

PAGE 3 UF 42 Ground Floor LVL/LSL Label Description Width Depth Qty Plies Pcs Length F9 Forex 1.75 11.875 2 2.0E-3000Fb LVL \_ayout Name F8 Forex 1.75 11.875 2 8-0-0 2.0E-3000Fb LVL LOT-26 (BELLE 1 EL -2) F5 Forex 1.75 11 875 6-0-0 Design Method 2.0E-3000Fb LVL Joist Description Width Depth Qty Plies Label Description Pcs Length **GREEN YORK HOMES** F14 LPI 20Plus 2.5 11.875 6 14-0-0 GRANELLI HOMES PROJECT F15 LPI 20Plus 2.5 11.875 10-0-0 BRAMPTON,ON F12 LPI 20Plus 2.5 11.875 5 4-0-0 Created J6 LPI 20Plus 2.5 11.875 21 14-0-0 May 29, 2018 J5 LPI 20Plus 2.5 11.875 12-0-0 2 J4 LPI 20Plus 2.5 11.875 10-0-0 Builder J3 LPI 20Plus 2.5 11.875 2 8-0-0 Sales Rep J2 LPI 20Plus 2.5 11.875 10 6-0-0 Designer J1 LPI 20Plus 2.5 11.875 4-0-0 7 SB J10 NJ60H 2.5 11.875 18-0-0 17 J7 NJ60H 2.5 11,875 16-0-0 Shipping 2 F16 NJ60H 2.5 11.875 2 18-0-0 Project Rim Board Builder's Project Label Description Width Depth Qty Plies Pcs Length **Kott Lumber Company** Norbord Rimboard 1.125 11.875 15 Plus 1.125 X 14 Anderson Blvd 11.875 Stouffville, Ontario Hanger Canada Beam/Girder Supported 14A7X4 Member 905-642-4400 Pcs Description Skew Slope fasteners fasteners **Ground Floor** 1 HUS1.81/10 H1 30 16d 10 16d Design Method LSD H2 2 Unknown Building Code NBCC 2010 / OBC H3 37 LF2511 2012 12 10dx1 1/2 | 1 #8x1 1/4WS NOTES: Floor Loads Framer to verify dimensions on the architectural drawings. Live 40 Double joist only require filler/backer ply when supporting another 15 Dead member using a face-mounted hanger. 3. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls. Deflection Joist Install single-ply flush window header along inside face of rimboard/rimjoist LL Span L/ 480 Refer to Nascor specifier guide for installation details. TL Span L/ 360 Squash blocks recommended to be installed at end bearing on all first level 480 LL Cant 2L/ joists which support loading from above exceeding two levels floor or roof. Load transfer blocks to be installed under all point loads. TL Cant 2L/ 360 8. It shall be the framer's responsibility that floor joists and beams Deflection Girder are fastened as per the hanger manufacturer's standards. LL Span L/ 360 TL Span L/ 240 Refer to Multiple Member Connection Detail to ply to ply nailing or bolting 480 LL Cant 2L/ TL Cant 2L/ 360 Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth) @ 16" o/c. Decking OSB All other components and structural elements supporting Deck the floor system such as beams, walls, columns and Thickness 3/4" foundation walls and footings including anchorage of Fastener Nailed & Glued components and bracing for lateral stability are the Vibration esponsibility of others.

Legend

of 5 PSF.

5.25 X 10.25 (Dropped)

Point Load Support Load from Above Norbord Rimboard Plus 1,125 X 11,875 LPI 20Plus 11.875 NJ60H 11.875 Forex 2.0E-3000Fb LVL 1.75 X 11.875

Hatch area represents ceramic tiled floor with an additional dead load

The framing shown on this layout may be deviate from the architectural

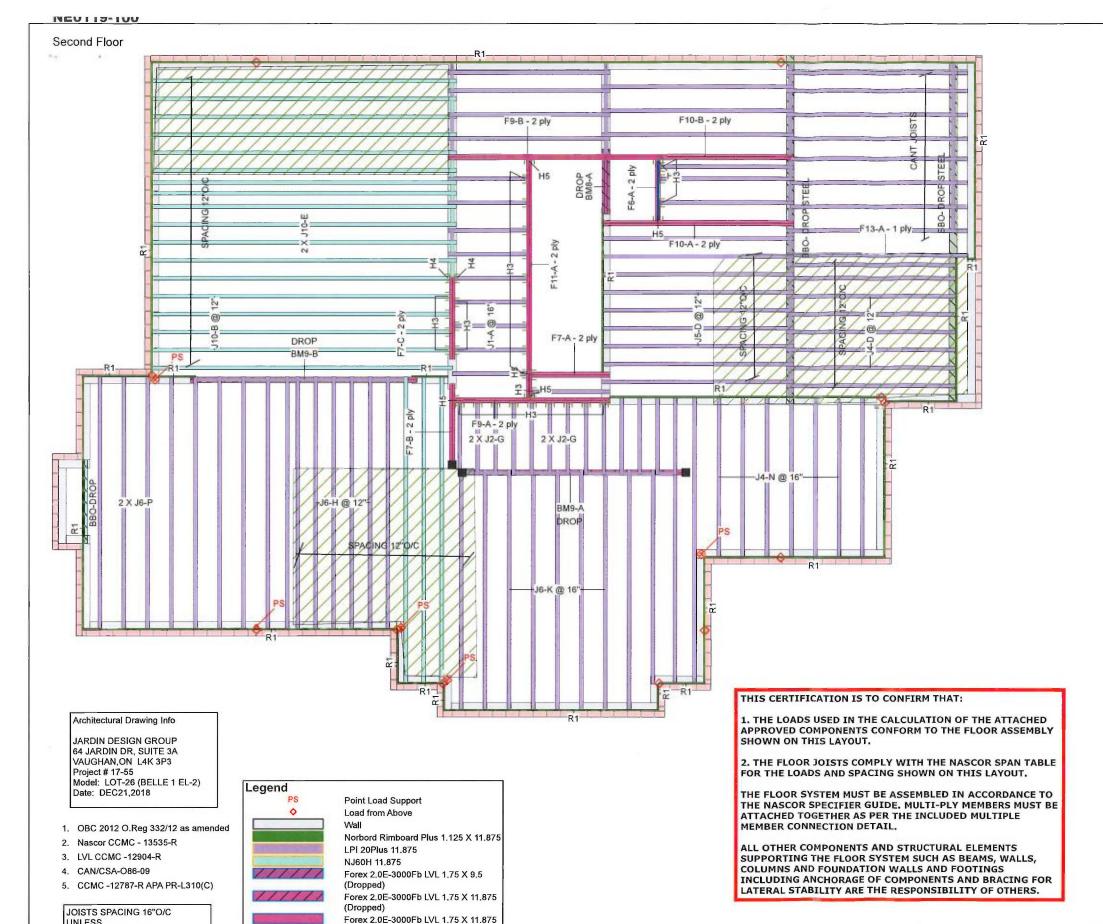
drawings. Project Engineer to review and approve the deviation prior

M-2057

19-447194.RR.

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This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them



PAUE 44 UF 44 Second Floor LVL/LSL (Flush) Qty Plies Label Description Width Depth Pcs Length F11 Forex 1.75 11.875 14-0-0 2 2.0E-3000Fb LVL Layout Name F10 Forex 1.75 11.875 2 4 12-0-0 LOT-26 (BELLE 1 EL -2) 2.0E-3000Fb LVL 1.75 11.875 2 10-0-0 Forex Design Method 2.0E-3000Fb LVL LSD F7 1.75 11.875 Forex 2 6 6-0-0 Description 2.0E-3000Fb LVL F6 1.75 11.875 2 2 4-0-0 2.0E-3000Fb LVL BRAMPTON,ON LVL/LSL (Dropped) Created Label Description Width Depth Qty Plies Pcs Length BM8 Forex 1.75 9.5 3 3 4-0-0 May 29, 2018 2.0E-3000Fb LVL Builder ВМ9 1.75 11.875 2 14-0-0 Forex 4 2.0E-3000Fb LVL Sales Rep Joist (Flush) Designer Label Description Width | Depth Qty Plies Pcs Length SR LPI 20Plus 2.5 11.875 J9 16-0-0 Shipping J6 LPI 20Plus 2.5 11.875 22 14-0-0 12-0-0 Project 2.5 11.875 J5 LPI 20Plus 19 LPI 20Plus 2.5 11.875 J4 22 10-0-0 Builder's Project J3 LPI 20Plus 2.5 11.875 8-0-0 3 J2 LPI 20Plus 2.5 11.875 19 6-0-0 14 Anderson Blvd J1 LPI 20Plus 2.5 11.875 4 4-0-0 Stouffville, Ontario F13 LPI 20Plus 2.5 11.875 1 12-0-0 J10 NJ60H 2.5 11.875 21 18-0-0 L4A 7X4 Rim Board Width Depth Pcs Length 905-642-4400 Label Description Qty Plies Norbord Rimboard 1.125 11.875 17 Second Floor Plus 1.125 X Design Method 11.875 Blocking Pcs Length Floor Label Description Width Depth Qty Plies BLK1 LPI 20 Plus 2.5 11.875 LinFt Varies 44-0-0 Loads BLK1 NJ60H 2.5 11.875 LinFt Varies 5-0-0 Hanger Beam/Girder Supported Deflection Joist Span L/ Label Pcs Description Skew Slope fasteners fasteners Span L/ 29 LF2511 НЗ 12 10d 1 #8x1 1/4WS L Cant 2L/ H4 2 LF2511 H5 6 LF3511 12 10d TL Cant 2L/ 2 #8x1 1/4WS Deflection Girder LL Span L/ TL Span L/ Framer to verify dimensions on the architectural drawings. LL Cant 2L/ Double joist only require filler/backer ply when supporting another TL Cant 2L/ member using a face-mounted hanger Decking Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls. Deck

#### NOTES:

are fastened as per the hanger manufacturer's standards.

- 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 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

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

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

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

N.A. EL-MASRI NE0119-100

M-2057

LOT 26

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.

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NOTED OTHERWISE

This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them

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

5.25 X 10.25 (Dropped)

111111

GREEN YORK HOMES GRANELLI HOMES PROJECT **Kott Lumber Company** LSD Building Code NBCC 2010 / OBC 2012

40

15

480

360

480

360

360

240

480

360

OSB

5/8"

Nailed & Glued

Gypsum 1/2"

Thickness

Fastener

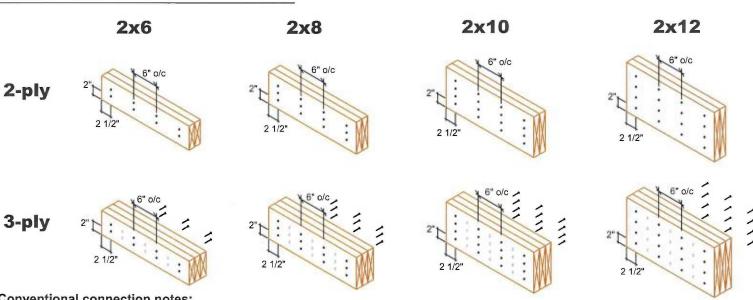
Vibration

Ceiling:

# MULTIPLE MEMBER CONNECTIONS

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

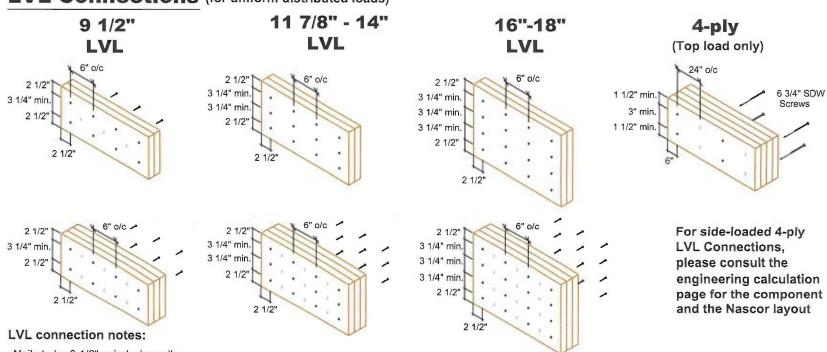
# Conventional Connections (for uniform distributed loads)



# Conventional connection notes:

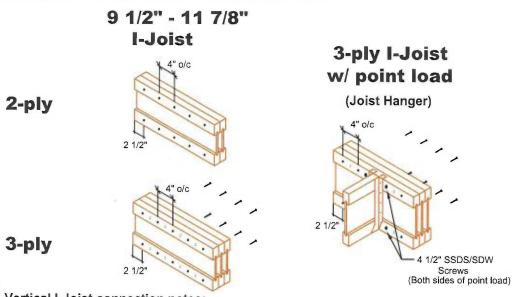
- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

# LVL Connections (for uniform distributed loads)



- -Nails to be 3 1/2" spiral wire nails.
- -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** 

Scale: NTS

Date: November 30, 2016

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

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 http://www.nascor.ca.

### CODE

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.





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

Designer: SB

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

Brg

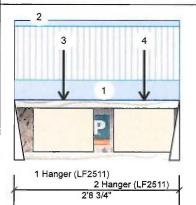
1

2

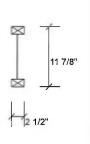
LPI 20Plus

11.875" - PASSED

Level: Ground Floor



2'8 3/4'



Wind

ROFESSION

210 2019

0

Туре:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Conditi	ion: 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	ļ.	
Dead:	15 PSF		

Bearings and Factored Reactions									
Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.			
1 - Hanger	2.000"	24%	110 / 271	381	L	1.25D+1.5L			
2 -	2.000"	27%	123 / 301	424	L	1.25D+1.5L			

**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 418 lb 2'7 1/2" 2345 lb 0.178 (18%) 1.25D+1.5L L Shear 1'1" 0.084 (L/360) 0.010 (1%) D Perm Defl in. 0.001 Uniform (L/24182)0.003 1'7/8" 0.084 (L/360) 0.030 (3%) L LL Defl inch L (L/11782) 1' 7/8" 0.126 (L/240) 0.030 (3%) D+L TL Defl inch 0.004 (L/7922) 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

88

98

Snow

0

0

Live

181

200

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 flang	ge braced at bearings.								
I	D	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	dl 0	J3
4		Point	2-1-12		Far Face	72 lb	145 lb	0 lb	0 lb	J3

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.

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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







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

Designer:

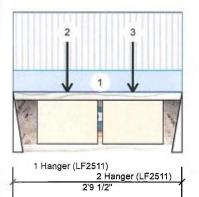
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

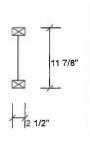
LPI 20Plus

11.875" - PASSED

Level: Ground Floor



2'9 1/2"



Member In	formation
Туре:	Girder
Plies:	1

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

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

Load Sharing: No Not Checked

Deck: Vibration: Not Checked Unfactored Reactions UNPATTERNED lb (Uplift)

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

# **Analysis Results**

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

# Bearings and Factored Reactions

Bearing	Length	Сар. К	eact D/L ib	lotai	Ld. Case	La. Comb.	
1 - Hanger	2.000"	35%	133 / 427	560	L	1.25D+1.5L	
_					V		

2.000" 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

# **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.

ь										
	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
I	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.

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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

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







Client: Project:

Address:

1/21/2019 Date:

SB Designer:

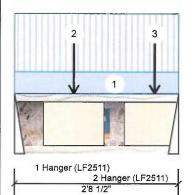
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

LPI 20Plus

11.875" - PASSED

Level: Ground Floor



2'8 1/2"

11 7/8"

Member Information	ion
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Туре:	Girder	Application:	Floor (Residential)	
Plies:	1	Design Method:	LSD	
Moisture Condition	on: 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	260	97	0	0
2	343	129	0	0

#### **Analysis Results**

L					_		
Γ	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
l	Moment	422 ft-lb	11 3/4"	6250 ft-lb	0.068 (7%)	1.25D+1.5L	L
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
l	LL Defl inch	0.005 (L/6610)	11 3/4"	0.083 (L/360)	0.050 (5%)	L	L
ı	TL Defl inch	0.006 (L/4809)	11 3/4"	0.125 (L/240)	0.050 (5%)	D+L	L

### **Bearings and Factored Reactions**

Bearing	Length	Cap. R	leact D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	32%	122 / 390	512	L	1.25D+1.5L
2	2 000"	1204	161 / 514	675	1	1 250+1 51

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.

	Dottom nango bidood at boaringo.								
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 nordict listed.

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### 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







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

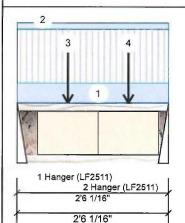
Job Name: LOT-26 (BELLE 1 EL -2)

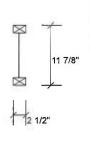
Project #:

F12-D LPI 20Plus

11.875" - PASSED

Level: Ground Floor





#### Member Information

Туре:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	<b>Building Code:</b>	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)

Live	Dead	Snow	Wind
300	144	0	0
332	161	0	0
	300	300 144	300 144 0

#### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	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 Trib Width

0-0-0 to 2-6-1 (Span)1-3-7

0-0-0 to 2-6-1

0-10-1

1-10-1

Side

Top

goT

Near Face

Near Face

# **Bearings and Factored Reactions**

Bearing	Length	Cap. F	React D/L lb	Total	Ld. Case	Ld. Comb.	
1 -	2.000"	40%	181 / 450	630	L	1.25D+1.5L	
Hanger							
2 -	2.000"	44%	202 / 498	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

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	di 0	J7



ID

1

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.

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132 lb

This design is valid until 10/31/2020

270 lb

### Manufacturer Info

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

0 lb







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

Designer:

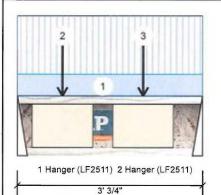
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

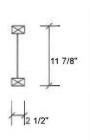
LPI 20Plus

11.875" - PASSED

Level: Ground Floor



3' 3/4"



# 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	326	122	0	0
2	294	110	0	0

#### **Analysis Results**

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

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

Bearing	Length	Cap.	React 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.

# **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.

_										
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	1	Tie-In	0-0-0 to 3-0-12	(Span)1-3-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	2	Point	0-8-15		Far Face	96 lb	256 lb	0 lb	0 lb	J6
	3	Point	2-0-15		Far Face	107 lb	285 lb	0 lb	0 lb	J6



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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

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







Client: Project: Address:

1/21/2019 Date:

Designer: SB

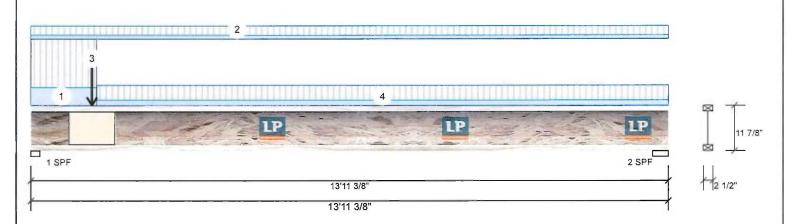
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

LPI 20Plus

11.875" - PASSED

Level: Ground Floor



Bra

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		

Unfactored	Reactions	UNPATTERNED	lb	(Uplift)
------------	-----------	-------------	----	----------

Dig	2100	Dead	0.1000	· viii G
1	535	200	0	0
2	240	90	0	0

Dead

Snow

# **Bearings and Factored Reactions**

Live

١	Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
	1 - SPF	2.375"	64%	250 / 803	1053	L	1.25D+1.5L
4	2 - SPF	4.125"	26%	113 / 360	473	L	1.25D+1.5L

**Analysis Results** 

	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
ı	Moment	1764 ft-lb	5'11 1/4"	6250 ft-lb	0.282 (28%)	1.25D+1.5L	L
ı	Shear	1034 lb	1 5/8"	2345 lb	0.441 (44%)	1.25D+1.5L	L
ı	Perm Defl in.	0.042 (L/3882)	6'7 1/16"	0.451 (L/360)	0.090 (9%)	D	Uniform
ı	LL Defl inch	0.112 (L/1455)	6'7 1/16"	0.451 (L/360)	0.250 (25%)	L	L
Į	TL Defl inch	0.153 (L/1058)	6'7 1/16"	0.677 (L/240)	0.230 (23%)	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 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 bearing	js							
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	(Snan)0-11-0	Ton	15 PSF	40 PSF	0 PSF	0 PSF	



Wind

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# 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







Client:

Project: Address: Date: 1/21/2019

Designer: SB

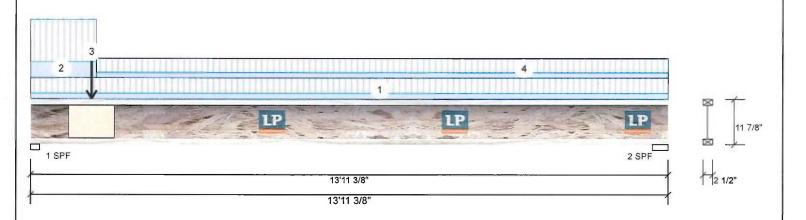
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

LPI 20Plus

11.875" - PASSED

Level: Ground Floor



Member Info	ormation			Unfactore	d Reacti	ons UN	<b>IPATTERNI</b>	ED lb (U	plift)	
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow		Wind
Plies:	1	Design Method:	LSD	1	601		225	0		0
Moisture Conditi	ion: Dry	Building Code:	NBCC 2010 / OBC 2012	2	321		120	0		0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked	1						
Importance:	Normal	Vibration:	Not Checked							
General Load		1 - 1 - 1 - 1 - 1 - 1								
Floor Live:	40 PSF			Bearings a	and Facto	ored Re	eactions			
Dead:	15 PSF	1		Bearing L	ength.	Cap. R	React D/L lb	Total L	d. Case	Ld. Comb.
				1-SPF 2	.375"	72%	281 / 902	1183 L	4	1.25D+1.5L
Analysis Bos	1.			2 - SPF 4	.125"	35%	151 / 482	632 L		1.25D+1.5L
Amalucia Doc										

Ana	lysis	Resu	lts
-----	-------	------	-----

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

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

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 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 P\$F	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	Тор	15 PSF	40 PSF	0 PSF	0 PSF	



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### Manufacturer Info

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







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

Designer: SB

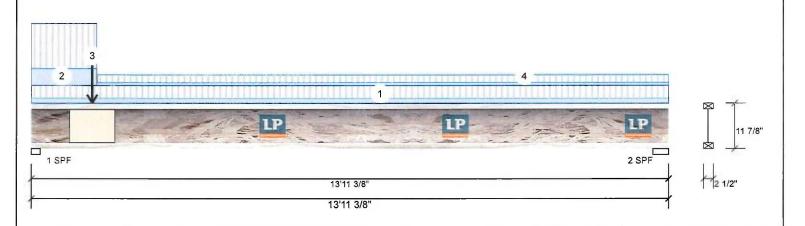
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

LPI 20Plus

11.875" - PASSED

Level: Ground Floor



Member Info	rmation			Unfactor	ed Reac	tions U	NPATTERNI	ED lb (Uplift)		
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow	Wind	
Plies:	1	Design Method:	LSD	1	563		212	0	0	
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	221		83	0	0	
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked	1						
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored R	leactions			
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total Ld. Case	Ld. Comb.	
				1 - SPF	2.375"	68%	264 / 845	1109 L	1.25D+1.5L	
				2-SPF	4.125"	24%	104 / 332	436 L	1.25D+1.5L	
Analysis Resu	lts									

ı	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
l	Moment	1688 ft-lb	5'7 3/4"	6250 ft-lb	0.270 (27%)	1.25D+1.5L	L
l	Shear	1089 lb	1 5/8"	2345 lb	0.464 (46%)	1.25D+1.5L	L
ı	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

o Dollotti	nange braced at bearing	S.							
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	



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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





Wind

0

1.25D+1.5L

1.25D+1.5L

PROFESSIONA

Page 1 of 1



Client: Project: Address: Date: Designer:

1/21/2019 SB

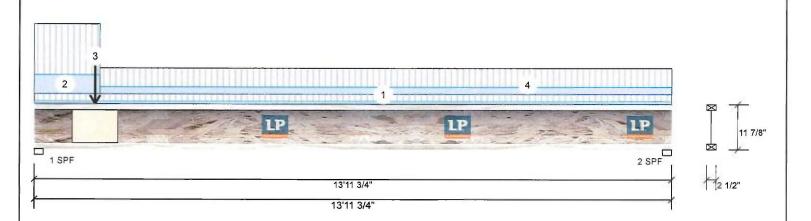
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

LPI 20Plus

11.875" - PASSED

Level: Ground Floor



Brg

1

1 - SPF 2.375"

2 - SPF 2.375"

#### Member Information Girder Type: Application: Floor (Residential) Plies: 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

<b>Unfactored Reactions</b>	UNPATTERNED II	b (Uplift)
-----------------------------	----------------	------------

Dead

186

Live

497

2	235	88		0	0	
Bearings	and Fac	tored Reactions				_
Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.	

233 / 746

110 / 352

Snow

979 L

462 L

# **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

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.

60%

28%

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 = 0.042", 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 bearin	gs.							
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 to 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.

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

Designer:

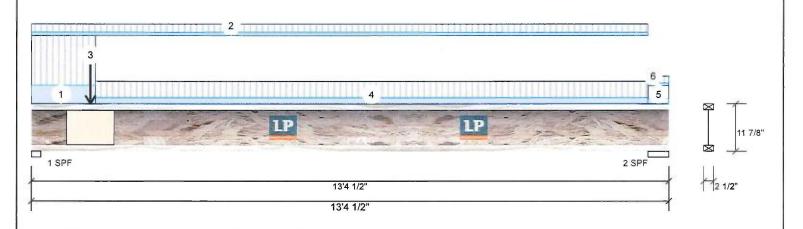
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

LPI 20Plus

11.875" - PASSED

Level: Ground Floor



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	<b>UNPATTERNED</b>	lb	(Uplift)
------------	-----------	--------------------	----	----------

Brg	Live	Dead	Snow	Wind
1	538	202	0	0
2	246	92	0	0

# **Bearings and Factored Reactions**

Bearing	Length	Cap. I	React D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF	2.375"	65%	252 / 808	1060	L	1.25D+1.5L	
2-SPF	5.250"	27%	115 / 370	485	L	1.25D+1.5L	

### **Analysis Results**

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

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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







Client: Project: Address:

1/21/2019 Date:

SB Designer:

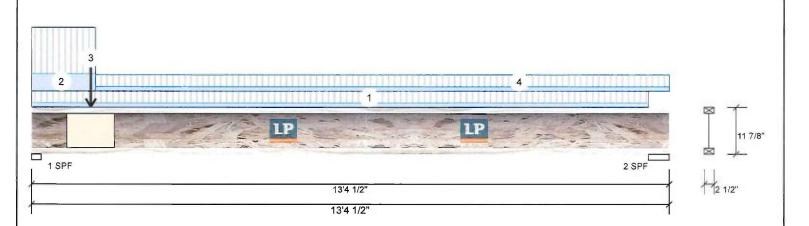
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

LPI 20Plus

11,875" - PASSED

Level: Ground Floor



#### Member Information Type: Girder Application: Floor (Residential) Brg Live Plies: 1 Design Method: LSD 579 Moisture Condition: Dry NBCC 2010 / OBC 2012 Building Code: 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 Factored Reactions** Dead: 15 PSF

<b>Unfactored React</b>	ions UNPATTE	RNED lb (Uplift)
-------------------------	--------------	------------------

Dead

217

•					
2	250	94	0	0	

Snow

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF	2.375"	70%	271 / 869	1140	L	1.25D+1.5L	
2-SPF	5.250"	27%	117 / 376	493	L	1.25D+1.5L	

#### **Analysis Results**

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

0	ottom hange braced at bearings.								
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	Top	15 PSF	40 PSF	0 PSF	0 PSF	



Wind

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.

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### 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







Client: Project:

Address:

Date: 1/21/2019

Designer:

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

Project #:

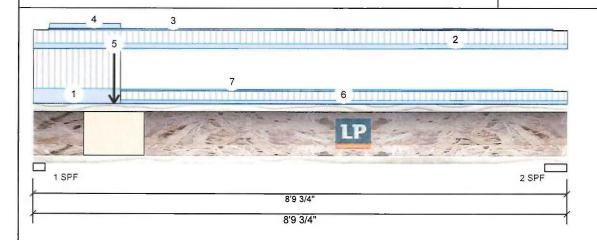
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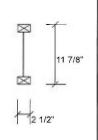
1

LPI 20Plus

11.875" - PASSED

Level: Ground Floor





Wind

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

### Member Information

Г	Туре:	Girder	Application:	Floor (Residential)
	Plies:	1	Design Method:	LSD
	Moisture Condition:	Dry	<b>Building Code:</b>	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)**

Live

376

**Bearings and Factored Reactions** 

Bearing Length

1 - SPF 2.375"

2 - SPF 4.375"

•			-	-
2	183	89	0	0

228 / 563

112 / 274

Snow

Total Ld. Case

791 L

386 L

Dead

Cap. React D/L lb

182

# **Analysis Results**

ı	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
l	Moment	947 ft-lb	3'4"	6250 ft-lb	0.152 (15%)	1.25D+1.5L	L
l	Shear	770 lb	1 5/8"	2345 lb	0.328 (33%)	1.25D+1.5L	L
l	Perm Defl in.	0.013 (L/7805)	3'11 1/2"	0.279 (L/360)	0.050 (5%)	D	Uniform
l	LL Defl inch	0.026 (L/3847)	3'11 1/2"	0.279 (L/360)	0.090 (9%)	L	L
L	TL Defl inch	0.039 (L/2577)	3'11 1/2"	0.419 (L/240)	0.090 (9%)	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 CALCULATION SUMMARY PAGE AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

48%

21%

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

Тор



7

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

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2 PLF

This design is valid until 10/31/2020

0 PLF

### 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







Client: Project: Address:

Date: Designer:

1/21/2019 SB

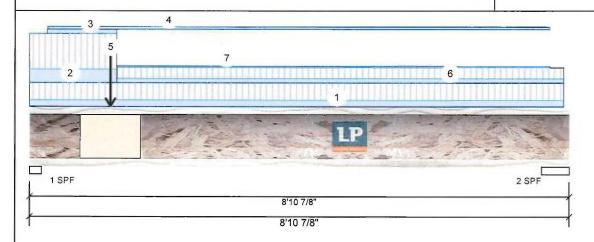
Job Name: LOT-26 (BELLE 1 EL -2)

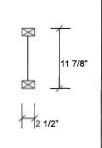
Project #:

LPI 20Plus

11.875" - PASSED

Level: Ground Floor





#### Member Information

Туре:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	<b>Building Code:</b>	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	VVind
1	411	201	0	0
2	239	119	0	0

# **Bearings and Factored Reactions**

Bearing	Length	Cap.	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**

ı	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
ı	Shear	844 lb	1 5/8"	2345 lb	0.360 (36%)	1.25D+1.5L	L
ı	Perm Defl in.	0.016 (L/6296)	4' 7/8"	0.279 (L/360)	0.060 (6%)	D	Uniform
ı	LL Defl inch	0.032 (L/3144)	4' 3/4"	0.279 (L/360)	0.110 (11%)	L	L
L	TL Defl inch	0.048 (L/2097)	4' 3/4"	0.419 (L/240)	0.110 (11%)	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 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 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.

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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





MEDIIS-IUU

PAGE I/ UF 44

Page 1 of 1



Client:

Project: Address: Date: 1/21/2019

Designer: SB

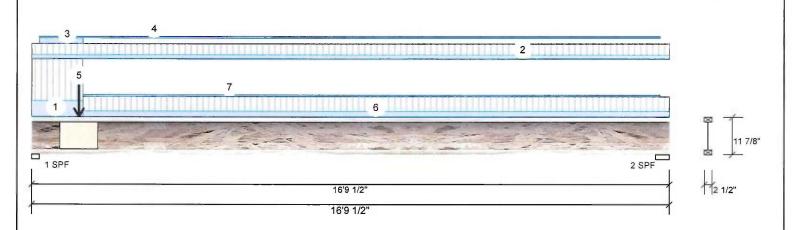
Job Name: LOT-26 (BELLE 1 EL-2)

Project #:

NJ60H

11.875" - PASSED

Level: Ground Floor



Member Inform	Unfactored Reactions UNPATTERNED Ib (Uplift)									
Туре:	Girder	Application:	Floor (Residential)	Brg	Live	•	Dead	Snov	N	Wind
Plies:	1	Design Method:	LSD	1	603		293		0	0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	304		149		0	0
Deflection LL:	360	Load Sharing:	No	1 -						
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored R	leactions			
Dead:	15 PSF			Bearing I	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - SPF 2	2.375"	75%	367 / 904	1271	L	1.25D+1.5L
1				2 - SPF 4	4.375"	34%	187 / 457	644	L	1.25D+1.5L

#### **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

- 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.

ı	Design Notes									
	TL Defl inch	0.270 (L/726)	8'1 1/8"	0.818 (L/240)	0.330 (33%)	D+L	L			
	LL Defl inch	0.181 (L/1083)	8'1 1/8"	0.545 (L/360)	0.330 (33%)	L	L			
	Perm Defl in.	0.089 (L/2197)	8'1 3/16"	0.545 (L/360)	0.160 (16%)	D	Uniform			
	Shear	1253 lb	1 5/8"	2350 lb	0.533 (53%)	1.25D+1.5L	L			
	Unbraced	2752 ft-lb	7'7 15/16"	2773 ft-lb	0.992 (99%)	1.25D+1.5L	L			
	ivioment	2/52 π-ιδ	/ / 15/16	/350 π-ιδ	0.3/4 (3/%)	1.25D+1.5L	L			

3 Bottom fla	inge braced at bearings	š				FOINT LOA	DO OVER DI	EARINGS.	4
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-2	(Span)2-8-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 16-9-8	(Span)0-8-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-6 to 1-4-2		Тор	7 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-6 to 16-6-10		Тор	2 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-2-14		Far Face	144 lb	300 lb	0 lb	0 lb	F12
6	Tie-In	1-4-2 to 16-9-8	(Span)0-11-5	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	

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.

### Lumber

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

chemicals

### Handling & Installation

- Authority & Installation

  I boist flanges must not be cut or drilled

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

  Damaged IJoist must not be used
  Design assumes top flange to be laterally restrained
  by attached sheathing or as specified in engineering
  notes.

- 5. Provide lateral support at bearing points to avoid lateral displacement and rotation
  6. Web stiffeners for point load as shown Minimum point load bearing length>= 3,5 inches
  7. For flat roofs provide proper drainage to prevent apportion.

KOTT Inc. CCMC: 12787

Manufacturer Info

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







Client:

Project: Address: Date: 1/21/2019

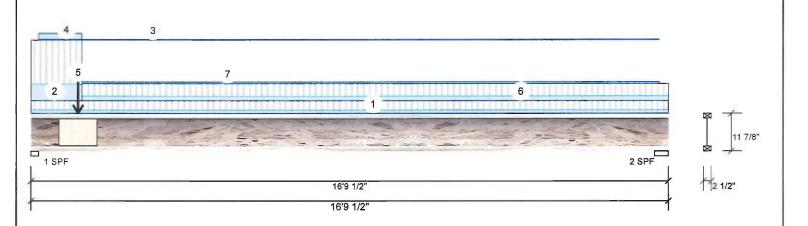
SB Designer:

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

Project #:

11.875" - PASSED NJ60H

Level: Ground Floor



Member Inforn	nation			Unfactor	red Reac	tions U	NPATTERNI	ED lb (U	plift)	
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow		Wind
Plies:	1	Design Method:	LSD	1	582		282	0		0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	250		121	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 Fac	tored F	Reactions			
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total L	d. Case	Ld. Comb.
				1 - SPF	2.375"	73%	353 / 873	1225 L		1.25D+1.5L
				2-SPF	4.375"	28%	152 / 375	527 L		1.25D+1.5L
Analysis Result	S									

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

#### **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.

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

3 Bottom flange	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.

### Lumber

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

chemicals

#### Handling & Installation

- andling & Installation

  Loist flanges must not be cut or drilled
  Refer to latest copy of the IJoist product information
  details for framing details, stiffener tables, web hole
  chart, bridging details, multi-ly fastening details and
  handling/erection details.
  Damaged Loists must not be used
  Design assumes top flange to be laterally restrained
  by attached sheathing or as specified in engineering
  notes.
- 5. Provide lateral support at bearing points to avoid
- Trovide 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 L4A 7X4 905-642-4400





ADPROFESSIONAL





Client: Project:

Address:

Date: 1/21/2019

Designer:

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

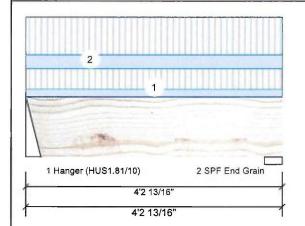
Project #:

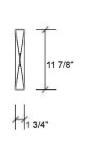
Forex 2.0E-3000Fb LVL

1.750" X 11.875" - PASSED

Bra

Level: Ground Floor





Mind

Member Inform	nation		
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		

<b>Unfactored Reaction</b>	<b>UNPATTERNED</b>	lb	(Uplift)
----------------------------	--------------------	----	----------

0.9	LIVE	Dead	Onow	VVIIIG	
1	129	58	0	0	
2	132	60	0	0	

Snow

Dood

# **Analysis Results**

Г	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
ı	Moment	232 ft-lb	2'1 1/8"	17130 ft-lb	0.014 (1%)	1.25D+1.5L	L
ı	Unbraced	232 ft-lb	2'1 1/8"	11707 ft-lb	0.020 (2%)	1.25D+1.5L	L
l	Shear	117 lb	3' 3/16"	5798 lb	0.020 (2%)	1.25D+1.5L	L
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	2'1 3/16"	0.191 (L/240)	0.010 (1%)	D+L	L

# **Bearings and Factored Reactions**

Livo

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	7%	73 / 194	267	L	1.25D+1.5L

2 - SPF 3.500" 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 5000	il biaced 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

- andling & 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









Client:

Project: Address: Date: 1/21/2019

Designer:

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

Project #:

Forex 2.0E-3000Fb LVL

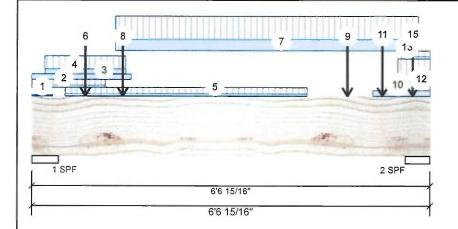
1.750" X 11.875"

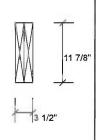
2-Ply - PASSED

Brg

1

Level: Ground Floor





Wind

ROFESSION

0

0

Member Information           Type:         Girder         April A			
Туре:	Girder	Ap	
Plies:	2	De	
Moisture Condition:	Dry	Bui	
Deflection LL:	360	Loa	
Deflection TL:	240	De	
Importance:	Normal	Vib	
General Load			

plication: Floor (Residential) LSD NBCC 2010 / OBC 2012 Nο

2657 1242 0

Unfactored Reactions UNPATTERNED lb (Uplift)

Dead

1113

### esign Method: uilding Code: ad Sharing: eck. Not Checked Not Checked bration: Floor Live: 40 PSF Dead: **15 PSF**

**Bearings and Factored Reactions** 

Live

2271

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

Snow

0

#### 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

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 BEARING

# **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 Tie-In 0-0-0 to 0-4-2 15 PSF 40 PSF 0 PSF 1 (Span)0-7-0 Top 0 PSF 2 Part, Uniform 0-0-0 to 1-2-9 31 PLF 82 PLF 0 PLF Top 0 PLF 3 Part. Uniform 0-0-0 to 1-7-10 80 PLF 0 PLF 0 PLF 0 PLF Top Wall Self Weight Part, Uniform 0-2-9 to 1-6-9 Top 70 PLF 186 PLF 0 PLF 0 PLF J10 5 Part. Uniform 0-6-9 to 4-6-9 33 PLF 89 PLF OPIF Near Face 0 PLF

Continued on page 2...

Notes

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

Handling & Installation

andling & Installation

LVL beams must not be out 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 beaming points to avoid
lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent

Manufacturer Info Forex APA: PR-L318

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





Page 2 of 2



Client:

Project:

Address:

1/21/2019

Designer: SB

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

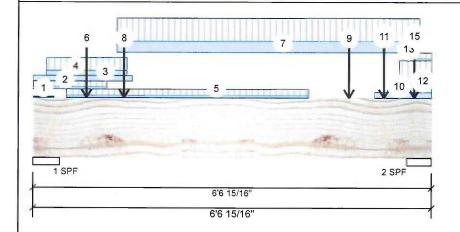
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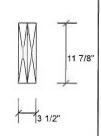
Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

Level: Ground Floor





Continued	from page 1								
ID	Load Type	Location T	rib 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	dl 0	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.



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

andling & 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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex APA: PR-L318









Client:

Project: Address: Date: 1/21/2019

Designer: SB

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

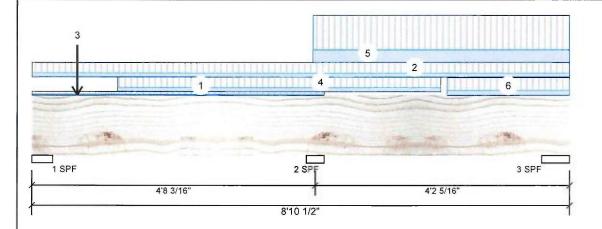
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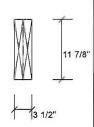
Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

Level: Ground Floor





М	em	ber	In	foi	rma	tion
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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 Ib (Uplift)

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

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1087 ft-lb	4'8 3/16"	34261 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 (L/36435)	6'7 13/16"	0.126 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/13352)	6'7 7/16"	0.126 (L/360)	0.030 (3%)	L	_L
TL Defl inch	0.005 (L/9772)	6'7 1/2"	0.190 (L/240)	0.020 (2%)	D+L	_L

### Bearings and Factored Reactions

Bearing	Length	Cap.	React 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

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 4-9-15	(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	

For flat roofs provide proper drainage to prevent ponding

Continued on page 2...

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

### Lumber

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

#### chemicals

### 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
- 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



Forex APA: PR-L318







Page 2 of 2



Client:

Project: Address:

1/21/2019 Date:

Designer:

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

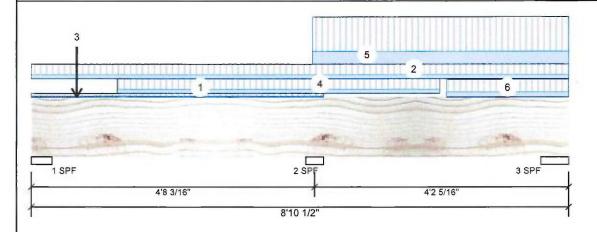
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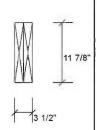
Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

Level: Ground Floor





.. Continued from page 1

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

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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.

### Lumber

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

chemicals

#### Handling & Installation

I. 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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex APA: PR-L318







isDesign"

Project: Address:

1/21/2019

Designer:

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

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

Floor (Residential)

NBCC 2010 / OBC 2012

LSD

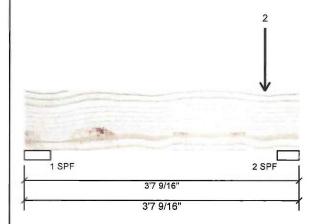
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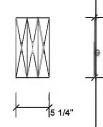
Not Checked

Not Checked

3-Ply - PASSED

Level: Second Floor





Member I	nformation
Туре:	Girder
Plies:	3

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

Floor Live: 40 PSF Dead: 15 PSF

# Unfactored Reactions UNPATTERNED lb (Uplift)

3rg	Live	Dead	Snow	Wind
1	85	62	0	0
2	1087	552	0	0

# **Bearings and Factored Reactions**

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.152"	2%	78 / 127	205	L	1.25D+1.5L
2-SPF	3.456"	28%	690 / 1631	2321	L	1.25D+1.5L

#### **Analysis Results**

General Load

Γ	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
l	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
١	Shear	536 lb	2'7 3/8"	13915 lb	0.039 (4%)	1.25D+1.5L	L
١	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	2'6 3/16"	0.156 (L/240)	0.010 (1%)	D+L	L

Application:

Design Method:

**Building Code:** 

Load Sharing:

Deck:

Vibration:

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

#### 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.

POINT LOADS OVER BEARINGS



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

Calculated Structured Designs is responsible only of the Calculated Subducted 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

#### chemicals

# Handling & Installation

andling & 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 adge 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

Forex APA: PR-L318









Project:

Address:

1/21/2019 Date:

Designer: SB

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

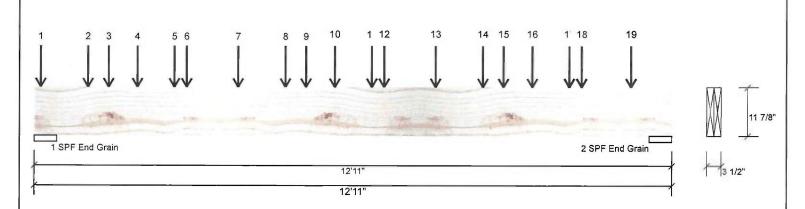
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



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	2274	955	0	0
2	2022	820	0	0

### Analysis Results

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

#### **Bearings and Factored Reactions** Posing Length Con Boost D/I Ih

Bearing Lengt	h Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 5.500' End Grain	32%	1194 / 3411	4605	L	1.25D+1.5L
2 - SPF 5.500' End Grain	28%	1025 / 3033	4058	L	1.25D+1.5L

# 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.

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

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



_	iteliuelliess latio baseu oli	Tan oconom widan.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-1-10		Тор	176 lb	369 lb	0 lb	0 lb	J2 J6
2	Point	1-1-2		Тор	30 lb	79 lb	0 lb	0 lb	J2
3	Point	1-6-2		Тор	131 lb	343 lb	0 lb	0 lb	J6
4	Point	2-1-2		Тор	30 lb	79 lb	0 lb	0 lb	J2
5	Point	2-10-2		Тор	129 lb	343 lb	dl 0	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

andling & 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 adge 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

Forex APA: PR-L318 Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400







Page 2 of 2



Client:

Project: Address: 1/21/2019

Designer:

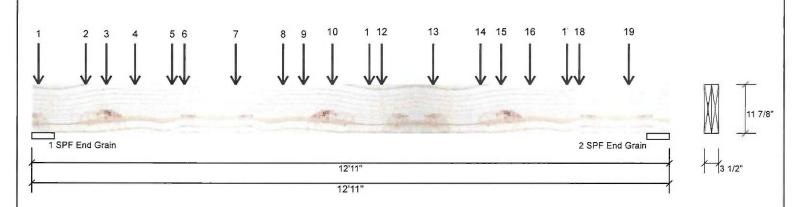
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

BM9-A Forex 2.0E-3000Fb LVL 1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



.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	dl 0	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	MULTIPLE N	EMBER T	O 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.

#### 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 cansure 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

LANGLING & Installation
LVL beams must not be out 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

This design is valid until 10/18/2021

Manufacturer Info

Forex

APA: PR-L318







isDesign™

Project:

Address:

1/21/2019 Date:

Designer: SB

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

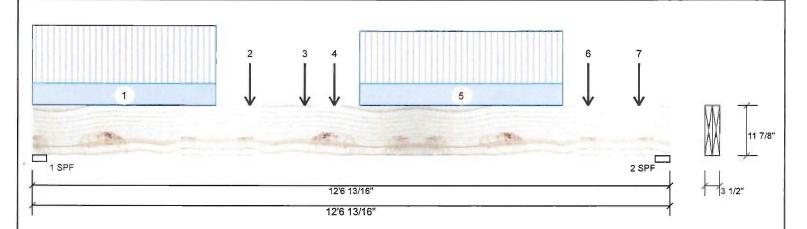
Project #

Forex 2.0E-3000Fb LVL **BM9-B** 

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



Member Inforn	nation			Unfactor	ed Reac	tions UNPATTERN	ED lb (Uplift)		
Туре:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind	_
Plies:	2	Design Method:	LSD	1	1837	770	0	0	
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	1788	813	0	0	
Deflection LL:	360	Load Sharing:	No	-					
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked						
General Load		1 1111111111111111111111111111111111111							_
Floor Live:	40 PSF			Bearings	and Fac	tored Reactions			
Dead:	15 PSF			Bearing	Length	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	

**Analysis Results** 

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



Page 1 of 2

Lateral	sienderness ratio based t	on full section width.							
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...

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.

#### Lumber

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

#### chemicals

#### Handling & Installation

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

For flat roofs provide proper drainage to prevent ponding

# Manufacturer Info

Forex APA: PR-L318

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





Page 2 of 2



Client:

Project: Address: Date: 1/21/2019

Designer:

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

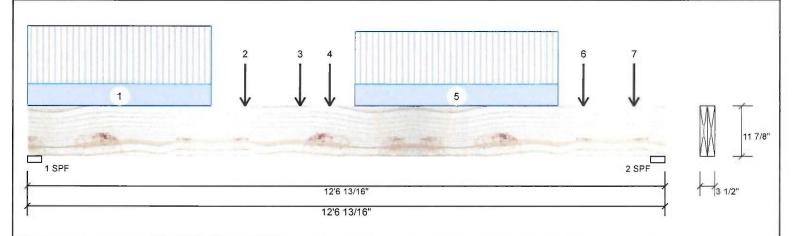
Project #:

Forex 2.0E-3000Fb LVL BM9-B

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



.Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	10-11-7		Тор	126 lb	278 lb	0 lb	0 lb	J6
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.

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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 orteria 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.

#### Lumber

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

andling & 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

Forex



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





Client: Project:

Address:

Date: 1/21/2019

Designer:

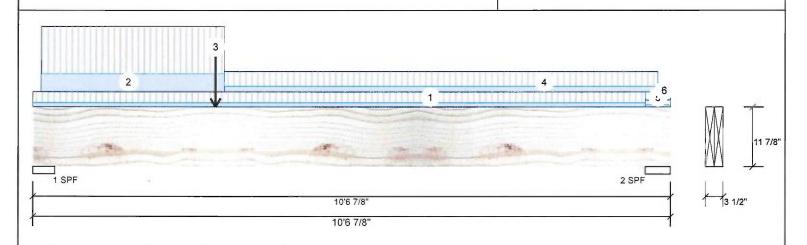
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

Forex 2.0E-3000Fb LVL F10-A

1.750" X 11.875"

2-Ply - PASSED Level: Second Floor



Member Infor	mation			Unfacto	red Reac	tions U	JNPATTERN	ED lb (	Uplift)		
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	N	Wind	
Plies:	2	Design Method:	LSD	1	784		356		0	0	
Moisture Conditio	n: 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	s and Fac	tored	Reactions				
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.	
				1 - SPF	4.375"	17%	444 / 1176	1620	L	1.25D+1.5L	
Analysis Basel				2-SPF	5.000"	8%	255 / 596	851	L	1.25D+1.5L	

Analysis Results

Γ	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
l	Moment	3608 ft-lb	3' 3/8"	34261 ft-lb	0.105 (11%)	1.25D+1.5L	L
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
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
l	TL Defl inch	0.047 (L/2555)	4'8 7/8"	0.496 (L/240)	0.090 (9%)	D+L	L

**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.

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 Lateral	Sicriderriess ratio base	a on fail section with.							
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				

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

chemicals

#### Handling & Installation

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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex APA: PR-L318

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



ROFESSION



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	

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.

Self Weight

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

#### Handling & Installation

- andling & 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

10 PLF

6. For flat roofs provide proper dramage to prevent ponding

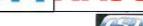
Forex APA: PR-L318

Manufacturer Info

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









Client:

Project: Address:

1/21/2019 Date:

SB Designer:

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

**Unfactored Reactions UNPATTERNED lb (Uplift)** 

Dead

297

253

Cap. React D/L lb

24%

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** 

USED IN THE DESIGN OF THIS COMPONENT.

CONNECTION DETAIL FOR PLY TO PLY

NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH

POINT LOADS OVER BEARINGS

**BLOCK IS REQUIRED AT ALL** 

REFER TO MULTIPLE MEMBER TO MEMBER

372 / 860

317 / 753

Snow

0

0

Total Ld. Case

1232 L

1070 L

Wind

0

0

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

ROFESSIONA

Live

574

502

**Bearings and Factored Reactions** 

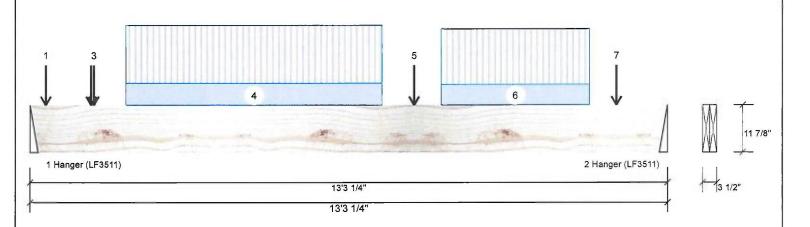
Bearing Length

Hanger

2 -

2.000"

2.000"



Brg

1 2

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		

Analysis R	tesults						
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	
Chass	1010 lb	414 4/0"	14 500 Ib	0 405 (440/)	4 05D+4 5I	1	

Shear 1219 lb 1'1 1/8" 11596 lb 0.105 (11%) 1.25D+1.5L L Uniform Perm Defl in. 0.030 (L/5266) 6'7 5/16" 0.435 (L/360) 0.070 (7%) D 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.
- 6 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-3-15		Near Face	21 lb	57 lb	0 lb	0 lb	J2
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
4	Part. Uniform	1-11-15 to 7-3-15		Far Face	30 PLF	79 PLF	0 PLF	0 PLF	
5	Point	7-11-15		Far Face	41 lb	108 lb	0 lb	0 lb	J2
6	Part. Uniform	8-6-11 to 11-7-11		Far Face	28 PLF	76 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 inhended application, and to verify the dimensions and loads.

#### Lumber

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

#### chemicals

#### 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

Manufacturer Info

Forex APA: PR-L318



Kott Lumber Company 14 Anderson Blvd, Ontario Canada 14A7X4 905-642-4400





Page 2 of 2

isDesign<sup>™</sup>

Client:

Project:

Address:

1/21/2019 Date:

Designer:

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

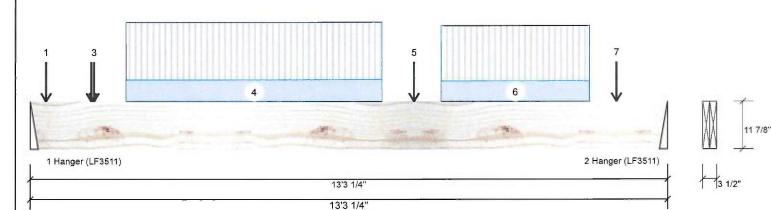
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



.Continued from page 1

ID Load Type 7

Point

Self Weight

12-2-7

Location Trib Width

Side

Far Face

Dead 39 lb

Live 103 lb Snow 0 lb Wind Comments

0 lb J2

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 cntern 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.

#### Lumber

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

chemicals

### Handling & Installation

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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex APA: PR-L318

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







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

Designer: S B

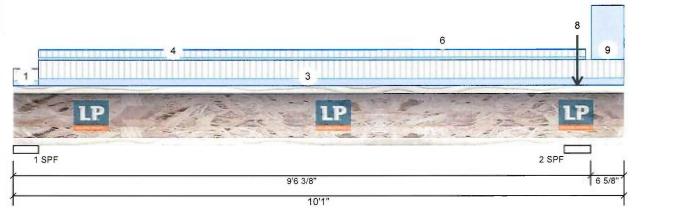
Job Name: LOT-26 (BELLE 1 EL -2)

Project #:

F13-A LPI 20Plus

11.875" - PASSED

Level: Second Floor

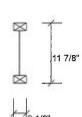


Brg

1

1 - SPF 5.000"

2 - SPF 5.250"



Wind

0

1.25D+1.5L

1.25D+1.5L

Men	nber	Info	rma	tion

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)

Dead

67

Live

173

2	198	164		0	0	
Bearings	and Fac	tored Reactions				
Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.	

84 / 261

205 / 297

Snow

0

345 L\_

502 LL

#### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Momen	t -31 ft-lb	9'6 3/8"	4063 ft-lb	0.008 (1%)	1.25D+1.5L	_L
Pos Momen	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/4580)	4'9 1/16"	0.293 (L/360)	0.080 (8%)	L	L_
TL Defl inch	0.032 (L/3323)	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 (2L/3307)	Rt Cant	0.300 (2L/360)	0.013 (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.

19%

16%

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 device.
- 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.



#### 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.

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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





Page 2 of 2

11 7/8"



Client:

Project: Address:

1/21/2019 Date:

SB Designer:

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

Project #:

LPI 20Plus

Load Type

Part. Uniform

Bearing Length

Bearing Length

Part. Uniform

Tie-In

Tie-In

Tie-In

Point

Point

11.875" - PASSED

Trib Width

(Span)1-4-8

(Span)0-6-8

(Span)0-11-0 Top

Side

Top

Top

Top

Top

Top

Top

Location

0-0-0 to 0-5-0

0-5-0 to 10-1-0

0-5-0 to 9-5-6

0-5-0 to 9-5-6

9-6-8 to 10-1-0

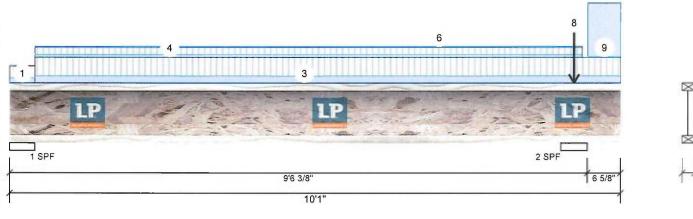
9-3-12

0-1-8

9-3-12

0-1-8

Level: Second Floor



Dead

15 PSF

15 PSF

15 PSF

1 PLF

37 lb

3 lb

80 PLF

Live

40 PSF

40 PSF

40 PSF

0 PLF

0 lb

0 lb

0 PLF

Snow

0 PSF

0 PSF

0 PSF

0 PLF

0 lb

0 lb

0 PLF

6 5/8"	2 1/2"
Comments	
Wall Self Weight	
Wall Self Weight	

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.

Wind

0 PSF

0 PSF

0 PSF

0 PLF

0 lb

0 lb

0 PLF

Wall Self Weight

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

1 3

4

6

7

8

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.

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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







Client: Project: Address: 1/21/2019

Designer:

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

Project #:

Forex 2.0E-3000Fb LVL

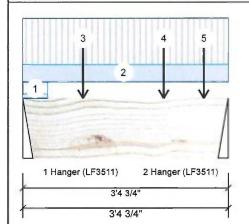
1.750" X 11.875"

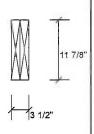
2-Ply - PASSED

1

2

Level: Second Floor





Wind

0

0

0

0

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	1	

Unfactored	Reactions	UNPATTERNED	lb (Uplift)
Brg	Live	Dead	Snow

245

255

611

637

Bearings and Factored Reactions								
Bearing	Length	Cap. F	React D/L lb	Total	Ld. Case	Ld. Comb.		
1 - Hanger	2.000"	24%	307 / 917	1224	L	1.25D+1.5L		
2 - Hanger	2.000"	25%	319 / 955	1274	L	1.25D+1.5L		

# **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.

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

# ED PROFESSIONAL N.A. EL-MASRI

# **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.
- Lateral slenderness ratio based on full section width

7 Lateral sienderness ratio based on ruli 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.lh	0.lb	.13

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.

### Lumber

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

#### chemicals

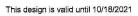
#### Handling & Installation

- andling & 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 Forex APA: PR-L318





Page 2 of 2



Client: Project: Address:

1/21/2019

Designer:

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

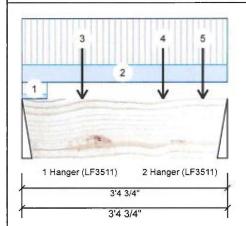
Project #:

Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



11 7/8

.Continued from page 1

ID Location Trib Width Side Live Wind Comments Load Type Dead Snow 5 2-11-15 Near Face 33 lb 87 lb 0 lb 0 lb J3 Point 10 PLF Self Weight

> 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 subability of the intended application, and to verify the dimensions and loads.

### Lumber

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

chemicals

### 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 Bearns 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

Forex APA: PR-L318









Client:

Project: Address: Date: 1/21/2019

Designer: SB

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

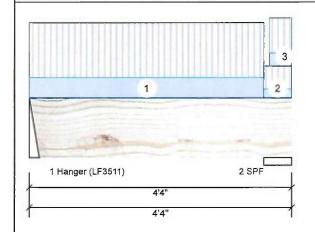
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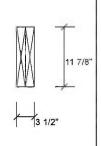
Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor





Member	Information		
Туре:	Girder		
Plies.	2		

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

> 40 PSF 15 PSF

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

Live	Dead	Snow	Wind
38	34	0	0
43	38	0	0
	38	38 34	38 34 0

# Bearings and Factored Reactions

2 - SPF 5.500"

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

48 / 65

112 L

### **Analysis Results**

General Load Floor Live:

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	90 ft-lb	2' 1/4"	34261 ft-lb	0.003 (0%)	1.25D+1.5L	L
Unbraced	90 ft-lb	2' 1/4"	34261 ft-lb	0.003 (0%)	1.25D+1.5L	L
Shear	45 lb	2'11 3/8"	11596 lb	0.004 (0%)	1.25D+1.5L	L
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%)		

Application:

Design Method:

**Building Code:** 

Load Sharing:

Deck:

Vibration:

Floor (Residential)

NBCC 2010 / OBC 2012

LSD

No

Not Checked

Not Checked

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%

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.

Self Weight

	7 Lateral slenderness ratio based on full section width.									
ı	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	1	Tie-In	0-0-0 to 3-10-8	(Span)0-11-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	2	Tie-In	3-10-8 to 4-4-0	(Span)0-4-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	3	Tie-In	3-11-10 to 4-4-0	(Span)0-7-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	



1.25D+1.5L

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.

#### Lumber

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

chemicals

#### Handling & Installation

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

For flat roofs provide proper drainage to prevent ponding

10 PLF

Manufacturer Info Forex APA: PR-L318

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









Client:

Project: Address:

1/21/2019 Date:

Designer: SB

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

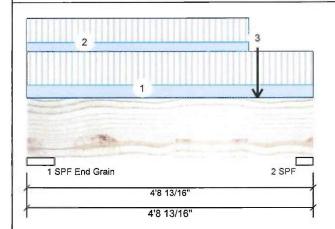
Project #:

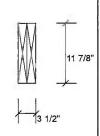
Forex 2.0E-3000Fb LVL

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor





Ld. Comb.

1.25D+1.5L

1.25D+1.5L

M	em	ber	Int	ori	ma	tion
_			_			

Type:	Girder
Plies:	2
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: LSD

**Building Code:** NBCC 2010 / OBC 2012 Load Sharing:

Not Checked Deck: Vibration: Not Checked

### Unfactored Reactions UNPATTERNED lb (Uplift)

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

### **Bearings and Factored Reactions**

Bearing	Length	Cap.	React D/L lb
1 - SPF End	5.500"	3%	125 / 252
Grain			

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

Wind

0 PSF 0 PSF

> 0 lb F9

Comments

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



Total Ld. Case

377 L

### **Analysis Results**

Г	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

### **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	6 Lateral slenderness ratio based on full section width.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	
1	Tie-In	0-0-0 to 4-8-13	(Span)0-7-0	Тор	15 PSF	40 PSF	0 PSF	
2	Tie-In	0-0-0 to 3-8-1	(Span)0-5-0	Ton	15 PSF	40 PSE	0 PSE	

Self Weight 10 PLF

3-9-13

#### Notes

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.

Point

- 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 1.
- 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

346 lb

Near Face

708 lb

This design is valid until 10/18/2021

# Manufacturer Info

Forex APA: PR-L318

0 lb







Client: Project: Address:

1/21/2019 Date:

Designer: SB

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

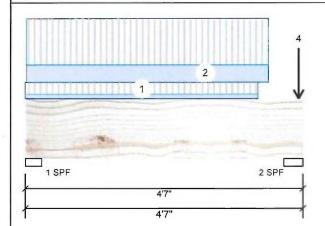
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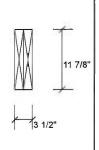
Forex 2.0E-3000Fb LVL

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 General Load Floor Live: 40 PSF

15 PSF

Application: Design Method: **Building Code:** 

Load Sharing:

Deck:

Vibration:

Floor (Residential) LSD NBCC 2010 / OBC 2012

No

Not Checked Not Checked

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

∃rg	Live	Dead	Snow	vvina
1	917	365	0	0
2	998	395	0	0

# **Bearings and Factored Reactions**

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.250"	26%	456 / 1375	1831	L	1.25D+1.5L
2 - SPF	3.778"	24%	494 / 1497	1991	L	1.25D+1.5L

### **Analysis Results**

Dead:

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 Laterars	denderness ratio based (	on full section width.						
ID	Load Type	Location Trib Wid	Ith 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
- chemicals

#### 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

Manufacturer Info For flat roofs provide proper drainage to prevent ponding

Forex APA: PR-L318









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

Designer: SB

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

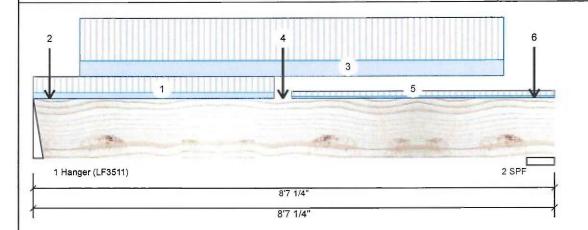
Project #:

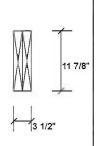
Forex 2.0E-3000Fb LVL

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
General Load	
Floor Live:	40 PSF
Dead:	15 PSF

Floor (Residential) Application: Design Method: **Building Code:** 

Load Sharing:

Deck:

Vibration:

LSD NBCC 2010 / OBC 2012 No

Not Checked Not Checked

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

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

# Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	29%	432 / 1061	1493	L	1.25D+1.5L

2 - SPF 5.500"

12% 420 / 1017 1437 L 1.25D+1.5L

**Analysis Results** Analysis Actual Location Allowed Capacity Comb. Case 4128 ft-lb Moment 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 TL Defl inch 0.039 (L/2489) 4'1 9/16" 0.405 (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 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.



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
- chemicals
- 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
- approvals

  Damaged Beams must not be used

  Design assumes top edge is laterally restrained

  Provide lateral support at bearing points to avoid

  lateral displacement and rotation
- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex APA: PR-L318









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SB

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

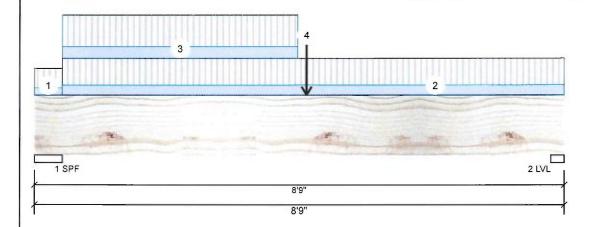
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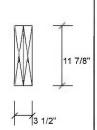
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Floor (Residential) Application: Design Method: LSD NBCC 2010 / OBC 2012 **Building Code:** Load Sharing: No

Not Checked Not Checked

# Unfactored Reactions UNPATTERNED Ib (Uplift)

0
0

#### Bearings and Factored Reactions

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

### **Analysis Results**

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

Deck:

Vibration:

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

# EL-MASRI 21, 2019

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		on tan occion main							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-8	(Span)0-9-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-8 to 8-9-0	(Span)1-0-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-8 to 4-4-4	(Span)1-2-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	4-6-0		Near Face	253 lb	502 lb	0 lb	0 lb	F11
	Self Weight				10 PLF				

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#### Lumber

- Dry service conditions, unless noted otherwise
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Handling & Installation

chemicals

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Manufacturer Info

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

