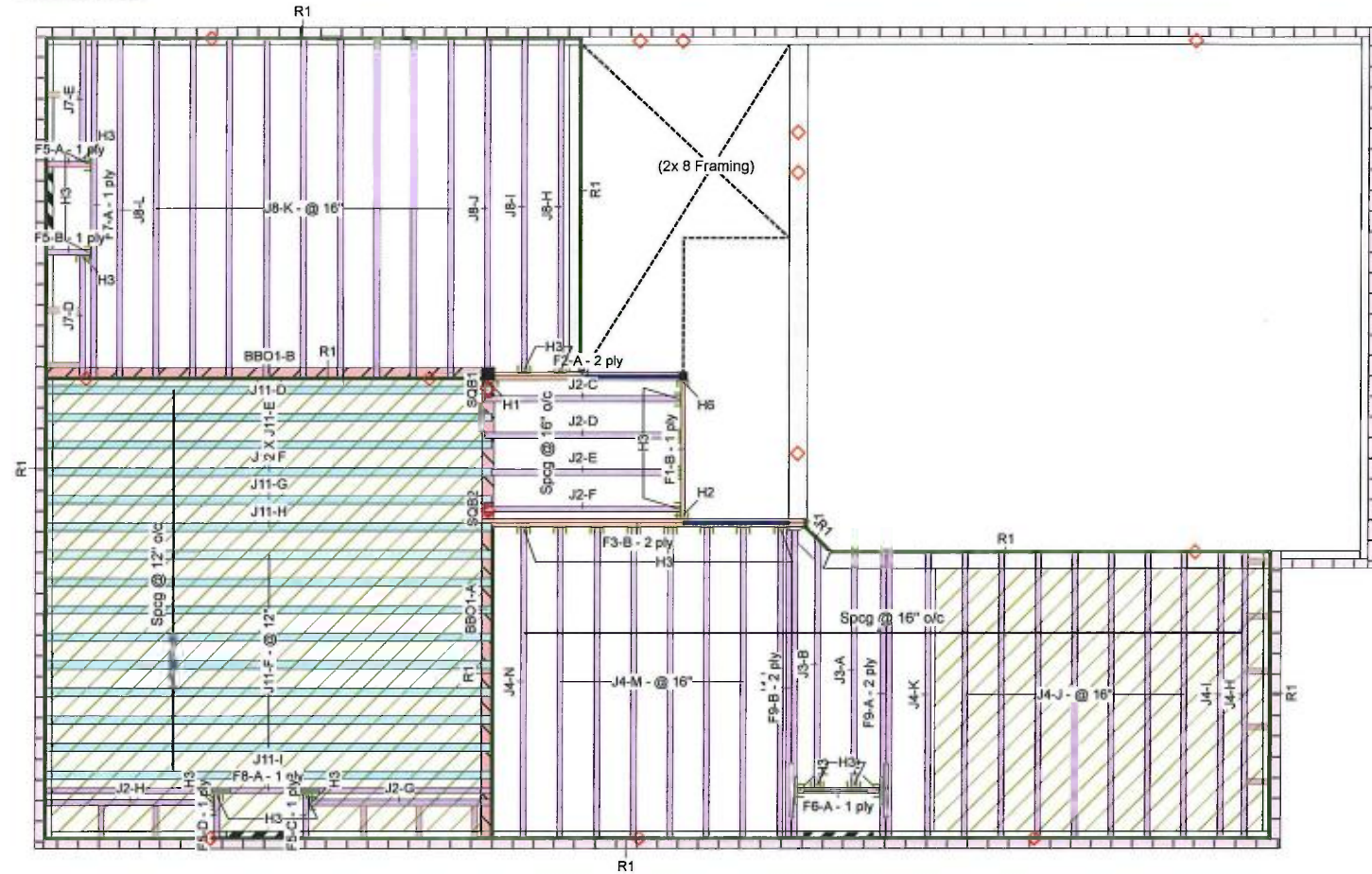


## Ground Floor



## 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.

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.



## Legend

	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 9.5
	NJH 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5

- OBC 2012 O.Reg 332/12 as amended
- Nascor CCMC - 13535-R
- LVL CCMC -14056-R
- CAN/CSA-O86-09
- CCMC -12787-R APA PR-L310(C)

Engineered floor joists shall be installed in accordance with the supplier's layout and specifications forming part of the permit drawings.

All work shall conform to the Ontario Building Code O. Reg. 332/12 as amended

Ground Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F3	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F2	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			1	6-0-0

Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J11	NJ60U	3.5	9.5			15	18-0-0
F8	NJH	2.5	9.5			1	18-0-0
F7	NJH	2.5	9.5			1	14-0-0
F9	NJH	2.5	9.5	2	2	4	12-0-0
F6	NJH	2.5	9.5			1	4-0-0
F5	NJH	2.5	9.5			4	2-0-0
J8	NJH	2.5	9.5			13	14-0-0
J4	NJH	2.5	9.5			18	12-0-0
J3	NJH	2.5	9.5			2	10-0-0
J2	NJH	2.5	9.5			6	8-0-0
J7	NJH	2.5	9.5			2	6-0-0

Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			14	12

Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	15-0-0

Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	1	Unknown Hanger					
H2	1	HUS1.81/10			30 16d	10 16d	
H3	26	LT259			4 10dx1 1/2	2 10dx1 1/2	
H6	1	HUCQ1.81/9-SDS					

## NOTES:

- 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-load bearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation works.
- Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
- Load transfer blocks to be installed under all point loads.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

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

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" 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 responsibility of Others.

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

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

## ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP INC.  
64 Jardin Dr., Suite 3A, Vaughan, ON  
Date: Rev.2; May 22, 2018  
Project No: 17-55  
Model: Liana 3

**NASCOR**

Layout Name  
LIANA 3 (ELEV.1 & 2)

Design Method  
LSD

Description  
GRANELLI HOME CORP.  
BRAMPTON, ONT.

Created  
May 29, 2018

Builder  
GREEN YORK HOMES

Sales Rep  
RM

Designer  
RCO

Shipping

Project

Builder's Project

**Kott Lumber Company**

14 Anderson Blvd  
Stouffville, Ontario

Canada  
L4A 7X4

905-642-4400

Job Path

D:\Users\rochavillo\WORK FROM HOME\GREEN YORK HOMES  
IGRANELLI HOME CORP\MODELS  
LIANA 3\LIANA 3 ELEV 1\FLOOR

**Ground Floor**

Design Method LSD  
Building Code NBCC 2010 / OBC 2012

**Floor**

**Loads**

Live

Dead

Deflection Joist

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Deflection Girder

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking

Deck

Thickness

Fastener

Vibration

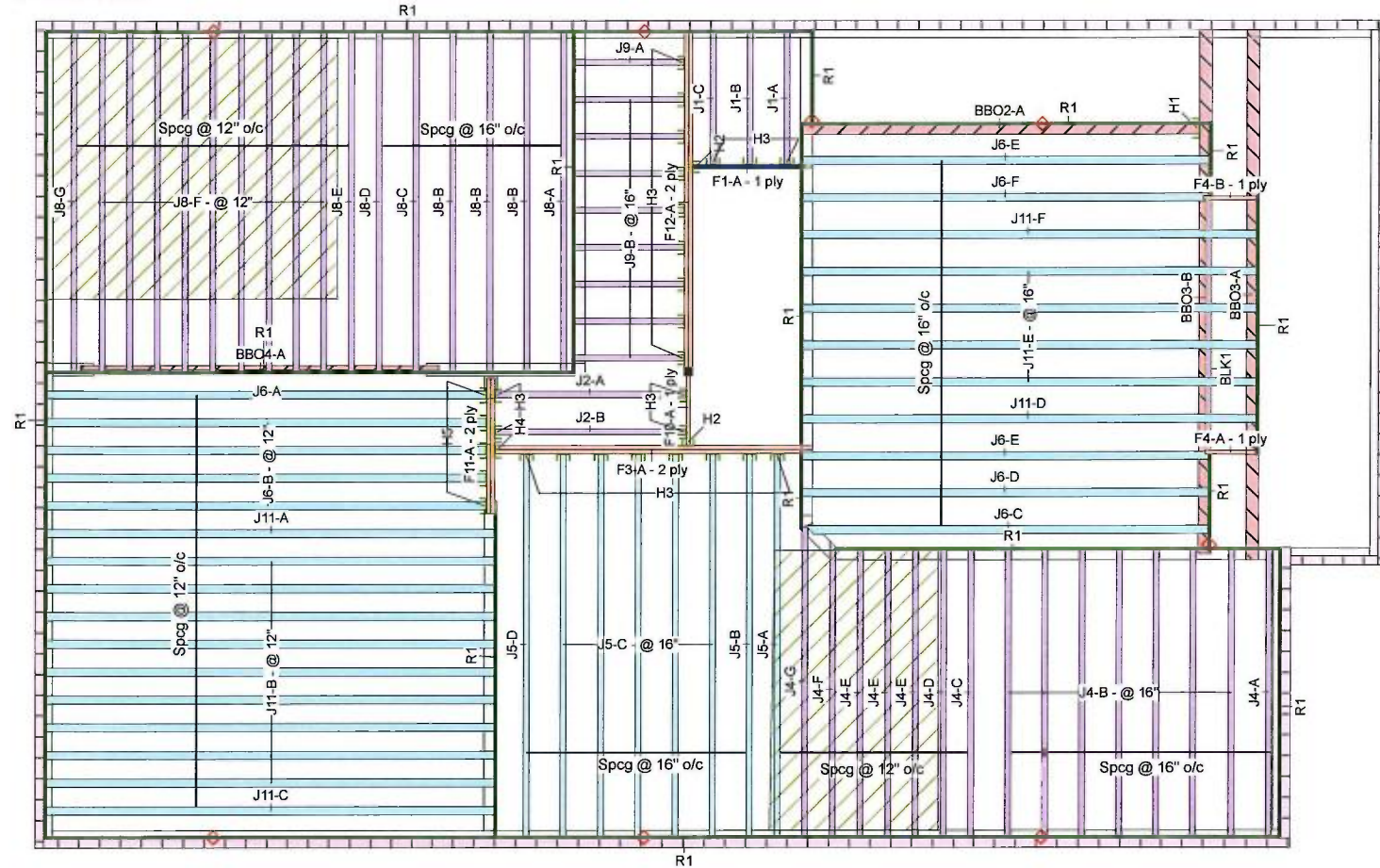
M-2057

LOT 19

19-444489.000.00.RR.



## Second Floor



## 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.

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.



## ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP INC.  
64 Jardin Dr., Suite 3A, Vaughan, ON  
Date: Rev.2; May 22, 2018  
Project No: 17-55  
Model: Liana 3

## Legend

	Load from Above
	Wall
	Norbord Rimboard Plus 1.125 X 9.5
	NJ60H 9.5
	NJ60U 9.5
	NJH 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)
	Forex 2.0E-3000Fb LVL 1.75 X 9.5

- OBC 2012 O.Reg 332/12 as amended
- Nascor CCMC - 13535-R
- LVL CCMC -14056-R
- CAN/CSA-O86-09
- CCMC -12787-R APA PR-L310(C)

Second Floor  
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Pieces	Pcs	Length
F12	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F3	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			1	6-0-0
F10	Forex 2.0E-3000Fb LVL	1.75	9.5			1	4-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	9.5			2	2-0-0

## LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Pieces	Pcs	Length
BBO4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0

## Joist (Flush)

Label	Description	Width	Depth	Qty	Pieces	Pcs	Length
J5	NJ60H	2.5	9.5			8	14-0-0
J11	NJ60U	3.5	9.5			17	18-0-0
J6	NJ60U	3.5	9.5			10	16-0-0
J8	NJH	2.5	9.5			17	14-0-0
J4	NJH	2.5	9.5			15	12-0-0
J2	NJH	2.5	9.5			2	8-0-0
J1	NJH	2.5	9.5			3	6-0-0
J9	NJH	2.5	9.5			9	4-0-0

## Rim Board

Label	Description	Width	Depth	Qty	Pieces	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			19	12

## Blocking

Label	Description	Width	Depth	Qty	Pieces	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	8-0-0

## Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	1	Unknown Hanger				
H2	2	HUS1.81/10			30 16d	10 16d
H3	24	LT259			4 10dx1 1/2	2 10dx1 1/2
H4	1	HGUS410			46 16d	16 16d
H5	5	LT359			4 10d	2 10dx1 1/2

## NOTES:

- 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-load bearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation works.
- Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
- Load transfer blocks to be installed under all point loads.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

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

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" 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 responsibility of Others.

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

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

NASCOR

Layout Name  
LIANA 3 (ELEV.2)Design Method  
LSDDescription  
GRANELLI HOME CORP.  
BRAMPTON, ONT.Created  
May 29, 2018Builder  
GREEN YORK HOMESSales Rep  
RMDesigner  
RCO

Shipping

Project

Builder's Project

Kott Lumber Company

14 Anderson Blvd  
Stouffville, OntarioCanada  
L4A 7X4  
905-642-4400

Job Path

D:\Users\rochavillo\WORK FROM HOME\GREEN YORK HOMES  
GRANELLI HOME CORP\MODELS  
LIANA 3\LIANA 3 ELEV 2\FLOOR

## Second Floor

Design Method LSD  
Building Code NBCC 2010 / OBC 2012

## Floor

## Loads

Live

Dead

Deflection Joist

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Deflection Girder

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking

Deck

Thickness

Fastener

Vibration

Ceiling:

Nailed &amp; Glued

Gypsum 1/2"

40

15

480

360

480

360

360

240

480

360

OSB

5/8"

Nailed &amp; Glued

Gypsum 1/2"

M-2057

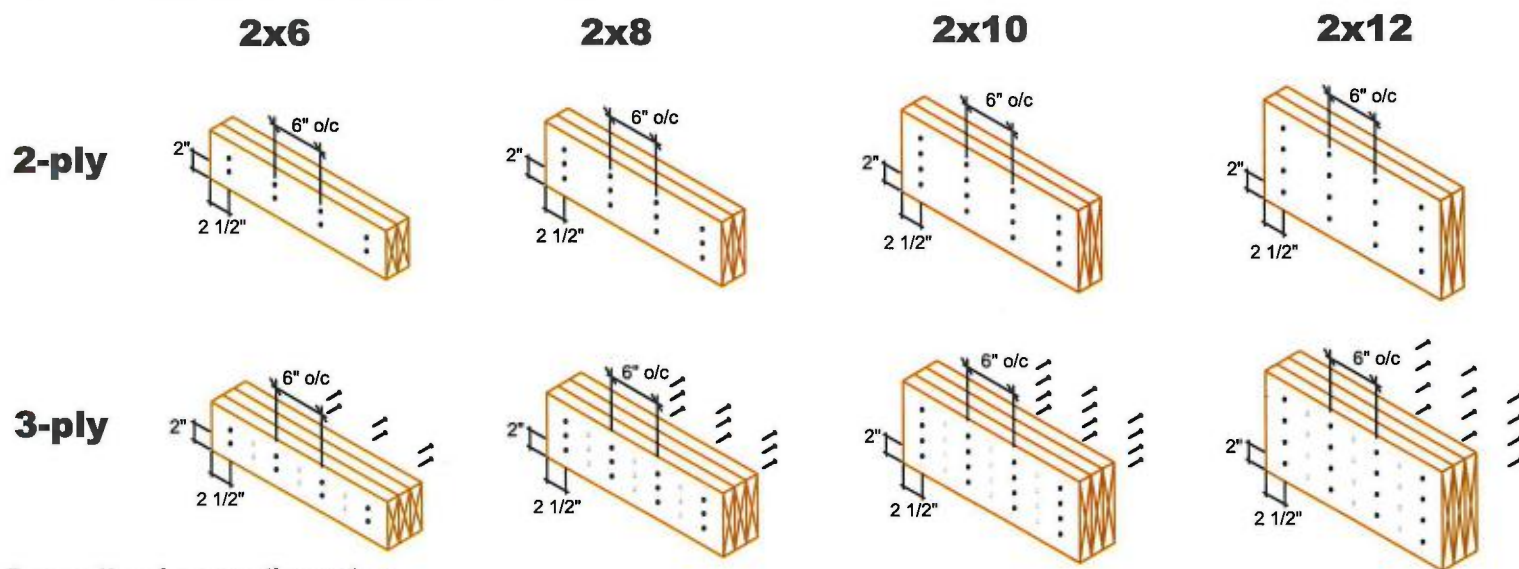
LCT 19

EWP Studio  
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Component Solutions™



# MULTIPLE MEMBER CONNECTIONS

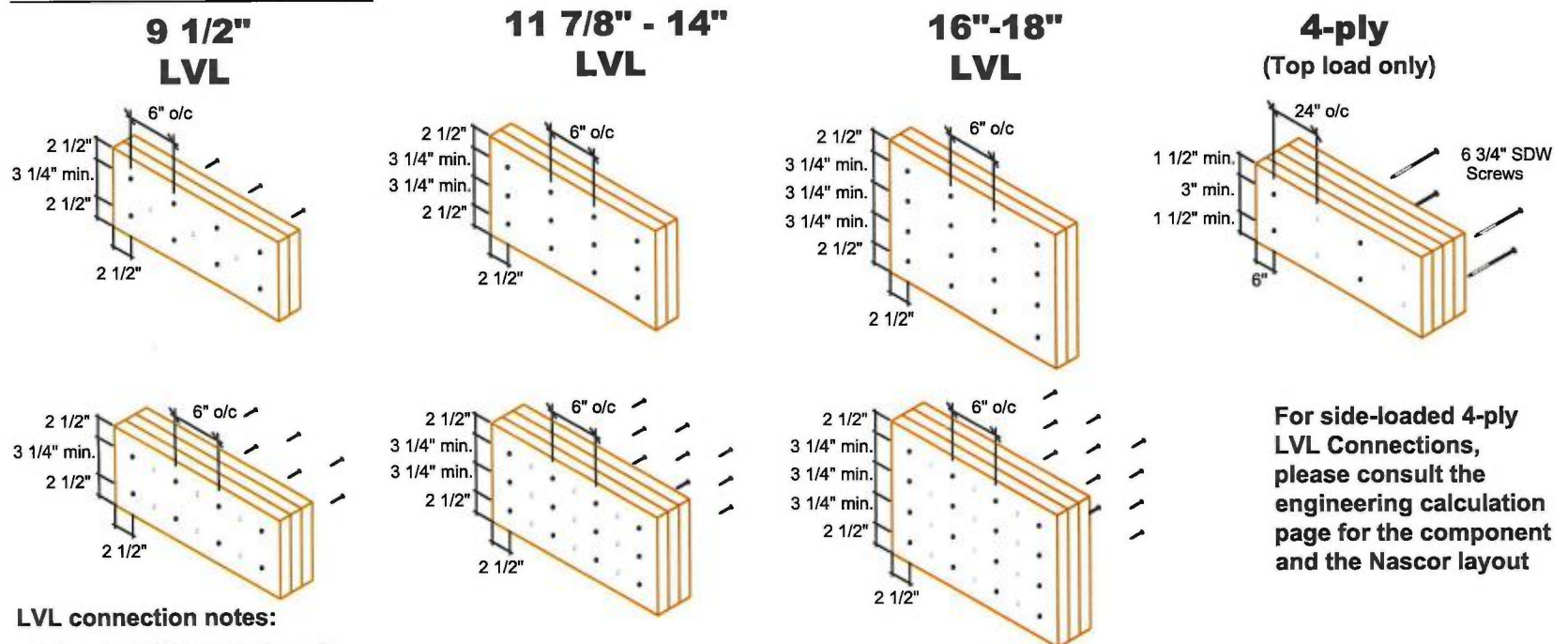
## Conventional Connections (for uniform distributed loads)



### 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.

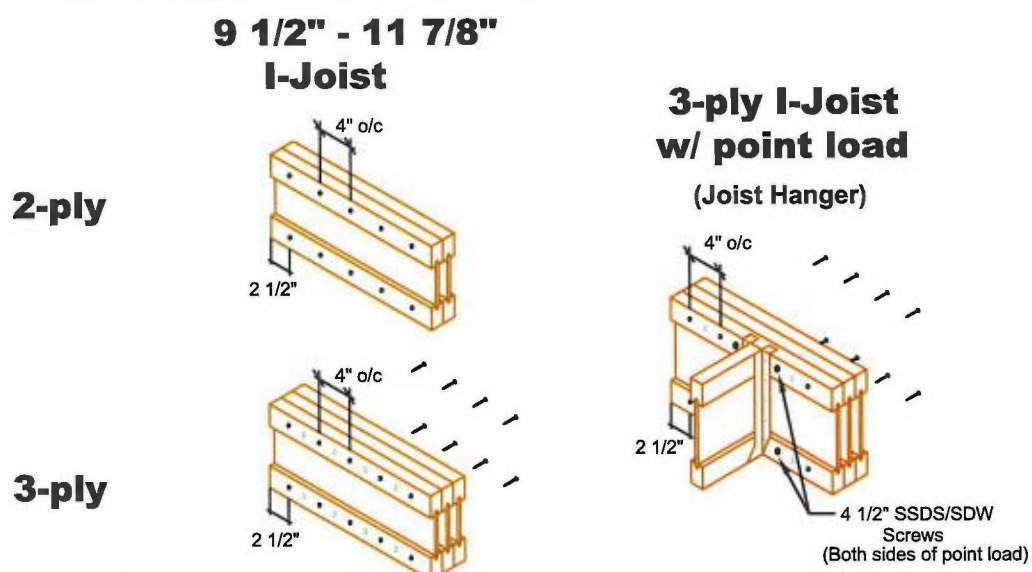
## LVL Connections (for uniform distributed loads)



### LVL connection notes:

- 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.

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

REVISION 2009-10-09

M-2057

LOT 19

**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 only limited to the calculation of this building component for the loads and conditions shown on this drawing.

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

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

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

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

**CODE**

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

**COMPONENT**

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

**HANDLING AND INSTALLATION**

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





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Component Solutions™

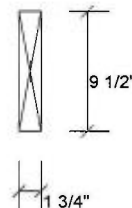
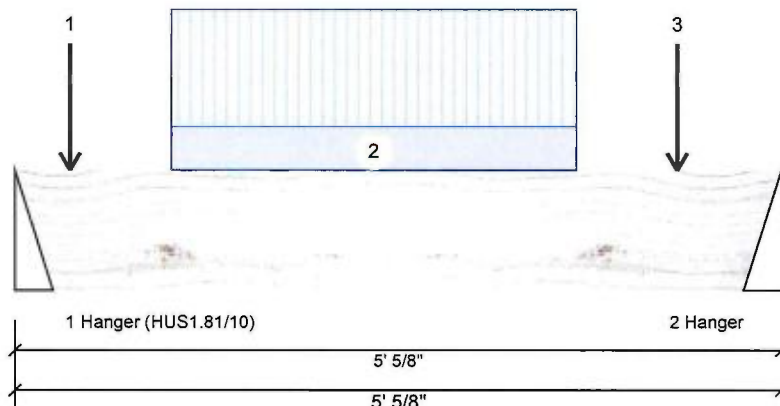
Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 1 of 1

# F1-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	338	136	0	0
2	314	127	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	17%	170 / 507	677 L	1.25D+1.5L
2 - Hanger	3.000"	16%	159 / 471	629 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	716 ft-lb	2'6 7/16"	11362 ft-lb	0.063 (6%)	1.25D+1.5L	L
Unbraced	716 ft-lb	2'6 7/16"	7908 ft-lb	0.091 (9%)	1.25D+1.5L	L
Shear	672 lb	11 3/4"	4638 lb	0.145 (14%)	1.25D+1.5L	L
Perm Defl in. (L/17255)	0.003	2'6 7/16"	0.156 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.008 (L/6957)	2'6 7/16"	0.156 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.011 (L/4958)	2'6 7/16"	0.234 (L/240)	0.050 (5%)	D+L	L

## Design Notes

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-4-6		Far Face	48 lb	128 lb	0 lb	0 lb	J2
2	Part. Uniform	1-0-6 to 3-8-6		Far Face	52 PLF	139 PLF	0 PLF	0 PLF	
3	Point	4-4-6		Far Face	57 lb	153 lb	0 lb	0 lb	J2
	Self Weight				4 PLF				

## Notes

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

## Lumber

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

chemicals

## Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318



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





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

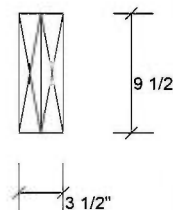
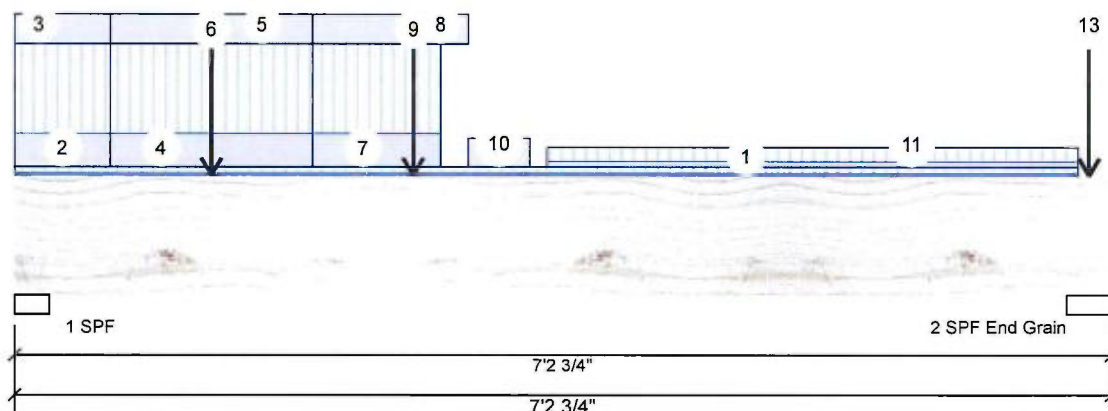
Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 1 of 2

## F2-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1088	645	0	0
2	1613	756	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.750"	41%	807 / 1632	2438	L	1.25D+1.5L
2 - SPF	3.500"	37%	945 / 2419	3364	L	1.25D+1.5L
End Grain						

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3003 ft-lb	2'7 9/16"	22724 ft-lb	0.132 (13%)	1.25D+1.5L	L
Unbraced	3003 ft-lb	2'7 9/16"	21802 ft-lb	0.138 (14%)	1.25D+1.5L	L
Shear	1838 lb	11 1/2"	9277 lb	0.198 (20%)	1.25D+1.5L	L
Perm Defl in.	0.014 (L/5673)	3'1 13/16"	0.228 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.024 (L/3355)	3'1 9/16"	0.228 (L/360)	0.110 (11%)	L	L
TL Defl inch	0.039 (L/2108)	3'1 5/8"	0.342 (L/240)	0.110 (11%)	D+L	L

### Design Notes

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 7-0-2	(Span)0-10-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-7-9		Top	92 PLF	246 PLF	0 PLF	0 PLF	J8
3	Part. Uniform	0-0-0 to 0-7-9		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-7-9 to 1-11-9		Top	92 PLF	246 PLF	0 PLF	0 PLF	J8
5	Part. Uniform	0-7-9 to 1-11-9		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

Continued on page 2...

### Notes

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

### Lumber

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

### chemicals

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318



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





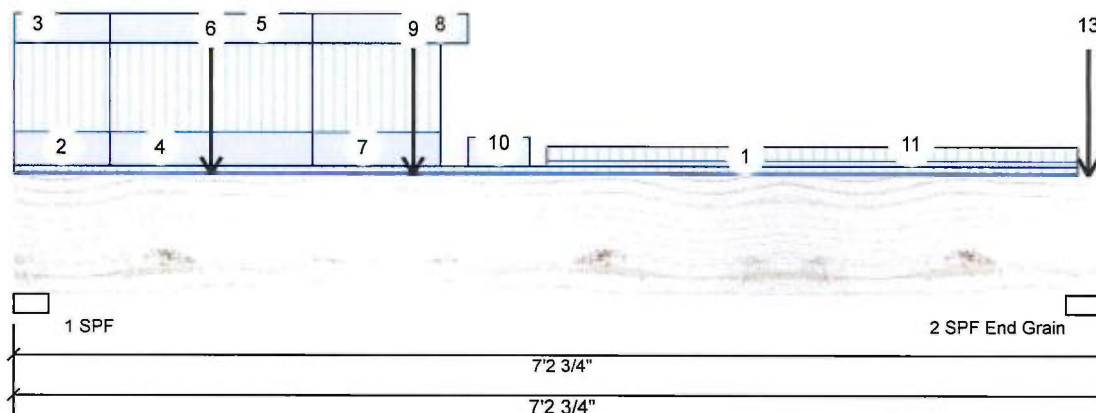
**EWP Studio**  
Simpson Strong-Tie®  
Component Solutions™

Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

**F2-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	1-3-9		Far Face	121 lb	322 lb	0 lb	0 lb	J8
7	Part. Uniform	1-11-9 to 2-9-11		Top	92 PLF	246 PLF	0 PLF	0 PLF	J8
8	Part. Uniform	1-11-9 to 2-11-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Point	2-7-9		Far Face	93 lb	248 lb	0 lb	0 lb	J8
10	Part. Uniform	2-11-14 to 3-4-12		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Part. Uniform	3-6-2 to 7-0-2		Top	15 PLF	40 PLF	0 PLF	0 PLF	
12	Point	7-1-0		Near Face	127 lb	314 lb	0 lb	0 lb	F1
13	Point	7-1-0		Top	379 lb	869 lb	0 lb	0 lb	C3
	Self Weight				8 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 Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

**Lumber**

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

**chemicals**

**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

Forex  
APA: PR-L318



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





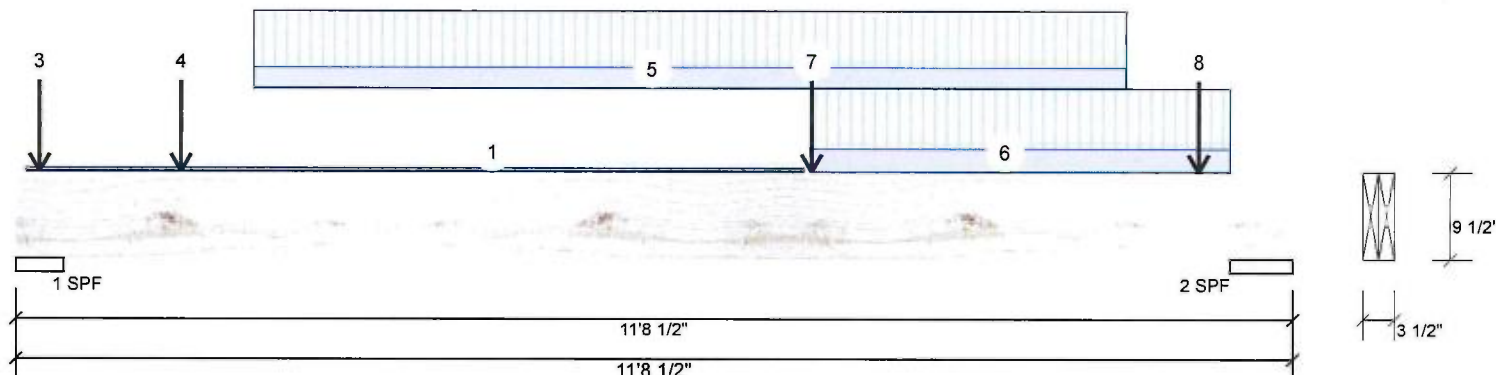
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Simpson Strong-Tie®  
Component Solutions™

Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

**F3-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Ground 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 lb (Uplift)**

Brg	Live	Dead	Snow	Wind
1	1523	642	0	0
2	2170	865	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	27%	803 / 2285	3088 L	1.25D+1.5L
2 - SPF	6.875"	29%	1081 / 3255	4335 L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10162 ft-lb	6'11 3/4"	22724 ft-lb	0.447 (45%)	1.25D+1.5L	L
Unbraced	10162 ft-lb	6'11 3/4"	20411 ft-lb	0.498 (50%)	1.25D+1.5L	L
Shear	3978 lb	10'4 7/8"	9277 lb	0.429 (43%)	1.25D+1.5L	L
Perm Defl in.	0.091 (L/1425)	6'	0.361 (L/360)	0.250 (25%)	D	Uniform
LL Defl inch	0.227 (L/571)	6' 1/8"	0.361 (L/360)	0.630 (63%)	L	L
TL Defl inch	0.319 (L/408)	6' 1/8"	0.541 (L/240)	0.590 (59%)	D+L	L

**Design Notes**

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 7-2-12	(Span)0-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-10		Top	37 lb	99 lb	0 lb	0 lb	J11
3	Point	0-2-10		Top	24 lb	0 lb	0 lb	0 lb	Wall Self Weight
4	Point	1-6-3		Near Face	103 lb	276 lb	0 lb	0 lb	J4
5	Part. Uniform	2-2-3 to 10-2-3		Near Face	84 PLF	224 PLF	0 PLF	0 PLF	

Continued on page 2...

**Notes**

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

**Lumber**

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

**chemicals****Handling & Installation**

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterality 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**

Forex  
APA: PR-L318



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







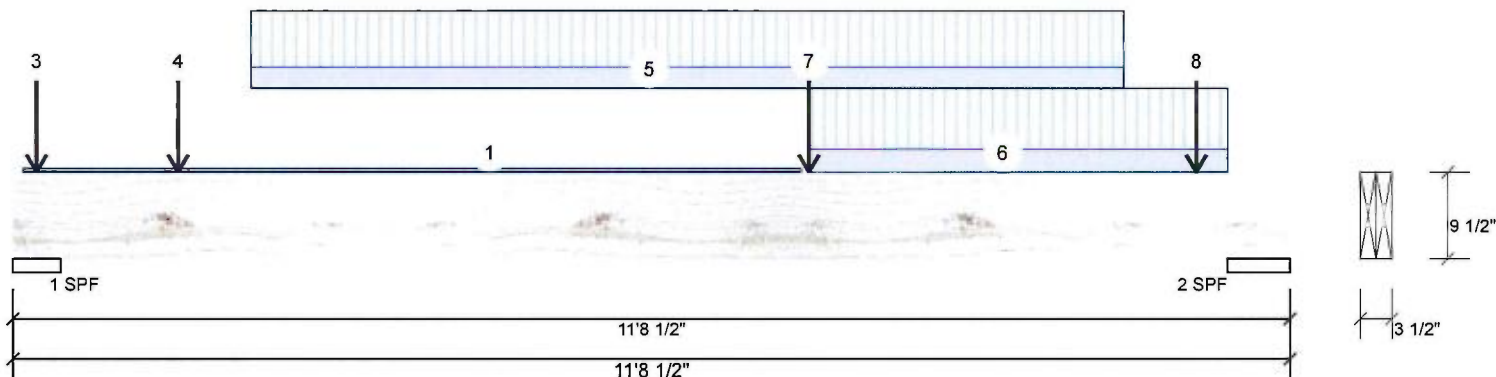
**EWP Studio**  
Simpson Strong-Tie®  
Component Solutions™

Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

**F3-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Part. Uniform	7-3-10 to 11-1-10		Top	90 PLF	240 PLF	0 PLF	0 PLF	
7	Point	7-3-10		Far Face	136 lb	338 lb	0 lb	0 lb	F1
8	Point	10-10-3		Near Face	73 lb	195 lb	0 lb	0 lb	J4
	Self Weight				8 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.

#### Lumber

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

chemicals

#### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

#### Manufacturer Info

Forex  
APA: PR-L318



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





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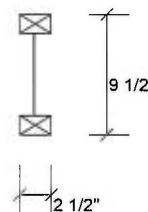
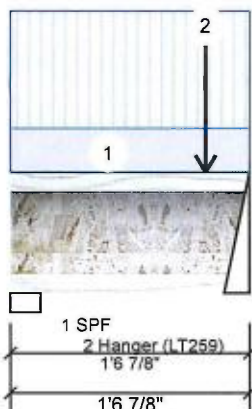
Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 1 of 1

**F5-A NJH 9.500" - PASSED**

Level: Ground Floor



### Member Information

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

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	62	23	0	0
2	115	43	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	2.375"	8%	29 / 93	122 L 1.25D+1.5L
2 - Hanger	2.000"	14%	53 / 173	226 L 1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	43 ft-lb	11 9/16"	3830 ft-lb	0.011 (1%)	1.25D+1.5L	L
Unbraced	43 ft-lb	11 9/16"	3779 ft-lb	0.011 (1%)	1.25D+1.5L	L
Shear	213 lb	1'5 5/8"	1580 lb	0.135 (13%)	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/31491)	11 3/8"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/22944)	11 3/8"	0.067 (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

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-3-7		Far Face	28 lb	76 lb	0 lb	0 lb	J7

### Notes

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

### Lumber

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

### chemicals

### Handling & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

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

### Manufacturer Info

Nascor by Kott

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







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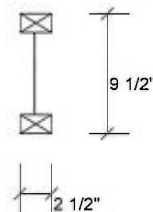
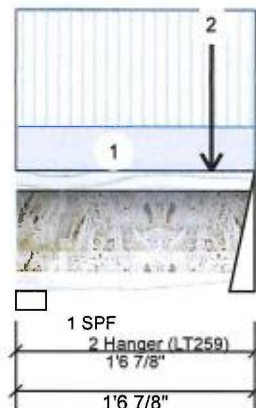
Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 1 of 1

**F5-B NJH 9.500" - PASSED**

Level: Ground Floor



### Member Information

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

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	62	23	0	0
2	113	43	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	8%	29 / 92	121 L	1.25D+1.5L
2 - Hanger	2.000"	14%	53 / 170	223 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	43 ft-lb	11 1/2"	3830 ft-lb	0.011 (1%)	1.25D+1.5L	L
Unbraced	43 ft-lb	11 1/2"	3779 ft-lb	0.011 (1%)	1.25D+1.5L	L
Shear	210 lb	1'5 5/8"	1580 lb	0.133 (13%)	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/31811)	11 3/8"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/23114)	11 3/8"	0.067 (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 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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-3-7		Near Face	28 lb	74 lb	0 lb	0 lb	J1

### Notes

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

### Lumber

1. Dry service conditions, unless noted otherwise
2. Joist not to be treated with fire retardant or corrosive chemicals

### Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists 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



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





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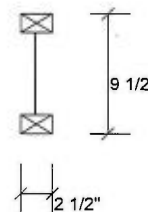
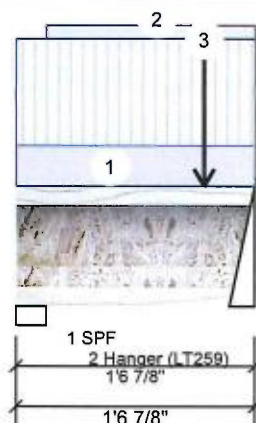
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Project:  
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Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 1 of 1

**F5-C NJH 9.500" - PASSED**

Level: Ground Floor



### Member Information

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

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	70	33	0	0
2	141	69	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	9%	42 / 106	147 L	1.25D+1.5L
2 - Hanger	2.000"	19%	87 / 211	298 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	63 ft-lb	1'1 1/8"	3830 ft-lb	0.016 (2%)	1.25D+1.5L	L
Unbraced	63 ft-lb	1'1 1/8"	3779 ft-lb	0.017 (2%)	1.25D+1.5L	L
Shear	283 lb	1'5 5/8"	1580 lb	0.179 (18%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/47832)	1' 5/8"	0.044 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.001 (L/23647)	1' 5/8"	0.044 (L/360)	0.020 (2%)	L	L
TL Defl inch	0.001 (L/15824)	1' 5/8"	0.067 (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 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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-6 to 1-6-14		Top	8 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-2-14		Near Face	54 lb	110 lb	0 lb	0 lb	J2

### Notes

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

### Lumber

1. Dry service conditions, unless noted otherwise
2. LJoist not to be treated with fire retardant or corrosive chemicals

### Handling & Installation

1. LJoist flanges must not be cut or drilled
2. Refer to latest copy of the LJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged LJoists 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



Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
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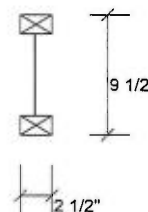
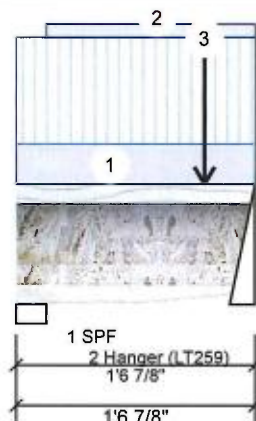
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Project:  
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Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 1 of 1

## F5-D NJH 9.500" - PASSED

Level: Ground Floor



### Member Information

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

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	70	33	0	0
2	136	67	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	9%	41 / 104	145 L	1.25D+1.5L
2 - Hanger	2.000"	18%	84 / 205	288 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	61 ft-lb	1'1"	3830 ft-lb	0.016 (2%)	1.25D+1.5L	L
Unbraced	61 ft-lb	1'1"	3779 ft-lb	0.016 (2%)	1.25D+1.5L	L
Shear	274 lb	1'5 5/8"	1580 lb	0.173 (17%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/49408)	1' 7/16"	0.044 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.001 (L/24289)	1' 9/16"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/16284)	1' 1/2"	0.067 (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 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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-6 to 1-6-14		Top	8 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-2-14		Far Face	51 lb	105 lb	0 lb	0 lb	J2

### Notes

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

### Lumber

1. Dry service conditions, unless noted otherwise
2. Joist not to be treated with fire retardant or corrosive chemicals

### Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists 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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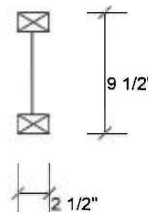
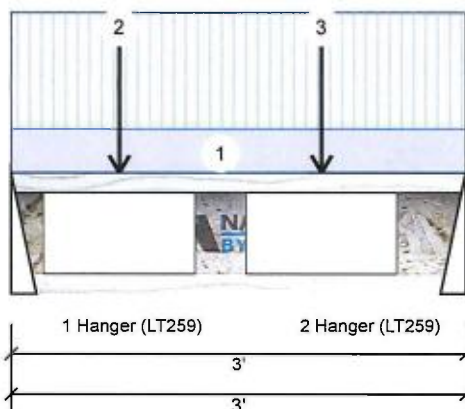
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Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

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## F6-A NJH 9.500" - PASSED

Level: Ground Floor



### Member Information

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

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	260	97	0	0
2	233	88	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	32%	122 / 390	512 L	1.25D+1.5L
2 - Hanger	2.000"	29%	109 / 350	459 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	360 ft-lb	2' 9/16"	3830 ft-lb	0.094 (9%)	1.25D+1.5L	L
Unbraced	360 ft-lb	2' 9/16"	3411 ft-lb	0.105 (11%)	1.25D+1.5L	L
Shear	505 lb	1 1/4"	1580 lb	0.319 (32%)	1.25D+1.5L	L
Perm Defl in. (L/16963)	0.002	1'8 1/4"	0.093 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/6359)	1'8 1/4"	0.093 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.007 (L/4625)	1'8 1/4"	0.140 (L/240)	0.050 (5%)	D+L	L

### 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.

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-0	(Span)1-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-8-9		Far Face	70 lb	188 lb	0 lb	0 lb	J3
3	Point	2-0-9		Far Face	76 lb	202 lb	0 lb	0 lb	J3

### Notes

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

### Lumber

1. Dry service conditions, unless noted otherwise
2. Joist not to be treated with fire retardant or corrosive

### chemicals

### Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists 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



Kott Lumber Company  
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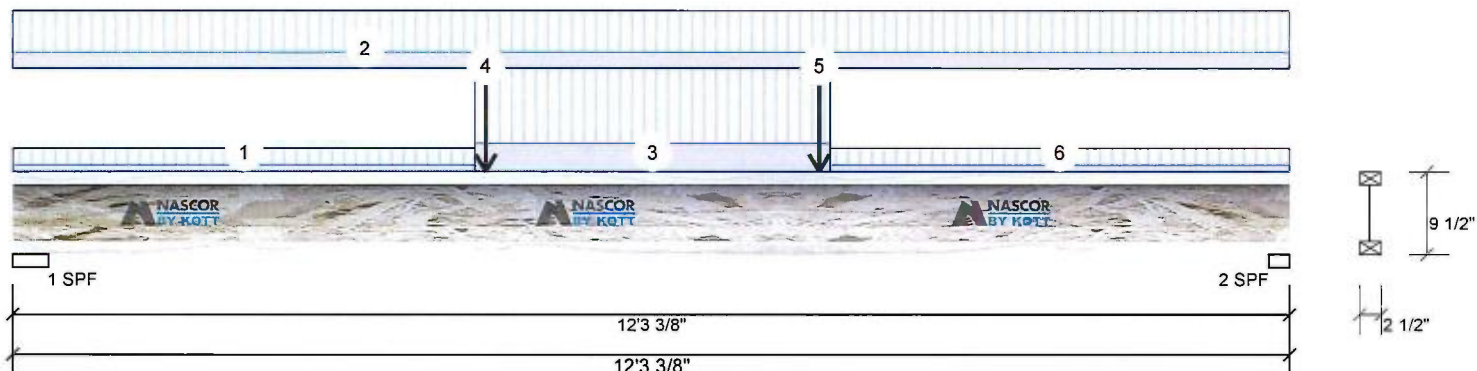
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Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

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**F7-A NJH 9.500" - PASSED**

Level: Ground Floor



### Member Information

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

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	327	123	0	0
2	320	120	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.125"	41%	154 / 490	644 L	1.25D+1.5L
2 - SPF	2.375"	40%	150 / 480	630 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2352 ft-lb	6'2 11/16"	3830 ft-lb	0.614 (61%)	1.25D+1.5L	L
Unbraced	2352 ft-lb	6'2 11/16"	2368 ft-lb	0.993 (99%)	1.25D+1.5L	L
Shear	629 lb	3 3/8"	1580 lb	0.398 (40%)	1.25D+1.5L	L
Perm Defl in.	0.071 (L/2010)	6'2 1/2"	0.395 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.188 (L/756)	6'2 9/16"	0.395 (L/360)	0.480 (48%)	L	L
TL Defl inch	0.259 (L/549)	6'2 9/16"	0.593 (L/240)	0.440 (44%)	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

- Girders are designed to be supported on the bottom edge only.
- Top flange must be laterally braced at a maximum of 4'9" o.c.
- Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-5-5	(Span)0-4-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-3-6	(Span)0-11-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	4-5-5 to 7-10-5	(Span)1-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	4-6-9		Far Face	43 lb	113 lb	0 lb	0 lb	F5
5	Point	7-9-1		Far Face	43 lb	115 lb	0 lb	0 lb	F5
6	Tie-In	7-10-5 to 12-3-6	(Span)0-4-11	Top	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.

### Lumber

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

### Handling & Installation

- IJoist flanges must not be cut or drilled
- Refer to latest copy of the IJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged IJoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes

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

### Manufacturer Info

Nascor by Kott



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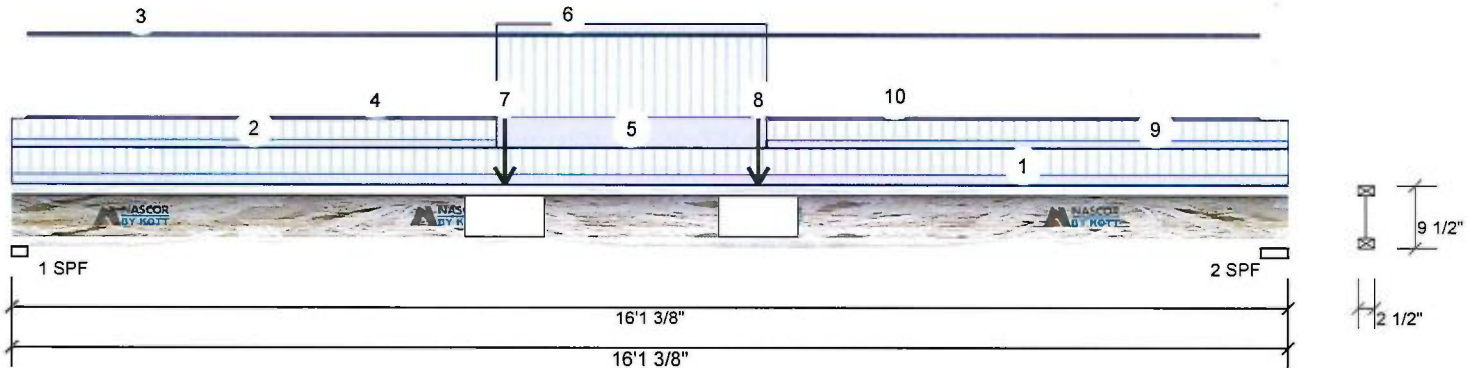
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Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

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## F8-A NJH 9.500" - PASSED

Level: Ground Floor



### Member Information

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

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	345	167	0	0
2	342	164	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	46%	208 / 518	726 L	1.25D+1.5L
2 - SPF	4.125"	45%	206 / 513	718 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3768 ft-lb	8' 3/16"	3830 ft-lb	0.984 (98%)	1.25D+1.5L	L
Unbraced	3768 ft-lb	8' 3/16"	3771 ft-lb	0.999 (100%)	1.25D+1.5L	L
Shear	721 lb	1 5/8"	1580 lb	0.456 (46%)	1.25D+1.5L	L
Perm Defl in.	0.221 (L/852)	7'11 5/8"	0.523 (L/360)	0.420 (42%)	D	Uniform
LL Defl inch	0.456 (L/413)	7'11 5/8"	0.523 (L/360)	0.870 (87%)	L	L
TL Defl inch	0.677 (L/278)	7'11 5/8"	0.785 (L/240)	0.860 (86%)	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

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-1-6	(Span)0-6-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 6-1-6	(Span)0-5-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-6 to 15-9-1		Top	1 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-6 to 6-1-6		Top	1 PLF	0 PLF	0 PLF	0 PLF	
5	Tie-In	6-1-6 to 9-6-6	(Span)1-8-11 to 1-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Part. Uniform	6-1-6 to 9-6-6		Top	4 PLF	0 PLF	0 PLF	0 PLF	
7	Point	6-2-10		Near Face	67 lb	136 lb	0 lb	0 lb	F5

Continued on page 2...

### Notes

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

### Lumber

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

### Handling & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/interaction details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

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

### Manufacturer Info

Nascor by Kott



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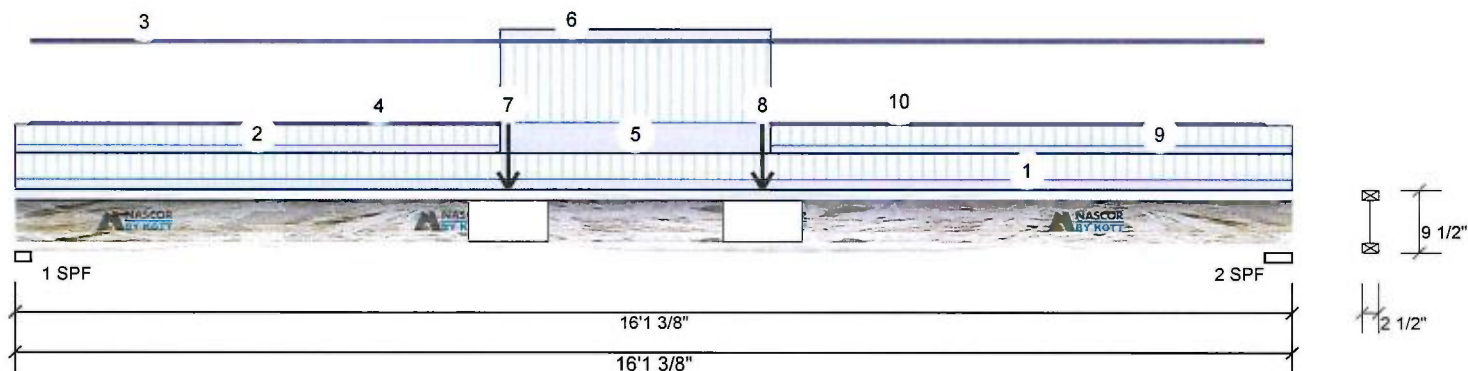
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Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
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Page 2 of 2

**F8-A NJH 9.500" - PASSED**

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	9-5-2		Near Face	69 lb	141 lb	0 lb	0 lb	F5
9	Tie-In	9-6-6 to 16-1-6	(Span)0-5-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Part. Uniform	9-6-6 to 15-9-1		Top	1 PLF	0 PLF	0 PLF	0 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 Structural Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

#### Lumber

1. Dry service conditions, unless noted otherwise
2. Ljoist not to be treated with fire retardant or corrosive

#### chemicals

#### Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists 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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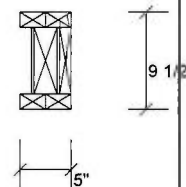
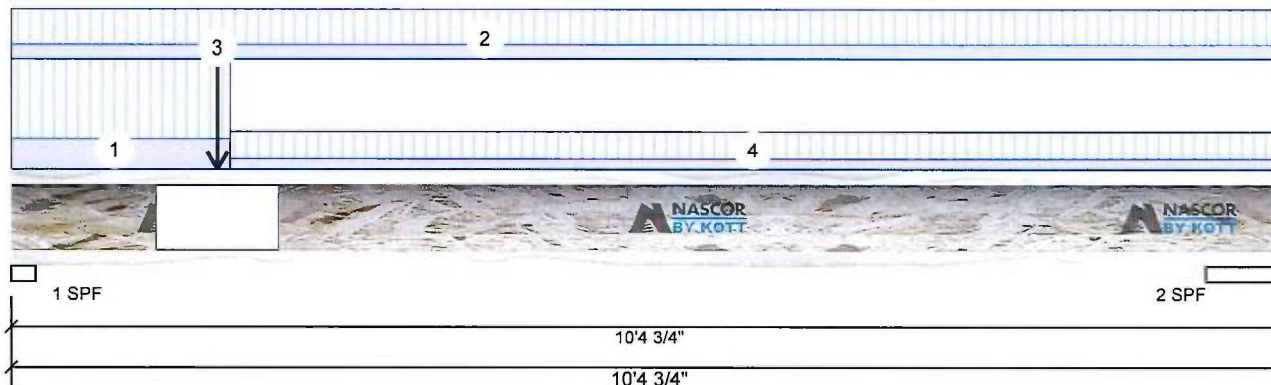
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Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

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**F9-A NJH 9.500" 2-Ply - PASSED**

Level: Ground 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	535	201	0	0
2	328	123	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	33%	251 / 802	1053 L	1.25D+1.5L
2 - SPF	8.000"	20%	154 / 492	646 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1673 ft-lb	4'1 3/4"	7660 ft-lb	0.218 (22%)	1.25D+1.5L	L
Unbraced	1673 ft-lb	4'1 3/4"	1685 ft-lb	0.993 (99%)	1.25D+1.5L	L
Shear	1027 lb	1 5/8"	3160 lb	0.325 (32%)	1.25D+1.5L	L
Perm Defl in.	0.018 (L/6275)	4'8 7/16"	0.322 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.049 (L/2357)	4'8 7/16"	0.322 (L/360)	0.150 (15%)	L	
TL Defl inch	0.068 (L/1713)	4'8 7/16"	0.483 (L/240)	0.140 (14%)	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

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-9-6	(Span)3-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-3-9	(Span)1-6-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Far Face	88 lb	233 lb	0 lb	0 lb	F6
4	Tie-In	1-9-6 to 10-3-9	(Span)1-1-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	

### Notes

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

### Lumber

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

### chemicals

### Handling & Installation

- LJoist flanges must not be cut or drilled
- Refer to latest copy of the LJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged LJoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

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

### Manufacturer Info

Nascor by Kott



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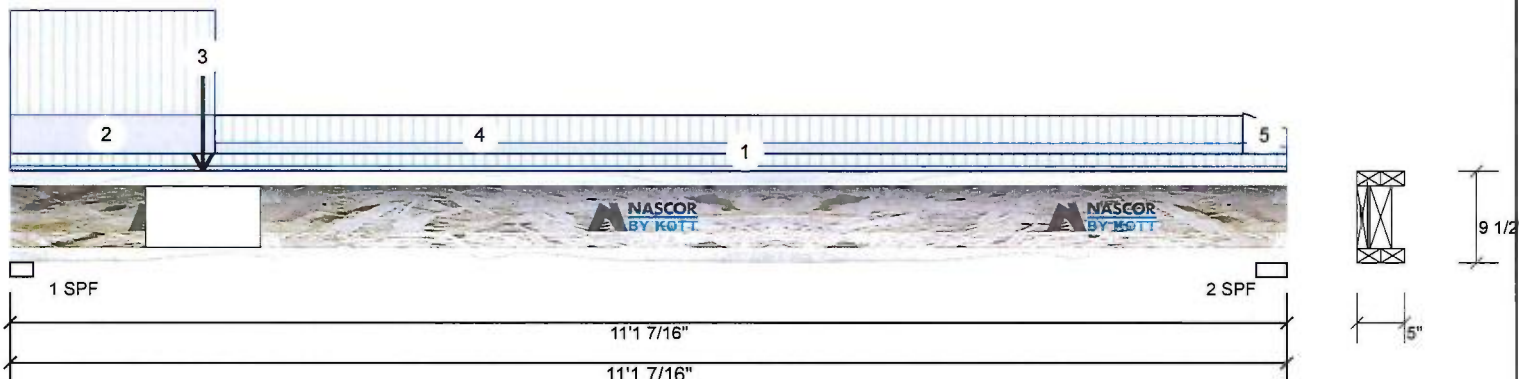
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Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

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**F9-B NJH 9.500" 2-Ply - PASSED**

Level: Ground 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	453	169	0	0
2	192	72	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	28%	212 / 679	891 L	1.25D+1.5L
2 - SPF	3.188"	12%	90 / 288	377 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1293 ft-lb	3'10 13/16"	7660 ft-lb	0.169 (17%)	1.25D+1.5L	L
Unbraced	1293 ft-lb	3'10 13/16"	1300 ft-lb	0.994 (99%)	1.25D+1.5L	L
Shear	871 lb	1 5/8"	3160 lb	0.275 (28%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/7653)	5'1 5/16"	0.359 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.045 (L/2865)	5'1 1/4"	0.359 (L/360)	0.130 (13%)	L	L
TL Defl inch	0.062 (L/2084)	5'1 1/4"	0.539 (L/240)	0.120 (12%)	D+L	L

### Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top flange must be laterally braced at a maximum of 9'6" o.c.
- Bottom flange braced at bearings.

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-1-7	(Span)0-4-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-6	(Span)3-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Near Face	97 lb	260 lb	0 lb	0 lb	F6
4	Tie-In	1-9-6 to 10-8-14	(Span)0-11-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	10-8-14 to 11-1-7	(Span)0-11-14 to 0-7-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	

### Notes

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

### Lumber

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

### chemicals

### Handling & Installation

- LJoist flanges must not be cut or drilled
- Refer to latest copy of the LJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged LJoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

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

### Manufacturer Info

Nascor by Kott



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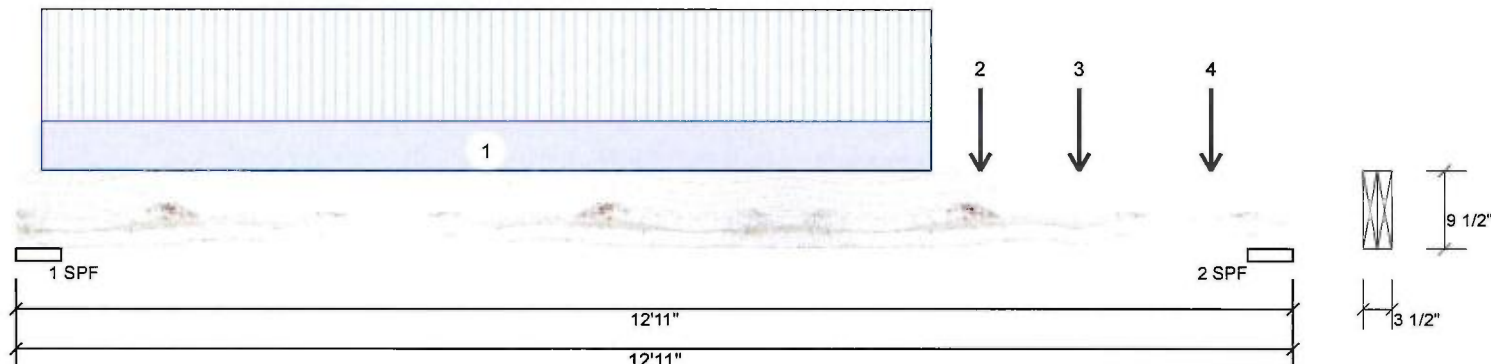
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Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

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**BBO4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1515	707	0	0
2	1536	676	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	27%	884 / 2273	3156 L	1.25D+1.5L
2 - SPF	5.500"	27%	845 / 2304	3148 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9326 ft-lb	6'5 3/8"	22724 ft-lb	0.410 (41%)	1.25D+1.5L	L
Unbraced	9326 ft-lb	6'5 3/8"	19820 ft-lb	0.471 (47%)	1.25D+1.5L	L
Shear	2846 lb	11'8 3/4"	9277 lb	0.307 (31%)	1.25D+1.5L	L
Perm Defl in.	0.116 (L/1250)	6'5 5/16"	0.404 (L/360)	0.290 (29%)	D	Uniform
LL Defl inch	0.253 (L/574)	6'5 1/2"	0.404 (L/360)	0.630 (63%)	L	L
TL Defl inch	0.370 (L/393)	6'5 1/2"	0.606 (L/240)	0.610 (61%)	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	0-3-1 to 9-3-1		Top	107 PLF	244 PLF	0 PLF	0 PLF	
2	Point	9-9-1		Top	92 lb	244 lb	0 lb	0 lb	J8
3	Point	10-9-1		Top	107 lb	285 lb	0 lb	0 lb	J8
4	Point	12-1-1		Top	122 lb	326 lb	0 lb	0 lb	J8
	Self Weight				8 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.

### Lumber

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

### chemicals

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318



Kott Lumber Company  
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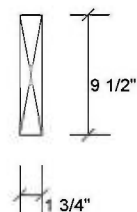
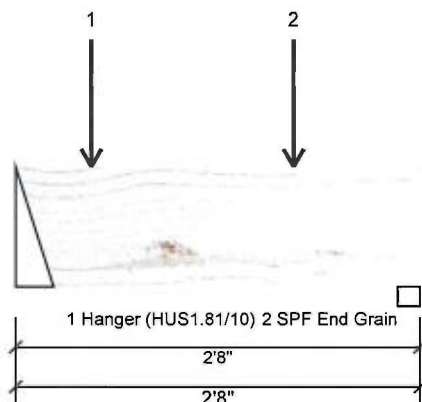
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Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

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# F10-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	174	70	0	0
2	139	57	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	9%	88 / 261	349 L	1.25D+1.5L
2 - SPF End Grain	1.750"	12%	71 / 209	280 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	208 ft-lb	1'10"	11362 ft-lb	0.018 (2%)	1.25D+1.5L	L
Unbraced	208 ft-lb	1'10"	10456 ft-lb	0.020 (2%)	1.25D+1.5L	L
Shear	344 lb	11 3/4"	4638 lb	0.074 (7%)	1.25D+1.5L	L
Perm Defl in. (L/68055)	0.000	1'9 1/8"	0.080 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/27103)	0.001	1'9 7/8"	0.080 (L/360)	0.010 (1%)	L	L
TL Defl inch (L/19389)	0.001	1'9 11/16"	0.120 (L/240)	0.010 (1%)	D+L	L

## Design Notes

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-6-0		Far Face	51 lb	136 lb	0 lb	0 lb	J2
2	Point	1-10-0		Far Face	66 lb	177 lb	0 lb	0 lb	J2
	Self Weight				4 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.

## Lumber

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

## chemicals

## Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318



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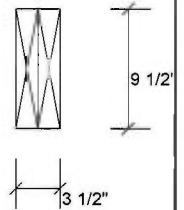
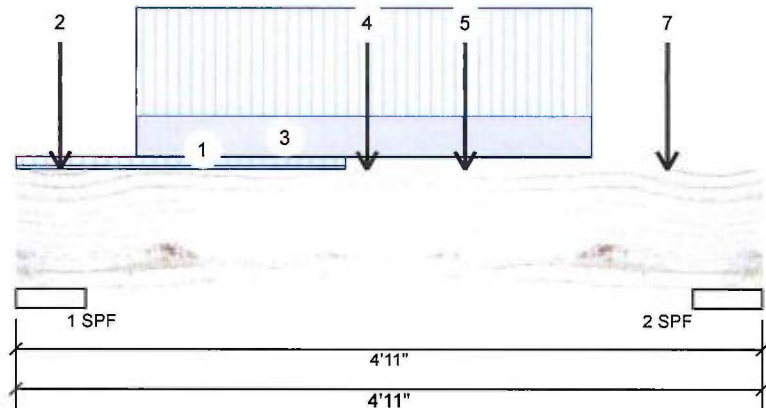
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Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 1 of 2

# **F11-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1661	666	0	0
2	1662	664	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	28%	833 / 2492	3325 L	1.25D+1.5L
2 - SPF	5.500"	28%	830 / 2493	3324 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4701 ft-lb	2'3 3/4"	22724 ft-lb	0.207 (21%)	1.25D+1.5L	L
Unbraced	4701 ft-lb	2'3 3/4"	22724 ft-lb	0.207 (21%)	1.25D+1.5L	L
Shear	3520 lb	3'8 3/4"	9277 lb	0.379 (38%)	1.25D+1.5L	L
Perm Defl in.	0.008 (L/5989)	2'3 3/4"	0.138 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.021 (L/2406)	2'3 3/4"	0.138 (L/360)	0.150 (15%)	L	L
TL Defl inch	0.029 (L/1716)	2'3 3/4"	0.206 (L/240)	0.140 (14%)	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

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top braced at bearings.
- Bottom braced at bearings.
- 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 2-2-0	(Span)1-3-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-8		Far Face	79 lb	211 lb	0 lb	0 lb	J6
3	Part. Uniform	0-9-8 to 3-9-8		Far Face	119 PLF	316 PLF	0 PLF	0 PLF	
4	Point	2-3-12		Near Face	616 lb	1523 lb	0 lb	0 lb	F3
5	Point	2-11-8		Near Face	51 lb	136 lb	0 lb	0 lb	J2
6	Point	4-3-8		Far Face	108 lb	287 lb	0 lb	0 lb	J6

Continued on page 2...

## Notes

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

## Lumber

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

## chemicals

## Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318



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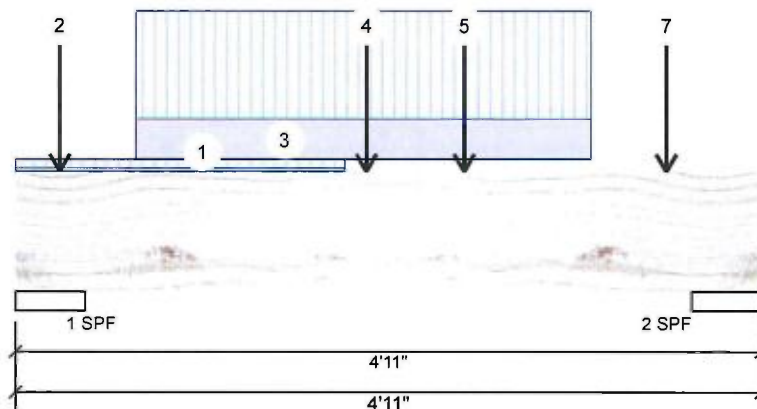
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Date: 5/31/2018  
Designer: RCO  
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Project #:

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**F11-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED** Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	4-3-8		Near Face	61 lb	162 lb	0 lb	0 lb	J2
	Self Weight				8 PLF				

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

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

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



**Notes**

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

**Lumber**

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

chemicals

**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

Forex  
APA: PR-L318



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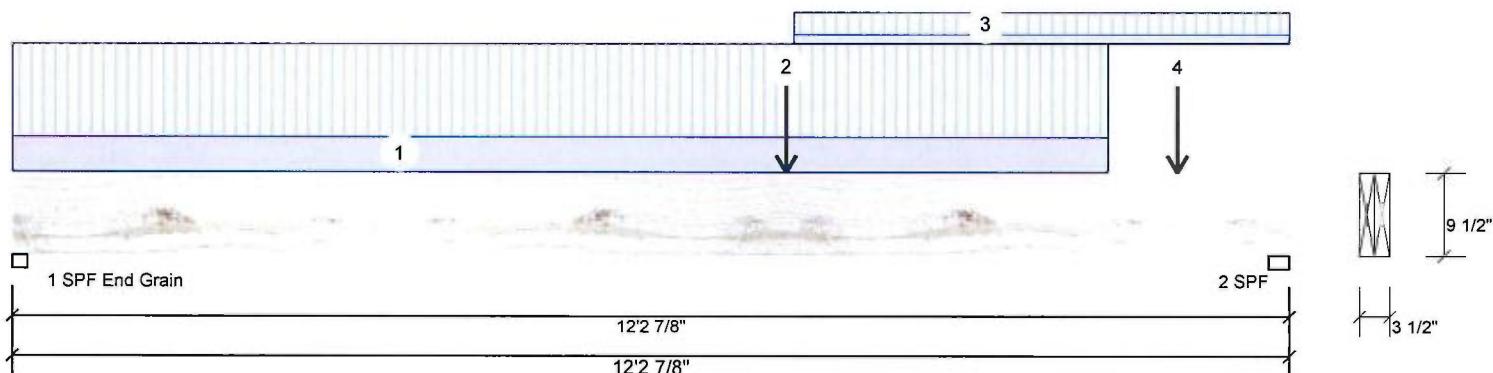
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Job Name: LIANA 3 (ELEV.1)  
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Page 1 of 1

**F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	730	322	0	0
2	894	386	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF End Grain	1.750"	33%	403 / 1095	1497 L
2 - SPF	2.375"	36%	482 / 1340	1822 L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6660 ft-lb	7'4 15/16"	22724 ft-lb	0.293 (29%)	1.25D+1.5L	L
Unbraced	6660 ft-lb	7'4 15/16"	19870 ft-lb	0.335 (34%)	1.25D+1.5L	L
Shear	1898 lb	11'3 3/4"	9277 lb	0.205 (20%)	1.25D+1.5L	L
Perm Defl in.	0.070 (L/2071)	6'4 7/16"	0.401 (L/360)	0.170 (17%)	D	Uniform
LL Defl inch	0.163 (L/883)	6'4 3/4"	0.401 (L/360)	0.410 (41%)	L	L
TL Defl inch	0.233 (L/619)	6'4 5/8"	0.601 (L/240)	0.390 (39%)	D+L	L

### Design Notes

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 10-6-0		Far Face	28 PLF	75 PLF	0 PLF	0 PLF	
2	Point	7-4-15		Near Face	255 lb	661 lb	0 lb	0 lb	F1
3	Tie-In	7-5-13 to 12-2-14	(Span)0-10-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	11-2-0		Far Face	34 lb	91 lb	0 lb	0 lb	J9
	Self Weight				8 PLF				

### Notes

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

### Lumber

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

### chemicals

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318



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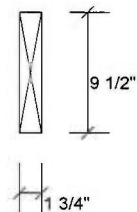
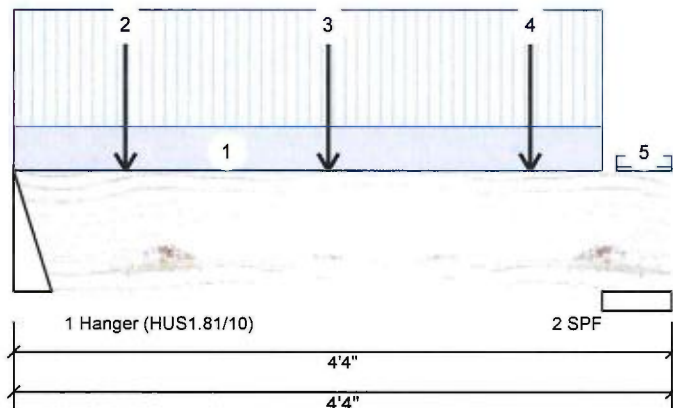
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Job Name: LIANA 3 (ELEV.1)  
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# F1-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	661	255	0	0
2	604	235	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	34%	319 / 992	1311 L	1.25D+1.5L
2 - SPF	5.500"	20%	294 / 907	1200 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1179 ft-lb	2' 13/16"	11362 ft-lb	0.104 (10%)	1.25D+1.5L	L
Unbraced	1179 ft-lb	2' 13/16"	9138 ft-lb	0.129 (13%)	1.25D+1.5L	L
Shear	844 lb	11 3/4"	4638 lb	0.182 (18%)	1.25D+1.5L	L
Perm Defl in.	0.004 (L/11669)	2' 7/8"	0.125 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.010 (L/4503)	2' 7/8"	0.125 (L/360)	0.080 (8%)	L	L
TL Defl inch	0.014 (L/3249)	2' 7/8"	0.188 (L/240)	0.070 (7%)	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 braced at bearings.
- 4 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-10-8		Top	90 PLF	240 PLF	0 PLF	0 PLF	
2	Point	0-8-13		Far Face	39 lb	105 lb	0 lb	0 lb	J7
3	Point	2-0-13		Far Face	47 lb	126 lb	0 lb	0 lb	J7
4	Point	3-4-13		Far Face	36 lb	96 lb	0 lb	0 lb	J7
5	Tie-In	3-11-10 to 4-4-0	(Span)1-1-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 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.

## Lumber

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

## chemicals

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318



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





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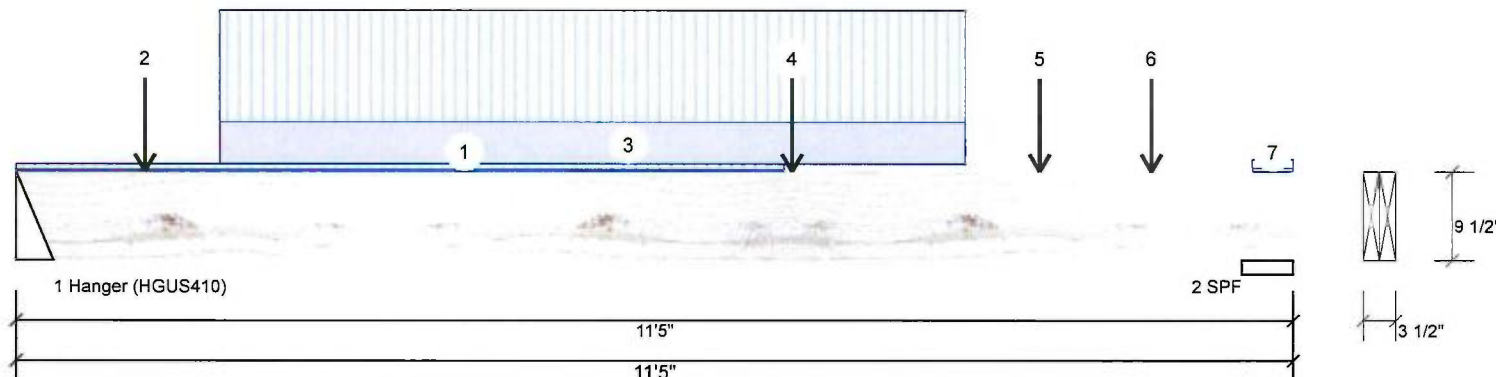
Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 1 of 2

# **F3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 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 lb (Uplift)**

Brg	Live	Dead	Snow	Wind
1	1523	616	0	0
2	1514	622	0	0

## **Bearings and Factored Reactions**

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	29%	770 / 2284	3055 L	1.25D+1.5L
2 - SPF	5.500"	26%	777 / 2271	3048 L	1.25D+1.5L

## **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8863 ft-lb	5'10"	22724 ft-lb	0.390 (39%)	1.25D+1.5L	L
Unbraced	8863 ft-lb	5'10"	20442 ft-lb	0.434 (43%)	1.25D+1.5L	L
Shear	3021 lb	10'2 3/4"	9277 lb	0.326 (33%)	1.25D+1.5L	L
Perm Defl in.	0.080 (L/1615)	5'8 3/16"	0.358 (L/360)	0.220 (22%)	D	Uniform
LL Defl inch	0.198 (L/650)	5'8 1/8"	0.358 (L/360)	0.550 (55%)	L	L
TL Defl inch	0.278 (L/464)	5'8 1/8"	0.538 (L/240)	0.520 (52%)	D+L	L

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

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

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



## **Design Notes**

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 6-10-6	(Span)0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-1-13		Near Face	129 lb	344 lb	0 lb	0 lb	J5
3	Part. Uniform	1-9-13 to 8-5-13		Near Face	103 PLF	275 PLF	0 PLF	0 PLF	
4	Point	6-11-4		Far Face	70 lb	174 lb	0 lb	0 lb	F10
5	Point	9-1-13		Near Face	120 lb	321 lb	0 lb	0 lb	J5
6	Point	10-1-13		Near Face	109 lb	268 lb	0 lb	0 lb	J5

Continued on page 2...

<p><b>Notes</b></p> <p>Calculated Structural 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.</p> <p><b>Lumber</b></p> <ol style="list-style-type: none"> <li>1. Dry service conditions, unless noted otherwise</li> <li>2. LVL not to be treated with fire retardant or corrosive chemicals</li> </ol>		<p>6. For flat roofs provide proper drainage to prevent ponding</p> <p><b>Handling &amp; Installation</b></p> <ol style="list-style-type: none"> <li>1. LVL beams must not be cut or drilled</li> <li>2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals</li> <li>3. Damaged Beams must not be used</li> <li>4. Design assumes top edge is laterally restrained</li> <li>5. Provide lateral support at bearing points to avoid lateral displacement and rotation</li> </ol>	<p><b>Manufacturer Info</b></p> <p>Forex APA: PR-L318</p> <p><b>KOTT</b></p>	<p>Kott Lumber Company 14 Anderson Blvd, Ontario Canada L4A 7X4 905-642-4400</p> <p><b>NASCOR</b></p>
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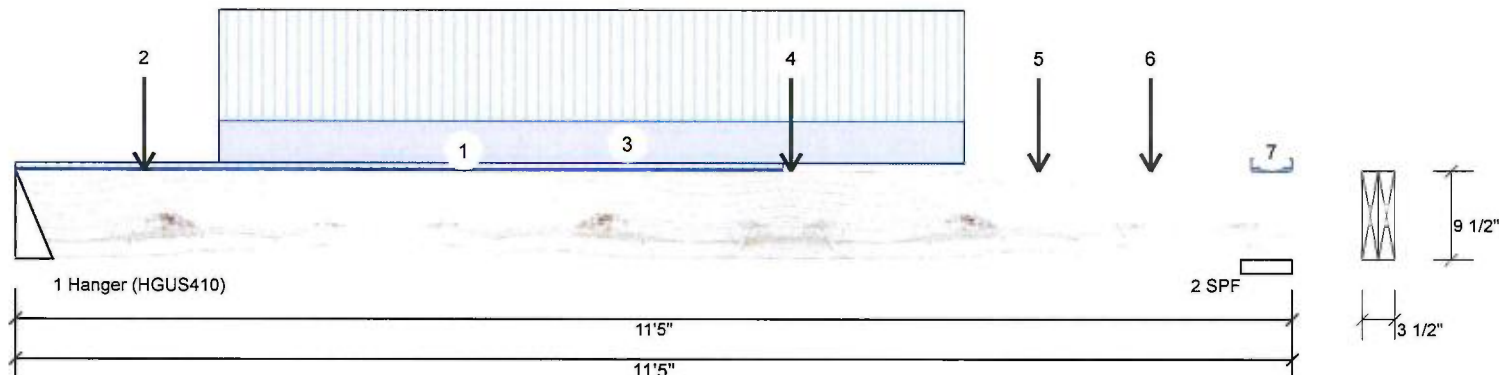
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Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.1)  
Project #:

Page 2 of 2

# **F3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Tie-In	11-0-10 to 11-5-0	(Span)1-1-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 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.

## Lumber

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

## chemicals

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318



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





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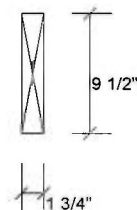
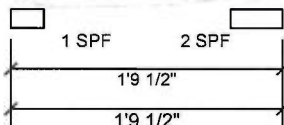
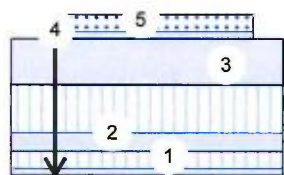
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Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.2)  
Project #:

Page 1 of 1

# F4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



## Member Information

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

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	78	255	323	0
2	90	124	53	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	33%	319 / 524	843	L	1.25D+1.5S +0.5L
2 - SPF	4.125"	8%	156 / 135	290	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	114 ft-lb	6"	11362 ft-lb	0.010 (1%)	1.25D+1.5S +0.5L	L
Unbraced	114 ft-lb	6"	11362 ft-lb	0.010 (1%)	1.25D+1.5S +0.5L	L
Shear	54 lb	8 5/8"	4638 lb	0.012 (1%)	1.25D+1.5S	L
Perm Defl in.	0.000 (L/49777)	8 7/16"	0.045 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.000 (L/43590)	6 3/16"	0.045 (L/360)	0.010 (1%)	S+0.5L	L
TL Defl inch	0.001 (L/23529)	7 1/2"	0.068 (L/240)	0.010 (1%)	D+S+0.5L	L

**READ ALL NOTES ON THIS PAGE AND ON  
ENGINEERING NOTE PAGE ENP-2. THIS  
NOTE PAGE IS AN INTEGRAL PART OF THIS  
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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 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 1-9-8	(Span)1-2-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-8	(Span)3-5-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 1-9-8		Top	64 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	0-3-8		Top	182 lb	0 lb	345 lb	0 lb	F14 F14
5	Part. Uniform	0-3-10 to 1-7-2		Top	10 PLF	0 PLF	24 PLF	0 PLF	
	Self Weight				4 PLF				

## Notes

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

## Lumber

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

## chemicals

## Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318



Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
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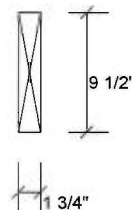
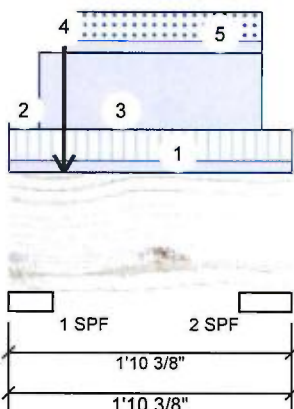
Client: GREEN YORK HOMES  
Project:  
Address:

Date: 5/31/2018  
Designer: RCO  
Job Name: LIANA 3 (ELEV.2)  
Project #:

Page 1 of 1

## F4-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



### Member Information

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

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	24	231	323	0
2	25	87	53	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	3.500"	25% 289 / 497	786 L	1.25D+1.5S +0.5L
2 - SPF	4.125"	5% 109 / 38	147 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	104 ft-lb	5 1/4"	11362 ft-lb	0.009 (1%)	1.25D+1.5S +0.5L	L
Unbraced	104 ft-lb	5 1/4"	11362 ft-lb	0.009 (1%)	1.25D+1.5S +0.5L	L
Shear	57 lb	9 1/2"	4638 lb	0.012 (1%)	1.25D+1.5S	L
Perm Defl in.	0.000 (L/57884)	9"	0.045 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.000 (L/49057)	5 1/16"	0.045 (L/360)	0.010 (1%)	S+0.5L	L
TL Defl inch	0.001 (L/27348)	7 3/8"	0.068 (L/240)	0.010 (1%)	D+S+0.5L	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 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 1-10-6	(Span)1-3-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-2-6		Top	21 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-2-6 to 1-8-0		Top	64 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	0-4-6		Top	182 lb	0 lb	345 lb	0 lb	F14 F14
5	Part. Uniform	0-4-8 to 1-8-0		Top	10 PLF	0 PLF	24 PLF	0 PLF	
	Self Weight				4 PLF				

### Notes

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

### Lumber

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

### chemicals

### Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

### Manufacturer Info

Forex  
APA: PR-L318



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