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

GREEN YORK HOMES-BRAMPTON-ON-BELLE 1 ELE-1-2 **REVISION 2009-10-09** 

# Please read all notes prior to installation of the component

### **DESIGN INFORMATION**

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

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

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

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

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

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

### <u>CODE</u>

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

### **COMPONENT**

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

### **HANDLING AND INSTALLATION**

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

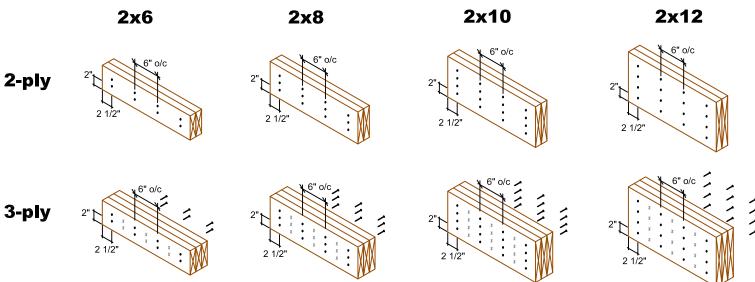


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# ILTIPLE MEMBER CONNECTIONS

GREEN YORK HOMES-BRAMPTON-ON-BELLE 1 ELE-1-2

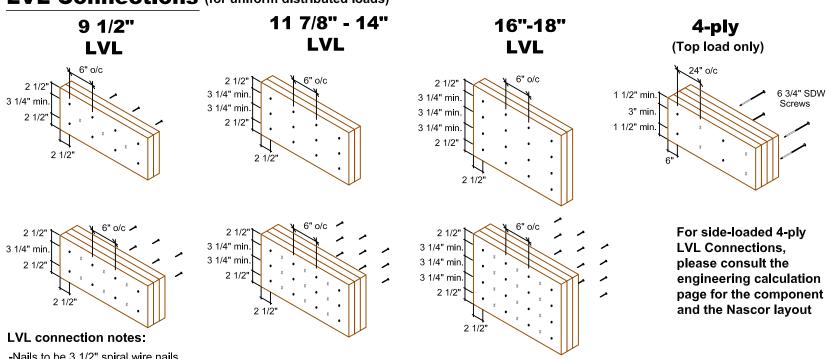
# Conventional Connections (for uniform distributed loads)



### **Conventional connection notes:**

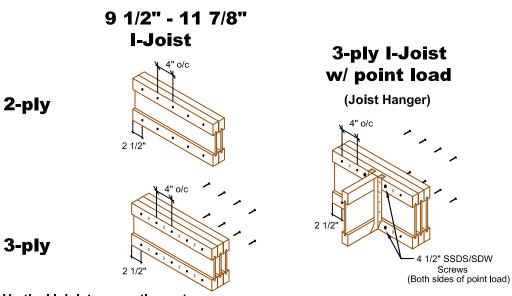
- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

# 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.

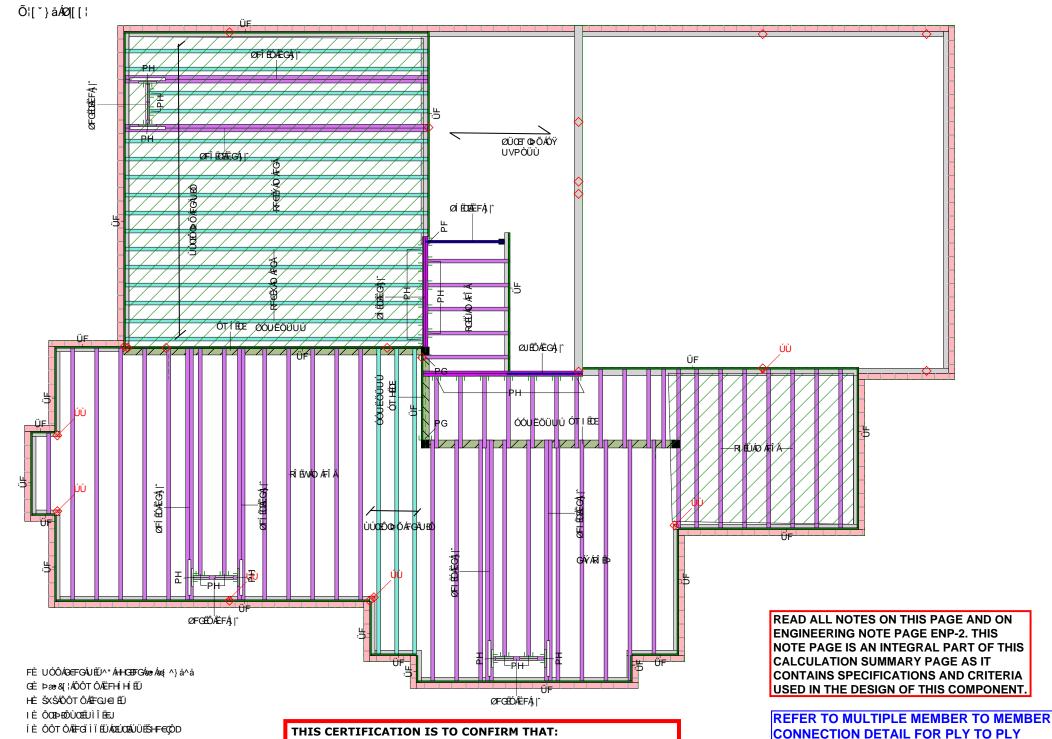


**MULTI-PLY** CONNECTION **DETAILS** 

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

Scale: NTS

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1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY **SHOWN ON THIS LAYOUT.** 

2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE. MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE

**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

MEMBER CONNECTION DETAIL.

LATERAL STABILITY ARE THE RESPONSIBILITY OF OTHERS.

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Ó ãå^¦€ÁÚ¦[ b &c **Kott Lumber Company** 

FI ÁDE å^:•[ } ÁÓ|çå Ù({~çã|^ÊÚ}) æ¢ã Ôæ)æåæ ŠIOZÁÝI

J€ÍÍIŒÏI€€ **Ground Floor** 

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Floor Šíana\*• I€ Šãç^ FÍ Ö^æå Ö^-{^&ca[}}ÁR[ã-c ŠŠÁÚ] æ) ÁÁŠĐ IÌ€ VŠÁÚ]æ)ÁÁŠĐ H΀ ŠŠÁÔæ) oÁKGŠĐ IÌ€ VŠÁÔæ) oÁÁGŠÐ H΀ Ö^-4^&cãi}ÆÕãå^¦ H΀ ŠŠÁÙ] æ) ÁŠĐ VŠÁÚ] æ) ÁKŠÐ G€ ŠŠÁÔæ) oÁKGŠĐ ΙÌ€ VŠÁÔæ) oÁKGŠĐ H΀ Ö^&\ ā \*

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POFESSIONA A. EL-MASRI

NAILING OR BOLTING REQUIREMENTS.

PASS THRU FRAMING SQUASH

POINT LOADS OVER BEARINGS.

**BLOCK IS REQUIRED AT ALL** 

Simpson Strong-Tie®

Component Solutions™

**EWP Studio** 

RUQÙVÙÁÙÚŒÔQÞÕÁFĨÄUÐÔÁ

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Project #:

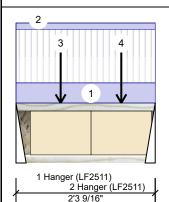
Level: Ground Floor



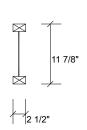
**EWP Studio** Simpson Strong-Tie® Component Solutions™ Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

#### 11.875" - PASSED F12-A NJH



2'3 9/16"



#### **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	295	142	0	0
2	331	161	0	0

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	378 ft-lb	8 7/8"	5390 ft-lb	0.070 (7%)	1.25D+1.5L	L
Unbraced	378 ft-lb	8 7/8"	5126 ft-lb	0.074 (7%)	1.25D+1.5L	L
Shear	691 lb	2'2 5/16"	1810 lb	0.382 (38%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/15078)	9 1/2"	0.070 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.003 (L/7262)	9 3/16"	0.070 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.005 (L/4901)	9 3/8"	0.104 (L/240)	0.050 (5%)	D+L	L

### **Bearings and Factored Reactions**

Bearing	Length	Cap. Re	act D/L lb	Total	Ld. Case	Ld. Comb.
1 -	2.000"	38%	178 / 443	621	L	1.25D+1.5L
Hanger						
2 -	2.000"	43%	201 / 496	697	L	1.25D+1.5L
Hanger						

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.



### **Design Notes**

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

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-3-9	(Span)1-3-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 2-3-9		Тор	3 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-8-13		Near Face	142 lb	297 lb	0 lb	0 lb	J7
4	Point	1-8-13		Near Face	132 lb	270 lb	0 lb	0 lb	J7

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

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

- Handling & Installation
- Handling & Installation

  1. Noist flanges must not be out or drilled

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

  3. Damaged IJoists must not be used

  4. 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 ponding

Manufacturer Info Nascor by Kott







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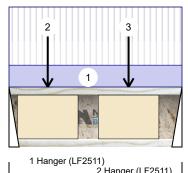
**EWP Studio** Simpson Strong-Tie® Component Solutions™ Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

#### 11.875" - PASSED F12-B NJH





11 7/8"

1	1 Hanger (LF2511)	1
	2 Hanger (LF2511)	l
	2'10 1/4"	7
_		ᆚ
1 1	2'10 1/4"	1

Member Information								
Type:	Girder	Application:	Floor (Residential)					
Plies:	1	Design Method:	LSD					
Moisture Condition	n: 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)** Wind Brg Live Dead 325 122 0 0 0 2 290 109 0

# **Bearings and Factored Reactions**

Bearing	Length	Cap. Re	act D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	39%	152 / 487	639	L	1.25D+1.5L
2 - Hanger	2.000"	35%	136 / 435	571	L	1.25D+1.5L

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	424 ft-lb	1'11 11/16"	5390 ft-lb	0.079 (8%)	1.25D+1.5L	L
Unbraced	424 ft-lb	1'11 11/16"	4880 ft-lb	0.087 (9%)	1.25D+1.5L	L
Shear	634 lb	1 1/4"	1810 lb	0.350 (35%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/19125)	1'9 3/8"	0.088 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.004 (L/7177)	1'9 3/8"	0.088 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.006 (L/5219)	1'9 3/8"	0.132 (L/240)	0.050 (5%)	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 Top flange unbraced.
- 4 Bottom flange braced at bearings.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Tie-In	0-0-0 to 2-10-4	(Span)1-3-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Point	0-7-11		Far Face	96 lb	256 lb	0 lb	0 lb	J6	
3	Point	1-11-11		Far Face	107 lb	285 lb	0 lb	0 lb	J6	

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

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

#### Handling & Installation

- Handling & Installation

  1. Noist flanges must not be out or drilled

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

  3. Damaged IJoists must not be used

  4. 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
ponding

### Manufacturer Info

Nascor by Kott







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### **EWP Studio** Simpson Strong-Tie® Component Solutions™

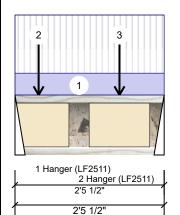
Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

Level: Ground Floor

#### F12-C NJH 11.875" - PASSED



11 7/8"

Page 1 of 1

#### Member Information

Type:	Girder
Plies:	1
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:** NBCC 2010 / OBC 2012 No

Load Sharing: Not Checked Deck: Vibration: Not Checked

# **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	317 ft-lb	1'8 11/16"	5390 ft-lb	0.059 (6%)	1.25D+1.5L	L
Unbraced	317 ft-lb	1'8 11/16"	5063 ft-lb	0.063 (6%)	1.25D+1.5L	L
Shear	626 lb	1 1/4"	1810 lb	0.346 (35%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/23231)	1'8 11/16"	0.075 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.003 (L/8704)	1'8 11/16"	0.075 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.004 (L/6332)	1'8 11/16"	0.113 (L/240)	0.040 (4%)	D+L	L

Location

0-4-11

1-8-11

0-0-0 to 2-5-8

### **Design Notes**

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

Load Type

Tie-In

Point

Point

Brg	Live	Dead	Snow	Wind
1	321	120	0	0
2	266	99	0	0

### **Bearings and Factored Reactions**

Bearing	Length	Cap. Re	act D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	39%	150 / 481	631	L	1.25D+1.5L
2 - Hanger	2.000"	32%	124 / 398	523	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



Live Wind Comments Snow 40 PSF 0 PSF 0 PSF 240 lb 0 lb 0 lb J6

> 0 lb J6

0 lb

ID

2

3

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

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

#### Handling & Installation

Trib Width

(Span)1-3-7

Side

Top

Far Face

Far Face

- anoling & installation
  Lioist flanges must not be cut or drilled
  Refer to latest copy of the IJoist product information
  details for framing details, sulffener tables, web hole
  chart, bridging details, multi-hyl 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

Dead

15 PSF

90 lb

106 lb

283 lb

- alteral 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

Manufacturer Info

Nascor by Kott







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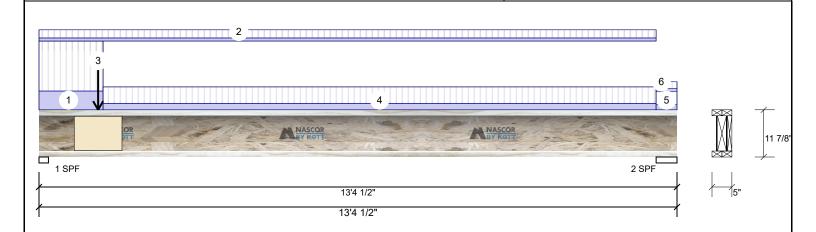
Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

#### 2-Ply - PASSED F14-A **NJH** 11.875"

Level: Ground Floor



#### Member Information **Unfactored Reactions UNPATTERNED Ib (Uplift)** Wind Type: Application: Floor (Residential) Brg Live Dead Plies: 2 Design Method: 535 201 0 0 1 Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 2 246 92 0 0 Deflection LL: 360 Load Sharing: No Deflection TL: 240 Not Checked Deck: Importance: Normal Vibration: Not Checked General Load **Bearings and Factored Reactions** 40 PSF Floor Live: 15 PSF Dead: Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 2.375" 32% 251 / 802 1053 I 1.25D+1.5L 2 - SPF 5.250" 13% 115 / 369 484 I 1.25D+1.5L

#### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1693 ft-lb	5'8 11/16"	10780 ft-lb	0.157 (16%)	1.25D+1.5L	L
Unbraced	1693 ft-lb	5'8 11/16"	1704 ft-lb	0.994 (99%)	1.25D+1.5L	L
Shear	1033 lb	1 5/8"	3620 lb	0.285 (29%)	1.25D+1.5L	L
Perm Defl in.	0.019 (L/8236)	6'3 7/16"	0.429 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.050 (L/3090)	6'3 7/16"	0.429 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.069 (L/2247)	6'3 7/16"	0.643 (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 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 flange must be laterally braced at a maximum of 9'10" o.c.

5 Bottom flange braced at bearings

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-2	(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	109 lb	290 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	

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

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

### Handling & Installation

- andling & Installation
  Libel flagges 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-ply fastening details and
  handling/erection details
  Damaged IJoists must not be used
  Design assumes top flange to be laterally restrained
  by attached sheathing or as specified in engineering
  notes.
- 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

**Manufacturer Info** 

Nascor by Kott





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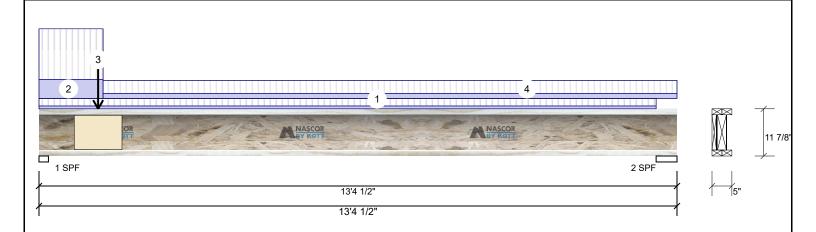
Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

#### 2-Ply - PASSED F14-B NJH 11.875"

Level: Ground Floor



Member Info	rmation			Unfactore	d Reaction	ons UNPATTERN	ED lb (Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	535	201	0	0
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	208	78	0	0
Deflection LL:	360	Load Sharing:	No					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load								
Floor Live:	40 PSF			Bearings a	and Facto	ored Reactions		
Dead:	15 PSF			Bearing L	ength.	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 2	.375"	32% 251 / 802	1053 L	1.25D+1.5L
				2-SPF 5	.250"	11% 97 / 312	409 L	1.25D+1.5L

#### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1509 ft-lb	5'5"	10780 ft-lb	0.140 (14%)	1.25D+1.5L	L
Unbraced	1509 ft-lb	5'5"	1509 ft-lb	1.000 (100%)	1.25D+1.5L	L
Shear	1033 lb	1 5/8"	3620 lb	0.285 (29%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/9242)	6'2 1/2"	0.429 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.045 (L/3467)	6'2 9/16"	0.429 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.061 (L/2521)	6'2 9/16"	0.643 (L/240)	0.100 (10%)	D+L	L

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

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

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



### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 10'4" o.c.
- 5 Bottom flange 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)0-5-13	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	325 lb	0 lb	0 lb	F12
4	Tie-In	1-4-2 to 13-4-8	(Span)0-10-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

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

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

#### Handling & Installation

- anoling & installation
  Lioist flanges must not be cut or drilled
  Refer to latest copy of the IJoist product information
  details for framing details, sulffener tables, web hole
  chart, bridging details, multi-hyl 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.
- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent populing.

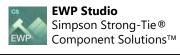
### Manufacturer Info

Nascor by Kott





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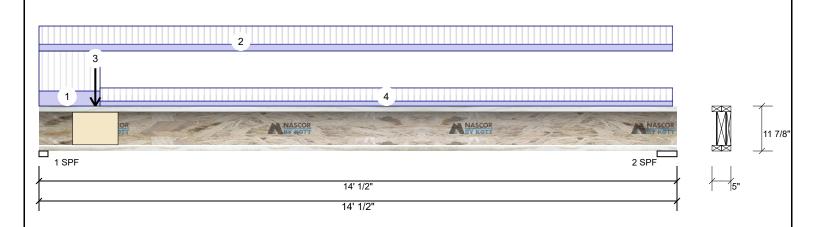
Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

2-Ply - PASSED F15-A NJH 11.875"

Level: Ground Floor



Member Infoi	rmation			Unfactore	d Reacti	ons UNPATT	ERNED Ib (L	Jplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow		Wind
Plies:	2	Design Method:	LSD	1	605	226	0		0
Moisture Condition	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	341	128	0		0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearings a	nd Facto	ored Reaction	าร		
Dead:	15 PSF			Bearing Le	ength	Cap. React D/	L lb Total	Ld. Case	Ld. Comb.
				1 - SPF 2.	.375"	36% 283 /	907 1190	L	1.25D+1.5L
				2 - SPF 5.	.250"	19% 160 /	511 671	L	1.25D+1.5L
A l D	14 -								

#### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2356 ft-lb	6'4 1/2"	10780 ft-lb	0.219 (22%)	1.25D+1.5L	L
Unbraced	2356 ft-lb	6'4 1/2"	2371 ft-lb	0.994 (99%)	1.25D+1.5L	L
Shear	1167 lb	1 5/8"	3620 lb	0.322 (32%)	1.25D+1.5L	L
Perm Defl in.	0.028 (L/5738)	6'8 9/16"	0.451 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.076 (L/2149)	6'8 9/16"	0.451 (L/360)	0.170 (17%)	L	L
TL Defl inch	0.104 (L/1564)	6'8 9/16"	0.677 (L/240)	0.150 (15%)	D+L	L

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

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

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



### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 8'7" o.c.

5 Bottom flange braced at bearings

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-2	(Span)2-10-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-11-6	(Span)1-3-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-2-14		Far Face	99 lb	266 lb	0 lb	0 lb	F12
4	Tie-In	1-4-2 to 13-11-6	(Span)0-11-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

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
 IJoist not to be treated with fire retardant or corrosive

#### Handling & Installation

- IARIGHING & INSEGUATION

  Lodist flanges must not be cut or drilled

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

  Damaged IJoists must not be used

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

Manufacturer Info

Nascor by Kott



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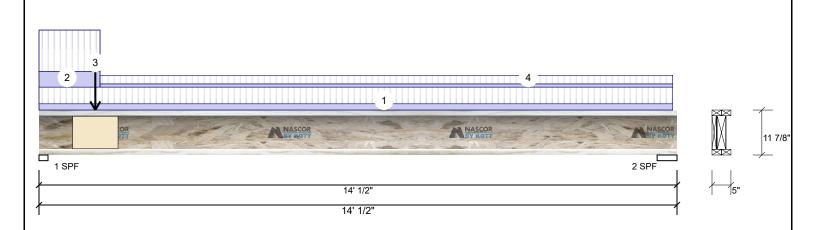
Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

2-Ply - PASSED F15-B NJH 11.875"

Level: Ground Floor



Member Infor	rmation			Unfactore	ed Reacti	ons UNPATTE	RNED lb (Upl	lift)
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	595	223	0	0
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	275	103	0	0
Deflection LL:	360	Load Sharing:	No					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load								
Floor Live:	40 PSF			Bearings a	and Fact	ored Reactions	;	
Dead:	15 PSF			Bearing L	ength	Cap. React D/L	lb Total Ld.	Case Ld. Comb.
				1 - SPF 2	2.375"	35% 279 / 8	93 1171 L	1.25D+1.5L
				2-SPF 5	5.250"	15% 129 / 4	13 542 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1981 ft-lb	6'1"	10780 ft-lb	0.184 (18%)	1.25D+1.5L	L
Unbraced	1981 ft-lb	6'1"	1987 ft-lb	0.997 (100%)	1.25D+1.5L	L
Shear	1150 lb	1 5/8"	3620 lb	0.318 (32%)	1.25D+1.5L	L
Perm Defl in.	0.024 (L/6794)	6'7 9/16"	0.451 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.064 (L/2546)	6'7 9/16"	0.451 (L/360)	0.140 (14%)	L	L
TL Defl inch	0.088 (L/1852)	6'7 9/16"	0.677 (L/240)	0.130 (13%)	D+L	L

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

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

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



### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 9'3" o.c.
- 5 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)1-1-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-4-2	(Span)2-10-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-2-14		Near Face	120 lb	321 lb	0 lb	0 lb	F12
4	Tie-In	1-4-2 to 13-11-6	(Span)0-7-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

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
 IJoist not to be treated with fire retardant or corrosive

#### Handling & Installation

- anoling & installation
  Lioist flanges must not be cut or drilled
  Refer to latest copy of the IJoist product information
  details for framing details, sulffener tables, web hole
  chart, bridging details, multi-hyl 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.

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

Manufacturer Info

Nascor by Kott





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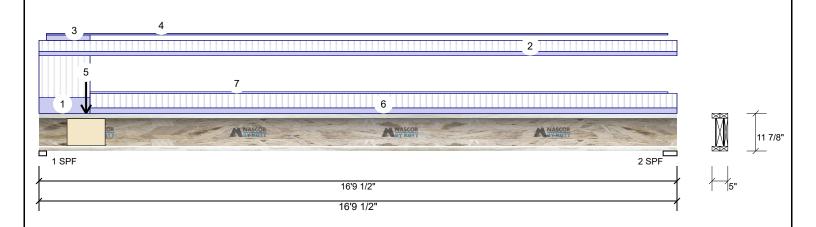
Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

#### 2-Ply - PASSED F16-A NJH 11.875"

Level: Ground Floor



Member Infor	mation			Unfactore	ed Reaction	ons UNPATTERN	ED lb (Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	598	292	0	0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	304	149	0	0
Deflection LL:	360	Load Sharing:	No					
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked					
General Load								
Floor Live:	40 PSF			Bearings a	and Facto	ored Reactions		
Dead:	15 PSF			Bearing L	_ength	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 2	2.375"	38% 364 / 897	1262 L	1.25D+1.5L
A				2-SPF 4	1.375"	18% 187 / 456	643 L	1.25D+1.5L

#### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2746 ft-lb	7'8 1/16"	10780 ft-lb	0.255 (25%)	1.25D+1.5L	L
Unbraced	2746 ft-lb	7'8 1/16"	2746 ft-lb	1.000 (100%)	1.25D+1.5L	L
Shear	1243 lb	1 5/8"	3620 lb	0.343 (34%)	1.25D+1.5L	L
Perm Defl in.	0.057 (L/3473)	8'1 1/4"	0.545 (L/360)	0.100 (10%)	D	Uniform
LL Defl inch	0.115 (L/1713)	8'1 3/16"	0.545 (L/360)	0.210 (21%)	L	L
TL Defl inch	0.171 (L/1147)	8'1 3/16"	0.818 (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 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 flange must be laterally braced at a maximum of 8' o.c.

5 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-2	(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	142 lb	295 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	

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
   IJoist not to be treated with fire retardant or corrosive
- Handling & Installation
- IARIGHING & INSEGUATION

  Lodist flanges must not be cut or drilled

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

  Damaged IJoists must not be used

  Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.
- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing lengthp=3.5 inches
   For flat roofs provide proper drainage to prevent

Manufacturer Info

Nascor by Kott







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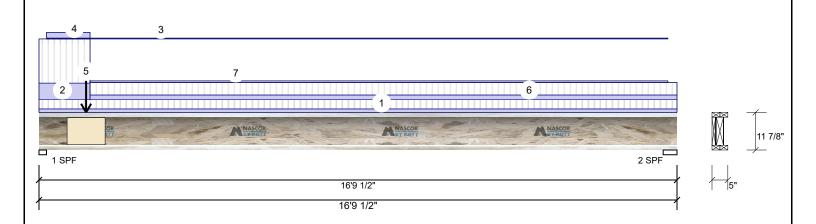
Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

#### 2-Ply - PASSED F16-B NJH 11.875"

Level: Ground Floor



Member Info	rmation			Unfactore	d Reaction	ons UNPATTERNI	ED lb (Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	581	282	0	0
Moisture Condition	on: 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 a	and Facto	ored Reactions		
Dead:	15 PSF			Bearing L	ength	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1 - SPF 2	.375"	37% 353 / 871	1224 L	1.25D+1.5L
				2 - SPF 4	.375"	15% 152 / 375	527 L	1.25D+1.5L

#### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2319 ft-lb	7'4 7/8"	10780 ft-lb	0.215 (22%)	1.25D+1.5L	L
Unbraced	2319 ft-lb	7'4 7/8"	2331 ft-lb	0.995 (99%)	1.25D+1.5L	L
Shear	1206 lb	1 5/8"	3620 lb	0.333 (33%)	1.25D+1.5L	L
Perm Defl in.	0.048 (L/4131)	8' 5/16"	0.545 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.097 (L/2014)	8' 5/16"	0.545 (L/360)	0.180 (18%)	L	L
TL Defl inch	0.145 (L/1354)	8' 5/16"	0.818 (L/240)	0.180 (18%)	D+L	L

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

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

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



### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 8'8" o.c.

5 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	331 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	

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
 IJoist not to be treated with fire retardant or corrosive

### Handling & Installation

- IARIGHING & INSEGUATION

  Lodist flanges must not be cut or drilled

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

  Damaged IJoists must not be used

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

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

### Manufacturer Info

Nascor by Kott







NE0618-031 **PAGE 13 OF 37** 



F5-A

Simpson Strong-Tie®

Forex 2.0E-3000Fb LVL

Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Level: Ground Floor

**Unfactored Reactions UNPATTERNED Ib (Uplift)** 

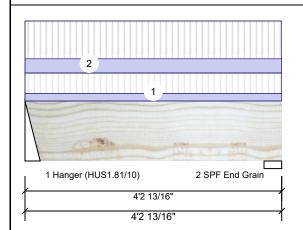
Dead

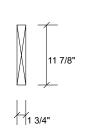
58

60

Project #

1.750" X 11.875" - PASSED





Wind

O

0

0

0

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

# **Bearings and Factored Reactions**

Live

129

132

Brg

1

2

#### Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 73 / 194 1.25D+1.5L 3.000" 267 I Hanger 2 - SPF 3.500" 6% 74 / 197 272 L 1.25D+1.5L End Grain

#### **Analysis Results**

Dead:

15 PSF

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

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.

READ ALL NOTES ON THIS PAGE AND ON ENGINEERING NOTE PAGE ENP-2. THIS

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



# **Design Notes**

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

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

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

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

### Handling & Installation

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

approvals

Damaged Beams must not be used

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info** 

APA: PR-L318







NE0618-031 **PAGE 14 OF 37** 



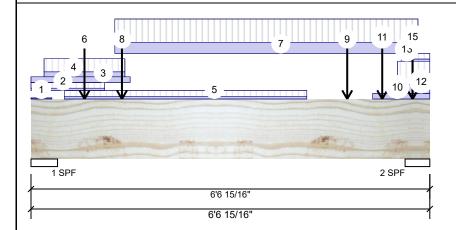
**EWP Studio** Simpson Strong-Tie® Component Solutions™ Client: Project: Address:

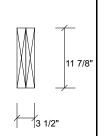
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

1.750" X 11.875" 2-Ply - PASSED F8-A Forex 2.0E-3000Fb LVL

Level: Ground Floor





wember	intormation
	0: 1

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

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

LIVE	Dead	Snow	Wind
2286	1121	0	0
2658	1243	0	0
		2286 1121	2286 1121 0

### **Bearings and Factored Reactions**

Bearing Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.	
1 - SPF 5.250"	43% 1401 / 3429	4830 L	1.25D+1.5L	
2 - SPE 4890"	53% 1554 / 3988	5541 I	1 25D+1 5I	

#### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5426 ft-lb	3' 1/8"	34261 ft-lb	0.158 (16%)	1.25D+1.5L	L
Unbraced	5426 ft-lb	3' 1/8"	32665 ft-lb	0.166 (17%)	1.25D+1.5L	L
Shear	4593 lb	1'4 3/8"	11596 lb	0.396 (40%)	1.25D+1.5L	L
Perm Defl in.	0.011 (L/6200)	3'2 7/16"	0.195 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.024 (L/2886)	3'2 7/16"	0.195 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.036 (L/1969)	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 BEARINGS.



### **Design Notes**

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

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

Notes

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

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318







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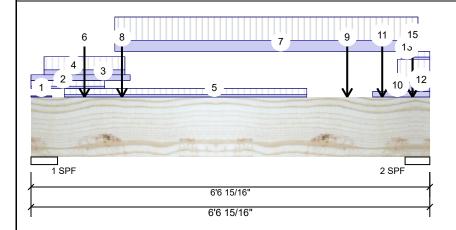
**EWP Studio** Simpson Strong-Tie® Component Solutions™ Client: Project: Address:

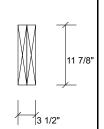
5/30/2018 Designer:  $\mathsf{S}\,\mathsf{B}$ Job Name: BELLE 1 EL -1

Project #:

1.750" X 11.875" 2-Ply - PASSED Forex 2.0E-3000Fb LVL F8-A

Level: Ground Floor





Page 2 of 2

ŀ	Continued from p	age 1								
l	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
l	6	Point	0-10-9		Far Face	125 lb	262 lb	0 lb	0 lb	J10
l	7	Part. Uniform	1-4-9 to 6-4-9		Far Face	157 PLF	330 PLF	0 PLF	0 PLF	
l	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
l	10	Part. Uniform	5-7-10 to 6-6-15		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
l	11	Point	5-9-8		Тор	395 lb	998 lb	0 lb	0 lb	F7 F7
l	12	Part. Uniform	6-0-9 to 6-6-15		Тор	124 PLF	331 PLF	0 PLF	0 PLF	J10
l	13	Part. Uniform	6-1-4 to 6-6-15		Тор	31 PLF	81 PLF	0 PLF	0 PLF	J2
l	14	Point	6-3-8		Тор	1 lb	3 lb	0 lb	0 lb	
I	15	Point	6-3-8		Near Face	39 lb	86 lb	0 lb	0 lb	F5
ĺ		Self Weight				10 PLF				

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

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

Notes

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

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

#### Handling & Installation

Handling & Installation

1. UVI beams must not be cut or drilled

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

3. Damaged Beams must not be used

4. Design assumes top edge is laterally restrained

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318







NE0618-031 PAGE 16 OF 37



**EWP Studio** Simpson Strong-Tie® Client: Project: Address:

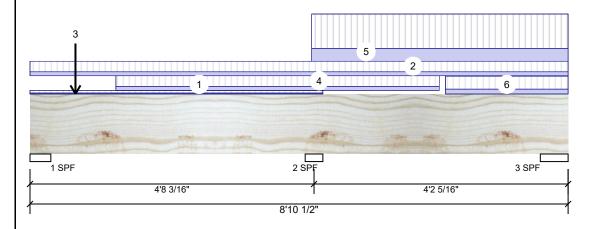
5/30/2018 Designer: SB

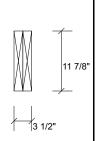
Job Name: BELLE 1 EL -1

Project #

1.750" X 11.875" 2-Ply - PASSED F9-C Forex 2.0E-3000Fb LVL

Level: Ground Floor





wember	intormation
Type:	Girder
Dlice	2

Moisture Condition: Dry Deflection LL: 360 Deflection TL: 240 Importance: Normal General Load Floor Live:

40 PSF

15 PSF

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

Load Sharing: No Not Checked Deck:

Vibration: Not Checked

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

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

#### Bearings and Factored Reactions

Bearing Length	Сар.	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

#### Analysis Results

Dead:

Analysis Actual Location Allowed Comb. Case Capacity 4'8 3/16" 34261 ft-lb Neg Moment -1087 ft-lb 0.032 (3%) 1.25D+1.5L LL Unbraced -1087 ft-lb 4'8 3/16" 34261 ft-lb 0.032 (3%) 1.25D+1.5L LL Pos Moment 1049 ft-lb 0.031 (3%) 1.25D+1.5L \_L 6'10 3/8" 34261 ft-lb Unbraced 1049 ft-lb 6'10 3/8" 34261 ft-lb 0.031 (3%) 1.25D+1.5L \_L Shear 1170 lb 5'8 1/16" 11596 lb 0.101 (10%) 1.25D+1.5L LL Perm Defl in. 0.001 6'7 13/16" 0.126 (L/360) 0.010 (1%) D Uniform (L/36435) LL Defl inch 0.003 6'7 7/16" 0.126 (L/360) 0.030 (3%) L \_L (L/13352) TL Defl inch 0.005 (L/9772) 6'7 1/2" 0.190 (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



### **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.

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

Continued on page 2...

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

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

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info** 

APA: PR-L318





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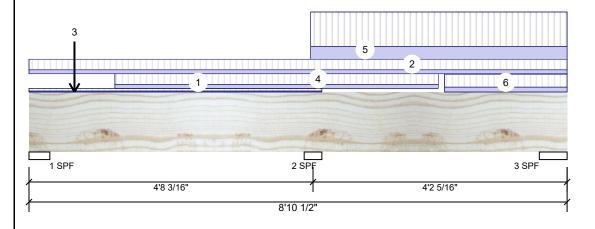
Client: Project: Address:

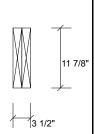
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

1.750" X 11.875" 2-Ply - PASSED Forex 2.0E-3000Fb LVL F9-C

Level: Ground Floor





Page 2 of 2

.Continued from page 1

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

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

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

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

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

#### Handling & Installation

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

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

For flat roofs provide proper drainage to prevent ponding

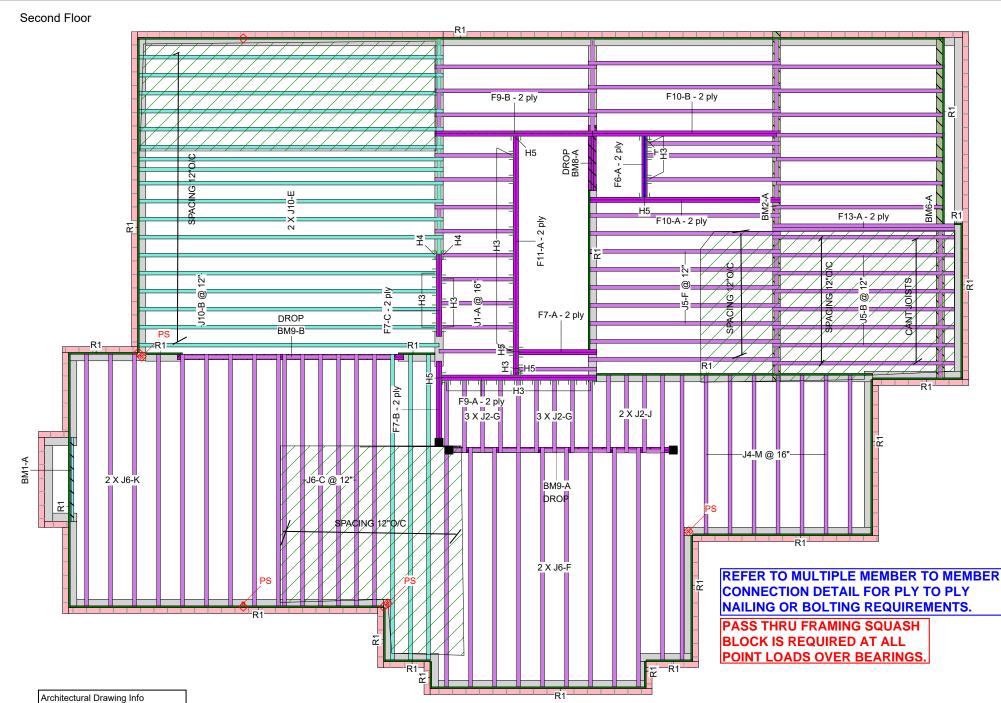
Manufacturer Info

APA: PR-L318









JARDIN DESIGN GROUP 64 JARDIN DR, SUITE 3A VAUGHAN ON L4K 3P3 Project # 17-55 Model: BFLLF 1

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

Legend

0

- 2. Nascor CCMC 13535-R 3. LVL CCMC -12904-R

Date: MAY 22,2018

- 4 CAN/CSA-O86-09
- 5. CCMC -12787-R APA PR-L310(C)

JOISTS SPACING 16"O/C UNLESS NOTED OTHERWISE



# **EWP Studio**

EWP Studio Version 18.32.085 Powered by iStruct™

Simpson Strong-Tie® Component Solutions™

NJ60H 11.875 NJH 11.875 Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped) Forex 2.0E-3000Fb LVL 1.75 X 11.875 (Dropped) Forex 2.0E-3000Fb LVL 1.75 X 11.875 1.75 X 9.5 (Dropped) 5 X 10.25 (Dropped) 5.25 X 10.25 (Dropped)

Norbord Rimboard Plus 1.125 X 11.875

Point Load Support

Load from Above

Wall

### THIS CERTIFICATION IS TO CONFIRM THAT:

- 1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY SHOWN ON THIS LAYOUT.
- 2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE. MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

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





- Squash blocks recommended to be installed at end bearing on all first leve ioists 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

are fastened as per the hanger manufacturer's standards

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

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 to construction

> 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.

Nailed & Glued

Gypsum 1/2"

Fastener

Vibration

Ceiling:

NE0618-031 **PAGE 19 OF 37** 



JARDIN DESIGN GROUP 64 JARDIN DR, SUITE 3A VAUGHAN ON L4K 3P3 Project # 17-55 Model: BFLLF 1

- 1. OBC 2012 O.Reg 332/12 as amended
- 2. Nascor CCMC 13535-R 3. LVL CCMC -12904-R

Date: MAY 22,2018

- 4 CAN/CSA-O86-09
- 5. CCMC -12787-R APA PR-L310(C)

JOISTS SPACING 16"O/C

UNLESS NOTED OTHERWISE



# **EWP Studio**

Simpson Strong-Tie® Component Solutions™

### THIS CERTIFICATION IS TO CONFIRM THAT:

- 1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY SHOWN ON THIS LAYOUT.
- 2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE. MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

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



LVL/LSL (Flush) Label Description Width Depth Qty Plies Pcs Length F11 1.75 11.875 Forex 2 2.0E-3000Fb LVL F10 Forex 1.75 11.875 2 2 4 12-0-0 2.0E-3000Fb LVL F9 1.75 11.875 4 10-0-0 Forex 2.0E-3000Fb LVL 6-0-0 F7 Forex 1.75 11.875 2 6 2.0E-3000Fb LVL F6 Forex 1.75 11.875 2 2 4-0-0 2.0E-3000Fb LVL LVL/LSL (Dropped) Label Description Plies Pcs Length Width Depth Qty BM8 Forex 1.75 9.5 3 3 4-0-0 2.0E-3000Fb LVL ВМ9 Forex 1.75 11.875 14-0-0 2.0E-3000Fb LVL Joist (Flush) Pcs Length Label Description Width Depth Qty Plies J10 NJ60H 2.5 11.875 21 18-0-0 2.5 11.875 J9 NJH 2 16-0-0 23 14-0-0 Project J6 NJH 2.5 11.875 J5 NJH 2.5 11.875 J4 NJH 2.5 11.875 22 10-0-0 J3 NJH 2.5 11.875 3 8-0-0 J2 NJH 2.5 11.875 19 6-0-0 4 4-0-0 2.5 11.875 J1 NJH F13 NJH 2.5 11.875 2 12-0-0 Rim Board Width Depth Pcs Length Label Description Qty Plies Norbord Rimboard 1.125 11.875 17 Plus 1.125 X 11.875 Blocking Pcs Length Label Description Width Depth Qty Plies BLK1 NJ60H 2.5 11.875 LinFt Varies 5-0-0 BLK1 NJH 2.5 11.875 Varies 44-0-0 LinFt Hanger Beam/Girder Supported Member L Span L/ Label Pcs Description Skew Slope fasteners fasteners ΓL Span L/ Н3 29 LF2511 12 10d 1 #8x1 1/4WS L Cant 2L/ H4 2 LF2511 H5 6 LF3511 12 10d 2 #8x1 1/4WS TL Cant 2L/

### NOTES

Second Floor

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

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

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

> 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.



Layout Name BELLE 1 EL -2 Design Method LSD Description GREEN YORK HOMES GRANELLI HOMES PROJECT BRAMPTON,ON Created May 29, 2018 Builder Sales Rep Designer SB Shipping 18 12-0-0 Builder's Project **Kott Lumber Company** 14 Anderson Blvd Stouffville, Ontario Canada L4A 7X4 905-642-4400 Second Floor Design Method LSD Building Code NBCC 2010 / OBC 2012 Floor \_oads 15 Deflection Joist

Deflection Girder

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking

Thickness

Fastener

Vibration

Ceiling:

Deck

480

360

480

360

360

240

480

360

OSB

5/8"

Nailed & Glued

Gypsum 1/2"

Legend

0

Point Load Support

Norbord Rimboard Plus 1.125 X 11.875

Forex 2.0E-3000Fb LVL 1.75 X 9.5

Forex 2.0E-3000Fb LVL 1.75 X 11.875

Forex 2.0E-3000Fb LVL 1.75 X 11.875

Load from Above

NJ60H 11.875

NJH 11.875

(Dropped)

(Dropped)

1.75 X 9.5 (Dropped)

5 X 10.25 (Dropped)

5.25 X 10.25 (Dropped)

Wall

**PAGE 20 OF 37** NE0618-031



Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

BM8-A Forex 2.0E-3000Fb LVL

1.750" X 9.500"

3-Ply - PASSED

Brg

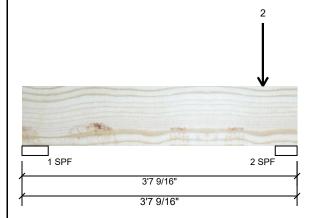
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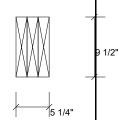
Bearing Length

1 - SPF 4.152"

2 - SPF 3.456"

Level: Second Floor





Wind

O

Total Ld. Case

205 I

2321 L

0

Λ

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

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

Dead

62

552

Cap. React D/L lb

2%

28%

Live

1087

85

ı	Bearings and Factored Reactions							
l	2	1007	302	O	O			

78 / 127

690 / 1631

### **Analysis Results**

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

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

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

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



### Design Notes

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

- 5 Top braced at bearings.
- 6 Bottom braced at bearings.

/ Lateral siende	rness ratio based on full sed	ction wiath.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	3-2-2		Тор	209 lb	363 lb	0 lb	0 lb	F9
2	Point	3-2-3		Тор	364 lb	809 lb	0 lb	0 lb	F10
	Self Weight				11 PLF				

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

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

#### Handling & Installation

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

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

**Manufacturer Info** 

APA: PR-L318





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Client: Project: Address:

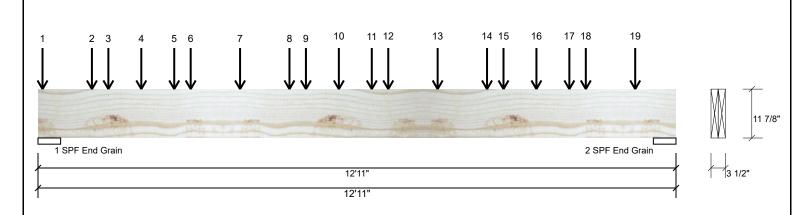
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

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

2-Ply - PASSED

Level: Second Floor



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

Analysis	Results
----------	---------

Member Information

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12457 ft-lb	6'9 1/8"	34261 ft-lb	0.364 (36%)	1.25D+1.5L	L
Unbraced	12457 ft-lb	6'9 1/8"	27420 ft-lb	0.454 (45%)	1.25D+1.5L	L
Shear	3836 lb	1'4 5/8"	11596 lb	0.331 (33%)	1.25D+1.5L	L
Perm Defl in.	0.075 (L/1945)	6'5 5/8"	0.404 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.185 (L/788)	6'5 11/16"	0.404 (L/360)	0.460 (46%)	L	L
TL Defl inch	0.260 (L/561)	6'5 11/16"	0.606 (L/240)	0.430 (43%)	D+L	L

### **Design Notes**

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

Brg	Live	Dead	Snow	Wind
1	2304	969	0	0
2	2034	826	0	0

### **Bearings and Factored Reactions**

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	33%	1211 / 3456	4667	L	1.25D+1.5L
End						

Grain

29% 1033 / 3051 4084 L 1.25D+1.5L 2 - SPF 5.500" PROFESSIONAL CHARLES End

Grain

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

BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-1-2		Тор	172 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	1-5-2		Тор	137 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	2-9-2		Тор	129 lb	343 lb	0 lb	0 lb	J6

Continued on page 2...

#### Notes

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

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

### Handling & Installation

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

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318





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Client: Project: Address:

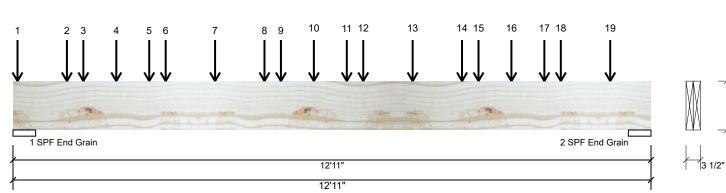
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #

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

2-Ply - PASSED

Level: Second Floor





Page 2 of 2

ID	Load Type
6	Point
7	Point
8	Point

9

10

11

12

13

14

15

16

17

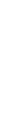
18

19

Point

Self Weight

.Continued from page 1























Trib Width

Location

3-1-2

4-1-2

5-1-2

5-5-2

6-1-2

6-9-2

7-1-2

Side

Top

Тор

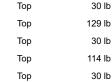
Top

Top

Тор

Top

Top





10 PLF

Dead

30 lb

162 lb

30 lb

129 lb

30 lb

129 lb

30 lb

162 lb



81 lb

Live

79 lb

432 lb

79 lb

343 lb

79 lb

343 lb

79 lb

432 lb

81 lb

343 lb

Snow

0 lb





Wind

0 lb

0 lb

0 lb J2

0 lb

0 lb J2

0 lb J6

0 lb J2

0 lb

0 lb J2

0 lb J6

Comments

J2

J6

J2 J6

J2

J2 J6

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

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

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

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318





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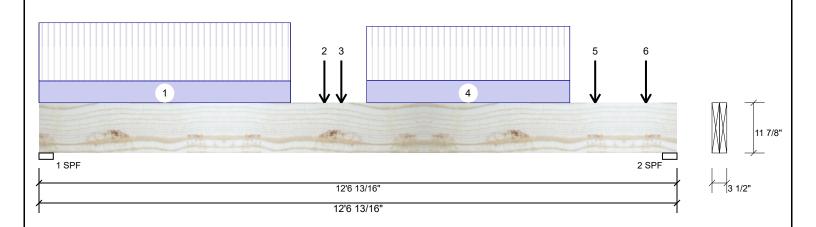
Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

Forex 2.0E-3000Fb LVL BM9-B

1.750" X 11.875" 2-Ply - PASSED Level: Second Floor



nation			Unfactore	d Reaction	ns UNPATTERNE	D lb (Uplift)	
Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
2	Design Method:	LSD	1	1830	767	0	0
Dry	Building Code:	NBCC 2010 / OBC 2012	2	1793	815	0	0
360	Load Sharing:	No					
240	Deck:	Not Checked					
Normal	Vibration:	Not Checked					
40 PSF			Bearings a	nd Factor	ed Reactions		
15 PSF			Bearing L	ength (	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
			1 - SPF 3	.375"	51% 959 / 2745	3704 L	1.25D+1.5L
			2 - SPF 3.	.438"	50% 1019 / 2690	3709 L	1.25D+1.5L
	Girder 2 Dry 360 240 Normal 40 PSF 15 PSF	Girder  2 Design Method: Dry Building Code: 360 Load Sharing: 240 Deck: Normal Vibration: 40 PSF 15 PSF	Girder Application: Floor (Residential)  2 Design Method: LSD  Dry Building Code: NBCC 2010 / OBC 2012  360 Load Sharing: No  240 Deck: Not Checked  Normal Vibration: Not Checked	Application: Floor (Residential)   Brg   1	Application: Floor (Residential)   Brg   Live	Application: Floor (Residential)   Brg   Live   Dead	Application: Floor (Residential)   Brg   Live   Dead   Snow

#### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10759 ft-lb	5'11 7/16"	34261 ft-lb	0.314 (31%)	1.25D+1.5L	L
Unbraced	10759 ft-lb	5'11 7/16"	27423 ft-lb	0.392 (39%)	1.25D+1.5L	L
Shear	3269 lb	11'4 1/4"	11596 lb	0.282 (28%)	1.25D+1.5L	L
Perm Defl in.	0.068 (L/2143)	6'3 7/16"	0.404 (L/360)	0.170 (17%)	D	Uniform
LL Defl inch	0.157 (L/927)	6'3"	0.404 (L/360)	0.390 (39%)	L	L
TL Defl inch	0.225 (L/647)	6'3 1/8"	0.606 (L/240)	0.370 (37%)	D+L	L

**Design Notes** 

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 4-11-7		Тор	112 PLF	299 PLF	0 PLF	0 PLF	
2	Point	5-7-7		Тор	87 lb	232 lb	0 lb	0 lb	J6
3	Point	5-11-7		Тор	78 lb	185 lb	0 lb	0 lb	J6
4	Part. Uniform	6-5-7 to 10-5-7		Тор	115 PLF	278 PLF	0 PLF	0 PLF	
5	Point	10-11-7		Тор	126 lb	278 lb	0 lb	0 lb	J6

Continued on page 2...

#### Notes

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

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

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318





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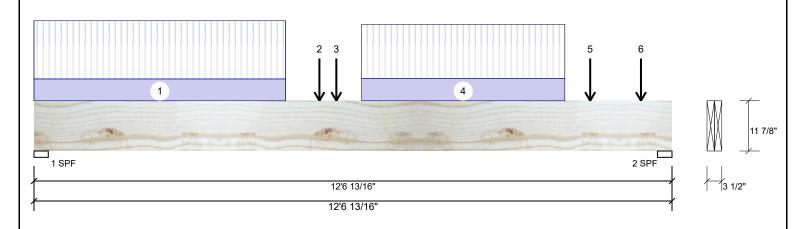


Client: Project: Address: Date: 5/30/2018 Designer:  $\mathsf{S}\,\mathsf{B}$ Job Name: BELLE 1 EL -1

Project #:

1.750" X 11.875" 2-Ply - PASSED Forex 2.0E-3000Fb LVL BM9-B

Level: Second Floor



.Continued from page 1

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

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

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

Notes

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

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

### Handling & Installation

- Handling & Installation

  1. UVI beams must not be cut or drilled

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

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318



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





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2

Client: Project: Address:

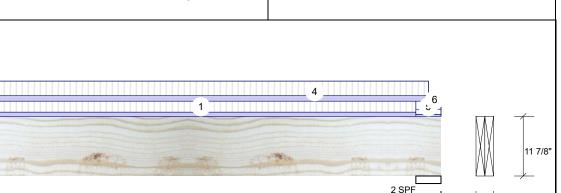
3

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Level: Second Floor

Project #

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED F10-A



#### **Member Information Unfactored Reactions UNPATTERNED Ib (Uplift)** Wind Type: Application: Floor (Residential) Brg Live Dead Plies: 2 Design Method: 784 356 0 O 1 Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 2 397 204 0 0 Deflection LL: 360 Load Sharing: No Deflection TL: 240 Not Checked Deck: Importance: Normal Vibration: Not Checked General Load **Bearings and Factored Reactions** 40 PSF Floor Live: Dead: 15 PSF Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 4.375" 444 / 1176 1620 L 1.25D+1.5L 2 - SPF 5.000" 8% 255 / 596 851 I 1.25D+1.5L

10'6 7/8' 10'6 7/8'

#### Analysis Results

\_ 1 SPF

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

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

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

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



### **Design Notes**

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

1	D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	1	Tie-In	0-0-0 to 10-1-14	(Span)0-10-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	2	Tie-In	0-1-10 to 3-2-2	(Span)3-8-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	3	Point	3-0-6		Far Face	245 lb	611 lb	0 lb	0 lb	F6
4	4	Tie-In	3-2-2 to 10-4-6	(Span)1-1-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	5	Tie-In	10-1-14 to 10-6-14	(Span)0-4-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	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
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info** APA: PR-L318





NE0618-031 PAGE 26 OF 37



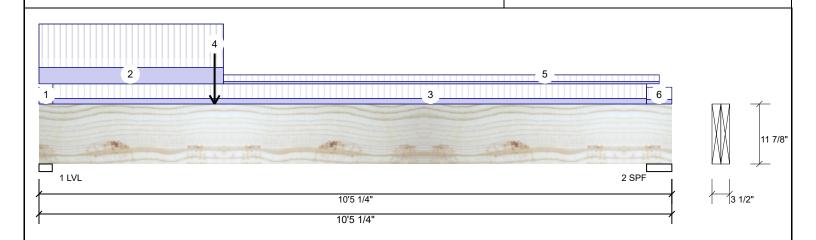
Client: Project: Address:

5/30/2018 Designer: SB

Job Name: BELLE 1 EL -1

Project #

1.750" X 11.875" 2-Ply - PASSED Level: Second Floor Forex 2.0E-3000Fb LVL F10-B



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

#### Analysis Results

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

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

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

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



### **Design Notes**

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

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

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

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

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info** 

APA: PR-L318





NE0618-031 PAGE 27 OF 37



Client: Project: Address:

5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

Forex 2.0E-3000Fb LVL F11-A

1.750" X 11.875"

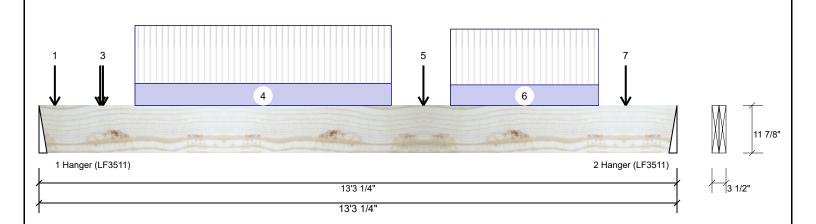
2-Ply - PASSED

2 -

Hanger

2.000"

Level: Second Floor



Member Info	ormation			Unfacto	red React	tions U	NPATTERN	ED lb (	Uplift)
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	N
Plies:	2	Design Method:	LSD	1	574		297		0
Moisture Condit	tion: Dry	Building Code:	NBCC 2010 / OBC 2012	2	502		253		0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearings	and Fact	tored R	eactions		
Dead:	15 PSF			Bearing	Length	Сар.	React D/L lb	Total	Ld. Case
				1 - Hanger	2.000"	24%	372 / 860	1232	L

Analysis	Results
----------	---------

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

### **Design Notes**

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

						I KEAU
Unbraced	3675 ft-lb	6'7 1/8"	26322 ft-lb	0.140 (14%) 1.25D+1.5L	L	ENGIN
Shear	1219 lb	1'1 1/8"	11596 lb	0.105 (11%) 1.25D+1.5L	L	NOTE
Perm Defl in.	0.030 (L/5266)	6'7 5/16"	0.435 (L/360)	0.070 (7%) D	Uniform	CONTA
LL Defl inch	0.059 (L/2643)	6'7 1/2"	0.435 (L/360)	0.140 (14%) L	L	USED
TL Defl inch	0.089 (L/1760)	6'7 7/16"	0.653 (L/240)	0.140 (14%) D+L	L	REFER
						CONINI

CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL

READ ALL NOTES ON THIS PAGE AND ON NEERING NOTE PAGE ENP-2. THIS PAGE IS AN INTEGRAL PART OF THIS CULATION SUMMARY PAGE AS IT TAINS SPECIFICATIONS AND CRITERIA IN THE DESIGN OF THIS COMPONENT. R TO MULTIPLE MEMBER TO MEMBER

21%

317 / 753

1070 L



Wind 0 0

Ld. Comb. 1.25D+1.5L

1.25D+1.5L

POINT LOADS OVER BEARINGS.

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 intended application, and to verify the dimensions and loads.

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

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

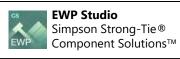
APA: PR-L318







NE0618-031 **PAGE 28 OF 37** 

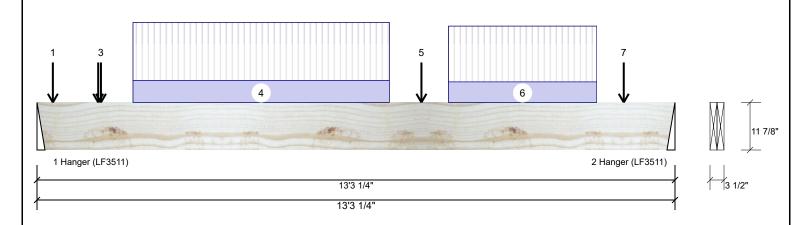


Client: Project: Address:

5/30/2018 Designer:  $\mathsf{S}\,\mathsf{B}$ Job Name: BELLE 1 EL -1

Project #:

1.750" X 11.875" 2-Ply - PASSED Level: Second Floor Forex 2.0E-3000Fb LVL F11-A



.Continued from page 1

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

> REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH

BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

Notes

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

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

  2 Damaged Beams must not be used

Handling & Installation

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

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318



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





Page 2 of 2

NE0618-031 PAGE 29 OF 37

Brg



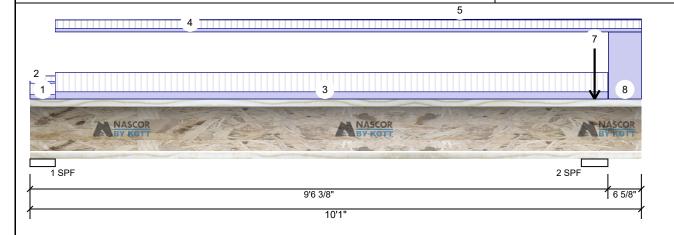
Client: Project: Address:

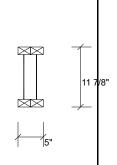
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

#### 2-Ply - PASSED F13-A 11.875" NJH

Level: Second Floor





Wind

#### Member Information

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

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

Dead

	100	00	O	0	
2	165	162	0	0	

### Bearings and Factored Reactions

Live

Bearing Length	Сар. К	eact D/L ib	iotai	La. Case	La. Comb.	
1 - SPF 5.000"	8%	70 / 229	300	L_	1.25D+1.5L	
2 CDE 5.250"	12%	202 / 249	450	1.1	1 25D±1 5I	

#### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-29 ft-lb	9'6 3/8"	7007 ft-lb	0.004 (0%)	1.4D	Uniform
Unbraced	-29 ft-lb	9'6 3/8"	7003 ft-lb	0.004 (0%)	1.4D	Uniform
Pos Moment	628 ft-lb	4'8 5/8"	10780 ft-lb	0.058 (6%)	1.25D+1.5L	L_
Unbraced	628 ft-lb	4'8 5/8"	2277 ft-lb	0.276 (28%)	1.25D+1.5L	L_
Shear	295 lb	9'1 7/8"	3620 lb	0.082 (8%)	1.25D+1.5L	LL
Perm Defl in.	0.004 (L/29158)	4'8 5/8"	0.293 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.010 (L/10504)	4'9 1/16"	0.293 (L/360)	0.030 (3%)	L	L_
TL Defl inch	0.014 (L/7722)	4'8 15/16"	0.440 (L/240)	0.030 (3%)	D+L	L_
LL Cant	-0.001 (2L/9033)	Rt Cant	0.200 (2L/480)	0.007 (1%)	L	L_
TL Cant	-0.002 (2L/7570)	Rt Cant	0.300 (2L/360)	0.006 (1%)	D+L	L_

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

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

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



### **Design Notes**

- 1 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 flange unbraced.
- 5 Bottom flange braced at bearings

### Handling & Installation

- IARIGHING & INSEGUATION

  Lodist flanges must not be cut or drilled

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

  Damaged IJoists must not be used

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

Manufacturer Info

Nascor by Kott

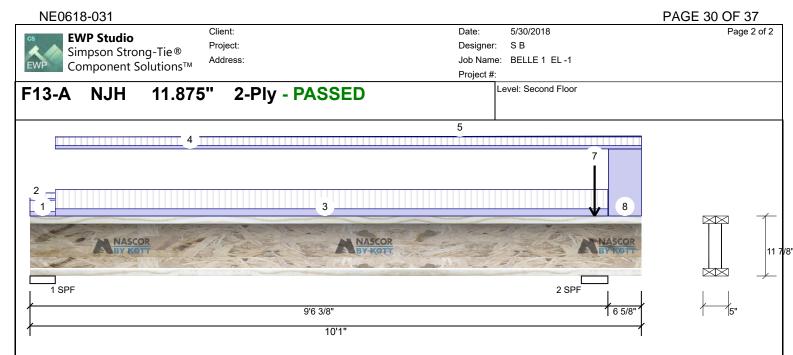
Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400





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

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



ı										
	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	1	Tie-In	0-0-0 to 0-5-0	(Span)0-8-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	2	Tie-In	0-0-0 to 0-5-0	(Span)0-3-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	3	Tie-In	0-5-0 to 9-6-6	(Span)1-1-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	4	Tie-In	0-5-0 to 10-1-0	(Span)0-6-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	5	Tapered Start	0-5-0		Тор	0 PLF	0 PLF	0 PLF	0 PLF	
		End	10-1-0			1 PLF	0 PLF	0 PLF	0 PLF	
	6	Point	9-3-12		Тор	14 lb	0 lb	0 lb	0 lb	Wall Self Weight
	7	Point	9-3-12		Тор	37 lb	0 lb	0 lb	0 lb	Wall Self Weight
	8	Part. Uniform	9-6-8 to 10-1-0		Тор	80 PLF	0 PLF	0 PLF	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.

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
 Idoist not to be treated with fire retardant or corrosive

### Handling & Installation

- Handling & Installation

  1. Noist flanges must not be out or drilled

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

  3. Damaged IJoists must not be used

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

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

Manufacturer Info

Nascor by Kott





NE0618-031 PAGE 31 OF 37



# **EWP Studio** Simpson Strong-Tie®

Client: Project: Address:

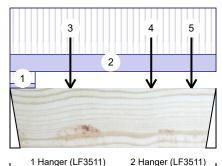
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

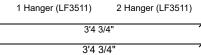
Project #:

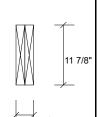
F6-A Forex 2.0E-3000Fb LVL 1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor







Member	Information
Type:	Girder
Dlies:	2

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

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

Load Sharing: No Not Checked Deck:

Not Checked

Vibration:

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

Brg	Live	Dead	Snow	Wind
1	611	245	0	0
2	637	255	0	0

### 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

# **Bearings and Factored Reactions**

Bearing	Length	Cap. Re	act 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

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.

I	Load Type Location	ad Type Location Trib Width Side Dead Liv	e Snow	Wind	Comments
1	Tie-In 0-0-0 to 0-5-0	e-In 0-0-0 to 0-5-0 (Span)3-0-15 Top 15 PSF 40 PS	F 0 PSF	0 PSF	
2	Part. Uniform 0-0-0 to 3-4-12	rt. Uniform 0-0-0 to 3-4-12 Top 90 PLF 240 PL	.F 0 PLF	0 PLF	
3	Point 0-11-15	int 0-11-15 Near Face 66 lb 177	lb 0 lb	0 lb	J3
4	Point 2-3-15	int 2-3-15 Near Face 54 lb 143	lb 0 lb	0 lb	J3

Continued on page 2...

#### Notes

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

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

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info** 

APA: PR-L318





NE0618-031 PAGE 32 OF 37



Simpson Strong-Tie® Component Solutions™ Client: Project: Address:

5/30/2018 Designer:  $\mathsf{S}\,\mathsf{B}$ Job Name: BELLE 1 EL -1

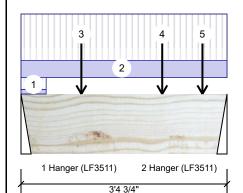
Project #:

Level: Second Floor

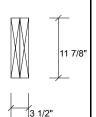
Forex 2.0E-3000Fb LVL F6-A

1.750" X 11.875"

2-Ply - PASSED



3'4 3/4"



Page 2 of 2

.Continued from page 1

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

> REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS. PASS THRU FRAMING SQUASH

BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

Notes

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

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

#### Handling & Installation

- L. UVL 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

APA: PR-L318





NE0618-031 PAGE 33 OF 37



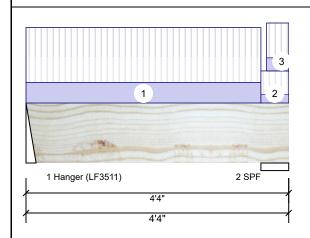
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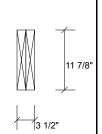
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

1.750" X 11.875" 2-Ply - PASSED Forex 2.0E-3000Fb LVL F7-A

Level: Second Floor





Wind

0

0

1.25D+1.5L

1.25D+1.5L

0

99 L

112 L

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

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

34

38

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

42 / 57

48 / 65

# Analysis Results

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%)		

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.

2%

1%

38

2.000"

2

Hanger

2 - SPF 5.500"

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-10-8	(Span)0-11-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	3-10-8 to 4-4-0	(Span)0-4-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	3-11-10 to 4-4-0	(Span)0-7-3	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
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code
- approvals

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info APA: PR-L318





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# **EWP Studio**

Simpson Strong-Tie® Component Solutions™ Client: Project: Address:

5/30/2018 Designer: SB

Job Name: BELLE 1 EL -1

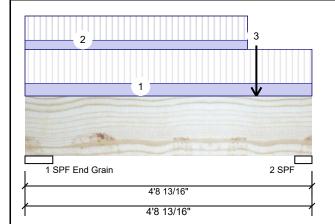
Project #:

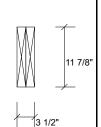
#### Forex 2.0E-3000Fb LVL F7-B

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor





#### Member Information

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

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

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

# Analysis Results

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

### **Bearings and Factored Reactions**

Bearing Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF 5.500" End Grain	3%	125 / 252	377	L	1.25D+1.5L	
2 - SPF 3.399"	18%	404 / 939	1343	L	1.25D+1.5L	

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

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

PASS THRU FRAMING SQUASH



#### **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
1	Tie-In	0-0-0 to 4-8-13	(Span)0-7-0	Тор	15 PSF
2	Tie-In	0-0-0 to 3-8-1	(Span)0-5-0	Тор	15 PSF
3	Point	3-9-13		Near Face	346 lb
	Self Weight				10 PLF

Handling & Installation

BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.

Snow

0 PSF

0 PSF

0 lb

Live

40 PSF

40 PSF

708 lb

#### 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

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

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318



Wind

0 PSF

0 PSF

0 lb F9

Comments





NE0618-031 PAGE 35 OF 37



**EWP Studio** Simpson Strong-Tie® Component Solutions™ Client: Project: Address:

5/30/2018 Designer: SB

Job Name: BELLE 1 EL -1

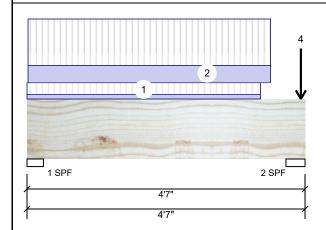
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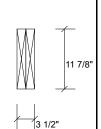
Forex 2.0E-3000Fb LVL F7-C

1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor





Mem		

Type:	Girder	Application:
Plies:	2	Design Method:
Moisture Condition:	Dry	Building Code:
Deflection LL:	360	Load Sharing:
Deflection TL:	240	Deck:
Importance:	Normal	Vibration:
General Load		
Floor Live:	40 PSF	
Dead:	15 PSF	

Floor (Residential)

NBCC 2010 / OBC 2012

No

Not Checked Not Checked

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

Brg	Live	Dead	Snow	Wind
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
0 005 0 770"	040/ 404/4407	1001	4.050 .4.51

#### Analysis Results

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

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

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

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



### **Design Notes**

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

POINT	LOADS	(

5 Lateral sier	idemess 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 3-10-3		Near Face	31 PLF	83 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-0-3 to 4-0-3		Far Face	122 PLF	326 PLF	0 PLF	0 PLF	
3	Point	4-6-3		Far Face	82 lb	219 lb	0 lb	0 lb	J10
4	Point	4-6-3		Near Face	27 lb	72 lb	0 lb	0 lb	J1
	Self Weight				10 PLF				

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

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

### Handling & Installation

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

approvals

Damaged Beams must not be used

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

APA: PR-L318





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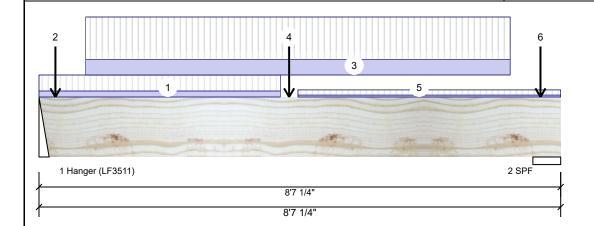
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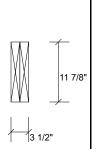
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

1.750" X 11.875" Forex 2.0E-3000Fb LVL 2-Ply - PASSED F9-A

Level: Second Floor





\\/ind

Ld. Comb.

Page 1 of 1

#### Member Information

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		

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

Dig	LIVC	DCau	Onow	VVIIIG
1	708	346	0	0
2	678	336	0	0

#### 15 PSF Dead: Bearing Length Cap. React D/L lb

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

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.

**Bearings and Factored Reactions** 

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

### **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.

7 Lateral slender	rness ratio based on	full section width.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-11-12	(Span)1-5-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-4		Near Face	21 lb	55 lb	0 lb	0 lb	J2
3	Part. Uniform	0-9-4 to 7-9-4		Near Face	29 PLF	78 PLF	0 PLF	0 PLF	
4	Point	4-1-8		Far Face	297 lb	574 lb	0 lb	0 lb	F11
5	Tie-In	4-3-4 to 8-7-4	(Span)0-5-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	8-3-4		Near Face	19 lb	52 lb	0 lb	0 lb	J2
	Self Weight				10 PLF				
	1D 1 2 3 4 5	ID Load Type  1 Tie-In  2 Point  3 Part. Uniform  4 Point  5 Tie-In  6 Point	1 Tie-In 0-0-0 to 3-11-12 2 Point 0-3-4 3 Part. Uniform 0-9-4 to 7-9-4 4 Point 4-1-8 5 Tie-In 4-3-4 to 8-7-4 6 Point 8-3-4	ID         Load Type         Location         Trib Width           1         Tie-In         0-0-0 to 3-11-12         (Span)1-5-11           2         Point         0-3-4           3         Part. Uniform         0-9-4 to 7-9-4           4         Point         4-1-8           5         Tie-In         4-3-4 to 8-7-4         (Span)0-5-11           6         Point         8-3-4	ID         Load Type         Location         Trib Width         Side           1         Tie-In         0-0-0 to 3-11-12         (Span)1-5-11         Top           2         Point         0-3-4         Near Face           3         Part. Uniform         0-9-4 to 7-9-4         Near Face           4         Point         4-1-8         Far Face           5         Tie-In         4-3-4 to 8-7-4         (Span)0-5-11         Top           6         Point         8-3-4         Near Face	ID         Load Type         Location         Trib Width         Side         Dead           1         Tie-In         0-0-0 to 3-11-12         (Span)1-5-11         Top         15 PSF           2         Point         0-3-4         Near Face         21 lb           3         Part. Uniform         0-9-4 to 7-9-4         Near Face         29 PLF           4         Point         4-1-8         Far Face         297 lb           5         Tie-In         4-3-4 to 8-7-4         (Span)0-5-11         Top         15 PSF           6         Point         8-3-4         Near Face         19 lb	ID         Load Type         Location         Trib Width         Side         Dead         Live           1         Tie-In         0-0-0 to 3-11-12         (Span)1-5-11         Top         15 PSF         40 PSF           2         Point         0-3-4         Near Face         21 lb         55 lb           3         Part. Uniform         0-9-4 to 7-9-4         Near Face         29 PLF         78 PLF           4         Point         4-1-8         Far Face         297 lb         574 lb           5         Tie-In         4-3-4 to 8-7-4         (Span)0-5-11         Top         15 PSF         40 PSF           6         Point         8-3-4         Near Face         19 lb         52 lb	ID         Load Type         Location         Trib Width         Side         Dead         Live         Snow           1         Tie-In         0-0-0 to 3-11-12         (Span)1-5-11         Top         15 PSF         40 PSF         0 PSF           2         Point         0-3-4         Near Face         21 lb         55 lb         0 lb           3         Part. Uniform         0-9-4 to 7-9-4         Near Face         29 PLF         78 PLF         0 PLF           4         Point         4-1-8         Far Face         297 lb         574 lb         0 lb           5         Tie-In         4-3-4 to 8-7-4         (Span)0-5-11         Top         15 PSF         40 PSF         0 PSF           6         Point         8-3-4         Near Face         19 lb         52 lb         0 lb	ID         Load Type         Location         Trib Width         Side         Dead         Live         Snow         Wind           1         Tie-In         0-0-0 to 3-11-12         (Span)1-5-11         Top         15 PSF         40 PSF         0 PSF         0 PSF           2         Point         0-3-4         Near Face         21 lb         55 lb         0 lb         0 lb         0 lb           3         Part. Uniform         0-9-4 to 7-9-4         Near Face         29 PLF         78 PLF         0 PLF         0 PLF           4         Point         4-1-8         Far Face         297 lb         574 lb         0 lb         0 lb           5         Tie-In         4-3-4 to 8-7-4         (Span)0-5-11         Top         15 PSF         40 PSF         0 PSF         0 PSF           6         Point         8-3-4         Near Face         19 lb         52 lb         0 lb         0 lb

6. For flat roofs provide proper drainage to prevent ponding

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

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

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

Manufacturer Info

APA: PR-L318







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F9-B

Simpson Strong-Tie® Component Solutions™

Forex 2.0E-3000Fb LVL

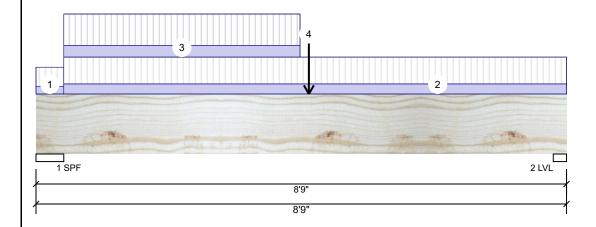
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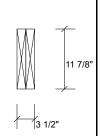
5/30/2018 Designer: SB Job Name: BELLE 1 EL -1

Project #:

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 40 PSF Floor Live:

15 PSF

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

Load Sharing: No

Deck: Not Checked Vibration: Not Checked

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

Brg	Live	Dead	Snow	Wind
1	413	230	0	0
2	363	209	0	0

### **Bearings and Factored Reactions**

Bearing Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF 5.500"	8%	287 / 619	906	L	1.25D+1.5L	
2 - 1 \/1 2 625"	12%	261 / 544	806	1	1 25D+1 5I	

Comments

#### Analysis Results

Dead:

Actual	Location	Allowed	Capacity	Comb.	Case
2821 ft-lb	4'6"	34261 ft-lb	0.082 (8%)	1.25D+1.5L	L
2821 ft-lb	4'6"	31134 ft-lb	0.091 (9%)	1.25D+1.5L	L
794 lb	1'4 5/8"	11596 lb	0.068 (7%)	1.25D+1.5L	L
0.009 (L/10552)	4'6"	0.273 (L/360)	0.030 (3%)	D	Uniform
0.017 (L/5739)	4'6"	0.273 (L/360)	0.060 (6%)	L	L
0.026 (L/3717)	4'6"	0.410 (L/240)	0.060 (6%)	D+L	L
	2821 ft-lb 2821 ft-lb 794 lb 0.009	2821 ft-lb 4'6" 2821 ft-lb 4'6" 794 lb 1'4 5/8" 0.009 4'6" (L/10552) 0.017 (L/5739) 4'6"	2821 ft-lb 4'6" 34261 ft-lb 2821 ft-lb 4'6" 31134 ft-lb 794 lb 1'4 5/8" 11596 lb 0.009 4'6" 0.273 (L/360) (L/10552) 4'6" 0.273 (L/360)	2821 ft-lb 4'6" 34261 ft-lb 0.082 (8%) 2821 ft-lb 4'6" 31134 ft-lb 0.091 (9%) 794 lb 1'4 5/8" 11596 lb 0.068 (7%) 0.009 4'6" 0.273 (L/360) 0.030 (3%) (L/10552) 0.017 (L/5739) 4'6" 0.273 (L/360) 0.060 (6%)	2821 ft-lb 4'6" 34261 ft-lb 0.082 (8%) 1.25D+1.5L 2821 ft-lb 4'6" 31134 ft-lb 0.091 (9%) 1.25D+1.5L 794 lb 1'4 5/8" 11596 lb 0.068 (7%) 1.25D+1.5L 0.009 (L/10552) 4'6" 0.273 (L/360) 0.030 (3%) D (L/105739) 4'6" 0.273 (L/360) 0.060 (6%) L

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

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

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



### **Design Notes**

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

6 Lateral slende	erness ratio based on fu							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
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	Top	15 PSF	40 PSF	0 PSF	0 PSF

Tie-In 0-5-8 to 4-4-4 (Span)1-2-9 15 PSF Point 4-6-0 Near Face 253 lb 10 PI F

Self Weight

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

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

6. For flat roofs provide proper drainage to prevent ponding

502 lb

**Manufacturer Info** 

APA: PR-L318

0 lb



0 lb F11



