NE0119-100 PAGE 1 OF 42

GREEN YORK HOMES- LOT 26 (BELLE 1 EL-2)-BRAMPTON-ON

# **Engineering Note Page (ENP-2)**

**REVISION 2009-10-09** 

# Please read all notes prior to installation of the component

# **DESIGN INFORMATION**

This building component is certified as an individual component for the loads and conditions shown on the calculation and drawing page.

The responsibility of the undersigned engineer is <u>only</u> limited to the calculation of this building component for the loads and conditions shown on this drawing.

The responsibility of the undersigned is limited to the verification of the structural capacity of the NASCOR floor joists and LVL beams based on placement as shown on the layout. The loads applied are limited to the gravity effects of the specified loads. The structural integrity of the building and the effect of wind, uplift, seismic, lateral or other forces, calculation of adequate support and anchorage of components, as well as the dimensions and design loads used to calculate components are the responsibility of the overall building designer.

Floor joists and OSB rim board are designed to carry uniformly distributed loads only. Point loads should be transferred through the floor cavity with squash blocks. Structural elements such as walls, posts, connectors, and squash blocks are the responsibility of the overall building designer.

The undersigned engineer disclaims any responsibility for damages as a result of being furnished faulty or incorrect information, specifications and/or designs.

Installation of NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at <a href="http://www.nascor.ca">http://www.nascor.ca</a>.

# <u>CODE</u>

This building component is designed in accordance with the National Building Code of Canada, the Ontario Building Code, CCMC and Canadian Standards Association guidelines.

# **COMPONENT**

- 1. The building component used in construction must be the same as indicated on the drawings.
- 2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
- 3. Members consisting of multiple plies must be connected as per the document "Multi-ply Connection Details".
- 4. Pass-thru squash block framing is required at all point loads over bearings.

# **HANDLING AND INSTALLATION**

Do not drill any hole, cut or notch a certified building component without a written preauthorization.

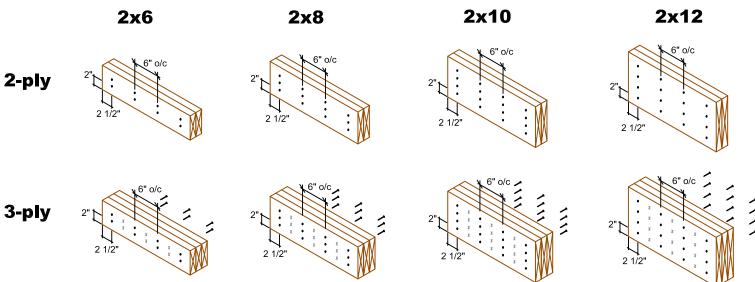


**PAGE 2 OF 42** NE0119-100

# ILTIPLE MEMBER CONNECTIONS

**GREEN YORK HOMES-LOT 26** (BELLE 1 EL-2)-BRAMPTON-ON

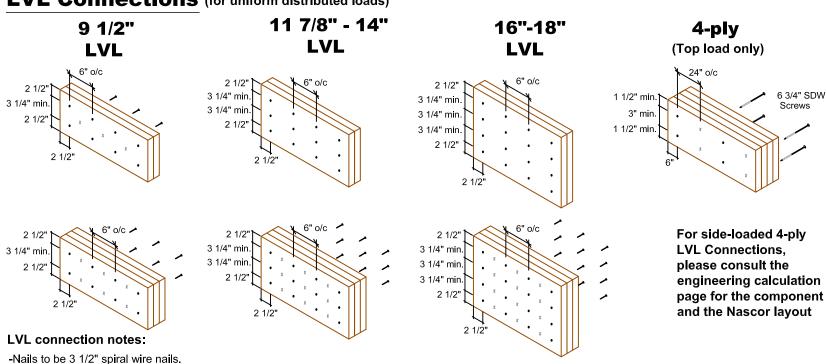
# Conventional Connections (for uniform distributed loads)



### **Conventional connection notes:**

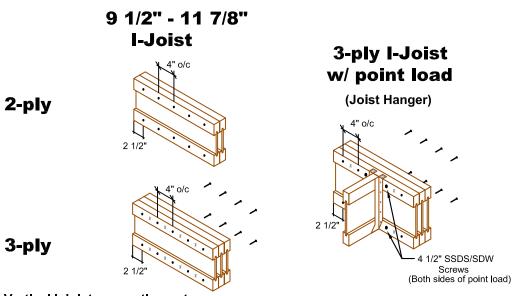
- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

# LVL Connections (for uniform distributed loads)



- -Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Minimum 3 1/4" spacing between rows.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail or screw driven from the opposite side.

# Vertical I-Joist Connections (for uniform distributed loads)



# **Vertical I-Joist connection notes:**

- -Nails to be 3" spiral wire nails.
- -Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

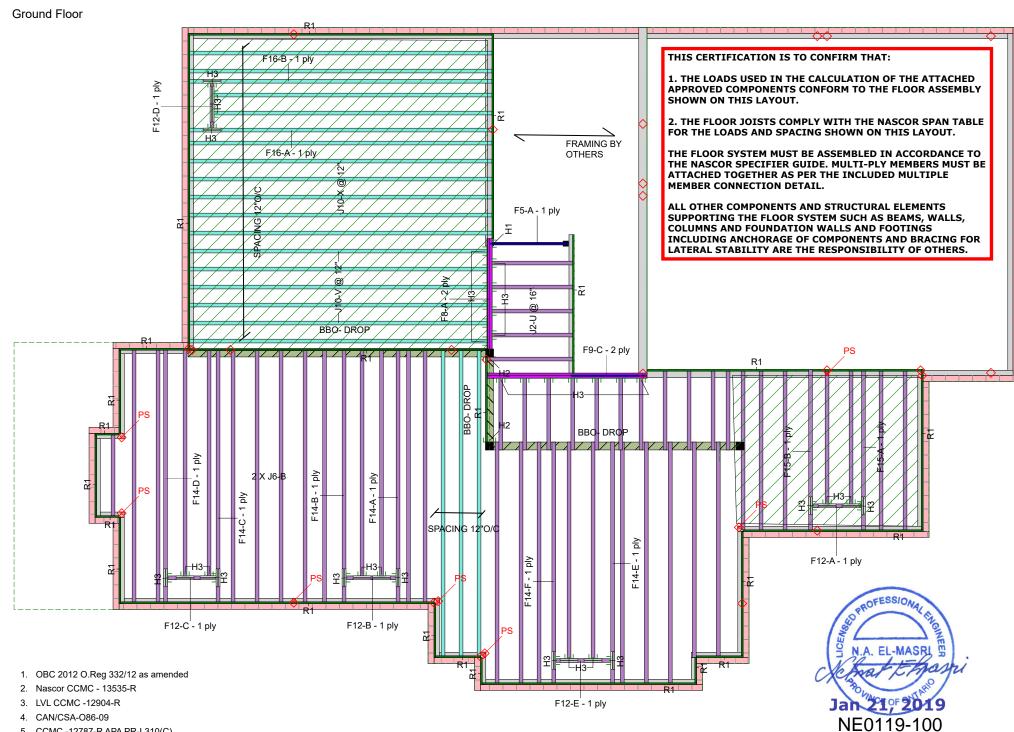


**MULTI-PLY** CONNECTION **DETAILS** 

> Date: November 30, 2016 Scale: NTS

**KOTT** 3228 Moodie Drive Ottawa, ON K2H 7V1 Ph: 613-838-2775 Fx: 613-838-4751

PAGE 3 OF 42 NE0119-100



5. CCMC -12787-R APA PR-L310(C)

JOISTS SPACING 16"O/C NOTED OTHERWISE

Architectural Drawing Info

JARDIN DESIGN GROUP 64 JARDIN DR. SUITE 3A VAUGHAN,ON L4K 3P3 Project # 17-55 Model: LOT-26 (BELLE 1 EL-2) Date: Dec 21,2018

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY **NAILING OR BOLTING REQUIREMENTS.** 

PASS THRU FRAMING SQUASH **BLOCK IS REQUIRED AT ALL** 

POINT LOADS OVER BEARINGS.

												PΑ
Ground												
LVL/LS				1							ı	
Label	Descri	ption	Wic		De		(	Qty	Plies	Pcs	Length	
F9	Forex 2.0E-30	000Fb LVL	1.	75	11.8	875		1	2	2	10-0-0	1 1
F8	Forex 2.0E-30	000Fb LVL	1.	75	11.8	875		1	2	2	8-0-0	Layout N LOT-26 (
F5	Forex 2.0E-30	000Fb LVL	1.	75	11.8	875				1	6-0-0	Design N
I Joist												
Label	Descri	ption	Wic	lth	De	pth	(	Qty	Plies	Pcs	Length	Descripti
F14	LPI 20F	Plus	2	2.5	11.8	875				6	14-0-0	GREEN'
F15	LPI 20F	Plus	2	2.5	11.8	875				2	10-0-0	GRANEL BRAMPT
F12	LPI 20F	Plus	2	2.5	11.8	875				5	4-0-0	
J6	LPI 20F	Plus	2	2.5	11.8	875				21	14-0-0	Created
J5	LPI 20F	Plus	2	2.5	11.8	875				2	12-0-0	May 29, 2
J4	LPI 20F	Plus	2	2.5	11.8	875				5	10-0-0	Builder
J3	LPI 20F	Plus	2	2.5	11.8	875				2	8-0-0	Sales Re
J2	LPI 20F	Plus	2	2.5	11.8	875				10	6-0-0	
J1	LPI 20F	Plus	2	2.5	11.8	875				7	4-0-0	Designe
J10	NJ60H		2	2.5	11.8	875				17	18-0-0	SB
J7	NJ60H		2	2.5	11.8	875				2	16-0-0	Shipping
F16	NJ60H		2	2.5	11.8	875				2	18-0-0	Project
Rim Bo	ard											Builder's
Label	Descri	ption	Wic	lth	De	pth	(	Qty	Plies	Pcs	Length	
R1		d Rimboard	1.1	25	11.8	875				15	12	Kott L
	Plus 1.	125 X										14 Ander
	11.875											Stouffville
Hangei	Hanger				Canada							
								Bea	am/Girdei		oported ember	L4A 7X4
Labal	D	Danamintia		CI.		CIA		-	-4			905-642-
Label H1	Pcs	Descriptio		) OK	œw	510	ре		steners		teners	Ground
HT	1	HUS1.81/1	51.81/10				30 16d		1	0 16d	15.55.14	

### H3 NOTES:

H2

2 Unknown

37 LF2511

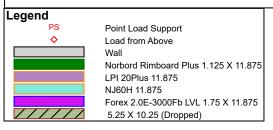
- Framer to verify dimensions on the architectural drawings.
- . Double joist only require filler/backer ply when supporting another member using a face-mounted hanger
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist
- Refer to Nascor specifier guide for installation details.
- 6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
- Load transfer blocks to be installed under all point loads. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards

Refer to Multiple Member Connection Detail to ply to ply nailing or bolting requirements.

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth) @ 16" o/c. All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the esponsibility of others.

Hatch area represents ceramic tiled floor with an additional dead load of 5 PSF.

The framing shown on this layout may be deviate from the architectural drawings. Project Engineer to review and approve the deviation prior to construction



10-0-0						
8-0-0	Layout Name					
0-0-0	LOT-26 (BELLE 1 EL -2)					
6-0-0	Design Method					
	LSD					
	Description					
Length	'					
14-0-0	GREEN YORK HOMES GRANELLI HOMES PROJECT					
10-0-0	BRAMPTON.ON					
4-0-0						
14-0-0	Created					
12-0-0	May 29, 2018					
10-0-0	Builder					
8-0-0	Sales Rep					
6-0-0	<u>'</u>					
4-0-0	Designer					
18-0-0	SB					
16-0-0	Shipping					

ilder's Project Cott Lumber Company Anderson Blvd

touffville, Ontario anada 4A 7X4

05-642-4400 **Ground Floor** Design Method

LSD Building Code NBCC 2010 / OBC 2012 Floor Loads Live 15 Dead

**Deflection Joist** LL Span L/ 480 TL Span L/ 360 LL Cant 2L/ 480 TL Cant 2L/ 360 Deflection Girder LL Span L/ 360 240 TL Span L/ 480 LL Cant 2L/ TL Cant 2L/ 360

Decking OSB Deck Thickness 3/4" Nailed & Glued **Fastener** 

Vibration

NE0119-100 PAGE 4 OF 42



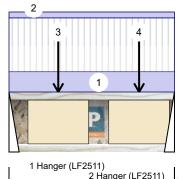
Client: Project: Address: Date: 1/21/2019
Designer: S B

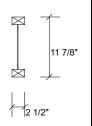
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

F12-A LPI 20Plus 11.875" - PASSED

Level: Ground Floor





Wind 0 0

Ld. Comb. 1.25D+1.5L

1.25D+1.5L

	2 Hanger (LF2511)	
1 1	2'8 3/4"	•
ll		
1 1	2'8 3/4"	•
I		

Member Information							
Туре:	Girder	Application:	Floor (Residential)				
Plies:	1	Design Method:	LSD				
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012				
Deflection LL:	360	Load Sharing:	No				
Deflection TL:	240	Deck:	Not Checked				
Importance:	Normal	Vibration:	Not Checked				
General Load							
Floor Live:	40 PSF						
Dead:	15 PSF						

		Unfacto	red Reacti	ons U	NPATTERN	IED lb (Uplif	t)
	Floor (Residential)	Brg	Live		Dead	Snow	
hod:	LSD	1	181		88	0	
de:	NBCC 2010 / OBC 2012	2	200		98	0	
ng:	No						
	Not Checked						
	Not Checked						
		Bearing	s and Facto	ored F	Reactions		
		Bearing	Length	Сар.	React D/L lb	Total Ld. C	ase
		1 -	2.000"	24%	110 / 271	381 L	
		Hanger					

2.000"

2 -

Analysis Results Analysis Actual Location Allowed Capacity Comb. Case 251 ft-lb 0.040 (4%) 1.25D+1.5L L Moment 9 3/4" 6250 ft-lb Shear 2'7 1/2" 2345 lb 0.178 (18%) 1.25D+1.5L L Perm Defl in. 0.001 1'1" 0.084 (L/360) 0.010 (1%) D Uniform (L/24182) 1' 7/8" 0.084 (L/360) 0.030 (3%) L LL Defl inch 0.003 L (L/11782) TL Defl inch 0.004 (L/7922) 1' 7/8" 0.126 (L/240) 0.030 (3%) D+L L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

27%

123 / 301

424 L

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

# Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.001", Long Term = 0.002"
- 3 Fill all hanger nailing holes.
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange braced at bearings.

7 Bottom flange braced at bearings.

	Jan 21, 2019
ments	

POFESSIONA

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Tie-In	0-0-0 to 2-8-12	(Span)1-4-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Part. Uniform	0-0-0 to 2-8-12		Тор	3 PLF	0 PLF	0 PLF	0 PLF		
3	Point	0-9-12		Far Face	78 lb	161 lb	0 lb	0 lb	J3	
4	Point	2-1-12		Far Face	72 lb	145 lb	0 lb	0 lb	J3	

### Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



This design is valid un

# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com

CCMC: 12412-R APA: PR-L238C



Kott Lumber Company 14 Anderson Blvd, Ontario

Canada

905-642-4400



PAGE 5 OF 42 NE0119-100

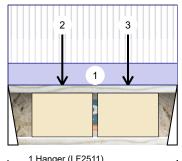


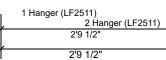
Client: Project: Address: Date: 1/21/2019 Designer: SB

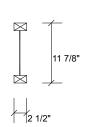
Job Name: LOT-26 (BELLE 1 EL -2)

11.875" - PASSED LPI 20Plus

Level: Ground Floor







Member Information					
	Type:	Girder	-		
	Plies:	1	1		
	Moisture Condition:	Dry	1		
	Deflection LL:	360	1		
	Deflection TL:	240	1		
	Importance:	Normal	,		

Normal 40 PSF 15 PSF

Application: Floor (Residential) Design Method: **Building Code:** NBCC 2010 / OBC 2012

Load Sharing: No Deck: Not Checked

Vibration: Not Checked

# **Unfactored Reactions UNPATTERNED Ib (Uplift)**

Brg	Live	Dead	Snow	Wind
1	284	106	0	0
2	297	111	0	0

# **Bearings and Factored Reactions**

Bearing	Length	Cap. Re	act D/L lb	Total	Ld. Case	Ld. Comb.
1 -	2.000"	35%	133 / 427	560	L	1.25D+1.5L
Hanger						
2 -	2.000"	37%	138 / 445	583	L	1.25D+1.5L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	422 ft-lb	11 15/16"	6250 ft-lb	0.067 (7%)	1.25D+1.5L	L
Shear	577 lb	2'8 1/4"	2345 lb	0.246 (25%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/17534)	1'3 1/4"	0.086 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/6545)	1'3 1/4"	0.086 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.007 (L/4766)	1'3 1/4"	0.129 (L/240)	0.050 (5%)	D+L	L

# **Design Notes**

General Load

Analysis Results

Floor Live:

Dead:

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.002", Long Term = 0.003"
- 3 Fill all hanger nailing holes.
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange braced at bearings.
- 7 Bottom flange braced at bearings

POFE	SSIONALCE
N.A. E	- Grand
N.A. E	L-MASRI S
30 VIAC	TARIO )
Jan 21	LOF 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-9-8	(Span)1-4-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-10-12		Far Face	96 lb	257 lb	0 lb	0 lb	J6
3	Point	1-11-12		Far Face	92 lb	247 lb	0 lb	0 lb	J6

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C





PAGE 6 OF 42 NE0119-100

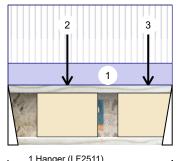


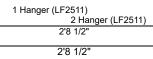
Client: Project: Address: Date: 1/21/2019 Designer: SB

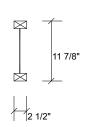
Job Name: LOT-26 (BELLE 1 EL -2)

11.875" - PASSED F12-C LPI 20Plus

Level: Ground Floor







Member Inforn	nation		
Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

^	na	lvsis	Docu	l+c
н	па	IV5I5	Resu	I LS

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	422 ft-lb	11 3/4"	6250 ft-lb	0.068 (7%)	1.25D+1.5L	L
Shear	669 lb	2'7 1/4"	2345 lb	0.285 (29%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/17651)	11 3/4"	0.083 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/6610)	11 3/4"	0.083 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.006 (L/4809)	11 3/4"	0.125 (L/240)	0.050 (5%)	D+L	L

### **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.002", Long Term = 0.003"
- 3 Fill all hanger nailing holes.
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange braced at bearings.
- 7 Bottom flange braced at bearings

Brg	Live	Dead	Snow	Wind
1	260	97	0	0
2	343	129	0	0

### **Bearings and Factored Reactions**

Bearing Length	Cap. R	eact D/L lb	Total Ld. Cas	e Ld. Comb.
1 - 2.000"	32%	122 / 390	512 L	1.25D+1.5L
Hanger				
2 - 2.000"	42%	161 / 514	675 L	1.25D+1.5L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-8-8	(Span)1-4-9 to 1-4-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-11-12		Far Face	113 lb	302 lb	0 lb	0 lb	J6
3	Point	2-3-12		Far Face	85 lb	226 lb	0 lb	0 lb	J6

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C





PAGE 7 OF 42 NE0119-100



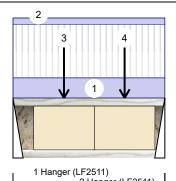
Client: Project: Address:

1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

LPI 20Plus 11.875" - PASSED F12-D

Level: Ground Floor



11 7/8"

	2 Hanger (LF2511	)
I 1	2'6 1/16"	•
1	2'6 1/16"	•

### Member Information Application: Floor (Residential) Type: Plies: Design Method: Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 Deflection LL: 360 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal Vibration: Not Checked General Load Floor Live: 40 PSF

Unfactore	d Reactions	UNPATTERI	NED lb (Uplif	t)
Brg	Live	Dead	Snow	Wind
1	300	144	0	0
2	332	161	0	0
		Brg Live 1 300	Brg Live Dead 1 300 144	1 300 144 0

### 15 PSF Dead: Analysis Results Analysis Location Allowed Capacity Comb Case

Analysis	Actual	Location	Allowed	Сараспу	Comb.	Case
Moment	445 ft-lb	10 1/8"	6250 ft-lb	0.071 (7%)	1.25D+1.5L	L
Shear	693 lb	2'4 13/16"	2345 lb	0.296 (30%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/12936)	11 3/16"	0.077 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.004 (L/6235)	10 15/16"	0.077 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.007 (L/4207)	11"	0.115 (L/240)	0.060 (6%)	D+L	L

Location

0-10-1

1-10-1

0-0-0 to 2-6-1

0-0-0 to 2-6-1

Trib Width

(Span)1-3-7

Side

Top

Near Face

Near Face

### **Bearings and Factored Reactions** Bearing Length Cap. React D/L lb

Total Ld. Case Ld. Comb. 2.000" 40% 181 / 450 1.25D+1.5L 630 I Hanger 2.000" 202 / 498 2 -44% 699 L 1.25D+1.5L

**READ ALL NOTES ON THIS PAGE AND ON** ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

### **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.002", Long Term = 0.003"
- 3 Fill all hanger nailing holes.
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange braced at bearings.
- 7 Bottom flange braced at bearings

Load Type

Part. Uniform

Tie-In

Point

Point

Dead	Live	Snow	Wind	Comments
15 PSF	40 PSF	0 PSF	0 PSF	
3 PLF	0 PLF	0 PLF	0 PLF	
142 lb	297 lb	0 lb	0 lb	J7

0 lb



ID

2

3

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



132 lb

270 lb

### Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C

0 lb J7





NE0119-100 PAGE 8 OF 42



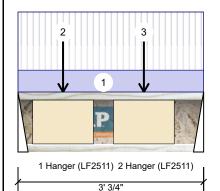
Client: Project: Address: Date: 1/21/2019
Designer: S B

Job Name: LOT-26 (BELLE 1 EL -2)

Project #

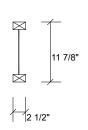
F12-E LPI 20Plus 11.875" - PASSED

Level: Ground Floor



3' 3/4'

15 PSF



Mam	hor	Information
wem	ber	miormation

Girder	Application:	Floor (Residential)
1	Design Method:	LSD
Dry	Building Code:	NBCC 2010 / OBC 2012
360	Load Sharing:	No
240	Deck:	Not Checked
Normal	Vibration:	Not Checked
40 PSF		
	1 Dry 360 240 Normal	1 Design Method: Dry Building Code: 360 Load Sharing: 240 Deck: Normal Vibration:

# Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	vvina
1	326	122	0	0
2	294	110	0	0

### **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	485 ft-lb	2' 15/16"	6250 ft-lb	0.078 (8%)	1.25D+1.5L	L
Shear	637 lb	1 1/4"	2345 lb	0.272 (27%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/16564)	1'10 5/16"	0.095 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.006 (L/6216)	1'10 5/16"	0.095 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.008 (L/4520)	1'10 5/16"	0.143 (L/240)	0.050 (5%)	D+L	L

Location

0-8-15

2-0-15

0-0-0 to 3-0-12

Trib Width

(Span)1-3-7

Side

Top

Far Face

Far Face

# **Bearings and Factored Reactions**

Bearing	Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
1 -	2.000"	40%	153 / 489	642	L	1.25D+1.5L
Hanger						
2 -	2.000"	36%	138 / 441	578	L	1.25D+1.5L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

0 lb

# Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.002", Long Term = 0.003"
- 3 Fill all hanger nailing holes.
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange braced at bearings.
- 7 Bottom flange braced at bearings.

Load Type

Tie-In

Point

Point

				Jan
Live	Snow	Wind	Comments	
40 PSF	0 PSF	0 PSF		
256 lb	0 lb	0 lb	J6	

0 lb J6

### Note

ID

2

3

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



Dead

15 PSF

96 lb

107 lb

This design is valid unt

285 lb

# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com

CCMC: 12412-R APA: PR-L238C





**PAGE 9 OF 42** NE0119-100

isDesign™

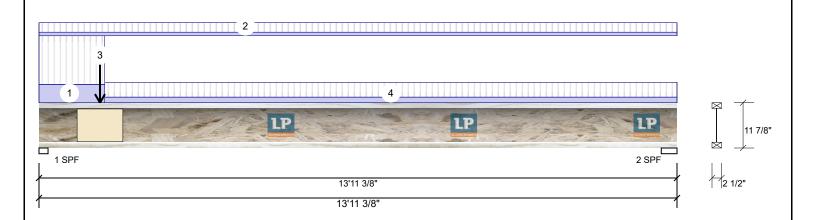
Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

11.875" - PASSED LPI 20Plus

Level: Ground Floor



Member Info	rmation			Unfactored Reactions UNPATTERNED lb (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Live	D	ead	Snow		Wind
Plies:	1	Design Method:	LSD	1	535		200	0		0
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	240		90	0		0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings a	and Fact	ored Rea	ctions			
Dead:	15 PSF			Bearing L	.ength	Cap. Rea	act D/L lb	Total I	Ld. Case	Ld. Comb.
				1 - SPF 2	375"	64%	250 / 803	1053 I	L	1.25D+1.5L
				2-SPF 4	.125"	26%	113 / 360	473 I	L	1.25D+1.5L
\   D										

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1764 ft-lb	5'11 1/4"	6250 ft-lb	0.282 (28%)	1.25D+1.5L	L
Shear	1034 lb	1 5/8"	2345 lb	0.441 (44%)	1.25D+1.5L	L
Perm Defl in.	0.042 (L/3882)	6'7 1/16"	0.451 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.112 (L/1455)	6'7 1/16"	0.451 (L/360)	0.250 (25%)	L	L
TL Defl inch	0.153 (L/1058)	6'7 1/16"	0.677 (L/240)	0.230 (23%)	D+L	L

# **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.042", Long Term = 0.063"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange must be laterally braced at a maximum of 7'8" o.c.

6 Bottom flange braced at bearings

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

e Bettern nange bracea at bearinge.										
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Tie-In	0-0-0 to 1-5-4	(Span)3-0-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Tie-In	0-0-0 to 13-11-6	(Span)0-7-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
3	Point	1-4-0		Far Face	111 lb	297 lb	0 lb	0 lb	F12	
4	Tie-In	1-5-4 to 13-11-6	(Span)0-11-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF		



This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C





PAGE 10 OF 42 NE0119-100



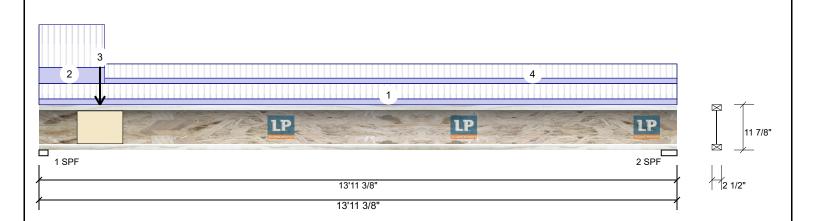
Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

11.875" - PASSED LPI 20Plus

Level: Ground Floor



Member Infor	mation			Unfactored Reactions UNPATTERNED lb (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
Plies:	1	Design Method:	LSD	1	601	225	0	0		
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	321	120	0	0		
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fact	ored Reactions				
Dead:	15 PSF			Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.		
				1 - SPF	2.375"	72% 281 / 902	1183 L	1.25D+1.5L		
				2-SPF	4.125"	35% 151 / 482	632 L	1.25D+1.5L		

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2263 ft-lb	6'2 7/8"	6250 ft-lb	0.362 (36%)	1.25D+1.5L	L
Shear	1162 lb	1 5/8"	2345 lb	0.495 (50%)	1.25D+1.5L	L
Perm Defl in.	0.054 (L/3033)	6'8 1/16"	0.451 (L/360)	0.120 (12%)	D	Uniform
LL Defl inch	0.143 (L/1136)	6'8 1/16"	0.451 (L/360)	0.320 (32%)	L	L
TL Defl inch	0.196 (L/827)	6'8 1/16"	0.677 (L/240)	0.290 (29%)	D+L	L

# **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.054", Long Term = 0.080"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange must be laterally braced at a maximum of 6'11" o.c.

6 Bottom flange braced at bearings.

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

	gg								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-11-6	(Span)1-1-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-5-4	(Span)3-0-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-4-0		Near Face	106 lb	284 lb	0 lb	0 lb	F12
4	Tie-In	1-5-4 to 13-11-6	(Span)1-0-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	



This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C





PAGE 11 OF 42 NE0119-100

isDesign™

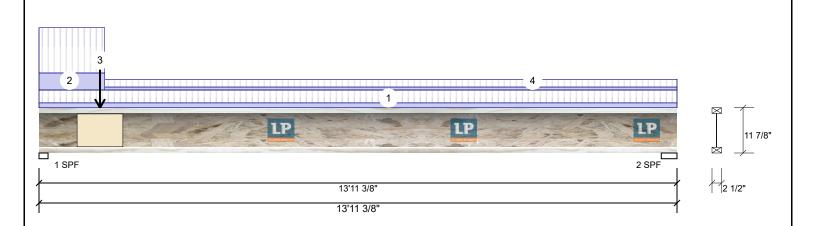
Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

11.875" - PASSED LPI 20Plus

Level: Ground Floor



Member Infor	mation			Unfactor	tored Reactions UNPATTERNED lb (Uplift)				
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind	
Plies:	1	Design Method:	LSD	1	563	212	0	0	
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	221	83	0	0	
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearings	and Facto	ored Reactions			
Dead:	15 PSF			Bearing I	_ength	Cap. React D/L lb	Total Ld. Case	Ld. Comb.	
				1 - SPF 2	2.375"	68% 264 / 845	1109 L	1.25D+1.5L	
				2-SPF 4	4.125"	24% 104 / 332	436 L	1.25D+1.5L	

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1688 ft-lb	5'7 3/4"	6250 ft-lb	0.270 (27%)	1.25D+1.5L	L
Shear	1089 lb	1 5/8"	2345 lb	0.464 (46%)	1.25D+1.5L	L
Perm Defl in.	0.040 (L/4054)	6'6 3/16"	0.451 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.107 (L/1522)	6'6 3/16"	0.451 (L/360)	0.240 (24%)	L	L
TL Defl inch	0.147 (L/1106)	6'6 3/16"	0.677 (L/240)	0.220 (22%)	D+L	L

# **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.040", Long Term = 0.060"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange must be laterally braced at a maximum of 7'10" o.c.

6 Bottom flange braced at bearings.

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-11-6	(Span)0-10-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-5-4	(Span)2-11-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-4-0		Far Face	129 lb	343 lb	0 lb	0 lb	F12
4	Tie-In	1-5-4 to 13-11-6	(Span)0-6-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	



This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C





PAGE 12 OF 42 NE0119-100

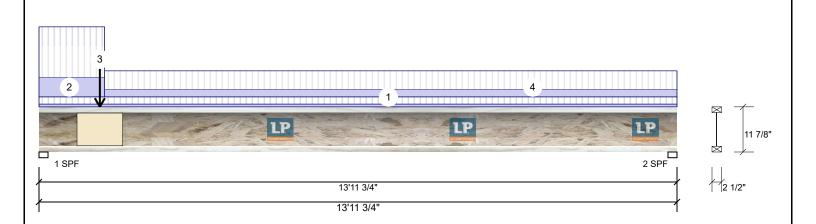


Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

11.875" - PASSED F14-D LPI 20Plus

Level: Ground Floor



Member Infor	mation			Unfactored Reactions UNPATTERNED lb (Uplift)				
Туре:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	497	186	0	0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	235	88	0	0
Deflection LL:	360	Load Sharing:	No					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load								
Floor Live:	40 PSF			Bearings	and Fact	ored Reactions		
Dead:	15 PSF			Bearing L	_ength	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 2	2.375"	60% 233 / 746	979 L	1.25D+1.5L
				2 - SPF 2	2.375"	28% 110 / 352	462 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1745 ft-lb	6'1 7/8"	6250 ft-lb	0.279 (28%)	1.25D+1.5L	L
Shear	961 lb	1 5/8"	2345 lb	0.410 (41%)	1.25D+1.5L	L
Perm Defl in.	0.042 (L/3893)	6'8 9/16"	0.457 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.113 (L/1458)	6'8 1/2"	0.457 (L/360)	0.250 (25%)	L	L
TL Defl inch	0.155 (L/1061)	6'8 9/16"	0.685 (L/240)	0.230 (23%)	D+L	L

# **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.042", Long Term = 0.063"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange must be laterally braced at a maximum of 7'9" o.c.

6 Bottom flange braced at hearings

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

o bottom hange	bracea at bearings.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-11-12	(Span)0-5-0 to 0-5-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-5-4	(Span)2-11-0 to 2-11-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-4-0		Near Face	97 lb	260 lb	0 lb	0 lb	F12
4	Tie-In	1-5-4 to 13-11-12	(Span)1-1-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	



This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C

Kott Lumber Company 14 Anderson Blvd, Ontario Canada 905-642-4400



& PROFESSIONAL



PAGE 13 OF 42 NE0119-100

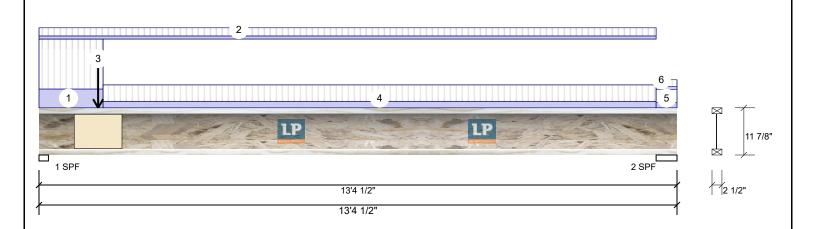


Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

11.875" - PASSED LPI 20Plus

Level: Ground Floor



### Member Information Unfactored Reactions UNPATTERNED Ib (Uplift) Application: Floor (Residential) Brg Live Dead Snow Wind Type: Plies: Design Method: LSD 538 202 0 0 1 Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 246 92 2 0 0 Deflection LL: 360 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal Vibration: Not Checked General Load **Bearings and Factored Reactions** Floor Live: 40 PSF Dead: 15 PSF Cap. React D/L lb Bearing Length Total Ld. Case Ld. Comb. 1.25D+1.5L 1 - SPF 2.375" 65% 252 / 808 1060 I 2 - SPF 5.250" 27% 115 / 370 485 I 1.25D+1.5L

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1698 ft-lb	5'8 9/16"	6250 ft-lb	0.272 (27%)	1.25D+1.5L	L
Shear	1039 lb	1 5/8"	2345 lb	0.443 (44%)	1.25D+1.5L	L
Perm Defl in.	0.037 (L/4178)	6'3 3/8"	0.429 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.099 (L/1566)	6'3 3/8"	0.429 (L/360)	0.230 (23%)	L	L
TL Defl inch	0.136 (L/1139)	6'3 3/8"	0.643 (L/240)	0.210 (21%)	D+L	L

# **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.037", Long Term = 0.055"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange must be laterally braced at a maximum of 7'10" o.c.

6 Bottom flange braced at bearings.

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-2	(Span)3-3-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-11-4	(Span)0-6-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-2-14		Far Face	110 lb	294 lb	0 lb	0 lb	F12
4	Tie-In	1-4-2 to 12-11-4	(Span)1-1-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	12-11-4 to 13-4-8	(Span)0-10-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	12-11-4 to 13-4-8	(Span)0-5-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C





POFESSIONA



NE0119-100 PAGE 14 OF 42



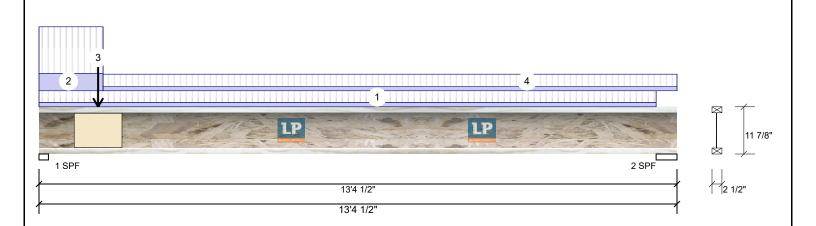
Client: Project: Address: Date: 1/21/2019
Designer: S B

Job Name: LOT-26 (BELLE 1 EL -2)

Project #

F14-F LPI 20Plus 11.875" - PASSED

Level: Ground Floor



### Member Information **Unfactored Reactions UNPATTERNED Ib (Uplift)** Application: Floor (Residential) Live Dead Wind Type: Brg Plies: Design Method: LSD 579 217 0 0 1 Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 2 250 94 0 0 Deflection LL: 360 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal Vibration: Not Checked General Load **Bearings and Factored Reactions** Floor Live: 40 PSF 15 PSF Dead: Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 2.375" 70% 271 / 869 1.25D+1.5L 1140 I 2 - SPF 5.250" 27% 117 / 376 493 L 1.25D+1.5L

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1774 ft-lb	5'7 3/4"	6250 ft-lb	0.284 (28%)	1.25D+1.5L	L
Shear	1118 lb	1 5/8"	2345 lb	0.477 (48%)	1.25D+1.5L	L
Perm Defl in.	0.039 (L/3996)	6'3 1/8"	0.429 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.103 (L/1498)	6'3 1/8"	0.429 (L/360)	0.240 (24%)	L	L
TL Defl inch	0.142 (L/1089)	6'3 1/8"	0.643 (L/240)	0.220 (22%)	D+L	L

**Design Notes** 

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.039", Long Term = 0.058"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange must be laterally braced at a maximum of 7'8" o.c.

6 Bottom flange braced at bearings.

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

o Bottom hange i	bracea at bearinge.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-11-4	(Span)0-9-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-4-2	(Span)3-3-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-2-14		Near Face	122 lb	326 lb	0 lb	0 lb	F12
4	Tie-In	1-4-2 to 13-4-8	(Span)0-10-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	



### Notes

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



This design is valid unt

# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com

CCMC: 12412-R APA: PR-L238C





PAGE 15 OF 42 NE0119-100

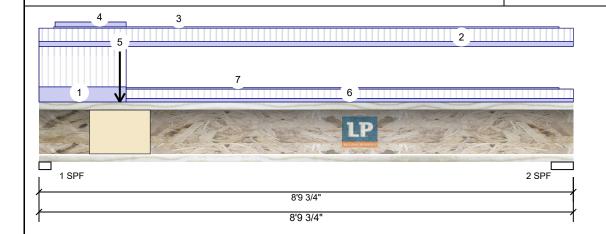


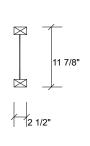
Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

11.875" - PASSED LPI 20Plus

Level: Ground Floor





Wind

O

0

0

0

١	Лeі	m	be	r I	ln	fo	rr	na	ıti	o	n

Type:	Girder	
Plies:	1	
Moisture Condition:	Dry	
Deflection LL:	360	
Deflection TL:	240	
Importance:	Normal	
General Load		
Floor Live:	40 PSF	
Dead:	15 PSF	

Application: Floor (Residential)

Design Method: **Building Code:** 

Load Sharing: No Deck: Not Checked Vibration:

NBCC 2010 / OBC 2012

Not Checked

# **Bearings and Factored Reactions**

Live

376

183

Brg

1

2

Bearing Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF 2.375"	48%	228 / 563	791	L	1.25D+1.5L	
2 - SPF 4.375"	21%	112 / 274	386	L	1.25D+1.5L	

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	947 ft-lb	3'4"	6250 ft-lb	0.152 (15%)	1.25D+1.5L	L
Shear	770 lb	1 5/8"	2345 lb	0.328 (33%)	1.25D+1.5L	L
Perm Defl in.	0.013 (L/7805)	3'11 1/2"	0.279 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.026 (L/3847)	3'11 1/2"	0.279 (L/360)	0.090 (9%)	L	L
TL Defl inch	0.039 (L/2577)	3'11 1/2"	0.419 (L/240)	0.090 (9%)	D+L	L
•						

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 

Dead

182

89

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.013", Long Term = 0.019"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bear

ľ	o Bollom nange i	braced at bearings.								
II	D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	1	Tie-In	0-0-0 to 1-5-4	(Span)2-11-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	2	Tie-In	0-0-0 to 8-9-12	(Span) 0-11-12	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	3	Part. Uniform	0-2-15 to 8-6-15		Тор	2 PLF	0 PLF	0 PLF	0 PLF	
4	1	Part. Uniform	0-3-3 to 1-5-4		Тор	7 PLF	0 PLF	0 PLF	0 PLF	
5	5	Point	1-4-0		Far Face	98 lb	200 lb	0 lb	0 lb	F12
6	3	Tie-In	1-5-4 to 8-9-12	(Span)0-8-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
7	7	Part. Uniform	1-5-4 to 8-6-15		Тор	2 PLF	0 PLF	0 PLF	0 PLF	

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325

www.lpcorp.com CCMC: 12412-R APA: PR-L238C

Kott Lumber Company 14 Anderson Blvd, Ontario Canada 905-642-4400



ED PROFESSIONAL



PAGE 16 OF 42 NE0119-100



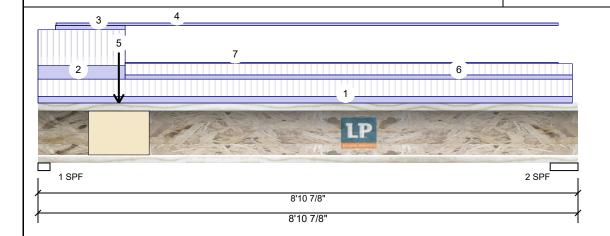
Client: Project: Address:

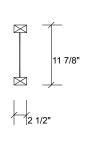
1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

11.875" - PASSED LPI 20Plus F15-B

Level: Ground Floor





### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

# **Unfactored Reactions UNPATTERNED Ib (Uplift)**

Brg	Live	Dead	Snow	Wind
1	411	201	0	0
2	239	119	0	0

# **Bearings and Factored Reactions**

Bearing	Length	Cap. F	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	53%	251 / 616	867	L	1.25D+1.5L
2 - SPF	5.500"	28%	148 / 359	508	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1156 ft-lb	3'8 1/4"	6250 ft-lb	0.185 (18%)	1.25D+1.5L	L
Shear	844 lb	1 5/8"	2345 lb	0.360 (36%)	1.25D+1.5L	L
Perm Defl in.	0.016 (L/6296)	4' 7/8"	0.279 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.032 (L/3144)	4' 3/4"	0.279 (L/360)	0.110 (11%)	L	L
TL Defl inch	0.048 (L/2097)	4' 3/4"	0.419 (L/240)	0.110 (11%)	D+L	L

1-5-4 to 8-6-15

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CONTAINS SPECIFICATIONS AND CRITERIA

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL

# **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.016", Long Term = 0.024"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at beari

CALCULATION SUMMARY PAGE AS IT USED IN THE DESIGN OF THIS COMPONENT.

POINT LOADS OVER BEARINGS

6 Bottom flange	braced at bearings.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-9-12	(Span)1-5-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-5-4	(Span)2-11-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-3-7 to 1-5-4		Тор	7 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-3-9 to 8-6-15		Тор	4 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-4-0		Near Face	88 lb	181 lb	0 lb	0 lb	F12
6	Tie-In	1-5-4 to 8-9-12	(Span)0-11-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

Top



This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Part. Uniform

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



2 PLF

0 PI F

### Manufacturer Info

0 PLF

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325

www.lpcorp.com CCMC: 12412-R APA: PR-L238C

0 PLF





PAGE 17 OF 42 NE0119-100

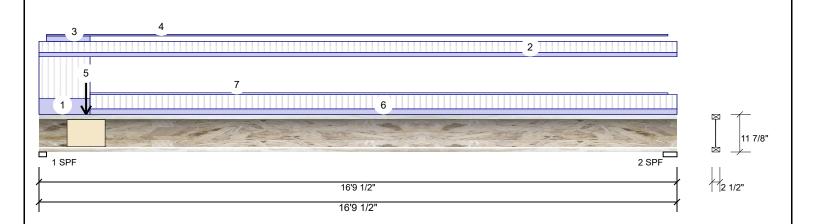


Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

NJ60H 11.875" - PASSED Level: Ground Floor



Member Infor	mation			Unfactor	ed React	ions UN	NPATTERNI	ED lb (Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	603		293	0	0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	304		149	0	0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearings	and Fact	tored R	eactions		
Dead:	15 PSF			Bearing I	Length	Cap. I	React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 2	2.375"	75%	367 / 904	1271 L	1.25D+1.5L
				2-SPF 4	4.375"	34%	187 / 457	644 L	1.25D+1.5L
Analysis Resul	ts			2-3PF -	+.373	34 /0	107 / 437	044 L	

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2752 ft-lb	7'7 15/16"	7350 ft-lb	0.374 (37%)	1.25D+1.5L	L
Unbraced	2752 ft-lb	7'7 15/16"	2773 ft-lb	0.992 (99%)	1.25D+1.5L	L
Shear	1253 lb	1 5/8"	2350 lb	0.533 (53%)	1.25D+1.5L	L
Perm Defl in.	0.089 (L/2197)	8'1 3/16"	0.545 (L/360)	0.160 (16%)	D	Uniform
LL Defl inch	0.181 (L/1083)	8'1 1/8"	0.545 (L/360)	0.330 (33%)	L	L
TL Defl inch	0.270 (L/726)	8'1 1/8"	0.818 (L/240)	0.330 (33%)	D+L	L

ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

READ ALL NOTES ON THIS PAGE AND ON

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Top flange must be laterally braced at a maximum of 5'11" o.c.
- 3 Bottom flange braced at bearings.

L										
ſ	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
l	1	Tie-In	0-0-0 to 1-4-2	(Span)2-8-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
l	2	Tie-In	0-0-0 to 16-9-8	(Span)0-8-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
l	3	Part. Uniform	0-2-6 to 1-4-2		Тор	7 PLF	0 PLF	0 PLF	0 PLF	
l	4	Part. Uniform	0-2-6 to 16-6-10		Тор	2 PLF	0 PLF	0 PLF	0 PLF	
l	5	Point	1-2-14		Far Face	144 lb	300 lb	0 lb	0 lb	F12
l	6	Tie-In	1-4-2 to 16-9-8	(Span)0-11-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
I	7	Part. Uniform	1-4-2 to 16-6-10		Тор	2 PLF	0 PLF	0 PLF	0 PLF	



Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
   IJoist not to be treated with fire retardant or corrosive
- Handling & Installation
- IARIGHING & INSEGUATION

  Lodist flanges must not be cut or drilled

  Refer to latest copy of the IJoist product information details for framing details, suffiener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details

  Damaged IJoists must not be used

  Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

KOTT Inc.

CCMC: 12787

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





PAGE 18 OF 42 NE0119-100



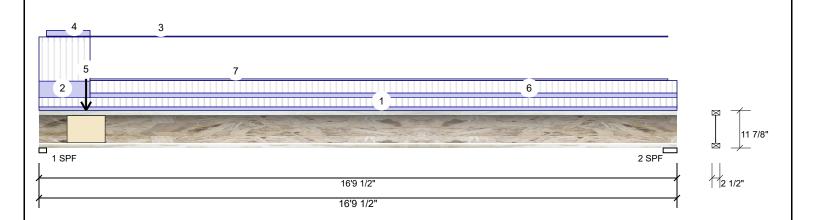
Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

NJ60H 11.875" - PASSED F16-B

Level: Ground Floor



			Ulliactored	ED lb (Uplift)			
Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
1	Design Method:	LSD	1	582	282	0	0
n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	250	121	0	0
360	Load Sharing:	No					
240	Deck:	Not Checked					
Normal	Vibration:	Not Checked					
40 PSF			Bearings a	nd Facto	red Reactions		
15 PSF			Bearing Le	ength	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
			1 - SPF 2.3	375"	73% 353 / 873	1225 L	1.25D+1.5L
			2 - SPF 4.3	375"	28% 152 / 375	527 L	1.25D+1.5L
	1 i: Dry 360 240 Normal 40 PSF 15 PSF	1 Design Method: Building Code: 360 Load Sharing: 240 Deck: Normal Vibration: 40 PSF 15 PSF	1 Design Method: LSD Building Code: NBCC 2010 / OBC 2012 360 Load Sharing: No 240 Deck: Not Checked Normal Vibration: Not Checked 40 PSF 15 PSF	1 Design Method: LSD 1 2 Building Code: NBCC 2010 / OBC 2012 360 Load Sharing: No 240 Deck: Not Checked Normal Vibration: Not Checked  40 PSF 15 PSF Bearing Letter 1 - SPF 2.3 2 - SPF 4.3	1 Design Method: LSD 1 582 2 250 360 Load Sharing: No Deck: Not Checked Normal Vibration: Not Checked  40 PSF 15 PSF Bearing Length 1 - SPF 2.375" 2 - SPF 4.375"	1         Design Method:         LSD         1         582         282           360         Load Sharing:         No         240         Deck:         Not Checked           Normal         Vibration:         Not Checked         Bearings and Factored Reactions           Bearing Length         Cap. React D/L lb           1 - SPF         2.375"         73%         353 / 873	1 Design Method: LSD Building Code: NBCC 2010 / OBC 2012 360 240 Normal  40 PSF 15 PSF  Bearings and Factored Reactions  Bearings Length Cap. React D/L lb Total Ld. Case 1 - SPF 2.375" 73% 353 / 873 1225 L 2 - SPF 4.375" 28% 152 / 375 527 L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2320 ft-lb	7'4 7/8"	7350 ft-lb	0.316 (32%)	1.25D+1.5L	L
Unbraced	2320 ft-lb	7'4 7/8"	2322 ft-lb	0.999 (100%)	1.25D+1.5L	L
Shear	1208 lb	1 5/8"	2350 lb	0.514 (51%)	1.25D+1.5L	L
Perm Defl in.	0.075 (L/2619)	8' 1/4"	0.545 (L/360)	0.140 (14%)	D	Uniform
LL Defl inch	0.154 (L/1276)	8' 1/4"	0.545 (L/360)	0.280 (28%)	L	L
TL Defl inch	0.229 (L/858)	8' 1/4"	0.818 (L/240)	0.280 (28%)	D+L	L

ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

READ ALL NOTES ON THIS PAGE AND ON

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Top flange must be laterally braced at a maximum of 6'6" o.c.

2 Pottom flange braced at bear

3 Bollom hange	braced at bearings.								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-9-8	(Span)0-6-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-4-2	(Span)2-8-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-6 to 16-6-10		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-6 to 1-4-2		Тор	7 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-2-14		Near Face	161 lb	332 lb	0 lb	0 lb	F12
6	Tie-In	1-4-2 to 16-9-8	(Span)0-9-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-4-2 to 16-6-10		Тор	2 PLF	0 PLF	0 PLF	0 PLF	



Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
   IJoist not to be treated with fire retardant or corrosive
- Handling & Installation
- IARIGHING & INSEGUATION

  Lodist flanges must not be cut or drilled

  Refer to latest copy of the IJoist product information details for framing details, suffiener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details

  Damaged IJoists must not be used

  Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent ponding

KOTT Inc.

Manufacturer Info

CCMC: 12787

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





PAGE 19 OF 42 NE0119-100



Client: Project: Address:

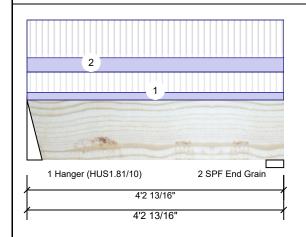
1/21/2019 Designer: SB

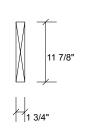
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

### 1.750" X 11.875" - PASSED Forex 2.0E-3000Fb LVL

Level: Ground Floor





Wind

Member Inforn	nation		
Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	: Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored	l Reactions	UNPATTER	NED lb (Uplift)
Brg	Live	Dead	Snow

1	129	58	0	0
1 2	132	60	0	0

# **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	232 ft-lb	2'1 1/8"	17130 ft-lb	0.014 (1%)	1.25D+1.5L	L
Unbraced	232 ft-lb	2'1 1/8"	11707 ft-lb	0.020 (2%)	1.25D+1.5L	L
Shear	117 lb	3' 3/16"	5798 lb	0.020 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/37434)	2'1 3/16"	0.127 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.002 (L/25774)	2'1 3/16"	0.191 (L/240)	0.010 (1%)	D+L	L

# **Bearings and Factored Reactions**

Bearing Len	gth Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - 3.00	0" 7%	73 / 194	267	L	1.25D+1.5L
Hanger					
2 - SPF 3.50	0" 6%	74 / 197	272	L	1.25D+1.5L

READ ALL NOTES ON THIS PAGE AND ON **ENGINEERING NOTE PAGE ENP-2. THIS** NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bea

4 Bottom braced at bearings.									
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-2-13	(Span)1-0-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 4-2-13		Тор	15 PLF	40 PLF	0 PLF	0 PLF	
	Self Weight				5 PLF				



Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

# Handling & Installation

- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation
  - This design is valid until 10/18/2021

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info APA: PR-L318





PAGE 20 OF 42 NE0119-100



Client: Project: Address:

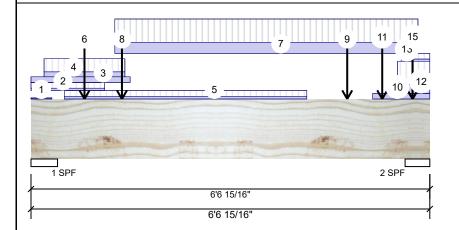
1/21/2019 Designer: SB

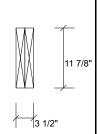
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED

Level: Ground Floor





Member	Information
Tuna	Cindon

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

# **Unfactored Reactions UNPATTERNED Ib (Uplift)**

Brg	Live	Dead	Snow	Wind
1	2271	1113	0	0
2	2657	1242	0	0

# **Bearings and Factored Reactions**

Bearing Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.	
1 - SPF 5.250"	42% 1392 / 3406	4798 L	1.25D+1.5L	
2 - SPF 4 890"	53% 1553 / 3985	5538 L	1.25D+1.5L	

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5416 ft-lb	3' 3/16"	34261 ft-lb	0.158 (16%)	1.25D+1.5L	L
Unbraced	5416 ft-lb	3' 3/16"	32665 ft-lb	0.166 (17%)	1.25D+1.5L	L
Shear	4561 lb	1'4 3/8"	11596 lb	0.393 (39%)	1.25D+1.5L	L
Perm Defl in.	0.011 (L/6212)	3'2 7/16"	0.195 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.024 (L/2891)	3'2 7/16"	0.195 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.036 (L/1973)	3'2 7/16"	0.293 (L/240)	0.120 (12%)	D+L	L

**Design Notes** 

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details. 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	(Span)0-7-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 1-2-9		Тор	31 PLF	82 PLF	0 PLF	0 PLF	J2
3	Part. Uniform	0-0-0 to 1-7-10		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-2-9 to 1-6-9		Тор	70 PLF	186 PLF	0 PLF	0 PLF	J10
5	Part. Uniform	0-6-9 to 4-6-9		Near Face	33 PLF	89 PLF	0 PLF	0 PLF	

Continued on page 2...

### 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
- 6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





PAGE 21 OF 42 NE0119-100

isDesign™

Client: Project: Address:

1/21/2019 Designer: SB

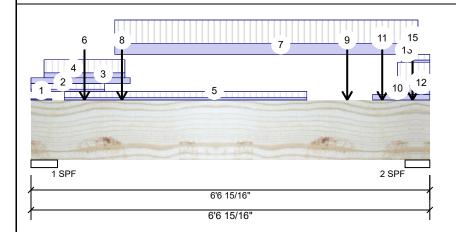
Job Name: LOT-26 (BELLE 1 EL -2)

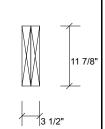
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED Level: Ground Floor





Page 2 of 2

Continued fro	om page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	0-10-9		Far Face	117 lb	245 lb	0 lb	0 lb	J10
7	Part. Uniform	1-4-9 to 6-4-9		Far Face	157 PLF	330 PLF	0 PLF	0 PLF	
8	Point	1-6-0		Тор	365 lb	917 lb	0 lb	0 lb	F7 F7
9	Point	5-2-9		Near Face	40 lb	107 lb	0 lb	0 lb	J2
10	Part. Uniform	5-7-10 to 6-6-15		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Point	5-9-8		Тор	395 lb	998 lb	0 lb	0 lb	F7 F7
12	Part. Uniform	6-0-9 to 6-6-15		Тор	124 PLF	331 PLF	0 PLF	0 PLF	J10
13	Part. Uniform	6-1-4 to 6-6-15		Тор	31 PLF	81 PLF	0 PLF	0 PLF	J2
14	Point	6-3-8		Тор	1 lb	3 lb	0 lb	0 lb	
15	Point	6-3-8		Near Face	39 lb	86 lb	0 lb	0 lb	F5
	Self Weight				10 PLF				

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS



NOtes
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

# Handling & Installation

- Handling & Installation

  1. UVI beams must not be cut or drilled

  2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

  5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318







NE0119-100 PAGE 22 OF 42



Client: Project: Address:

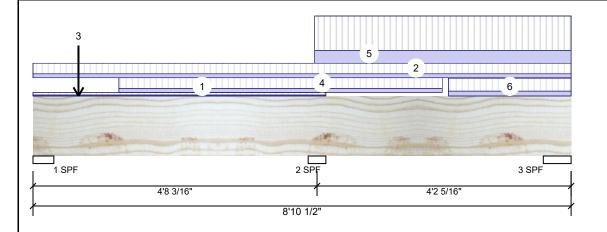
1/21/2019 Designer: SB

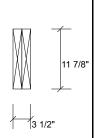
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED

Level: Ground Floor





Member Inform	nation		
Туре:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored	Reactions	UNPATTERNED	lb	(Uplift)

Brg	Live	Dead	Snow	Wind
1	294	131	0	0
2	1320	543	0	0
3	801	318	0	0

# **Bearings and Factored Reactions**

READ ALL NOTES ON THIS PAGE AND ON

CONTAINS SPECIFICATIONS AND CRITERIA

USED IN THE DESIGN OF THIS COMPONENT.

**CONNECTION DETAIL FOR PLY TO PLY** 

NAILING OR BOLTING REQUIREMENTS.

REFER TO MULTIPLE MEMBER TO MEMBER

ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS

CALCULATION SUMMARY PAGE AS IT

Bearing	Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.125"	8%	150 / 511	661	L_	1.25D+1.5L
2 - SPF	3.500"	37%	709 / 2067	2775	LL	1.25D+1.5L
3 - SPF	5.500"	14%	382 / 1239	1621	_L	1.25D+1.5L

Capacity Analysis Actual Location Allowed Comb. Case 4'8 3/16" 34261 ft-lb Neg Moment -1087 ft-lb 0.032 (3%) 1.25D+1.5L LL Unbraced -1087 ft-lb 4'8 3/16" 34261 ft-lb 0.032 (3%) 1.25D+1.5L LL Pos Moment 1049 ft-lb 6'10 3/8" 34261 ft-lb 0.031 (3%) 1.25D+1.5L \_L Unbraced 1049 ft-lb 6'10 3/8" 34261 ft-lb 0.031 (3%) 1.25D+1.5L \_L Shear 1170 lb 5'8 1/16" 11596 lb 0.101 (10%) 1.25D+1.5L LL Perm Defl in. 0.001

6'7 13/16" 0.126 (L/360) 0.010 (1%) D Uniform (L/36435) \_L

LL Defl inch 0.003 6'7 7/16" 0.126 (L/360) 0.030 (3%) L (L/13352) TL Defl inch 0.005 (L/9772) 6'7 1/2" 0.190 (L/240) 0.020 (2%) D+L

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

**Design Notes** 

Analysis Results

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6. Lateral slenderness ratio based on full section width

U Lateral Sieridei									
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-9-15	(Span)0-11-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 8-10-8	(Span)3-8-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-9-0		Near Face	30 lb	79 lb	0 lb	0 lb	J1
4	Part. Uniform	1-5-0 to 6-9-0		Near Face	28 PLF	74 PLF	0 PLF	0 PLF	

Continued on page 2..

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

6. For flat roofs provide proper drainage to prevent ponding

L

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada 905-642-4400





& PROFESSIONAL



PAGE 23 OF 42 NE0119-100

isDesign™

Client: Project: Address: Date: 1/21/2019

Designer: SB

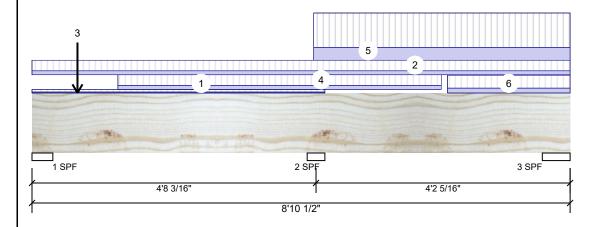
Job Name: LOT-26 (BELLE 1 EL -2)

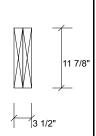
Project #:

Forex 2.0E-3000Fb LVL F9-C

1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor





Page 2 of 2

.Continued from page 1

ID Load Type Location Trib Width Side Dead Live Wind Comments Snow Part. Uniform 4-7-12 to 8-10-8 90 PLF 240 PLF 0 PLF 0 PLF 5 Тор 6 Part. Uniform 6-10-4 to 8-10-8 Near Face **34 PLF** 90 PLF 0 PLF 0 PLF Self Weight 10 PLF

> READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

# Handling & Installation

- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 10/18/2021

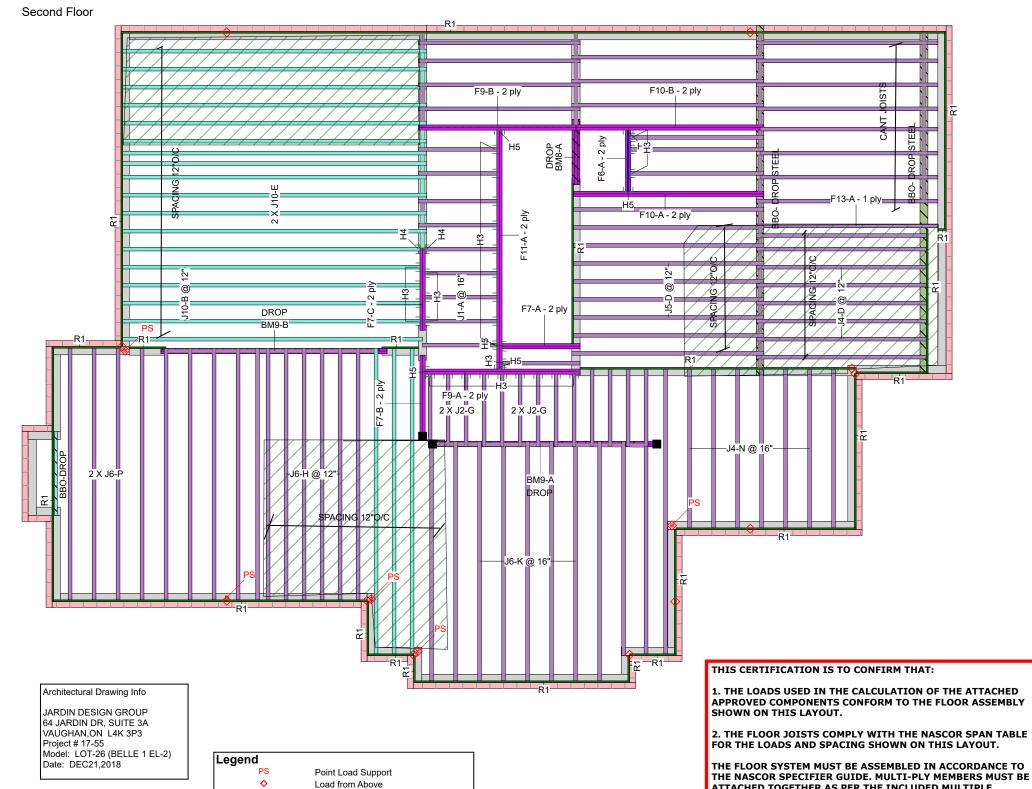
Manufacturer Info

APA: PR-L318





NE0119-100 PAGE 24 OF 42



APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY

THE NASCOR SPECIFIER GUIDE. MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

ALL OTHER COMPONENTS AND STRUCTURAL ELEMENTS SUPPORTING THE FLOOR SYSTEM SUCH AS BEAMS, WALLS, **COLUMNS AND FOUNDATION WALLS AND FOOTINGS** INCLUDING ANCHORAGE OF COMPONENTS AND BRACING FOR LATERAL STABILITY ARE THE RESPONSIBILITY OF OTHERS.

Double joist only require filler/backer ply when supporting another

ioists which support loading from above exceeding two levels floor or roof.

are fastened as per the hanger manufacturer's standards

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth) @ 16" o/c. All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the esponsibility of others.

The framing shown on this layout may be deviate from the architectural drawings. Project Engineer to review and approve the deviation prior to construction

### Second Floor LVL/LSL (Flush) Pcs Length Label Description Width Depth Qty Plies F11 1.75 11.875 Forex 2 2.0E-3000Fb LVL F10 Forex 1.75 | 11.875 2 4 12-0-0 LOT-26 (BELLE 1 EL -2) 2.0E-3000Fb LVL F9 Forex 1.75 11.875 4 10-0-0 Design Method 2.0E-3000Fb LVL LSD 6-0-0 F7 Forex 1.75 11.875 6 Description 2.0E-3000Fb LVL GREEN YORK HOMES F6 1.75 11.875 2 2 4-0-0 Forex GRANELLI HOMES PROJECT 2.0E-3000Fb LVL BRAMPTON,ON LVL/LSL (Dropped) Plies Pcs Length Created Label Description Width Depth Qty May 29, 2018 BM8 Forex 1.75 9.5 3 3 4-0-0 2.0E-3000Fb LVL Builder ВМ9 Forex 1.75 11.875 14-0-0 2.0E-3000Fb LVL Sales Rep Joist (Flush) Designer Pcs Length Label Description Width Depth Qty Plies SB J9 LPI 20Plus 2.5 11.875 16-0-0 Shipping J6 LPI 20Plus 22 14-0-0 2.5 11.875 19 12-0-0 Project J5 LPI 20Plus 2.5 11.875 2.5 11.875 J4 LPI 20Plus 22 10-0-0 Builder's Project J3 LPI 20Plus 2.5 11.875 8-0-0 **Kott Lumber Company** J2 LPI 20Plus 19 6-0-0 2.5 11.875 14 Anderson Blvd J1 LPI 20Plus 2.5 11.875 4 4-0-0 Stouffville, Ontario F13 LPI 20Plus 1 12-0-0 2.5 11.875 Canada J10 NJ60H 2.5 11.875 21 18-0-0 L4A 7X4 Rim Board Pcs Length 905-642-4400 Label Description Width Depth Qty Plies Norbord Rimboard 1.125 11.875 17 Second Floor Plus 1.125 X Design Method LSD 11.875 Building Code NBCC 2010 / OBC Blocking 2012 Pcs Length Label Description Width Depth Qty Plies Floor BLK1 LPI 20 Plus 2.5 11.875 LinFt Varies 44-0-0 \_oads BLK1 NJ60H 2.5 11.875 Varies 5-0-0 LinFt Hanger 15 Beam/Girder Supported Deflection Joist 480 L Span L/ Label Pcs Description Skew Slope fasteners fasteners L Span L/ 360 Н3 29 LF2511 12 10d 1 #8x1 1/4WS L Cant 2L/ 480 H4 2 LF2511 360 H5 6 LF3511 12 10d 2 #8x1 1/4WS TL Cant 2L/ Deflection Girder 360 LL Span L/ 240 TL Span L/ Framer to verify dimensions on the architectural drawings 480 LL Cant 2L/ 360 TL Cant 2L/ Decking Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls. Deck OSB

### NOTES:

member using a face-mounted hanger.

Install single-ply flush window header along inside face of rimboard/rimjoist

Refer to Nascor specifier guide for installation details.

Squash blocks recommended to be installed at end bearing on all first leve Load transfer blocks to be installed under all point loads

. It shall be the framer's responsibility that floor joists and beams

Refer to Multiple Member Connection Detail to ply to ply nailing or bolting

ROFESSIONA N.A. EL-MASRI NE0119-100

Thickness

Fastener

Vibration

Ceiling:

5/8"

Nailed & Glued

Gypsum 1/2"

Hatch area represents ceramic tiled floor with an additional dead load

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH **BLOCK IS REQUIRED AT ALL** POINT LOADS OVER BEARINGS

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

1. OBC 2012 O.Reg 332/12 as amended

5. CCMC -12787-R APA PR-L310(C)

2. Nascor CCMC - 13535-R

JOISTS SPACING 16"O/C

NOTED OTHERWISE

3. LVL CCMC -12904-R

4 CAN/CSA-086-09

UNLESS

Wall

LPI 20Plus 11.875

1.75 X 9.5 (Dropped) 5 X 10.25 (Dropped)

5.25 X 10.25 (Dropped)

NJ60H 11.875

(Dropped)

(Dropped)

//////

Norbord Rimboard Plus 1.125 X 11.875

Forex 2.0E-3000Fb LVL 1.75 X 9.5

Forex 2.0E-3000Fb LVL 1.75 X 11.875

Forex 2.0E-3000Fb LVL 1.75 X 11.875

PAGE 25 OF 42 NE0119-100



Project: Address:

1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

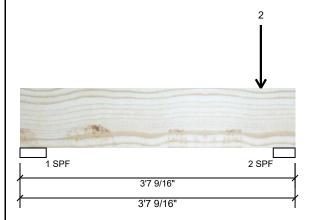
Project #:

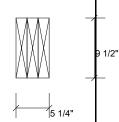
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

3-Ply - PASSED

Level: Second Floor





Wind

Total Id Case Id Comb

### Member Information

Туре:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		

# **Unfactored Reactions UNPATTERNED Ib (Uplift)**

1	85	62	0	0
2	1087	552	0	0

### **Bearings and Factored Reactions** 40 PSF 15 PSF Can React D/L lh Regring Length

Dearing	Longin	Cap. IX	Cact D/L ID	Iotai	Lu. Casc	Lu. Comb.	
1 - SPF	4.152"	2%	78 / 127	205	L	1.25D+1.5L	
2 - SPF	3 456"	28%	690 / 1631	2321	1	1 25D+1 5I	

### **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	521 ft-lb	3'2 1/8"	35449 ft-lb	0.015 (1%)	1.25D+1.5L	L
Unbraced	521 ft-lb	3'2 1/8"	35449 ft-lb	0.015 (1%)	1.25D+1.5L	L
Shear	536 lb	2'7 3/8"	13915 lb	0.039 (4%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/48140)	2'6 7/8"	0.104 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/30970)	2'6 3/16"	0.156 (L/240)	0.010 (1%)	D+L	L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

### Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	3-2-2		Тор	209 lb	363 lb	0 lb	0 lb	F9
2	Point	3-2-3		Тор	364 lb	809 lb	0 lb	0 lb	F10
	Self Weight				11 PLF				

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code
- 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 10/18/2021

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318







PAGE 26 OF 42 NE0119-100



Client: Project: Address:

1/21/2019 Designer: SB

End Grain

End Grain

2 - SPF 5.500"

1025 / 3033

Job Name: LOT-26 (BELLE 1 EL -2)

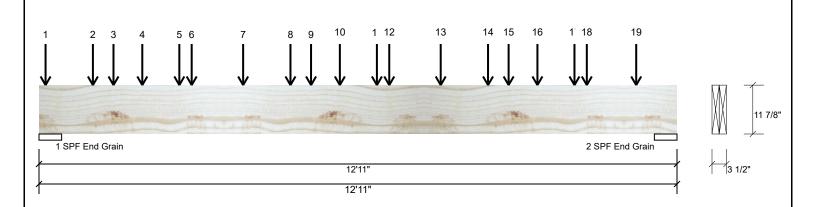
Project #:

Forex 2.0E-3000Fb LVL BM9-A

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



Member Info	rmation			Unfactor	ed Reac	tions L	INPATTERN	ED lb (	(Uplift)
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Sno	w
Plies:	2	Design Method:	LSD	1	2274		955		0
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	2022		820		0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearings	and Fac	tored	Reactions		
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total	Ld. Case
				1 - SPF	5.500"	32%	1194 / 3411	4605	L

Analysis Res	ults
--------------	------

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12341 ft-lb	6'10 1/16"	34261 ft-lb	0.360 (36%)	1.25D+1.5L	L
Unbraced	12341 ft-lb	6'10 1/16"	27420 ft-lb	0.450 (45%)	1.25D+1.5L	L
Shear	3768 lb	1'4 5/8"	11596 lb	0.325 (32%)	1.25D+1.5L	L
Perm Defl in.	0.074 (L/1965)	6'5 9/16"	0.404 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.183 (L/794)	6'5 5/8"	0.404 (L/360)	0.450 (45%)	L	L
TL Defl inch	0.257 (L/565)	6'5 5/8"	0.606 (L/240)	0.420 (42%)	D+L	L

# **Design Notes**

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS

CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBE CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS



Wind

4058 L

0

0

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

ĺ	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
l	1	Point	0-1-10		Тор	176 lb	369 lb	0 lb	0 lb	J2 J6
l	2	Point	1-1-2		Тор	30 lb	79 lb	0 lb	0 lb	J2
l	3	Point	1-6-2		Тор	131 lb	343 lb	0 lb	0 lb	J6
l	4	Point	2-1-2		Тор	30 lb	79 lb	0 lb	0 lb	J2
l	5	Point	2-10-2		Тор	129 lb	343 lb	0 lb	0 lb	J6

Continued on page 2...

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada 905-642-4400





PAGE 27 OF 42 NE0119-100

isDesign™

Client: Project: Address: 1/21/2019

Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

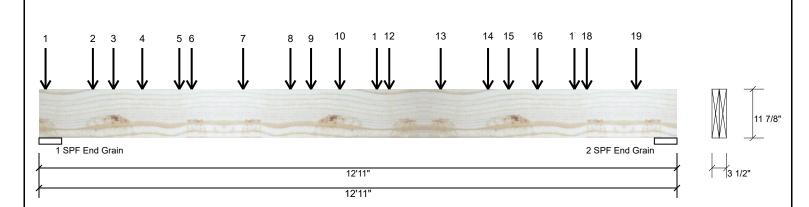
Project #:

Forex 2.0E-3000Fb LVL BM9-A

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



Continued	Continued from page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	3-1-2		Тор	29 lb	79 lb	0 lb	0 lb	J2
7	Point	4-1-10		Тор	158 lb	421 lb	0 lb	0 lb	J2 J6
8	Point	5-1-2		Тор	30 lb	79 lb	0 lb	0 lb	J2
9	Point	5-6-2		Тор	129 lb	343 lb	0 lb	0 lb	J6
10	Point	6-1-2		Тор	30 lb	79 lb	0 lb	0 lb	J2
11	Point	6-10-2		Тор	129 lb	343 lb	0 lb	0 lb	J6
12	Point	7-1-2		Тор	29 lb	79 lb	0 lb	0 lb	J2
13	Point	8-1-10		Тор	158 lb	421 lb	0 lb	0 lb	J2 J6
14	Point	9-1-2		Тор	30 lb	81 lb	0 lb	0 lb	J2
15	Point	9-6-2		Тор	129 lb	343 lb	0 lb	0 lb	J6
16	Point	10-1-2		Тор	30 lb	81 lb	0 lb	0 lb	J2
17	Point	10-10-2		Тор	110 lb	294 lb	0 lb	0 lb	J5
18	Point	11-1-2		Тор	30 lb	80 lb	0 lb	0 lb	J2
19	Point	12-1-2		Тор	135 lb	360 lb	0 lb	0 lb	J2 J5
	Self Weight				10 PLF	REFER TO I	<b>NULTIPLE M</b>	EMBER T	O MEMBER

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

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

- L. UV. beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
   Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





PAGE 28 OF 42 NE0119-100



Client: Project: Address:

1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

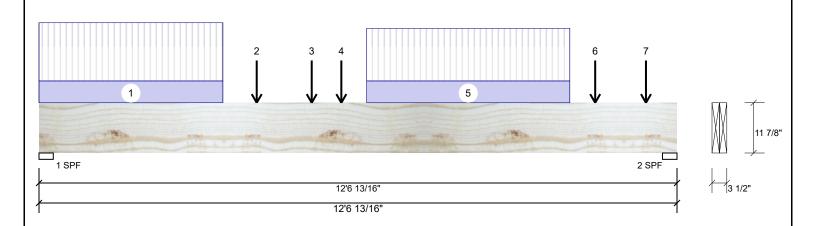
Project #:

Forex 2.0E-3000Fb LVL BM9-B

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



mation			Unfactored Reactions UNPATTERNED lb (Uplift)						
Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
2	Design Method:	LSD	1	1837	770	0	0		
: Dry	Building Code:	NBCC 2010 / OBC 2012	2	1788	813	0	0		
360	Load Sharing:	No							
240	Deck:	Not Checked							
Normal	Vibration:	Not Checked							
40 PSF			Bearings a	and Facto	ored Reactions				
15 PSF			Bearing L	ength.	Cap. React D/L lb	Total Ld. Case	Ld. Comb.		
			1 - SPF 3	.375"	51% 962 / 2755	3718 L	1.25D+1.5L		
			2-SPF 3	.438"	50% 1016 / 2682	3699 L	1.25D+1.5L		
	Girder 2 : Dry 360 240 Normal	Girder 2 Design Method: Building Code: Load Sharing: Deck: Normal Vibration:	Girder  2  Design Method:  Design Method:  LSD  Building Code:  NBCC 2010 / OBC 2012  Load Sharing:  No  Deck:  Not Checked  Vibration:  Not Checked	Application: Floor (Residential)   Brg	Application: Floor (Residential)   Brg   Live	Application: Floor (Residential)   Brg   Live   Dead   1   1837   770   2   1788   813     Span   Span	Application: Floor (Residential)   Brg   Live   Dead   Snow		

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10691 ft-lb	5'11 7/16"	34261 ft-lb	0.312 (31%)	1.25D+1.5L	L
Unbraced	10691 ft-lb	5'11 7/16"	27423 ft-lb	0.390 (39%)	1.25D+1.5L	L
Shear	3259 lb	11'4 1/4"	11596 lb	0.281 (28%)	1.25D+1.5L	L
Perm Defl in.	0.068 (L/2152)	6'3 7/16"	0.404 (L/360)	0.170 (17%)	D	Uniform
LL Defl inch	0.156 (L/931)	6'3"	0.404 (L/360)	0.390 (39%)	L	L
TL Defl inch	0.224 (L/650)	6'3 1/8"	0.606 (L/240)	0.370 (37%)	D+L	L

**Design Notes** 

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-7-7		Тор	115 PLF	307 PLF	0 PLF	0 PLF	
2	Point	4-3-7		Тор	126 lb	336 lb	0 lb	0 lb	J6
3	Point	5-4-7		Тор	87 lb	232 lb	0 lb	0 lb	J6
4	Point	5-11-7		Тор	91 lb	220 lb	0 lb	0 lb	J6
5	Part. Uniform	6-5-7 to 10-5-7		Тор	115 PLF	278 PLF	0 PLF	0 PLF	

Continued on page 2...

### 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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Canada 905-642-4400





Kott Lumber Company 14 Anderson Blvd, Ontario

PAGE 29 OF 42 NE0119-100

isDesign™

Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

Page 2 of 2

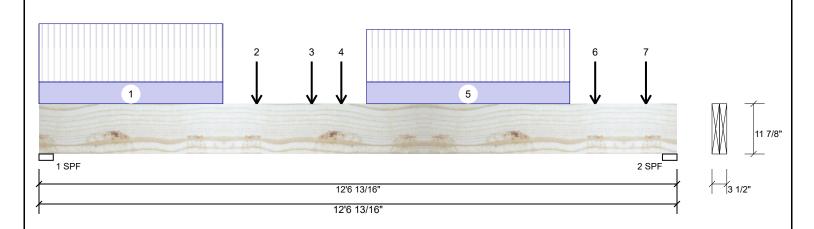
Project #:

Forex 2.0E-3000Fb LVL BM9-B

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



.Continued from page 1

ID Location Trib Width Side Live Wind Comments Load Type Dead Snow Point 10-11-7 126 lb 278 lb 0 lb 0 lb J6 6 Top 7 Point 11-11-7 Тор 157 lb 335 lb 0 lb 0 lb J10 Self Weight 10 PLF

> READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

Handling & Installation

LVL beams must not be cut or drilled
Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

2 Damaged Beams must not be used

Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400



PAGE 30 OF 42 NE0119-100



Client: Project: Address:

1/21/2019 Designer: SB

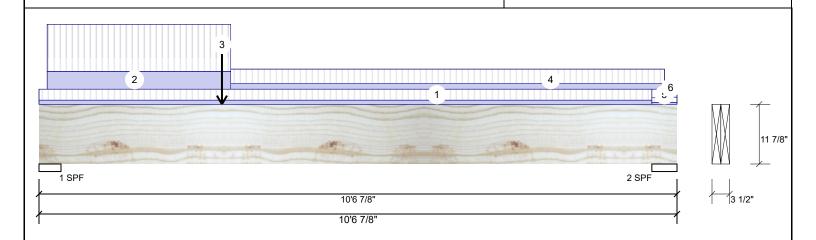
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED Level: Second Floor



Member Inform	nation			Unfactored Reactions UNPATTERNED Ib (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind		
Plies:	2	Design Method:	LSD	1	784	356	0	0		
Moisture Condition	: Dry	Building Code:	NBCC 2010 / OBC 2012	2	397	204	0	0		
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fact	tored Reactions				
Dead:	15 PSF			Bearing	Length	Cap. React D/L II	Total Ld. C	Case Ld. Comb.		
				1 - SPF	4.375"	17% 444 / 1170	6 1620 L	1.25D+1.5L		
				2 - SPF	5.000"	8% 255 / 596	851 L	1.25D+1.5L		

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3608 ft-lb	3' 3/8"	34261 ft-lb	0.105 (11%)	1.25D+1.5L	L
Unbraced	3608 ft-lb	3' 3/8"	29686 ft-lb	0.122 (12%)	1.25D+1.5L	L
Shear	1393 lb	1'3 1/2"	11596 lb	0.120 (12%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/8028)	4'9 9/16"	0.331 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.032 (L/3747)	4'8 9/16"	0.331 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.047 (L/2555)	4'8 7/8"	0.496 (L/240)	0.090 (9%)	D+L	L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width

0 Lateral Siei	ilueilless ratio baset	a on full section width.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-1-14	(Span)0-10-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-10 to 3-2-2	(Span)3-8-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	3-0-6		Far Face	245 lb	611 lb	0 lb	0 lb	F6
4	Tie-In	3-2-2 to 10-4-6	(Span)1-1-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	10-1-14 to 10-6-14	(Span)0-4-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	10-4-6 to 10-6-14	(Span)0-11-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400

AU PROFESSIONAL



PAGE 31 OF 42 NE0119-100



Client: Project: Address:

1/21/2019 Designer: SB

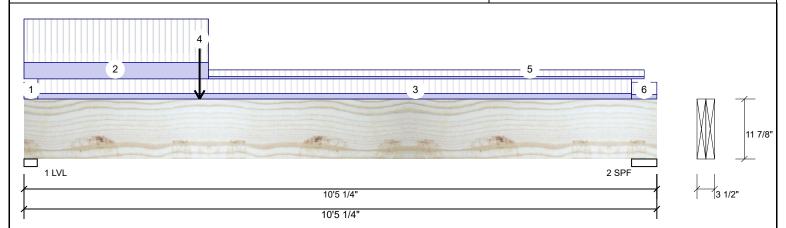
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

Forex 2.0E-3000Fb LVL F10-B

1.750" X 11.875"

2-Ply - PASSED Level: Second Floor



Member Infor	mation			Unfactored Reactions UNPATTERNED Ib (Uplift)				
Туре:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	809	364	0	0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	389	201	0	0
Deflection LL:	360	Load Sharing:	No					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load								
Floor Live:	40 PSF			Bearings	and Fact	ored Reactions		
Dead:	15 PSF			Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1 - LVL	2.625"	24% 455 / 1213	1668 L	1.25D+1.5L
				2 - SPF	5.000"	8% 251 / 584	835 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3712 ft-lb	2'10 3/4"	34261 ft-lb	0.108 (11%)	1.25D+1.5L	L
Unbraced	3712 ft-lb	2'10 3/4"	29676 ft-lb	0.125 (13%)	1.25D+1.5L	L
Shear	1433 lb	1'1 3/4"	11596 lb	0.124 (12%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/7923)	4'7 9/16"	0.331 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.032 (L/3690)	4'6 7/16"	0.331 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.047 (L/2518)	4'6 13/16"	0.496 (L/240)	0.100 (10%)	D+L	L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width

o Lateral sici	nacificas fallo basca	on fall scotlon wiath.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-12	(Span)1-0-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 3-0-8	(Span)3-8-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-2-12 to 10-0-4	(Span)1-2-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	2-10-12		Near Face	255 lb	637 lb	0 lb	0 lb	F6
5	Tie-In	3-0-8 to 10-2-12	(Span)0-6-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	10-0-4 to 10-5-4	(Span)1-0-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

  Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400



This design is valid until 10/18/2021



AU PROFESSIONAL

PAGE 32 OF 42 NE0119-100

isDesign

Client: Project: Address:

1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

Project #

Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

2 -

2.000"

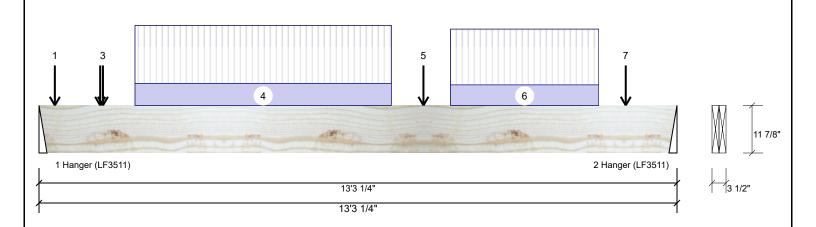
21%

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA

317 / 753

1070 L

Level: Second Floor



Member Inforr	nation			Unfactor	ed Reacti	ions Ul	NPATTERNI	D lb (Uplift)
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow
Plies:	2	Design Method:	LSD	1	574		297	0
Moisture Condition	: Dry	Building Code:	NBCC 2010 / OBC 2012	2	502		253	0
Deflection LL:	360	Load Sharing:	No					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load								
Floor Live:	40 PSF			Bearings	and Fact	ored R	eactions	
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total Ld. Cas
				1-	2.000"	24%	372 / 860	1232 L
				Hanger				

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3675 ft-lb	6'7 1/8"	34261 ft-lb	0.107 (11%)	1.25D+1.5L	L
Unbraced	3675 ft-lb	6'7 1/8"	26322 ft-lb	0.140 (14%)	1.25D+1.5L	L
Shear	1219 lb	1'1 1/8"	11596 lb	0.105 (11%)	1.25D+1.5L	L
Perm Defl in.	0.030 (L/5266)	6'7 5/16"	0.435 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.059 (L/2643)	6'7 1/2"	0.435 (L/360)	0.140 (14%)	L	L
TL Defl inch	0.089 (L/1760)	6'7 7/16"	0.653 (L/240)	0.140 (14%)	D+L	L

**Design Notes** 

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings

USED IN THE DESIGN OF THIS COMPONENT. REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

6 Lateral slenderness ratio based on full section width. ID Trib Width Side Dead Live Snow Load Type Location Point 0-3-15 Near Face 21 lb 57 lb 0 lb

Wind Comments 0 lb J2 1 2 Point 1-3-4 Near Face 34 lb 38 lb 0 lb 0 lb F7 3 Point 1-3-15 Far Face 43 lb 114 lb 0 lb 0 lb J2 Part. Uniform 1-11-15 to 7-3-15 Far Face 30 PLF 79 PLF 0 PLF 0 PLF 7-11-15 108 lb Far Face 0 lb 0 lb J2 Part. Uniform 8-6-11 to 11-7-11 28 PLF 76 PLF 0 PLF 0 PLF 6 Far Face

Continued on page 2...

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
- 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

APA: PR-L318

Manufacturer Info

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400







Wind 0 0

Ld. Comb. 1.25D+1.5L

1.25D+1.5L

& PROFESSIONAL

PAGE 33 OF 42 NE0119-100

isDesign™

Client: Project: Address:

1/21/2019 Designer: SB

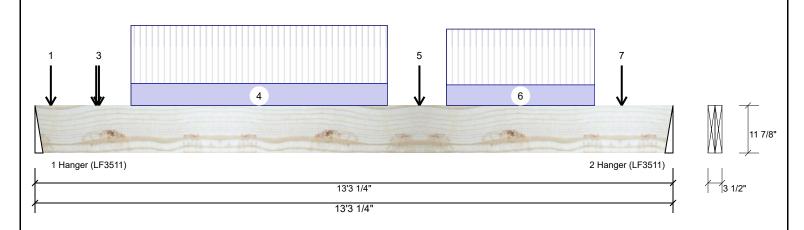
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

Forex 2.0E-3000Fb LVL F11-A

1.750" X 11.875"

2-Ply - PASSED Level: Second Floor



.Continued from page 1

ID Location Trib Width Side Live Wind Comments Load Type Dead Snow Point 12-2-7 Far Face 39 lb 103 lb 0 lb 0 lb J2 7 Self Weight 10 PLF

> READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

# Handling & Installation

- LVL beams must not be cut or drilled
  Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

  2 Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318



Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400



PAGE 34 OF 42 NE0119-100

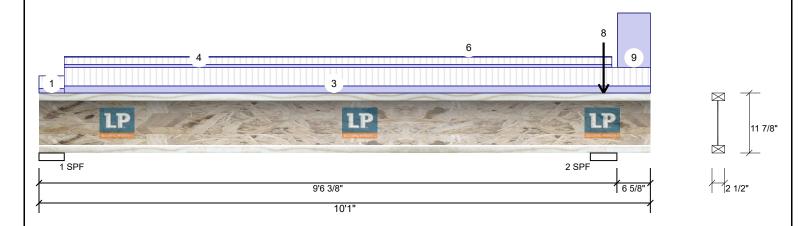


Client: Project: Address: Date: 1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

11.875" - PASSED LPI 20Plus

Level: Second Floor



# Member Information Type: Plies:

Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal

General Load Floor Live: 40 PSF 15 PSF Dead:

Application: Floor (Residential)

Design Method: **Building Code:** NBCC 2010 / OBC 2012

Load Sharing:

No Not Checked

Deck: Vibration: Not Checked

### **Unfactored Reactions UNPATTERNED Ib (Uplift)**

Brg	Live	Dead	Snow	Wind
1	173	67	0	0
2	198	164	0	0

# **Bearings and Factored Reactions**

Bearing Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF 5.000"	19%	84 / 261	345	L_	1.25D+1.5L	
2 - SPE 5 250"	16%	205 / 297	502	11	1 25D+1 5I	

### **Analysis Results**

,					
Analysis Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment -31 ft-lb	9'6 3/8"	4063 ft-lb	0.008 (1%)	1.25D+1.5L	_L
Pos Moment 730 ft-lb	4'8 5/8"	6250 ft-lb	0.117 (12%)	1.25D+1.5L	L_
Shear 341 lb	9'1 7/8"	2345 lb	0.145 (15%)	1.25D+1.5L	LL
Perm Defl in. 0.009 (L/12108)	4'8 5/8"	0.293 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch 0.023 (L/458	30) 4'9 1/16"	0.293 (L/360)	0.080 (8%)	L	L_
TL Defl inch 0.032 (L/332	23) 4'8 15/16"	0.440 (L/240)	0.070 (7%)	D+L	L_
LL Cant -0.003 (2L/4055)	Rt Cant	0.200 (2L/480)	0.016 (2%)	L	L_
TL Cant -0.004	Rt Cant	0.300	0.013 (1%)	D+L	L_

ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

READ ALL NOTES ON THIS PAGE AND ON

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Applied loads over end bearings and loads exceeding 250 lbs over intermediate bearings must be transferred directly to the support by rim board, blocking, squash blocks, or other
- 3 Dead Load Deflection: Instant = 0.009", Long Term = 0.013"
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings



This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C





PAGE 35 OF 42 NE0119-100

isDesign™

Client: Project: Address: Date: 1/21/2019 Designer: SB

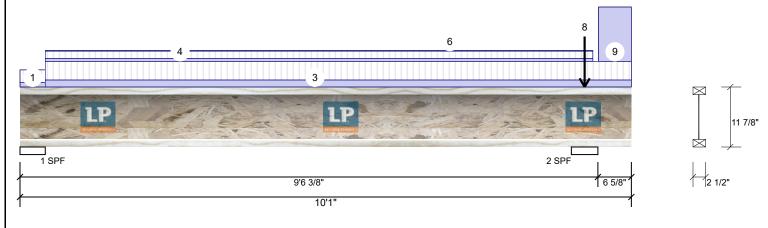
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

11.875" - PASSED LPI 20Plus

Level: Second Floor

Page 2 of 2



ı										
Ī	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
l	1	Tie-In	0-0-0 to 0-5-0	(Span)0-11-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
l	3	Tie-In	0-5-0 to 10-1-0	(Span)1-4-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
l	4	Tie-In	0-5-0 to 9-5-6	(Span)0-6-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
l	6	Part. Uniform	0-5-0 to 9-5-6		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
l	7	Point	9-3-12		Тор	37 lb	0 lb	0 lb	0 lb	Wall Self Weight
l		Bearing Length	0-1-8							
l	8	Point	9-3-12		Тор	3 lb	0 lb	0 lb	0 lb	Wall Self Weight
l		Bearing Length	0-1-8							
l	9	Part. Uniform	9-6-8 to 10-1-0		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
ı										

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

This component analysis is based on the loads, geometry and other conditions as entered by the user and listed in this report. The user is responsible to ensure the accuracy of the input and the applicability to the actual conditions of the structure for which this component is intended. This analysis is valid only for the product listed.

Copyright 2016 All rights reserved by Louisiana Pacific Corp. 414 Union St Suite 2000, Nashville, TN 37219



This design is valid until 10/31/2020

# Manufacturer Info

Louisiana-Pacific Corp 414 Union Street, Suite 2000 Nashville, TN 37219 (888) 820-0325 www.lpcorp.com CCMC: 12412-R APA: PR-L238C





NE0119-100 PAGE 36 OF 42



Project: Address:

1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

1 2

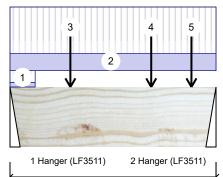
1 -

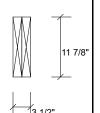
2 -

Hanger

Hanger

Level: Second Floor





Wind

O

1224 L

1274 L

0

0

1.25D+1.5L

1.25D+1.5L

	• •	*	• •	
1		3'4 3/4"		1
1		3'4 3/4"		1

Member Information								
Туре:	Girder	Application:	Floor (Residential)					
Plies:	2	Design Method:	LSD					
Moisture Condition:	: Dry	Building Code:	NBCC 2010 / OBC 2012					
Deflection LL:	360	Load Sharing:	No					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load								
Floor Live:	40 PSF							
Dead:	15 PSF							
General Load Floor Live:	40 PSF	Vibration:	Not Checked					

### **Unfactored Reactions UNPATTERNED Ib (Uplift)** Brg Live Dead

611

637

2.000"

2.000"

Bearings and Fa		tored Reactions		
	Bearing Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.

307 / 917

319 / 955

245

255

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	936 ft-lb	1'8 7/16"	34261 ft-lb	0.027 (3%)	1.25D+1.5L	L
Unbraced	936 ft-lb	1'8 7/16"	34261 ft-lb	0.027 (3%)	1.25D+1.5L	L
Shear	745 lb	2'3 5/8"	11596 lb	0.064 (6%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/43484)	1'8 7/16"	0.106 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.002 (L/17428)	1'8 7/16"	0.106 (L/360)	0.020 (2%)	L	L
TL Defl inch	0.003 (L/12441)	1'8 7/16"	0.159 (L/240)	0.020 (2%)	D+L	L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

25%

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# AD PROFESSIONAL

# **Design Notes**

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-0	(Span)3-0-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-4-12		Тор	90 PLF	240 PLF	0 PLF	0 PLF	
3	Point	0-11-15		Near Face	66 lb	177 lb	0 lb	0 lb	J3
4	Point	2-3-15		Near Face	54 lb	143 lb	0 lb	0 lb	J3

Continued on page 2...

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
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





PAGE 37 OF 42 NE0119-100



Client: Project: Address: 1/21/2019

Designer: SB

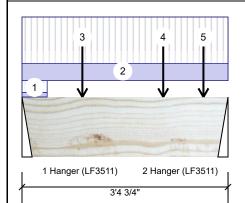
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

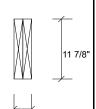
Forex 2.0E-3000Fb LVL

1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



3'4 3/4"



.Continued from page 1

ID Location Trib Width Side Live Wind Comments Load Type Dead Snow 5 Point 2-11-15 Near Face 33 lb 87 lb 0 lb 0 lb Self Weight 10 PLF

> READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

# Handling & Installation

- LVL beams must not be cut or drilled
  Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals

  2 Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





NE0119-100 PAGE 38 OF 42



Client: Project: Address:

1/21/2019 Designer: SB

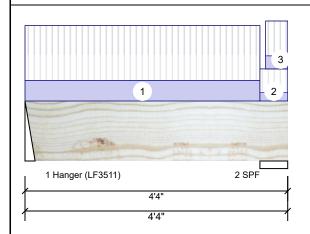
Job Name: LOT-26 (BELLE 1 EL -2)

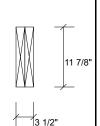
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor





Member	Information
Type:	Girder
Plies:	2

Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal

40 PSF 15 PSF Application: Floor (Residential) Design Method:

**Building Code:** NBCC 2010 / OBC 2012 Load Sharing: No

Not Checked Deck: Vibration:

Not Checked

# **Unfactored Reactions UNPATTERNED Ib (Uplift)**

Brg	Live	Dead	Snow	Wind
'	38	34	0	0
2	43	38	0	0

# **Bearings and Factored Reactions**

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1.25D+1.5L 2.000" 2% 42 / 57 99 I Hanger 2 - SPF 5.500" 1% 48 / 65 112 L 1.25D+1.5L

### Analysis Results

General Load

Floor Live:

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.
Moment	90 ft-lb	2' 1/4"	34261 ft-lb	0.003 (0%)	1.25D+1.5L
Unbraced	90 ft-lb	2' 1/4"	34261 ft-lb	0.003 (0%)	1.25D+1.5L
Shear	45 lb	2'11 3/8"	11596 lb	0.004 (0%)	1.25D+1.5L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)	
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)	
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)	

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

Wind

0 PSF

0 PSF

0 PSF

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL

# **Design Notes**

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

Load Type

Self Weight

Tie-In

Tie-In

Tie-In

POINT LOADS OVER BEARINGS

Snow

0 PSF

0 PSF

0 PSF



POFESSIONA

ID

1

2

3

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

Location

0-0-0 to 3-10-8

3-10-8 to 4-4-0

3-11-10 to 4-4-0

Trib Width

(Span)0-11-5 Top

(Span)0-4-13 Top

(Span)0-7-3 Top

Side

- 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
- Damaged Beams must not be used Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

Dead

15 PSF

15 PSF

15 PSF

10 PLF

Live

40 PSF

40 PSF

40 PSF

Case

L

L

L

**Manufacturer Info** 

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada 905-642-4400



PAGE 39 OF 42 NE0119-100



Project: Address:

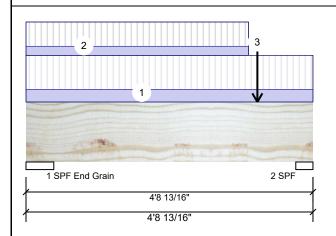
1/21/2019 Designer: SB

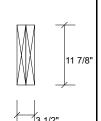
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

1.750" X 11.875" 2-Ply - PASSED Forex 2.0E-3000Fb LVL

Level: Second Floor





wember	intormation
Type:	Girder

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

# **Unfactored Reactions UNPATTERNED Ib (Uplift)**

Brg	Live	Dead	Snow	Wind
1	168	100	0	0
2	626	323	0	0

# Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	921 ft-lb	3'9 13/16"	34261 ft-lb	0.027 (3%)	1.25D+1.5L	L
Unbraced	921 ft-lb	3'9 13/16"	34261 ft-lb	0.027 (3%)	1.25D+1.5L	L
Shear	1298 lb	3'6 1/4"	11596 lb	0.112 (11%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/47016)	3'1 1/8"	0.137 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.002 (L/24894)	3'2 1/8"	0.137 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.003 (L/16281)	3'1 13/16"	0.206 (L/240)	0.010 (1%)	D+L	L

### **Bearings and Factored Reactions**

Bearing	Length	Cap. R	teact D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	3%	125 / 252	377	L	1.25D+1.5L
End						
Grain						
2 CDE	3 300"	18%	404 / 939	1343	L	1.25D+1.5L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS



### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-8-13	(Span)0-7-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 3-8-1	(Span)0-5-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	3-9-13		Near Face	346 lb	708 lb	0 lb	0 lb	F9
	Self Weight				10 PLF				

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 10/18/2021

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Manufacturer Info Canada L4A 7X4 905-642-4400





PAGE 40 OF 42 NE0119-100



Client: Project: Address:

1/21/2019 Designer: SB

Job Name: LOT-26 (BELLE 1 EL -2)

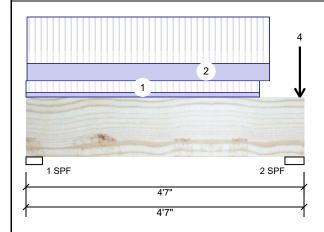
Project #:

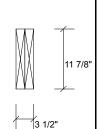
1.750" X 11.875" Forex 2.0E-3000Fb LVL

2-Ply - PASSED

Brg

Level: Second Floor





Wind

Member	Information
Type:	Girder
Plies:	2

Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal

General Load 40 PSF Floor Live: 15 PSF Dead:

### Application: Floor (Residential)

Design Method: **Building Code:** 

NBCC 2010 / OBC 2012

Load Sharing: No Deck:

Not Checked Vibration: Not Checked

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 

•	011	000	· ·	•
2	998	395	0	0

Dead

# **Bearings and Factored Reactions**

Live

Bearing Length	Cap. React D/L lb	lotal Ld. Case	La. Comb.
1 - SPF 3.250"	26% 456 / 1375	1831 L	1.25D+1.5L
2 SDE 3.778"	24% 494 / 1497	1001 I	1 25D±1 5I

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1711 ft-lb	2'3 1/16"	34261 ft-lb	0.050 (5%)	1.25D+1.5L	L
Unbraced	1711 ft-lb	2'3 1/16"	34261 ft-lb	0.050 (5%)	1.25D+1.5L	L
Shear	1685 lb	3'4 1/8"	11596 lb	0.145 (15%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/24623)	2'3 1/8"	0.137 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.005 (L/9794)	2'3 1/8"	0.137 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.007 (L/7007)	2'3 1/8"	0.206 (L/240)	0.030 (3%)	D+L	L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.
- 5 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-10-3		Near Face	31 PLF	83 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-0-3 to 4-0-3		Far Face	122 PLF	326 PLF	0 PLF	0 PLF	
3	Point	4-6-3		Far Face	82 lb	219 lb	0 lb	0 lb	J10
4	Point	4-6-3		Near Face	27 lb	72 lb	0 lb	0 lb	J1
	Self Weight				10 PLF				



Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

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

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





PAGE 41 OF 42 NE0119-100



Client: Project: Address:

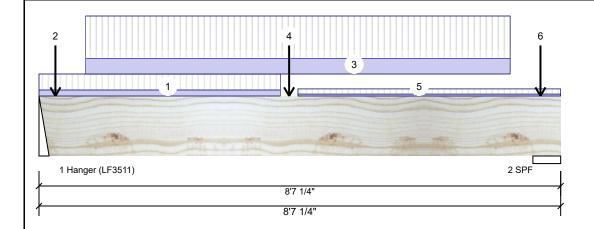
1/21/2019 Designer: SB

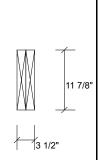
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED

Level: Second Floor





Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

# **Unfactored Reactions UNPATTERNED Ib (Uplift)**

Brg	Live	Dead	Snow	Wind
1	708	346	0	0
2	678	336	0	0

# Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4128 ft-lb	4'1 1/2"	34261 ft-lb	0.120 (12%)	1.25D+1.5L	L
Unbraced	4128 ft-lb	4'1 1/2"	31205 ft-lb	0.132 (13%)	1.25D+1.5L	L
Shear	1452 lb	1'1 1/8"	11596 lb	0.125 (13%)	1.25D+1.5L	L
Perm Defl in.	0.013 (L/7491)	4'1 9/16"	0.270 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.026 (L/3726)	4'1 9/16"	0.270 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.039 (L/2489)	4'1 9/16"	0.405 (L/240)	0.100 (10%)	D+L	L

# **Bearings and Factored Reactions**

Bearing	Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.	
1 -	2.000"	29%	432 / 1061	1493	L	1.25D+1.5L	
Hanger							
2 - SPF	5.500"	12%	420 / 1017	1437	L	1.25D+1.5L	

ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

READ ALL NOTES ON THIS PAGE AND ON

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width

& PROFESSIONAL

7 Lateral slender	rness ratio based on	full section width.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-11-12	(Span)1-5-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-4		Near Face	21 lb	55 lb	0 lb	0 lb	J2
3	Part. Uniform	0-9-4 to 7-9-4		Near Face	29 PLF	78 PLF	0 PLF	0 PLF	
4	Point	4-1-8		Far Face	297 lb	574 lb	0 lb	0 lb	F11
5	Tie-In	4-3-4 to 8-7-4	(Span)0-5-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	8-3-4		Near Face	19 lb	52 lb	0 lb	0 lb	J2
	Self Weight				10 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
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 10/18/2021

Manufacturer Info

APA: PR-L318 L4A 7X4 905-642-4400





Kott Lumber Company 14 Anderson Blvd, Ontario

Canada



PAGE 42 OF 42 NE0119-100



Client: Project: Address:

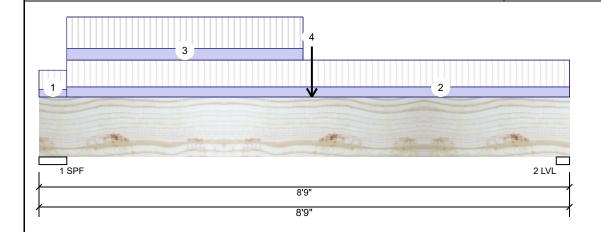
1/21/2019 Designer: SB

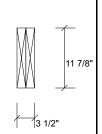
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

1.750" X 11.875" 2-Ply - PASSED Forex 2.0E-3000Fb LVL

Level: Second Floor





### Member Information Type: Plies: 2 Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal General Load Floor Live: 40 PSF

15 PSF

Application: Floor (Residential) Design Method: **Building Code:** NBCC 2010 / OBC 2012 Load Sharing: No Deck: Not Checked Vibration: Not Checked

**Unfactored Reactions UNPATTERNED Ib (Uplift)** Snow Wind Brg Live Dead 413 230 0 O 1 2 363 209 0 0

# **Bearings and Factored Reactions**

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 5.500" 287 / 619 8% 906 I 1.25D+1.5L 2 - LVL 2.625" 12% 261 / 544 806 I 1.25D+1.5L

### **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2821 ft-lb	4'6"	34261 ft-lb	0.082 (8%)	1.25D+1.5L	L
Unbraced	2821 ft-lb	4'6"	31134 ft-lb	0.091 (9%)	1.25D+1.5L	L
Shear	794 lb	1'4 5/8"	11596 lb	0.068 (7%)	1.25D+1.5L	L
Perm Defl in.	0.009 (L/10552)	4'6"	0.273 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.017 (L/5739)	4'6"	0.273 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.026 (L/3717)	4'6"	0.410 (L/240)	0.060 (6%)	D+L	L

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS NOTE PAGE IS AN INTEGRAL PART OF THIS CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS

# **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 Lateral slenderness ratio based on full section width.

L	O Lateral Sieriae	incoo ratio basca on lai	i Scotioni Width.							
ſ	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
l	1	Tie-In	0-0-0 to 0-5-8	(Span)0-9-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
ı	2	Tie-In	0-5-8 to 8-9-0	(Span)1-0-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
ı	3	Tie-In	0-5-8 to 4-4-4	(Span)1-2-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
l	4	Point	4-6-0		Near Face	253 lb	502 lb	0 lb	0 lb	F11
١		Self Weight				10 PLF				
1										

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

6. For flat roofs provide proper drainage to prevent ponding

APA: PR-L318

**Manufacturer Info** 

Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400

POFESSIONA