on top edge with continuous lateral support. 3. Analysis valid for dry-use only (less than 16% moisture content).

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