

Engineering Note Page (ENP-2)

REVISION 2018-10-17

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 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 transfer blocks. Structural elements such as walls, posts, connectors, and transfer 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 floor joists is to be carried out in accordance with the current edition of the manufacturer's literature available at <http://www.kottgroup.com>.

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.

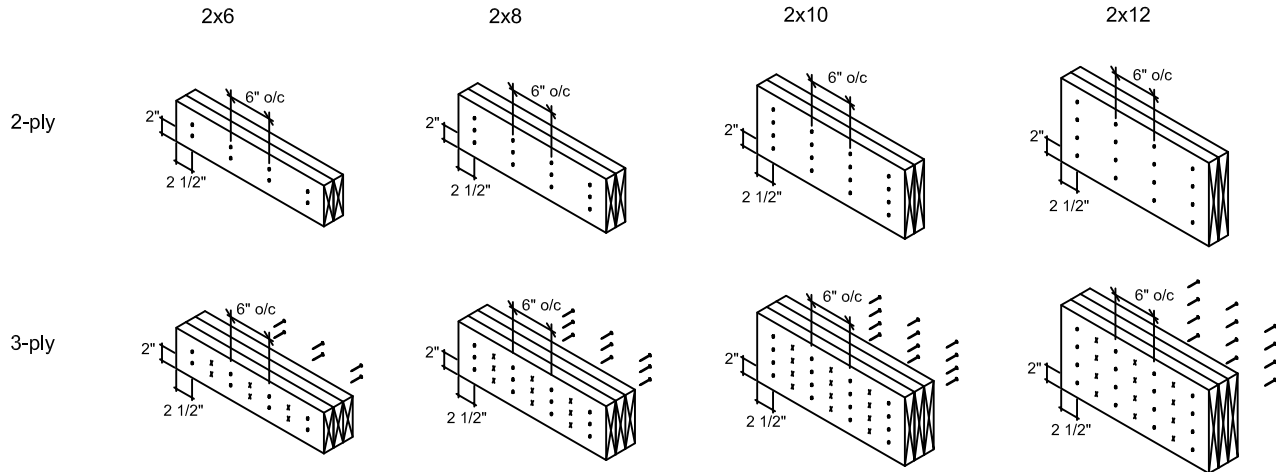
COMPONENT

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 transfer 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.

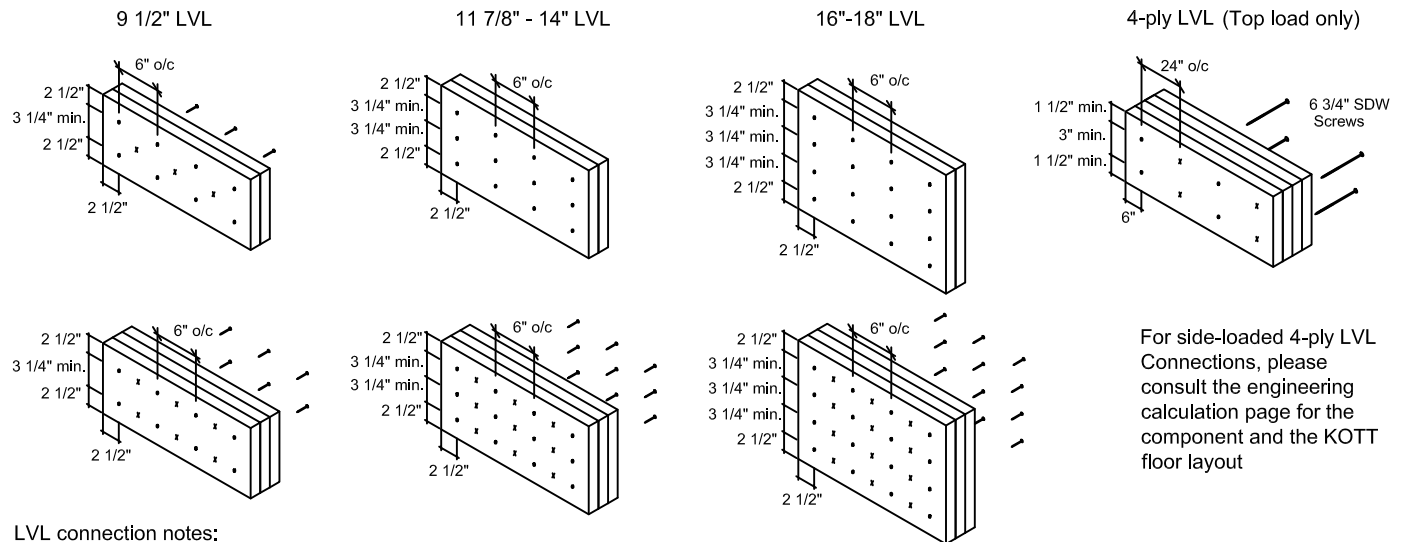
Conventional Connections



Conventional connection notes:

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

LVL Connections



LVL connection notes:

- LVL ply width is 1-3/4"
- Nails to be 3 1/2" common wire nails.
- Nails to be located 2 1/2" min. from the top and bottom of the member. Start all nails 2 1/2" min. 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.

Multiple Member Connections

All connections are for uniformly distributed loads.

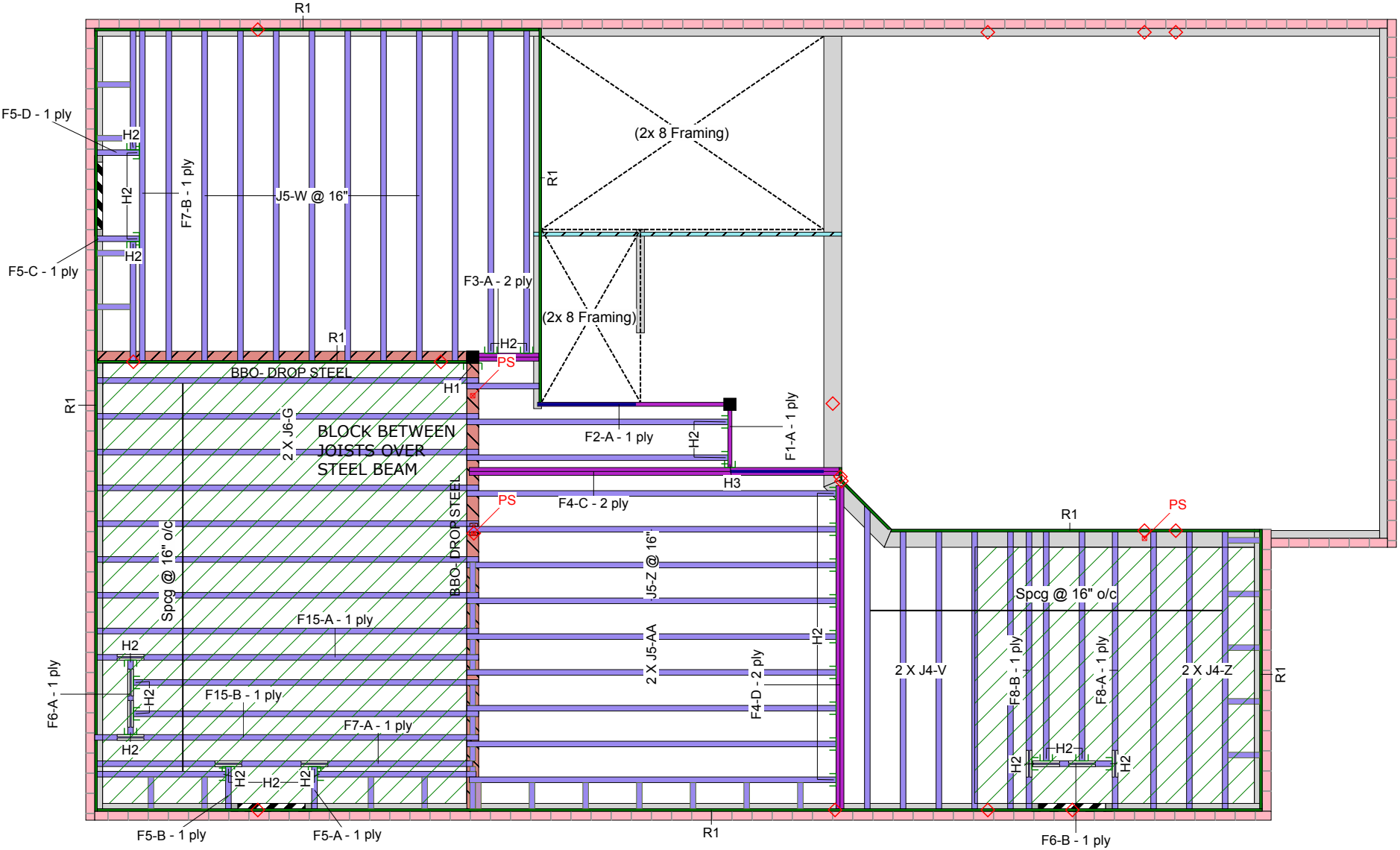
For multi-ply connections of I-joists, refer to Manufacturer's Installation Guide



KOTT Inc.
3228 Moodie Drive
Ottawa, ON
K2H 7V1
613-838-2775



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.



January 17, 2019

JOISTS SPACING 16"O/C
UNLESS
NOTED OTHERWISE

ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP INC.
64 Jardin Dr., Suite 3A, Vaughan, ON
Date: Rev.4; Dec 21,2018
Project No: 17-55
Model: lot-17 (Liana 2 el-1)

- 1. OBC 2012 O.Reg 332/12 as amended
- 2. Nascor CCMC - 13535-R
- 3. LVL CCMC -12904-R
- 4. CAN/CSA-O86-09
- 5. CCMC -12787-R APA PR-L310(C)

Ground Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	14-0-0
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	8-0-0
F3	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			1	4-0-0
I Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F15	LPI 20Plus	2.5	9.5			2	16-0-0
F7	LPI 20Plus	2.5	9.5			2	14-0-0
F8	LPI 20Plus	2.5	9.5			2	12-0-0
F6	LPI 20Plus	2.5	9.5			2	4-0-0
F5	LPI 20Plus	2.5	9.5			4	2-0-0
J6	LPI 20Plus	2.5	9.5			8	16-0-0
J5	LPI 20Plus	2.5	9.5			22	14-0-0
J4	LPI 20Plus	2.5	9.5			8	12-0-0
J3	LPI 20Plus	2.5	9.5			4	10-0-0
J2	LPI 20Plus	2.5	9.5			4	6-0-0
J1	LPI 20Plus	2.5	9.5			1	4-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			13	12
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	LPI 20 Plus	2.5	9.5	LinFt		Varies	28-0-0
BLK2	NJH	2.5	9.5	LinFt		Varies	1-0-0
Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	1	Unknown Hanger					
H2	29	LT259			4 10dx1 1/2	2 10dx1 1/2	
H3	1	HUS1.81/10			30 16d	10 16d	

NOTES:

1. Framers to verify dimensions on the architectural drawings.
2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
3. Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls.
4. Install single-ply flush window header along inside face of rimboard/rimjoist.
5. Refer to Nascor specifier guide for installation works.
6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
7. Load transfer blocks to be installed under all point loads.
8. 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.

Legend

PS

◊

Point Load Support

Load from Above

Wall

Wall Opening

Norbord Rimboard Plus 1.125 X 9.5

LPI 20Plus 9.5

Forex 2.0E-3000Fb LVL 1.75 X 9.5

0 X 0 (Dropped)

1.75 X 9.5 (Dropped)

5.25 X 8 (Dropped)

Layout Name
LOT-17 (LIANA 2 EL-1)

Design Method
LSD

Description
GRANELLI HOMES CORP.
BRAMPTON, ONT.

Created
May 29, 2018

Builder
GREEN YORK HOMES

Sales Rep
RM

Designer
SB

Shipping
Project

Builder's Project
Kott Lumber Company
14 Anderson Blvd
Stouffville, Ontario
Canada
L4A 7X4
905-642-4400

Job Path
GREEN YORK HOMES\GRANELLI
HOME CORP\MODELS\LOT 17 LIANA
2-1\LOT-17 (LIANA 2 EL-1).isl

Ground Floor

Design Method
LSD

Building Code
NBCC 2010 / OBC
2012

Floor

Loads

Live
40

Dead
15

Deflection Joist

LL Span L/
480

TL Span L/
360

LL Cant 2L/
480

TL Cant 2L/
360

Deflection Girder

LL Span L/
360

TL Span L/
240

LL Cant 2L/
480

TL Cant 2L/
360

Decking

Deck
OSB

Thickness
3/4"

Fastener
Nailed & Glued

Vibration





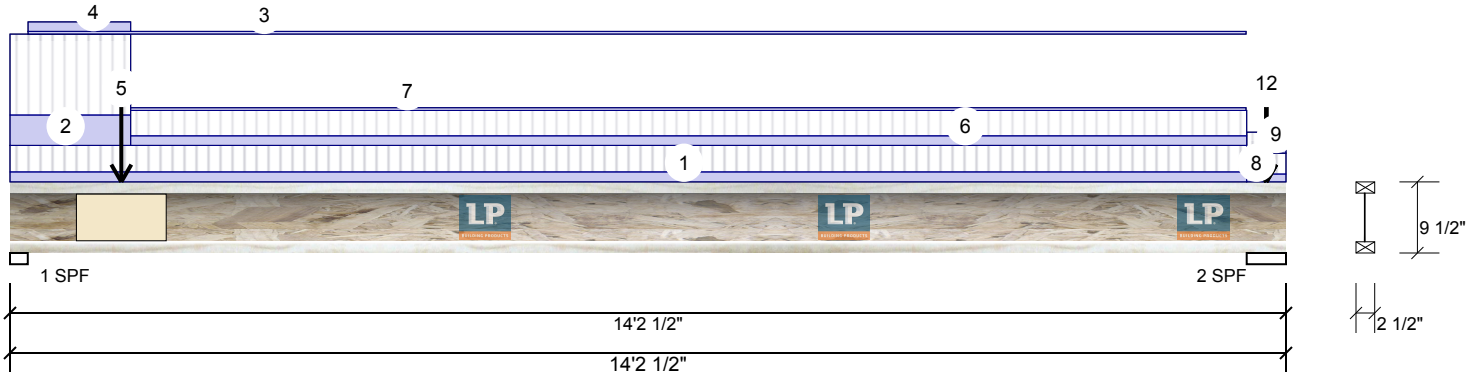
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 2

F15-A LPI 20Plus 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	590	286	0	0
2	480	242	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	77%	358 / 885	1243 L	1.25D+1.5L
2 - SPF	5.250"	58%	302 / 719	1022 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2280 ft-lb	6'3 11/16"	4670 ft-lb	0.488 (49%)	1.25D+1.5L	L
Shear	1221 lb	1 5/8"	1990 lb	0.614 (61%)	1.25D+1.5L	L
Perm Defl in.	0.109 (L/1503)	6'9 1/16"	0.457 (L/360)	0.240 (24%)	D	Uniform
LL Defl inch	0.227 (L/725)	6'9 1/8"	0.457 (L/360)	0.500 (50%)	L	L
TL Defl inch	0.336 (L/489)	6'9 1/8"	0.685 (L/240)	0.490 (49%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Applied loads over end bearings and loads exceeding 250 lbs over intermediate bearings must be transferred directly to the support by rim board, blocking, squash blocks, or other device.
- 3 Dead Load Deflection: Instant = 0.109", Long Term = 0.164"
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange must be laterally braced at a maximum of 6'1" o.c.
- 7 Bottom flange braced at bearings.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-9-4	(Span) 0-11-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-4-2	(Span) 2-11-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-7 to 13-9-3		Top	2 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-7 to 1-4-2		Top	7 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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

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

This design is valid until
10/31/2020

Manufacturer Info

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

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

NASCOR



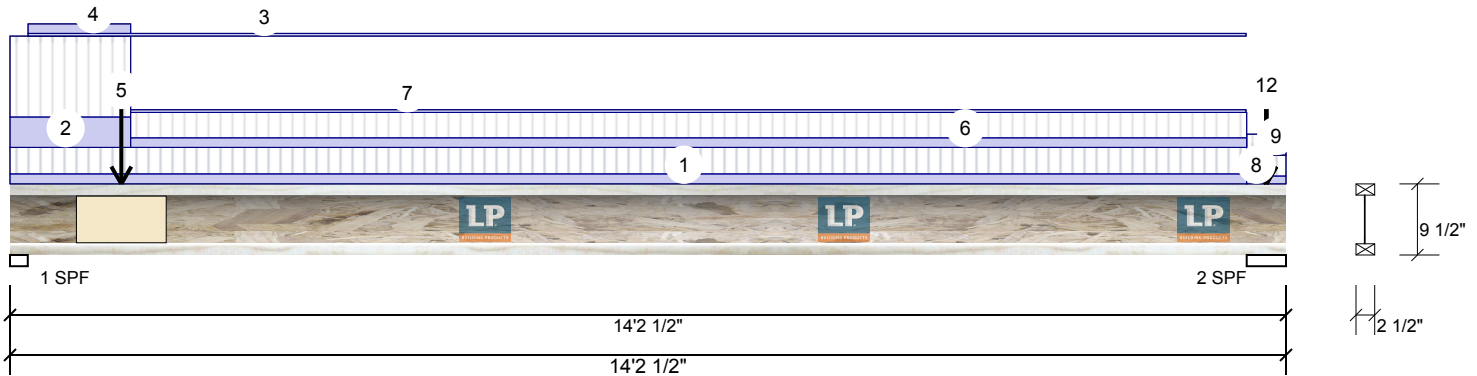
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 2 of 2

F15-A LPI 20Plus 9.500" - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	1-2-14		Near Face	145 lb	293 lb	0 lb	0 lb	F6
6	Tie-In	1-4-2 to 13-9-4	(Span)0-11-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-4-2 to 13-9-3		Top	2 PLF	0 PLF	0 PLF	0 PLF	
8	Tie-In	13-9-4 to 14-2-8	(Span)0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Tie-In	13-9-4 to 14-2-8	(Span)0-6-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Point	13-11-14		Top	34 lb	89 lb	0 lb	0 lb	J5
	Bearing Length	0-1-8							
11	Point	13-11-14		Top	39 lb	93 lb	0 lb	0 lb	J6
	Bearing Length	0-1-8							
12	Point	13-11-14		Top	27 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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

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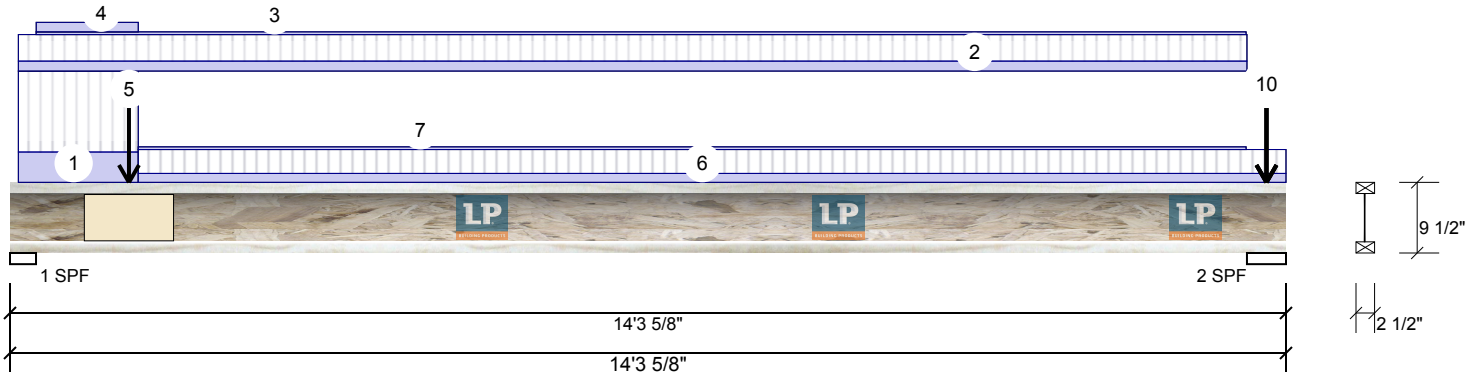
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 2

F15-B LPI 20Plus 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	591	287	0	0
2	441	223	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	73%	359 / 886	1245	L	1.25D+1.5L
2 - SPF	5.250"	54%	278 / 661	939	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2239 ft-lb	6'4 5/16"	4670 ft-lb	0.479 (48%)	1.25D+1.5L	L
Shear	1224 lb	2 3/4"	1990 lb	0.615 (62%)	1.25D+1.5L	L
Perm Defl in.	0.108 (L/1523)	6'10 1/16"	0.457 (L/360)	0.240 (24%)	D	Uniform
LL Defl inch	0.222 (L/739)	6'10 1/8"	0.457 (L/360)	0.490 (49%)	L	L
TL Defl inch	0.330 (L/497)	6'10 1/8"	0.685 (L/240)	0.480 (48%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Applied loads over end bearings and loads exceeding 250 lbs over intermediate bearings must be transferred directly to the support by rim board, blocking, squash blocks, or other device.
- 3 Dead Load Deflection: Instant = 0.108", Long Term = 0.162"
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange must be laterally braced at a maximum of 6'2" o.c.
- 7 Bottom flange braced at bearings.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 1-5-4	(Span) 2-11-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-2 to 13-10-6	(Span) 0-11-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-3-8 to 13-10-4		Top	2 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-3-8 to 1-5-4		Top	7 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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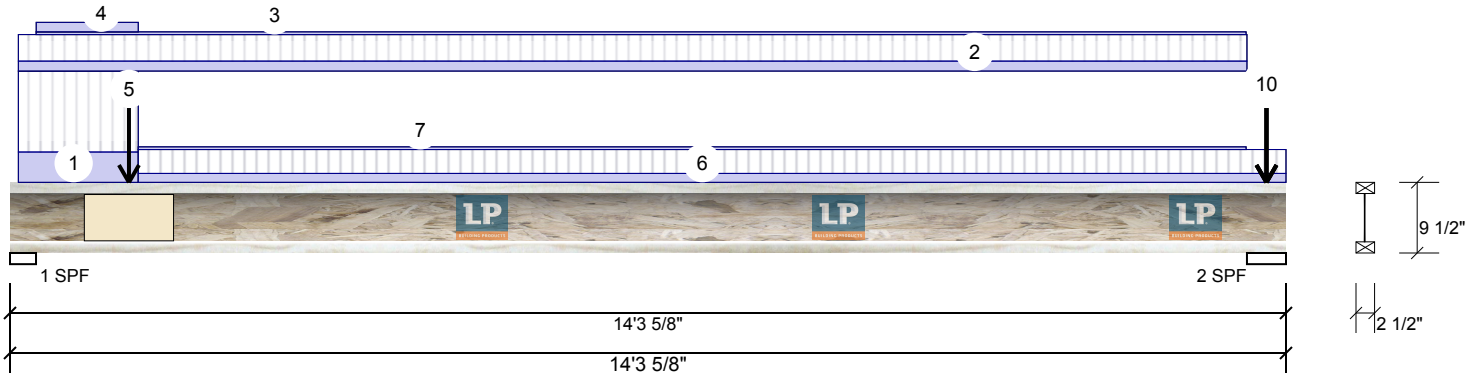
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Page 2 of 2

F15-B LPI 20Plus 9.500" - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	1-4-0		Far Face	149 lb	301 lb	0 lb	0 lb	F6
6	Tie-In	1-5-4 to 14-3-10	(Span)0-10-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-5-4 to 13-10-4		Top	2 PLF	0 PLF	0 PLF	0 PLF	
8	Point	14-1-0		Top	29 lb	75 lb	0 lb	0 lb	J5
	Bearing Length	0-1-8							
9	Point	14-1-0		Top	34 lb	79 lb	0 lb	0 lb	J6
	Bearing Length	0-1-8							
10	Point	14-1-0		Top	22 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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

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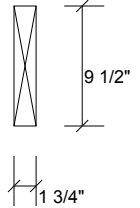
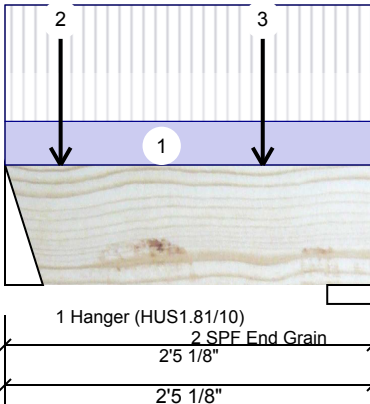
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

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F1-A 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	299	116	0	0
2	258	101	0	0

Bearings and Factored Reactions

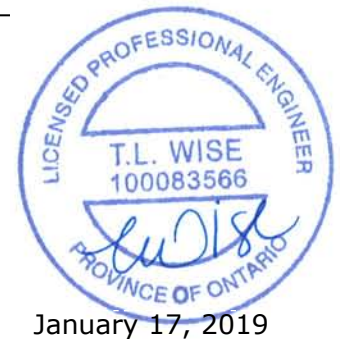
Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	15%	145 / 449	594	L	1.25D+1.5L
2 - SPF End Grain	3.625"	11%	127 / 387	514	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	214 ft-lb	1'6 7/8"	11362 ft-lb	0.019 (2%)	1.25D+1.5L	L
Unbraced	214 ft-lb	1'6 7/8"	10729 ft-lb	0.020 (2%)	1.25D+1.5L	L
Shear	438 lb	11 3/4"	4638 lb	0.094 (9%)	1.25D+1.5L	L
Perm Defl in. (L/58713)	0.000	1'4 3/8"	0.067 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/23005)	0.001	1'4 9/16"	0.067 (L/360)	0.020 (2%)	L	L
TL Defl inch (L/16529)	0.001	1'4 7/16"	0.100 (L/240)	0.010 (1%)	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 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 2-5-2	(Span)3-11-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-4-6		Far Face	65 lb	175 lb	0 lb	0 lb	J3
3	Point	1-8-6		Far Face	72 lb	192 lb	0 lb	0 lb	J3
	Self Weight				4 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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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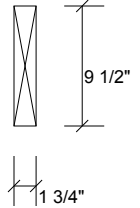
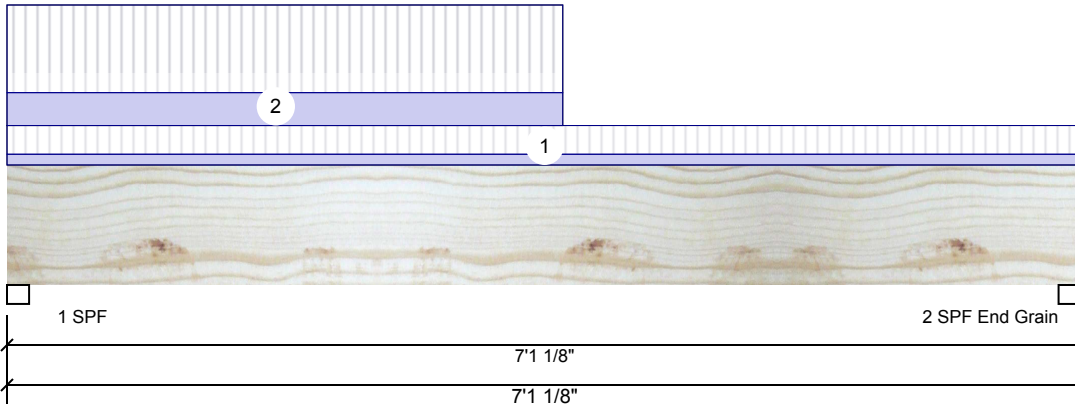
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 1

F2-A 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	156	72	0	0
2	84	45	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.750"	17%	90 / 234	324	L	1.25D+1.5L
2 - SPF	1.875"	7%	56 / 125	182	L	1.25D+1.5L
End Grain						

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	453 ft-lb	2'11 9/16"	11362 ft-lb	0.040 (4%)	1.25D+1.5L	L
Unbraced	453 ft-lb	2'11 9/16"	5389 ft-lb	0.084 (8%)	1.25D+1.5L	L
Shear	228 lb	10 1/2"	4638 lb	0.049 (5%)	1.25D+1.5L	L
Perm Defl in. (L/20045)	0.004	3'4 1/8"	0.231 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.009 (L/9718)	3'3 1/2"	0.231 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.013 (L/6545)	3'3 11/16"	0.346 (L/240)	0.040 (4%)	D+L	L

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Top braced at bearings.
- Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 7-1-2	(Span)0-7-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-8-0		Top	15 PLF	40 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				



January 17, 2019

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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

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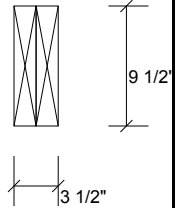
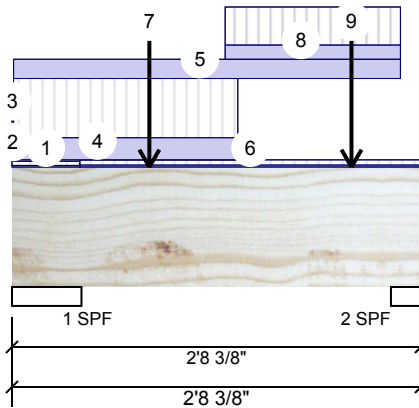
Client: GREEN YORK HOMES
Project:
Address:

Date: 1/16/2019
Designer: SB
Job Name: LOT-17 (LIANA 2 EL-1)
Project #:

Page 1 of 2

F3-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	653	374	0	0
2	490	280	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF 5.500"	12%	467 / 979	1446 L	1.25D+1.5L
2 - SPF 2.375"	21%	350 / 736	1086 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	579 ft-lb	1'3 9/16"	22724 ft-lb	0.025 (3%)	1.25D+1.5L	L
Unbraced	579 ft-lb	1'3 9/16"	22724 ft-lb	0.025 (3%)	1.25D+1.5L	L
Shear	713 lb	1'9 1/4"	9277 lb	0.077 (8%)	1.25D+1.5L	L
Perm Defl in. (L/33703)	0.001	1'4 7/8"	0.072 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/19171)	0.001	1'4 1/4"	0.072 (L/360)	0.020 (2%)	L	L
TL Defl inch (L/12226)	0.002	1'4 1/2"	0.108 (L/240)	0.020 (2%)	D+L	L



January 17, 2019

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 0-5-6	(Span)0-10-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-0-2		Top	46 PLF	123 PLF	0 PLF	0 PLF	J5
3	Part. Uniform	0-0-0 to 0-0-2		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-0-2 to 1-5-14		Top	92 PLF	246 PLF	0 PLF	0 PLF	J5
5	Part. Uniform	0-0-2 to 2-6-12		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

- 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

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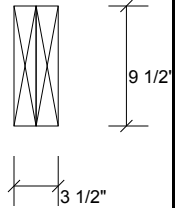
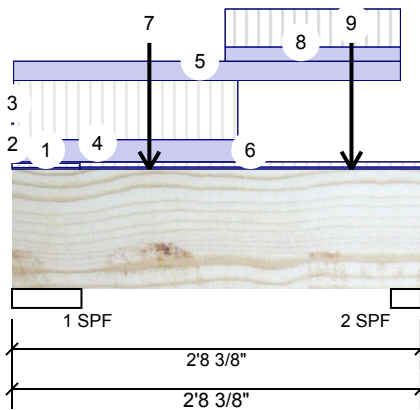
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 2 of 2

F3-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	Tie-In	0-5-6 to 2-8-6	(Span)1-0-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Point	0-10-14		Far Face	120 lb	319 lb	0 lb	0 lb	J5
8	Part. Uniform	1-4-14 to 2-6-12		Top	59 PLF	158 PLF	0 PLF	0 PLF	J5
9	Point	2-2-14		Far Face	83 lb	220 lb	0 lb	0 lb	J5
	Self Weight				8 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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

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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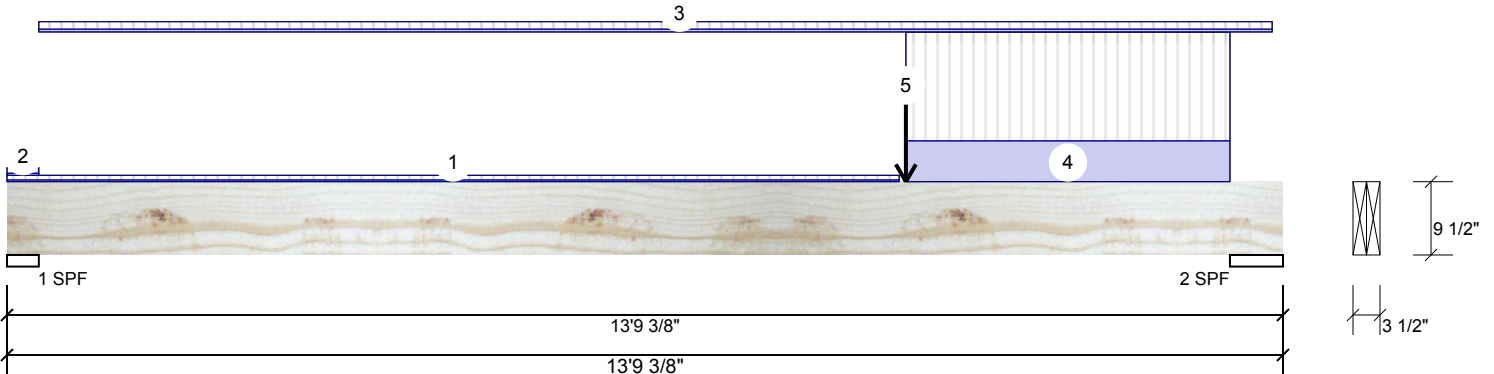
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 1

F4-C 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	373	193	0	0
2	1087	464	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.125"	9%	241 / 560	801	L	1.25D+1.5L
2 - SPF	6.875"	15%	580 / 1631	2211	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4654 ft-lb	9'8 1/2"	22724 ft-lb	0.205 (20%)	1.25D+1.5L	L
Unbraced	4654 ft-lb	9'8 1/2"	19392 ft-lb	0.240 (24%)	1.25D+1.5L	L
Shear	1816 lb	12'5 3/4"	9277 lb	0.196 (20%)	1.25D+1.5L	L
Perm Defl in.	0.058 (L/2669)	7'3 7/8"	0.433 (L/360)	0.130 (13%)	D	Uniform
LL Defl inch	0.127 (L/1225)	7'5 1/4"	0.433 (L/360)	0.290 (29%)	L	
TL Defl inch	0.186 (L/840)	7'4 13/16"	0.649 (L/240)	0.290 (29%)	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 braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 9-7-10	(Span)0-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-2	(Span)0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-4-2 to 13-7-15	(Span)0-9-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	9-8-8 to 13-2-8		Top	90 PLF	240 PLF	0 PLF		
5	Point	9-8-8		Far Face	116 lb	299 lb	0 lb		
	Self Weight				8 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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

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

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This design



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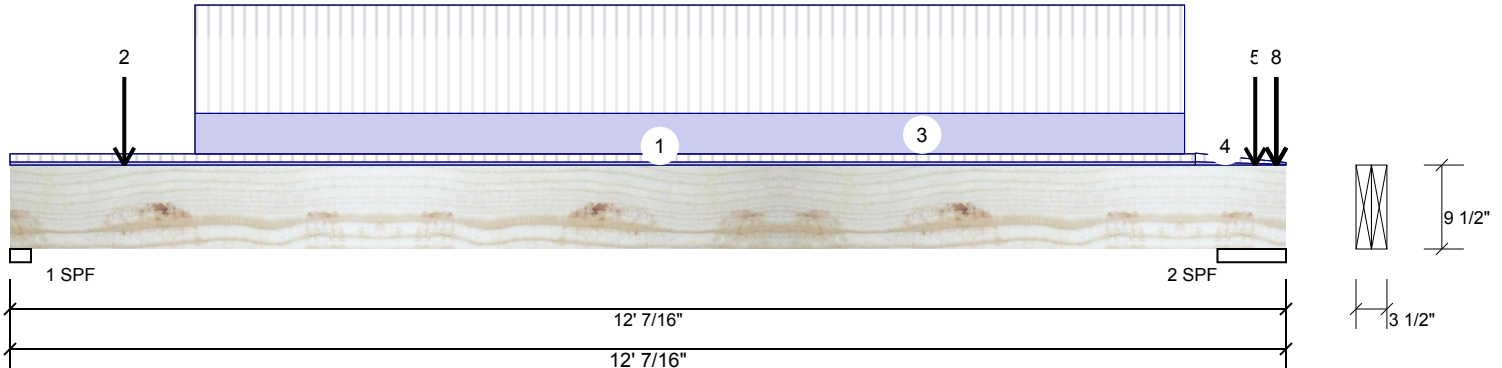
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 2

F4-D 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	1545	622	0	0
2	1769	735	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	61% 777 / 2317	3094	L	1.25D+1.5L
2 - SPF	7.754"	21% 919 / 2654	3573	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9242 ft-lb	5'9 9/16"	22724 ft-lb	0.407 (41%)	1.25D+1.5L	L
Unbraced	9242 ft-lb	5'9 9/16"	20195 ft-lb	0.458 (46%)	1.25D+1.5L	L
Shear	3271 lb	11 1/8"	9277 lb	0.353 (35%)	1.25D+1.5L	L
Perm Defl in.	0.092 (L/1482)	5'9 9/16"	0.377 (L/360)	0.240 (24%)	D	Uniform
LL Defl inch	0.229 (L/594)	5'9 9/16"	0.377 (L/360)	0.610 (61%)	L	
TL Defl inch	0.320 (L/424)	5'9 9/16"	0.566 (L/240)	0.570 (57%)	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.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-2-3	(Span)1-0-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-0-15		Far Face	124 lb	332 lb	0 lb	0 lb	J5
3	Part. Uniform	1-8-15 to 11-0-15		Far Face	101 PLF	270 PLF	0 PLF	0 PLF	
4	Tie-In	11-2-3 to 12-0-7	(Span)1-1-0 to 0-2-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	11-8-15		Far Face	48 lb	128 lb	0 lb	0 lb	J5

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

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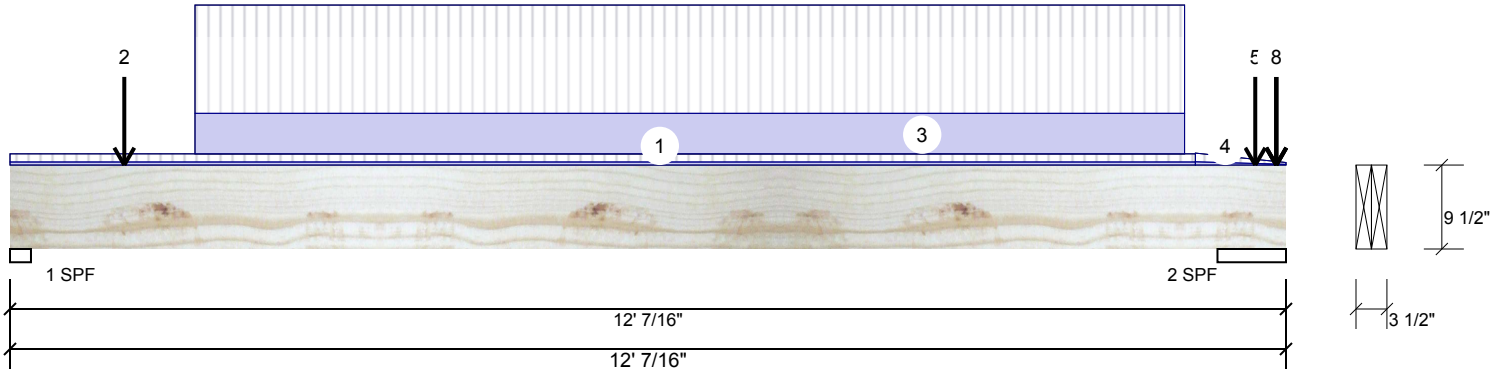
Client: GREEN YORK HOMES
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Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 2 of 2

F4-D 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	11-11-5		Top	16 lb	34 lb	0 lb	0 lb	J4
7	Point	11-11-5		Top	23 lb	61 lb	0 lb	0 lb	J5
8	Point	11-11-5		Top	22 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Self Weight				8 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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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This design is valid until 10/18/2021



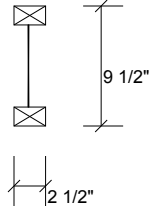
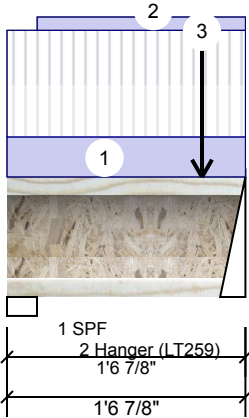
Client: GREEN YORK HOMES
 Project:
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Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

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F5-A LPI 20Plus 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	65	31	0	0
2	135	67	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	8%	39 / 98	136	L	1.25D+1.5L
2 - Hanger	2.000"	18%	84 / 202	286	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	52 ft-lb	1' 1/8"	4670 ft-lb	0.011 (1%)	1.25D+1.5L	L
Shear	272 lb	1'5 5/8"	1990 lb	0.137 (14%)	1.25D+1.5L	L
Perm Defl in. (L/54318)	0.000	11 7/8"	0.044 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/27008)	0.001	11 7/8"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch (L/18039)	0.001	11 7/8"	0.067 (L/240)	0.010 (1%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.000", Long Term = 0.000"
- 3 Fill all hanger nailing holes.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.



January 17, 2019

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	1-3-7		Near Face	49 lb	99 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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

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This design is valid until 10/31/2020

Manufacturer Info

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 CCMC: 12412-R APA: PR-L238C

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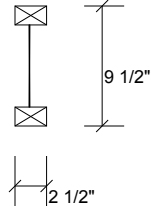
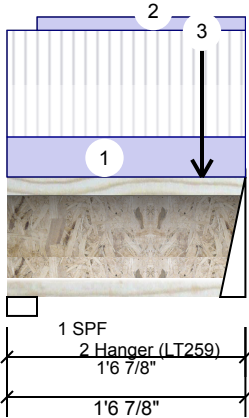
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 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

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F5-B LPI 20Plus 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	63	30	0	0
2	120	59	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	8%	37 / 94	131	L	1.25D+1.5L
2 - Hanger	2.000"	16%	74 / 180	254	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	48 ft-lb	11 11/16"	4670 ft-lb	0.010 (1%)	1.25D+1.5L	L
Shear	240 lb	1'5 5/8"	1990 lb	0.121 (12%)	1.25D+1.5L	L
Perm Defl in. (L/59285)	0.000	11 1/2"	0.044 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/29321)	0.001	11 1/2"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch (L/19618)	0.001	11 1/2"	0.067 (L/240)	0.010 (1%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.000", Long Term = 0.000"
- 3 Fill all hanger nailing holes.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.



January 17, 2019

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	1-3-7		Far Face	40 lb	82 lb	0 lb	0 lb	

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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

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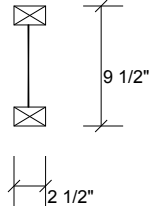
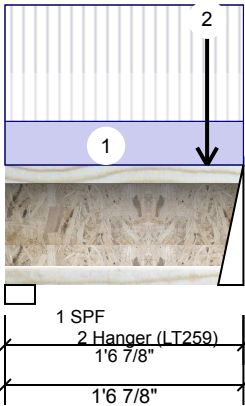
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 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

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F5-C LPI 20Plus 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	59	22	0	0
2	115	44	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	7%	28 / 88	116	L	1.25D+1.5L
2 - Hanger	2.000"	14%	55 / 173	227	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	39 ft-lb	11"	4670 ft-lb	0.008 (1%)	1.25D+1.5L	L
Shear	214 lb	1'5 5/8"	1990 lb	0.108 (11%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/33835)	10 7/8"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/24562)	10 7/8"	0.067 (L/240)	0.010 (1%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.000", Long Term = 0.000"
- 3 Fill all hanger nailing holes.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.



January 17, 2019

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	1-4-0		Near Face	28 lb	73 lb	0 lb	0 lb	J2

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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

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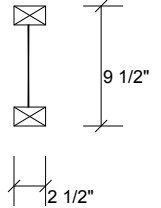
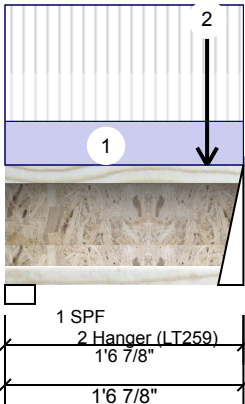
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 Project #:

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F5-D LPI 20Plus 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	59	22	0	0
2	118	44	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	7%	28 / 89	116	L	1.25D+1.5L
2 - Hanger	2.000"	15%	55 / 177	231	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	39 ft-lb	11 1/16"	4670 ft-lb	0.008 (1%)	1.25D+1.5L	L
Shear	218 lb	1'5 5/8"	1990 lb	0.110 (11%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/33432)	10 15/16"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/24349)	10 15/16"	0.067 (L/240)	0.010 (1%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.000", Long Term = 0.000"
- 3 Fill all hanger nailing holes.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.



January 17, 2019

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	1-4-0		Far Face	28 lb	76 lb	0 lb	0 lb	J2

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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

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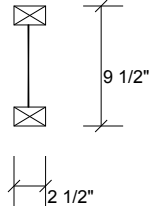
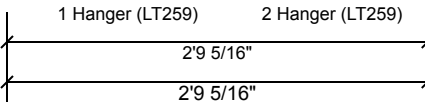
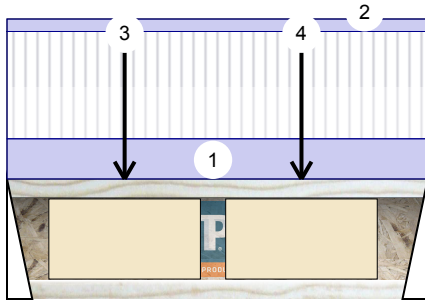
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 Designer: SB
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 Project #:

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F6-A LPI 20Plus 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	301	149	0	0
2	293	145	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	41%	187 / 452	639	L	1.25D+1.5L
2 - Hanger	2.000"	39%	181 / 439	621	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	436 ft-lb	1'8 1/4"	4670 ft-lb	0.093 (9%)	1.25D+1.5L	L
Shear	633 lb	1 1/4"	1990 lb	0.318 (32%)	1.25D+1.5L	L
Perm Defl in. (L/10410)	0.003	1'5 1/2"	0.086 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.006 (L/5151)	1'5 9/16"	0.086 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.009 (L/3446)	1'5 1/2"	0.128 (L/240)	0.070 (7%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.003", Long Term = 0.004"
- 3 Fill all hanger nailing holes.
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange braced at bearings.
- 7 Bottom flange braced at bearings.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-9-5	(Span)1-3-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 2-9-5		Top	3 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-9-5		Near Face	128 lb	258 lb	0 lb	0 lb	J5
4	Point	1-11-5		Near Face	131 lb	265 lb	0 lb	0 lb	J5

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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

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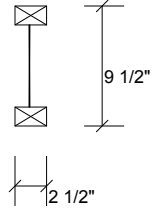
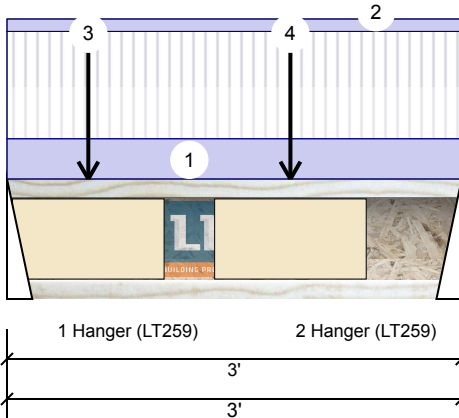
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F6-B LPI 20Plus 9.500" - PASSED

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	264	131	0	0
2	209	103	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	36%	164 / 396	559	L	1.25D+1.5L
2 - Hanger	2.000"	28%	129 / 313	442	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	407 ft-lb	1'10 7/16"	4670 ft-lb	0.087 (9%)	1.25D+1.5L	L
Shear	552 lb	1 1/4"	1990 lb	0.277 (28%)	1.25D+1.5L	L
Perm Defl in. (L/12219)	0.003	1'10 7/16"	0.093 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.006 (L/6031)	1'10 7/16"	0.093 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.008 (L/4038)	1'10 7/16"	0.140 (L/240)	0.060 (6%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.003", Long Term = 0.004"
- 3 Fill all hanger nailing holes.
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange braced at bearings.
- 7 Bottom flange braced at bearings.



January 17, 2019

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	Part. Uniform	0-0-0 to 3-0-0		Top	4 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-6-7		Far Face	80 lb	160 lb	0 lb	0 lb	J3
4	Point	1-10-7		Far Face	103 lb	209 lb	0 lb	0 lb	J3

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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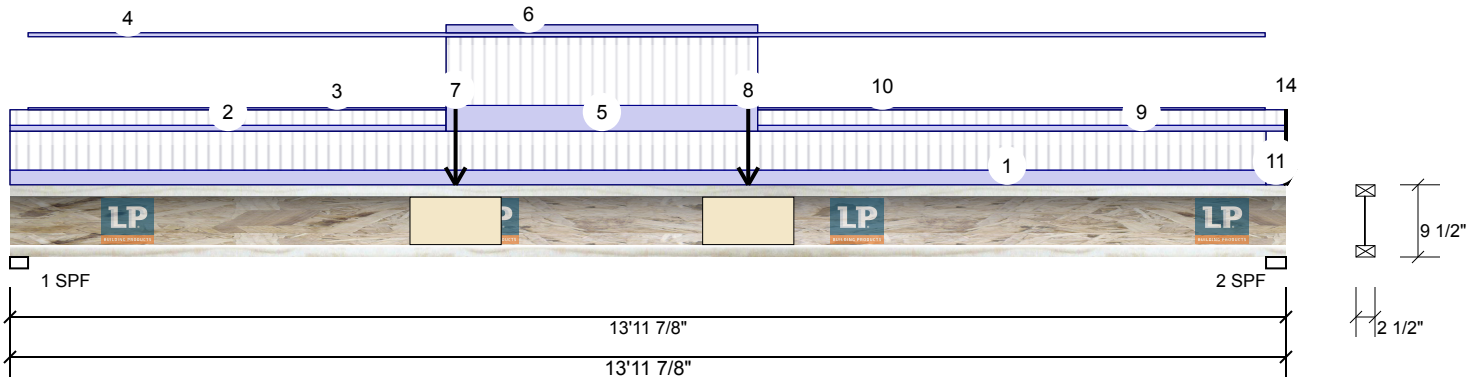
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F7-A LPI 20Plus 9.500" - PASSED

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	375	183	0	0
2	507	257	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	49%	228 / 563	791 L	1.25D+1.5L
2 - SPF	2.625"	66%	321 / 761	1082 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3347 ft-lb	7'1"	4670 ft-lb	0.717 (72%)	1.25D+1.5L	L
Shear	784 lb	1'5/8"	1990 lb	0.394 (39%)	1.25D+1.5L	L
Perm Defl in.	0.154 (L/1070)	6'11 7/16"	0.457 (L/360)	0.340 (34%)	D	Uniform
LL Defl inch	0.314 (L/523)	6'11 3/8"	0.457 (L/360)	0.690 (69%)	L	L
TL Defl inch	0.468 (L/351)	6'11 3/8"	0.685 (L/240)	0.680 (68%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Applied loads over end bearings and loads exceeding 250 lbs over intermediate bearings must be transferred directly to the support by rim board, blocking, squash blocks, or other device.
- 3 Dead Load Deflection: Instant = 0.154", Long Term = 0.230"
- 4 See manufacture installation guide note E4 for installation details
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top flange must be laterally braced at a maximum of 4'11" o.c.
- 7 Bottom flange braced at bearings.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-9-4	(Span) 0-11-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 4-9-6	(Span) 0-4-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-6 to 4-9-6		Top	1 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-6 to 13-9-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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This design is valid until 10/31/2020

Manufacturer Info

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

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

NASCOR



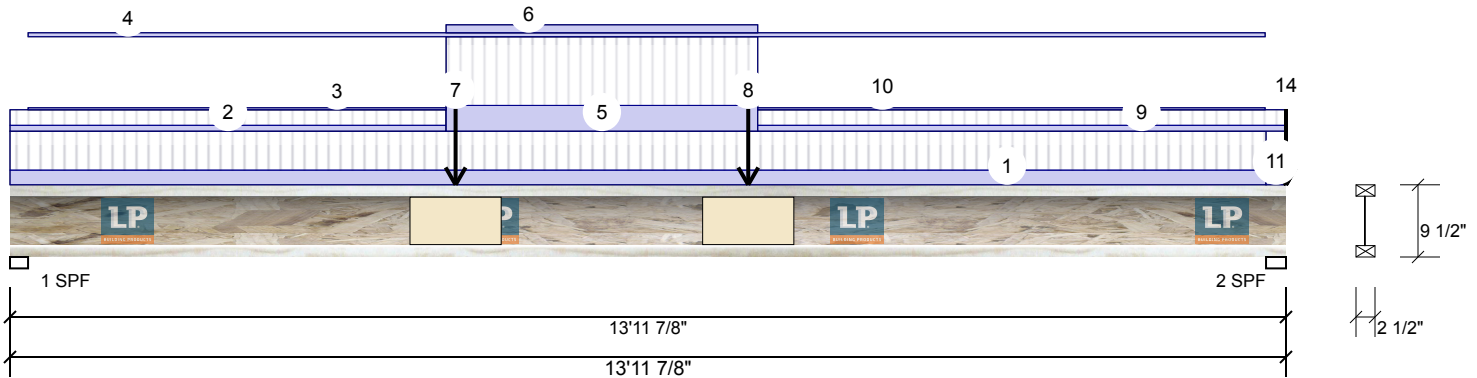
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 2 of 2

F7-A LPI 20Plus 9.500" - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Tie-In	4-9-6 to 8-2-6	(Span)1-8-11 to 1-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Part. Uniform	4-9-6 to 8-2-6		Top	4 PLF	0 PLF	0 PLF	0 PLF	
7	Point	4-10-10		Near Face	59 lb	120 lb	0 lb	0 lb	F5
8	Point	8-1-2		Near Face	67 lb	135 lb	0 lb	0 lb	F5
9	Tie-In	8-2-6 to 13-11-14	(Span)0-4-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Part. Uniform	8-2-6 to 13-9-2		Top	1 PLF	0 PLF	0 PLF	0 PLF	
11	Tie-In	13-9-4 to 13-11-14	(Span)0-8-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
12	Point	13-11-14		Top	29 lb	75 lb	0 lb	0 lb	J5
	Bearing Length	0-1-8							
13	Point	13-11-14		Top	34 lb	79 lb	0 lb	0 lb	J6
	Bearing Length	0-1-8							
14	Point	13-11-14		Top	22 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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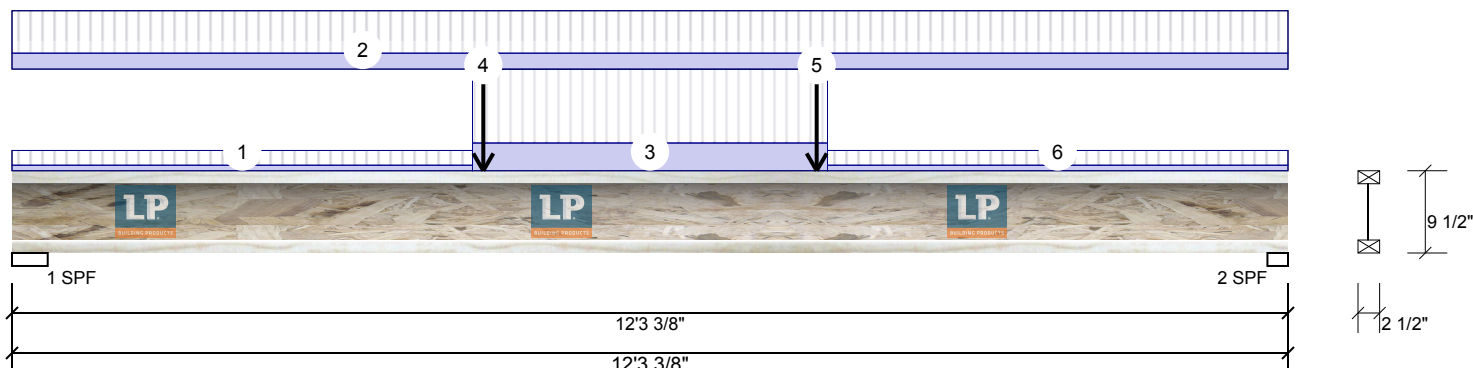
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 1

F7-B LPI 20Plus 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	331	125	0	0
2	324	122	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.125"	37%	156 / 496	652	L	1.25D+1.5L
2 - SPF	2.375"	40%	152 / 486	638	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2390 ft-lb	6'2 3/4"	4670 ft-lb	0.512 (51%)	1.25D+1.5L	L
Shear	637 lb	3 3/8"	1990 lb	0.320 (32%)	1.25D+1.5L	L
Perm Defl in.	0.071 (L/2003)	6'2 1/2"	0.395 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.189 (L/753)	6'2 9/16"	0.395 (L/360)	0.480 (48%)	L	L
TL Defl inch	0.260 (L/547)	6'2 9/16"	0.593 (L/240)	0.440 (44%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.071", Long Term = 0.107"
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top flange must be laterally braced at a maximum of 5'11" o.c.
- 5 Bottom flange braced at bearings.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-5-3	(Span)0-4-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-3-6	(Span)0-11-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	4-5-3 to 7-10-3	(Span)1-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	4-6-7		Far Face	44 lb	115 lb	0 lb	0 lb	F5
5	Point	7-8-15		Far Face	44 lb	118 lb	0 lb	0 lb	F5
6	Tie-In	7-10-3 to 12-3-6	(Span)0-4-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Pass-Through Framing Squash Block is required at all point loads over bearings

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

Notes

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

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This design is valid until 10/31/2020

Manufacturer Info

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

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

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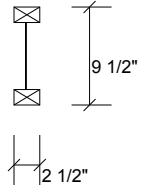
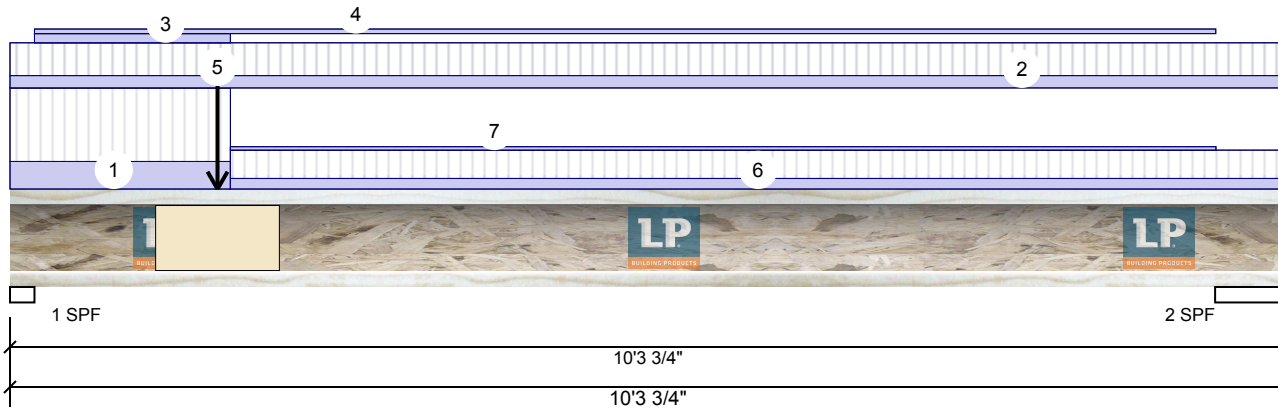
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 1

F8-A LPI 20Plus 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	505	251	0	0
2	324	160	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	67%	314 / 758	1072	L	1.25D+1.5L
2 - SPF	6.875"	39%	199 / 486	685	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1756 ft-lb	4'2 15/16"	4670 ft-lb	0.376 (38%)	1.25D+1.5L	L
Shear	1047 lb	1 5/8"	1990 lb	0.526 (53%)	1.25D+1.5L	L
Perm Defl in.	0.048 (L/2431)	4'8 3/4"	0.322 (L/360)	0.150 (15%)	D	Uniform
LL Defl inch	0.095 (L/1223)	4'8 11/16"	0.322 (L/360)	0.290 (29%)	L	L
TL Defl inch	0.143 (L/814)	4'8 3/4"	0.483 (L/240)	0.300 (30%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.048", Long Term = 0.072"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange must be laterally braced at a maximum of 6'10" o.c.
- 6 Bottom flange braced at bearings.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-9-6	(Span)3-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-3-12	(Span)1-5-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-6 to 1-9-6		Top	8 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-6 to 9-8-15		Top	4 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-8-2		Far Face	103 lb	209 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
6	Tie-In	1-9-6 to 10-3-12	(Span)1-2-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-9-6 to 9-8-15		Top	3 PLF	0 PLF	0 PLF	0 PLF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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This design is valid until 10/31/2020

Manufacturer Info

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 414 Union Street, Suite 2000
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 CCMC: 12412-R APA: PR-L238C

Kott Lumber Company
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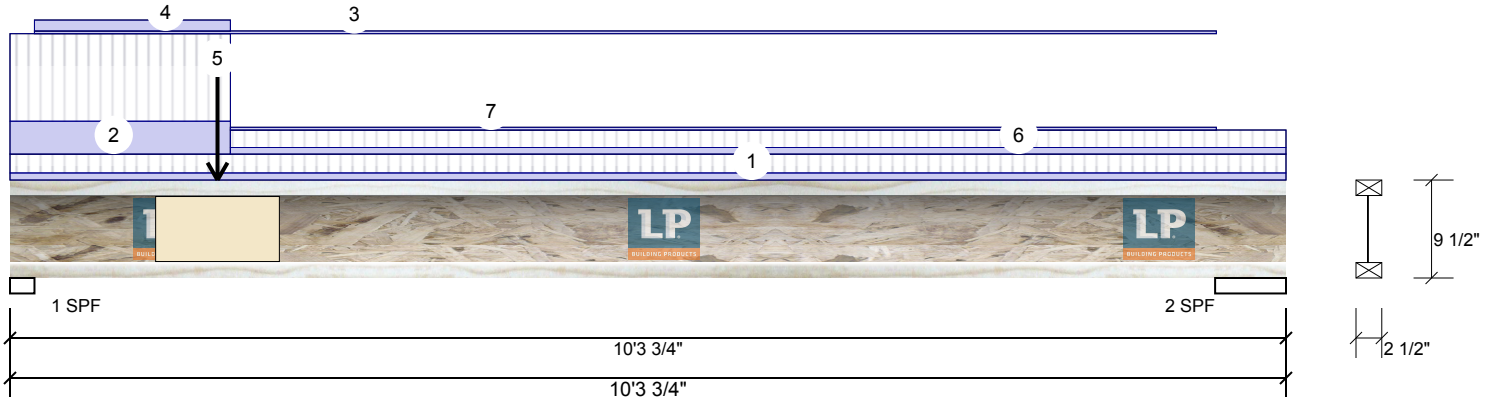
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 1

F8-B LPI 20Plus 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	439	219	0	0
2	192	97	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	58%	274 / 658	932	L	1.25D+1.5L
2 - SPF	6.875"	23%	121 / 288	409	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1272 ft-lb	3'1 13/16"	4670 ft-lb	0.272 (27%)	1.25D+1.5L	L
Shear	911 lb	1 5/8"	1990 lb	0.458 (46%)	1.25D+1.5L	L
Perm Defl in.	0.034 (L/3418)	4'6 3/16"	0.322 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.066 (L/1747)	4'6"	0.322 (L/360)	0.210 (21%)	L	L
TL Defl inch	0.100 (L/1156)	4'6 1/16"	0.483 (L/240)	0.210 (21%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.034", Long Term = 0.051"
- 3 See manufacture installation guide note E4 for installation details
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top flange must be laterally braced at a maximum of 7'11" o.c.
- 6 Bottom flange braced at bearings.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-3-12	(Span)0-8-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-6	(Span)3-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-6 to 9-9-0		Top	2 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-6 to 1-9-6		Top	8 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-8-2		Near Face	131 lb	264 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
6	Tie-In	1-9-6 to 10-3-12	(Span)0-7-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-9-6 to 9-9-0		Top	2 PLF	0 PLF	0 PLF	0 PLF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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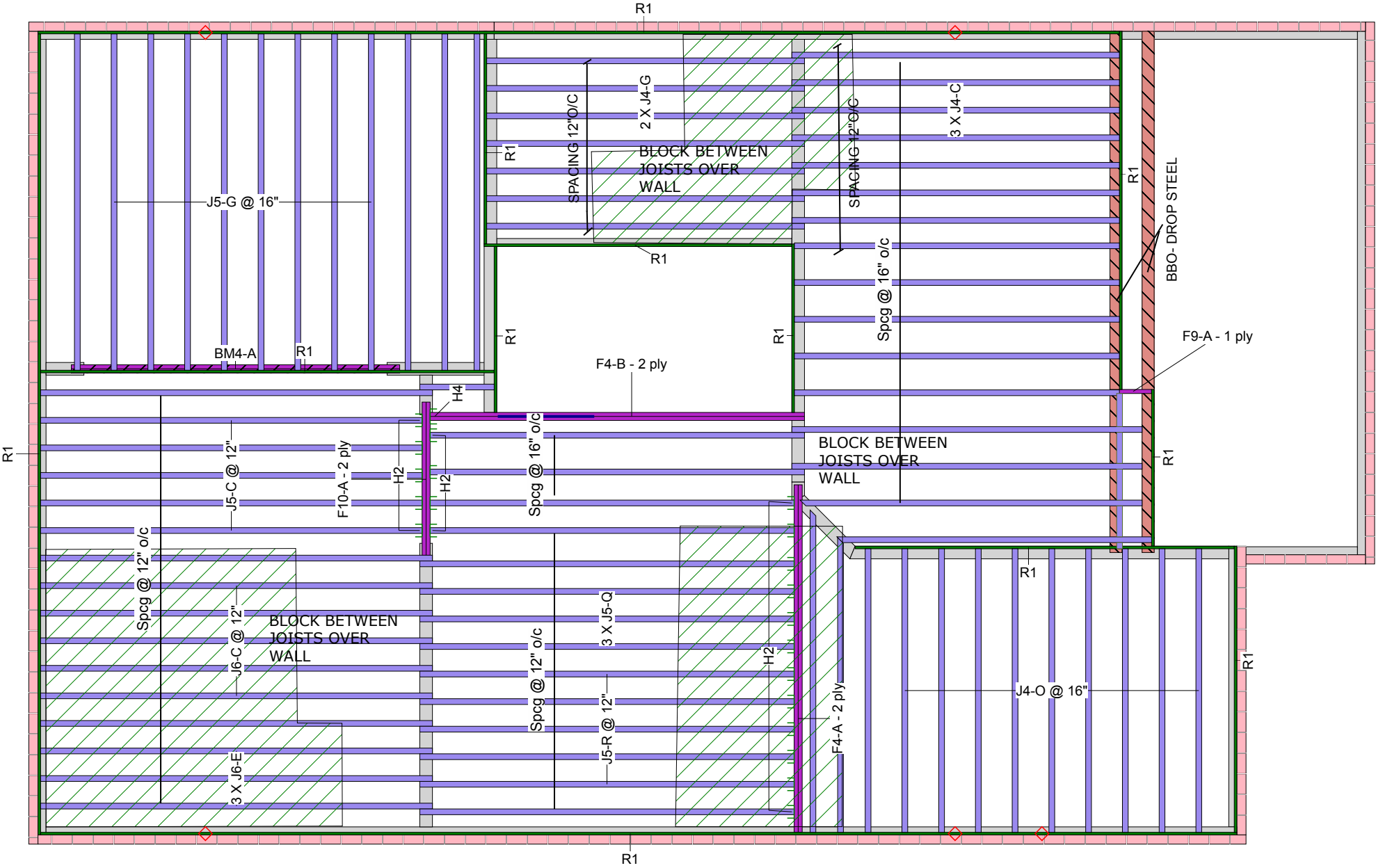
Manufacturer Info

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 CCMC: 12412-R APA: PR-L238C

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

NASCOR

Second Floor



JOISTS SPACING 16"O/C
UNLESS
NOTED OTHERWISE

ARCHITECTURAL DRAWINGS:

JARDIN DESIGN GROUP INC.
64 Jardin Dr., Suite 3A, Vaughan, ON
Date: Rev.4; Dec 21,2018
Project No: 17-55
Model: LOT-17 (Liana 2 EL-1)

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.



January 17, 2019

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -12904-R
4. CAN/CSA-O86-09
5. CCMC -12787-R APA PR-L310(C)

Second Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	14-0-0
F10	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	9.5			1	2-0-0

LVL/LSL (Dropped)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BM4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0

I Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J6	LPI 20Plus	2.5	9.5			11	16-0-0
J5	LPI 20Plus	2.5	9.5			34	14-0-0
J4	LPI 20Plus	2.5	9.5			32	12-0-0
J1	LPI 20Plus	2.5	9.5			1	4-0-0

Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			17	12

Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	LPI 20 Plus	2.5	9.5	LinFt		Varies	5-0-0

Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H2	21	LT259			4 10dx1 1/2	2 10dx1 1/2	
H4	1	HGUS410			46 16d	16 16d	

- NOTES:
1. Framer to verify dimensions on the architectural drawings.
 2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
 3. Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls.
 4. Install single-ply flush window header along inside face of rimboard/rimjoist.
 5. Refer to Nascor specifier guide for installation works.
 6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
 7. Load transfer blocks to be installed under all point loads.
 8. 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.

Legend	
PS	Point Load Support
◇	Load from Above
	Wall
	Norbord Rimboard Plus 1.125 X 9.5
	LPI 20Plus 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)
	Forex 2.0E-3000Fb LVL 1.75 X 9.5
	5.25 X 8 (Dropped)



Layout Name
LOT-17 (LIANA 2 EL-1)

Design Method
LSD

Description
GRANELLI HOMES CORP.
BRAMPTON, ONT.

Created
May 29, 2018

Builder
GREEN YORK HOMES

Sales Rep
RM

Designer
SB

Shipping

Project

Builder's Project

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

Job Path
GREEN YORK HOMES\GRANELLI
HOME CORP\MODELS\LOT 17 LIANA
2-1\LOT-17 (LIANA 2 EL-1).isl

Second Floor
Design Method LSD
Building Code NBCC 2010 / OBC
2012

Floor Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	480
TL Span L/	360
LL Cant 2L/	480
TL Cant 2L/	360
Deflection Girder	
LL Span L/	360
TL Span L/	240
LL Cant 2L/	480
TL Cant 2L/	360
Decking	
Deck	OSB
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling:	Gypsum 1/2"



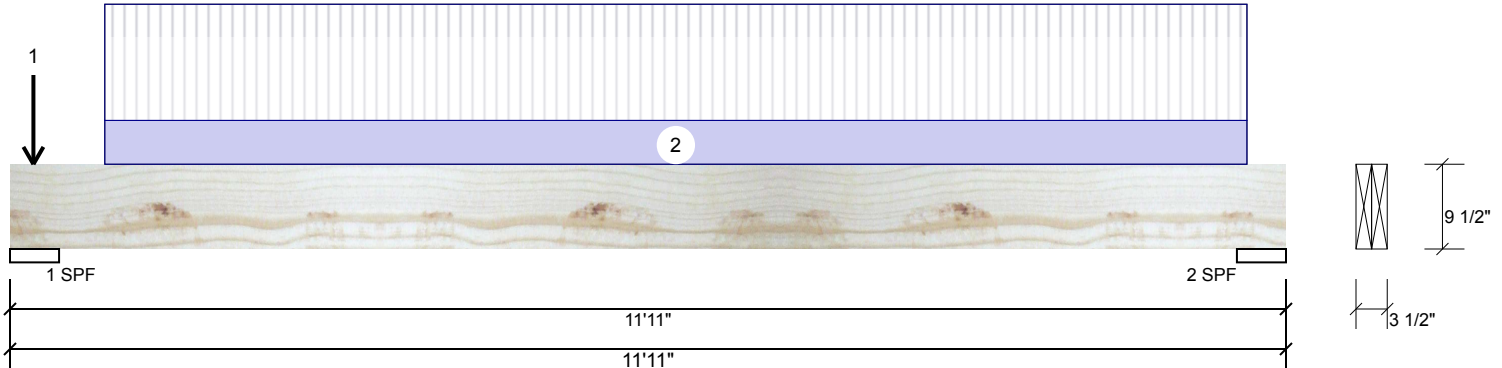
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Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 1

BM4-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	1378	565	0	0
2	1362	559	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	23%	706 / 2068	2774	L	1.25D+1.5L
2 - SPF	5.500"	23%	699 / 2043	2742	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7560 ft-lb	5'11 5/8"	22724 ft-lb	0.333 (33%)	1.25D+1.5L	L
Unbraced	7560 ft-lb	5'11 5/8"	20280 ft-lb	0.373 (37%)	1.25D+1.5L	L
Shear	2345 lb	1'2 1/4"	9277 lb	0.253 (25%)	1.25D+1.5L	L
Perm Defl in.	0.074 (L/1812)	5'11 9/16"	0.371 (L/360)	0.200 (20%)	D	Uniform
LL Defl inch	0.180 (L/740)	5'11 9/16"	0.371 (L/360)	0.490 (49%)	L	
TL Defl inch	0.254 (L/525)	5'11 9/16"	0.556 (L/240)	0.460 (46%)	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.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-2-10		Top	52 lb	138 lb	0 lb	0 lb	J5
2	Part. Uniform	0-10-10 to 11-6-10		Top	92 PLF	244 PLF	0 PLF	0 PLF	
	Self Weight				8 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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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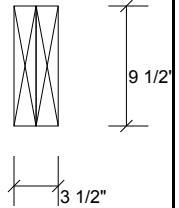
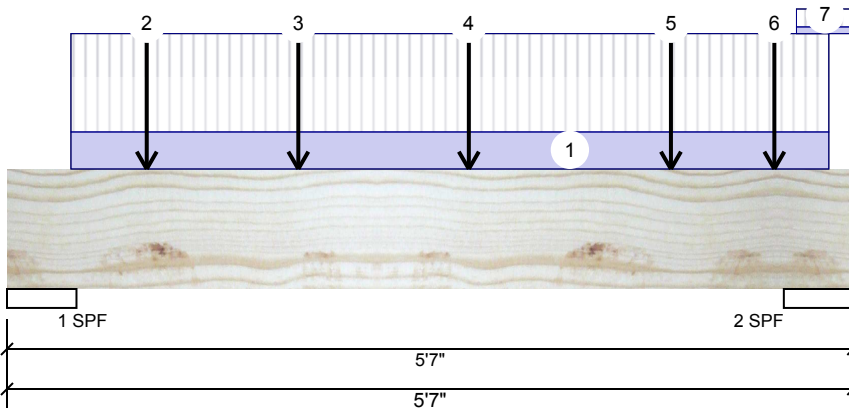
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 2

F10-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	1316	519	0	0
2	1973	812	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	22%	649 / 1973	2622	L	1.25D+1.5L
2 - SPF	5.500"	34%	1016 / 2960	3975	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3184 ft-lb	3' 9/16"	22724 ft-lb	0.140 (14%)	1.25D+1.5L	L
Unbraced	3184 ft-lb	3' 9/16"	22724 ft-lb	0.140 (14%)	1.25D+1.5L	L
Shear	3785 lb	4' 3/4"	9277 lb	0.408 (41%)	1.25D+1.5L	L
Perm Defl in.	0.007 (L/7853)	2'10 1/8"	0.160 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.019 (L/3081)	2'10 1/8"	0.160 (L/360)	0.120 (12%)	L	
TL Defl inch	0.026 (L/2213)	2'10 1/8"	0.240 (L/240)	0.110 (11%)	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 braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-5-1 to 5-5-1		Far Face	104 PLF	276 PLF	0 PLF	0 PLF	
2	Point	0-11-1		Near Face	112 lb	292 lb	0 lb	0 lb	J5
3	Point	1-11-1		Near Face	105 lb	281 lb	0 lb	0 lb	J5
4	Point	3-0-9		Near Face	123 lb	327 lb	0 lb	0 lb	J5
5	Point	4-4-9		Near Face	100 lb	268 lb	0 lb	0 lb	J5
6	Point	5-0-12		Near Face	322 lb	722 lb	0 lb	0 lb	F4

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

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

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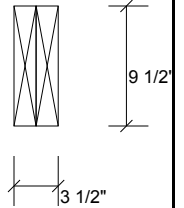
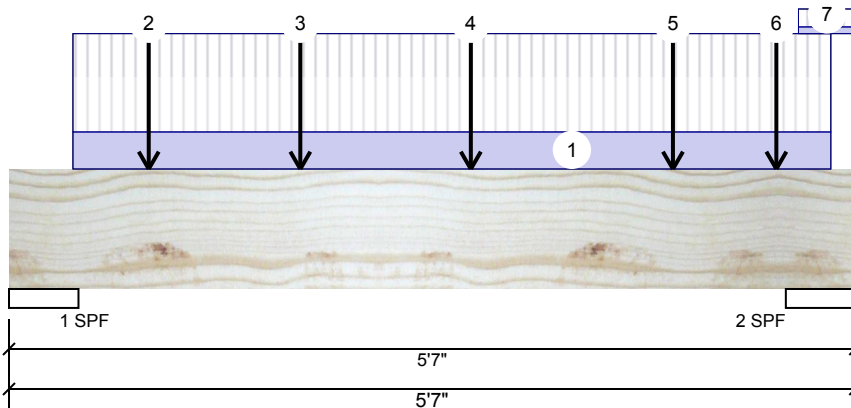
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 2 of 2

F10-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	5-2-8 to 5-7-0	(Span)2-6-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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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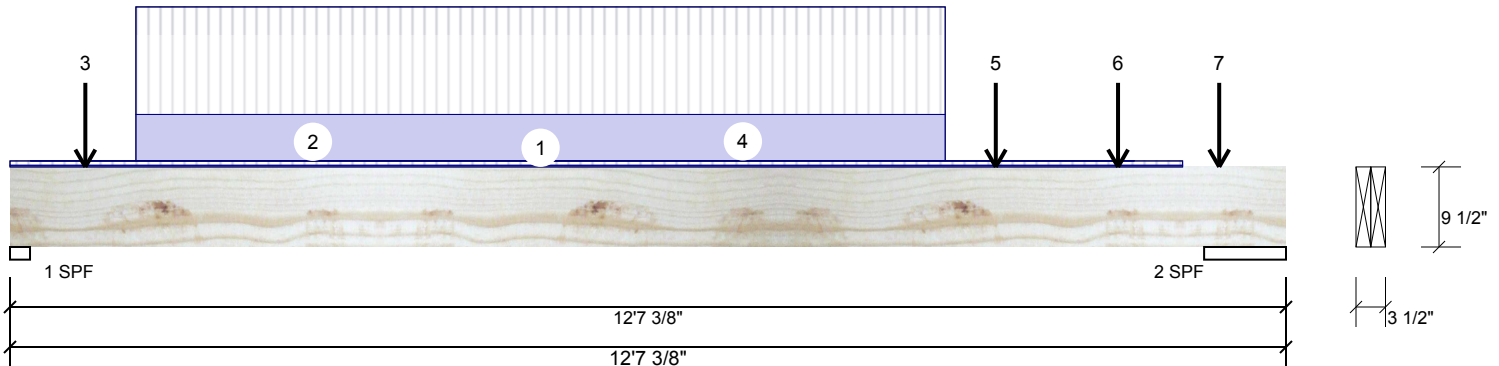
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 2

F4-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	1567	722	0	0
2	1790	804	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	64%	902 / 2351	3253 L	1.25D+1.5L
2 - SPF	9.714"	18%	1005 / 2685	3690 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9822 ft-lb	6'	22724 ft-lb	0.432 (43%)	1.25D+1.5L	L
Unbraced	9822 ft-lb	6'	20006 ft-lb	0.491 (49%)	1.25D+1.5L	L
Shear	3223 lb	11 1/8"	9277 lb	0.347 (35%)	1.25D+1.5L	L
Perm Defl in.	0.115 (L/1224)	6' 1/16"	0.391 (L/360)	0.290 (29%)	D	Uniform
LL Defl inch	0.251 (L/561)	6'	0.391 (L/360)	0.640 (64%)	L	
TL Defl inch	0.366 (L/385)	6' 1/16"	0.587 (L/240)	0.620 (62%)	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 braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-7-2	(Span)0-6-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-7 to 11-1-5		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-8-15		Far Face	104 lb	238 lb	0 lb	0 lb	J5
4	Part. Uniform	1-2-15 to 9-2-15		Far Face	114 PLF	266 PLF	0 PLF	0 PLF	
5	Point	9-8-15		Far Face	128 lb	294 lb	0 lb	0 lb	J5
6	Point	10-11-7		Far Face	123 lb	292 lb	0 lb	0 lb	J5

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

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

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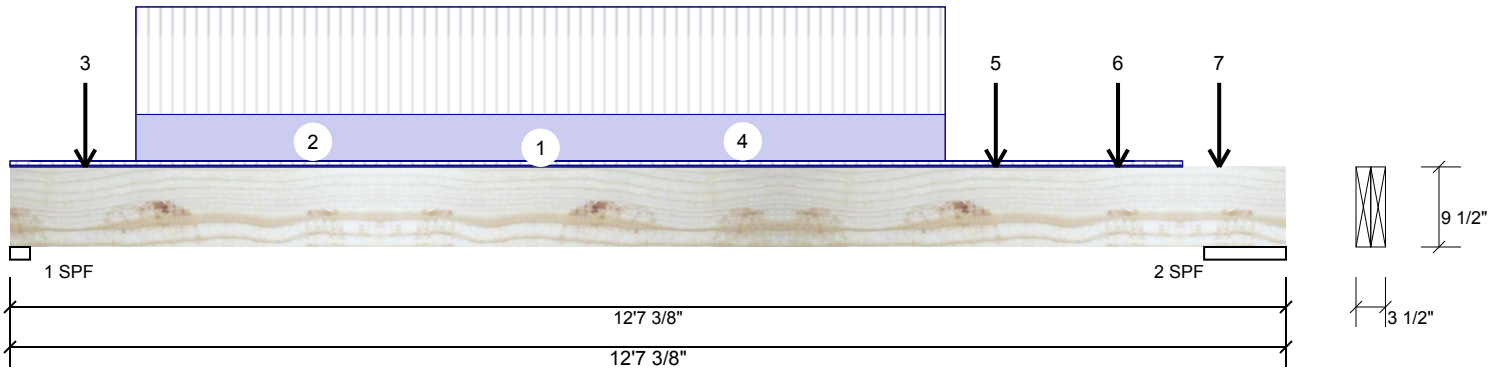
Client: GREEN YORK HOMES
 Project:
 Address:

Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 2 of 2

F4-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	11-11-7		Far Face	105 lb	281 lb	0 lb	0 lb	J5
	Self Weight				8 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

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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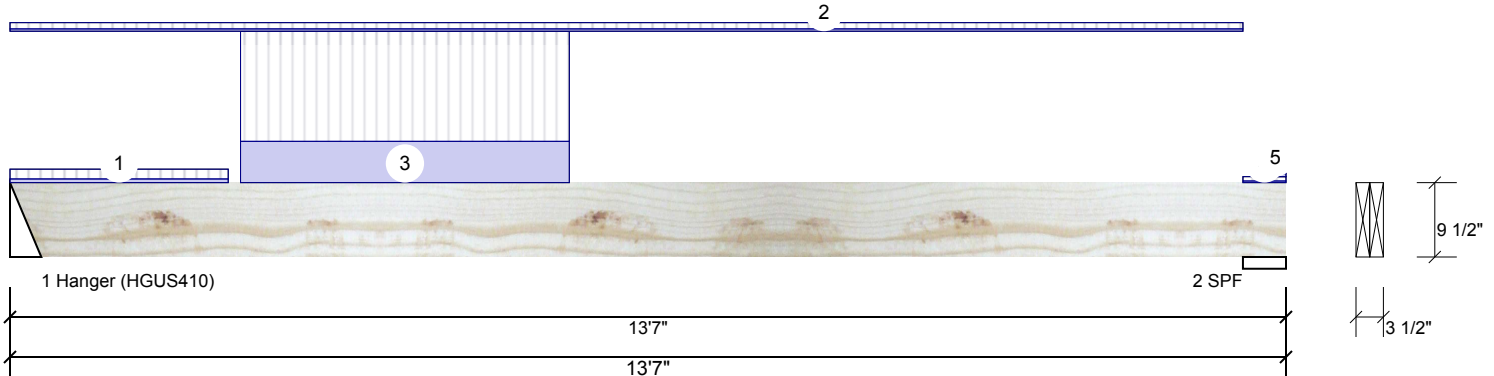
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Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 1

F4-B 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	722	322	0	0
2	357	186	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	14%	403 / 1083	1486	L	1.25D+1.5L
2 - SPF	5.500"	6%	233 / 536	768	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4669 ft-lb	5' 1/16"	22724 ft-lb	0.205 (21%)	1.25D+1.5L	L
Unbraced	4669 ft-lb	5' 1/16"	19429 ft-lb	0.240 (24%)	1.25D+1.5L	L
Shear	1402 lb	1' 3/4"	9277 lb	0.151 (15%)	1.25D+1.5L	L
Perm Defl in.	0.058 (L/2668)	6'2 5/8"	0.431 (L/360)	0.130 (13%)	D	Uniform
LL Defl inch	0.128 (L/1209)	6'1 5/16"	0.431 (L/360)	0.300 (30%)	L	
TL Defl inch	0.186 (L/832)	6'1 3/4"	0.646 (L/240)	0.290 (29%)	D+L	L

Design Notes

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



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-3-14	(Span)1-0-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-1-8	(Span)0-8-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	2-5-7 to 5-11-7		Top	90 PLF	240 PLF	0 PLF	0 PLF	Pass-Thru Framing Squash Block is required at all point loads over bearings
4	Tie-In	13-1-8 to 13-7-0	(Span)0-5-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	13-2-10 to 13-7-0	(Span)0-10-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
	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

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

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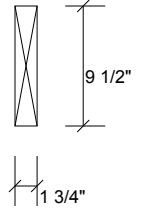
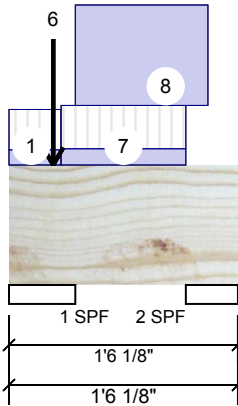
Client: GREEN YORK HOMES
 Project:
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Date: 1/16/2019
 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 1 of 2

F9-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	283	457	566	0
2	10	39	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.250"	37% 571 / 991	1561 L	1.25D+1.5S +0.5L
2 - SPF	4.125"	2% 55 / 0	55 Uniform	1.4D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10 ft-lb	9 5/8"	7385 ft-lb	0.001 (0%)	1.4D	Uniform
Unbraced	10 ft-lb	9 5/8"	7385 ft-lb	0.001 (0%)	1.4D	Uniform
Shear	40 lb	5 1/4"	3015 lb	0.013 (1%)	1.4D	Uniform
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

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.



January 17, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	(Span)1-3-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-8		Top	10 lb	0 lb	23 lb	0 lb	
3	Point	0-3-8		Top	18 lb	0 lb	0 lb	0 lb	Wall Self Weight
4	Point	0-3-8		Top	386 lb	262 lb	537 lb	0 lb	F12 F12
5	Point	0-3-8		Top	2 lb	0 lb	6 lb	0 lb	
6	Point	0-3-8		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Tie-In	0-4-2 to 1-2-0	(Span)1-4-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Continued on page 2...

Notes

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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
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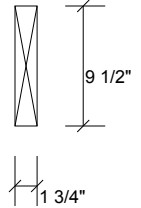
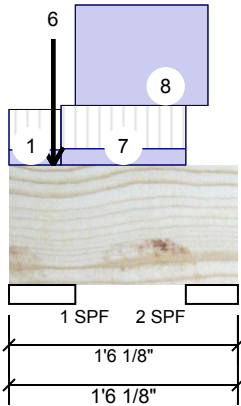
Client: GREEN YORK HOMES
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 Designer: SB
 Job Name: LOT-17 (LIANA 2 EL-1)
 Project #:

Page 2 of 2

F9-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Part. Uniform	0-5-4 to 1-3-12		Top	64 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				4 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

Notes

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Lumber

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Handling & Installation

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Manufacturer Info

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