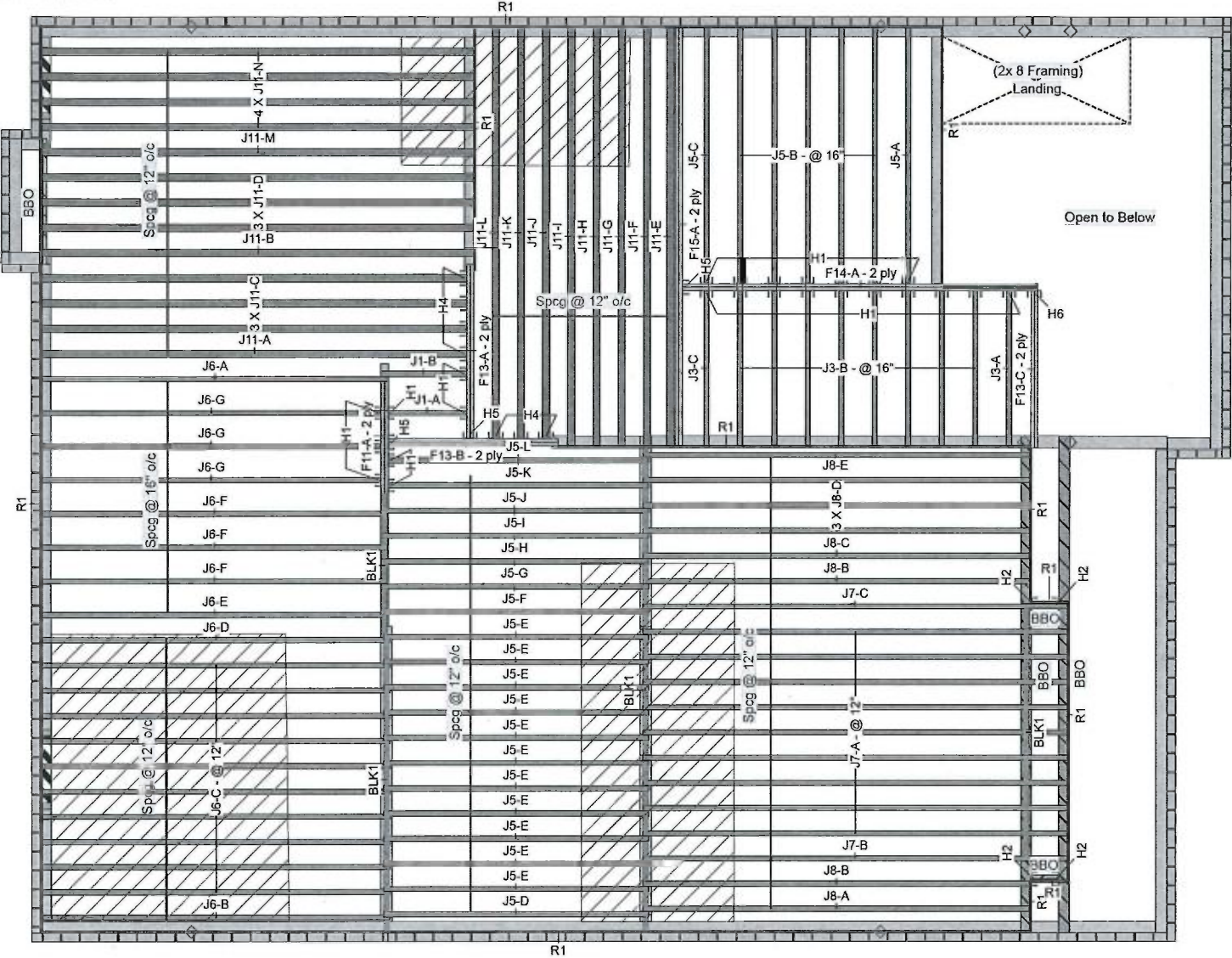


Second Floor



This certification is to confirm that:

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
2. The floor joists comply with the Nascor span table for the loads and spacing shown on this layout.

The floor system must be assembled in accordance to the Nascor Specifier Guide. Multi-ply members must be attached together as per the included multiple member connection detail.

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



January 14, 2019

Legend

	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 11.875
	LPI 20Plus 11.875
	NJ40U 11.875
	Forex 2.0E-3000Fb LVL 1.75 X 11.875

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -14056-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
F15	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	18-0-0
F14	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	16-0-0
F13	Forex 2.0E-3000Fb LVL	1.75	11.875	3	2	6	8-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	6-0-0

I Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J7	LPI 20Plus	2.5	11.875			11	18-0-0
J8	LPI 20Plus	2.5	11.875			8	16-0-0
J6	LPI 20Plus	2.5	11.875			20	14-0-0
J5	LPI 20Plus	2.5	11.875			26	12-0-0
J3	LPI 20Plus	2.5	11.875			10	8-0-0
J1	LPI 20Plus	2.5	11.875			2	4-0-0
J11	NJ40U	3.5	11.875			21	18-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			15	12

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	LPI 20 Plus	2.5	11.875	Lin Ft		Varies	33-0-0

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	25	LT251188			4 10dx1 1/2	2 10dx1 1/2
H2	4	Unknown Hanger				
H4	7	LT351188			4 10dx1 1/2	2 10dx1 1/2
H5	3	HGUS410			46 16d	16 16d
H6	1	HUC410 (Min)			14 16d	6 10d

- 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.

ARCHITECTURAL DRAWINGS:

REGION DESIGN INC.
8700 Dufferin St., Concord, ON
Date: Oct. 2018
Project No:
Model: LOT 19 (SANDSTONE 1A)

Layout Name
LOT 19 (SANDSTONE 1A)

Design Method
LSD

Description
MINNISALE HOMES
BRAMPTON, ONT.

Created
June 29, 2018

Builder
GREENPARK

Sales Rep
RM

Designer
RCO

Shipping

Project

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

Job Path
D:\Users\rochavillo\WORK FROM HOME\GREENPARK\MINNISALE HOMES\LOT 19 (SANDSTONE 1A)\FLOOR\LOT 19 (SANDSTONE 1A).is

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	SPF Plywood
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling:	Gypsum 1/2"

Engineering Note Page (ENP-2)

REVISION 2018-10-17

SANDSTONE 1A-019

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.

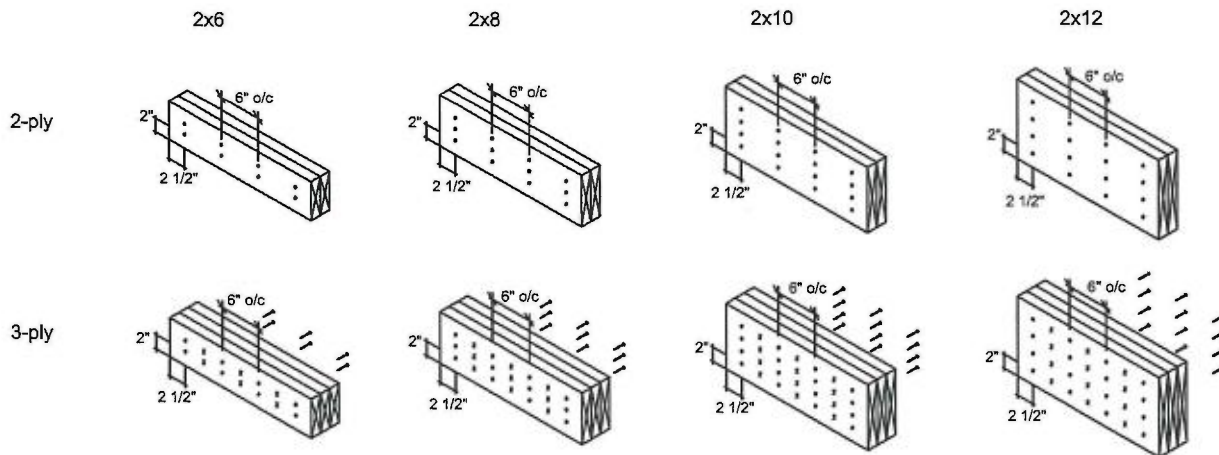
COMPONENT

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.

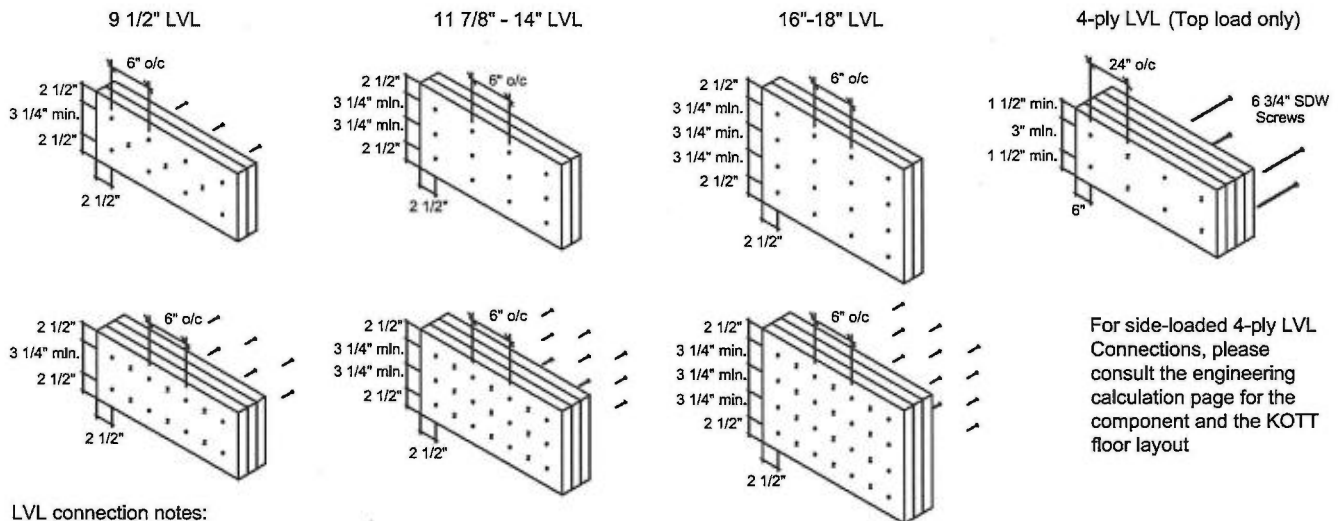
Conventional Connections



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.

For side-loaded 4-ply LVL Connections, please consult the engineering calculation page for the component and the KOTT floor layout

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





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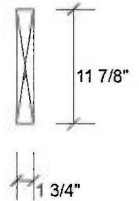
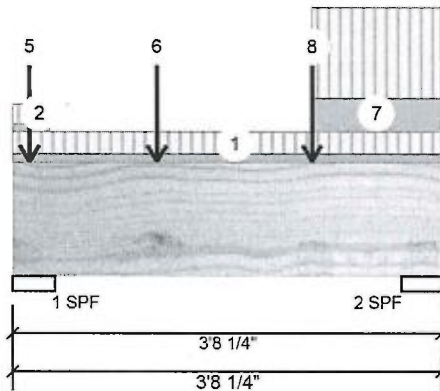
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 2

F1-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

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		

Brg	Live	Dead	Snow	Wind
1	280	156	0	0
2	150	65	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	4.375"	13%	195 / 420	615 L 1.25D+1.5L
2 - SPF	4.125"	7%	81 / 225	306 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	173 ft-lb	2'3 5/16"	17130 ft-lb	0.010 (1%)	1.25D+1.5L	L
Unbraced	173 ft-lb	2'3 5/16"	13544 ft-lb	0.013 (1%)	1.25D+1.5L	L
Shear	148 lb	1'3 1/2"	5798 lb	0.025 (3%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/48178)	1'11 15/16"	0.103 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/33365)	1'11 3/4"	0.155 (L/240)	0.010 (1%)	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 Top braced at bearings.
- 4 Bottom braced at bearings.



January 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-8-4	(Span)0-8-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-3-13	(Span)0-7-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-1-12		Top	56 lb	149 lb	0 lb	0 lb	J6
4	Point	0-1-12		Top	14 lb	36 lb	0 lb	0 lb	J1
5	Point	0-1-12		Top	41 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Point	1-2-14		Near Face	22 lb	58 lb	0 lb	0 lb	J1

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

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



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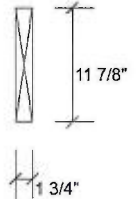
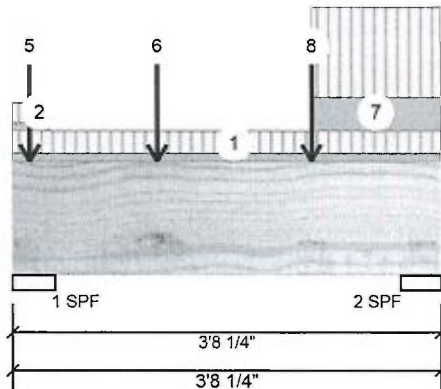
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 2 of 2

F1-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Tie-In	2-6-14 to 3-8-4	(Span)2-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Point	2-6-14		Near Face	26 lb	69 lb	0 lb	0 lb	J1
	Self Weight				5 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**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

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 14 Anderson Blvd, Ontario
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This design is valid until 7/10/2021





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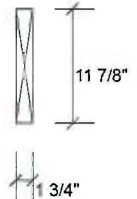
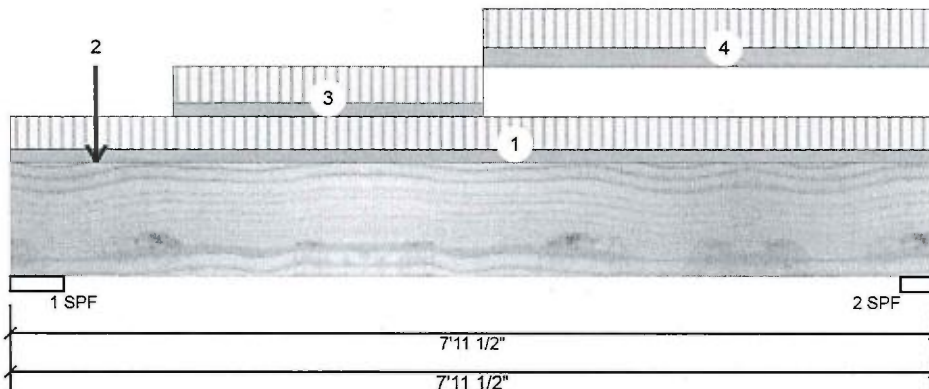
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F2-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

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		

Brg	Live	Dead	Snow	Wind
1	1016	416	0	0
2	1004	442	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.500"	35%	520 / 1525	2044 L 1.25D+1.5L
2 - SPF	3.500"	55%	553 / 1506	2059 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3498 ft-lb	4'1 3/8"	17130 ft-lb	0.204 (20%)	1.25D+1.5L	L
Unbraced	3498 ft-lb	4'1 3/8"	6131 ft-lb	0.570 (57%)	1.25D+1.5L	L
Shear	1999 lb	1'4 5/8"	5798 lb	0.345 (34%)	1.25D+1.5L	L
Perm Defl in.	0.019 (L/4742)	4'1 5/16"	0.244 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.044 (L/2016)	4' 7/8"	0.244 (L/360)	0.180 (18%)	L	L
TL Defl inch	0.062 (L/1415)	4'1"	0.367 (L/240)	0.170 (17%)	D+L	L

Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	C
1	Part. Uniform	0-0-0 to 7-11-8		Top	45 PLF	120 PLF	0 PLF	0 PLF	
2	Point	0-8-14		Near Face	62 lb	165 lb	0 lb	0 lb	J3
3	Part. Uniform	1-4-14 to 4-0-14		Near Face	51 PLF	135 PLF	0 PLF	0 PLF	
4	Part. Uniform	4-0-14 to 7-11-8		Near Face	68 PLF	139 PLF	0 PLF	0 PLF	
	Self Weight				5 PLF				



January 14, 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

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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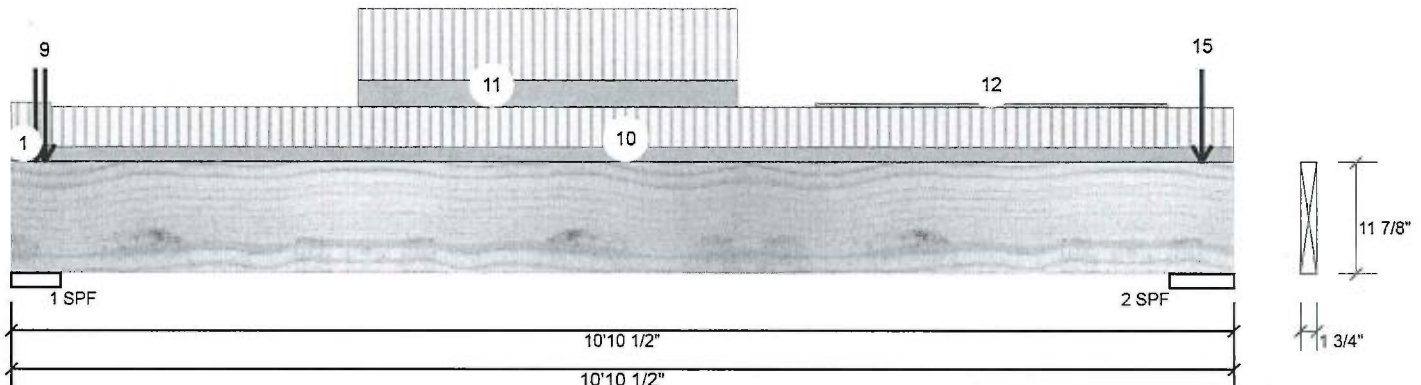
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 2

F3-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

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		

Brg	Live	Dead	Snow	Wind
1	355	194	0	0
2	367	221	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	14%	243 / 533	776 L	1.25D+1.5L
2 - SPF	6.875"	11%	276 / 550	827 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1172 ft-lb	5'1 11/16"	17130 ft-lb	0.068 (7%)	1.25D+1.5L	L
Unbraced	1172 ft-lb	5'1 11/16"	4501 ft-lb	0.260 (26%)	1.25D+1.5L	L
Shear	350 lb	1'4 3/8"	5798 lb	0.060 (6%)	1.25D+1.5L	L
Perm Def in.	0.011 (L/10685)	5'3 13/16"	0.333 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.023 (L/5309)	5'3 5/16"	0.333 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.034 (L/3547)	5'3 1/2"	0.499 (L/240)	0.070 (7%)	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 Top braced at bearings.
- 4 Bottom braced at bearings.



January 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-4	(Span)1-2-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-10		Top	4 lb	10 lb	0 lb	0 lb	J6
3	Point	0-2-10		Top	2 lb	0 lb	0 lb	0 lb	Wall Self Weight
4	Point	0-3-10		Top	31 lb	72 lb	0 lb	0 lb	J6
5	Point	0-3-10		Top	21 lb	55 lb	0 lb	0 lb	J5
6	Point	0-3-10		Top	21 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Point	0-3-10		Top	3 lb	7 lb	0 lb	0 lb	J6

Continued on page 2...

Notes

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

Lumber

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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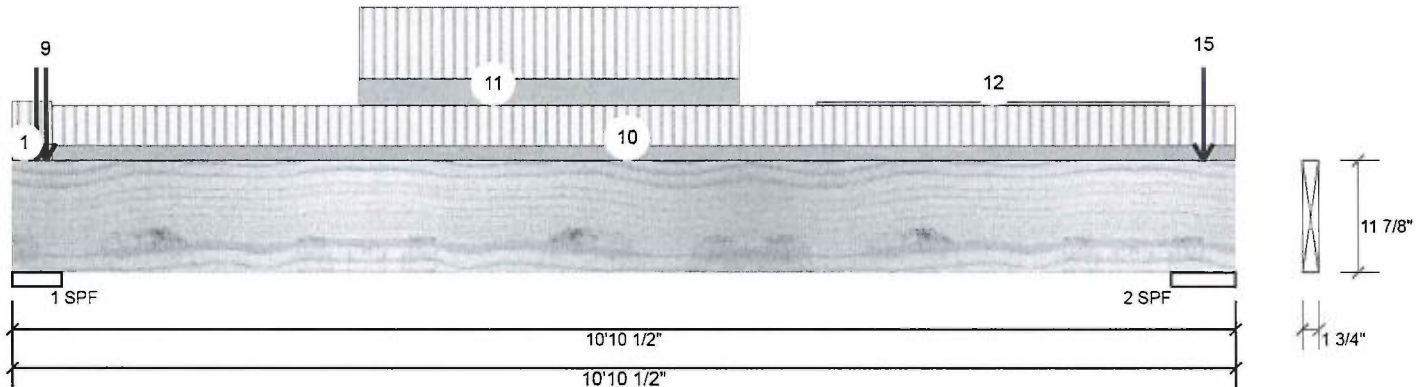
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 2 of 2

F3-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	0-3-10		Top	6 lb	15 lb	0 lb	0 lb	J5
9	Point	0-3-10		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
10	Tie-In	0-4-4 to 10-10-8	(Span)1-1-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
11	Part. Uniform	3-1-2 to 6-5-10		Top	15 PLF	40 PLF	0 PLF	0 PLF	
12	Part. Uniform	7-1-15 to 10-3-8		Top	2 PLF	0 PLF	0 PLF	0 PLF	
13	Point	10-7-2		Top	42 lb	101 lb	0 lb	0 lb	J5
14	Point	10-7-2		Top	34 lb	83 lb	0 lb	0 lb	
15	Point	10-7-2		Top	45 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Self Weight				5 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

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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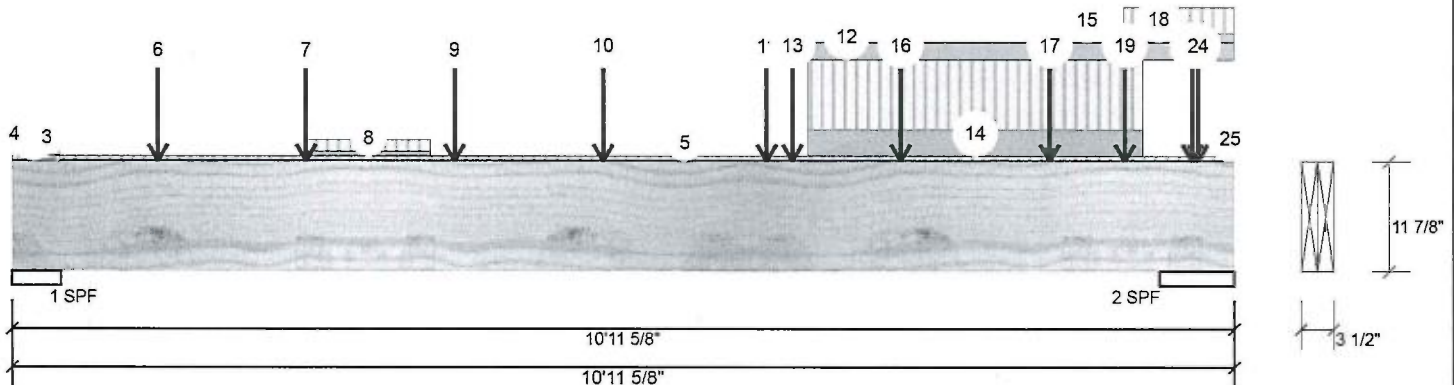
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 2

F4-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	1526	694	0	0
2	3505	1735	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	28%	867 / 2288	3156	L	1.25D+1.5L
2 - SPF	8.000"	43%	2169 / 5257	7426	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	14549 ft-lb	7' 1/8"	34261 ft-lb	0.425 (42%)	1.25D+1.5L	L
Unbraced	14549 ft-lb	7' 1/8"	29618 ft-lb	0.491 (49%)	1.25D+1.5L	L
Shear	5946 lb	9'4 1/2"	11596 lb	0.513 (51%)	1.25D+1.5L	L
Perm Defl in.	0.062 (L/1948)	5'9 13/16"	0.333 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.136 (L/882)	5'9 5/16"	0.333 (L/360)	0.410 (41%)	L	L
TL Defl inch	0.197 (L/607)	5'9 1/2"	0.499 (L/240)	0.400 (40%)	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 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-11	(Span)0-9-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-1-1		Top	2 PLF	0 PLF	0 PLF	0 PLF	
3	Tie-In	0-0-0 to 0-5-2	(Span)0-6-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	0-0-0 to 0-1-1		Top	1 PLF	0 PLF	0 PLF	0 PLF	
5	Tie-In	0-5-2 to 10-10-8	(Span)0-10-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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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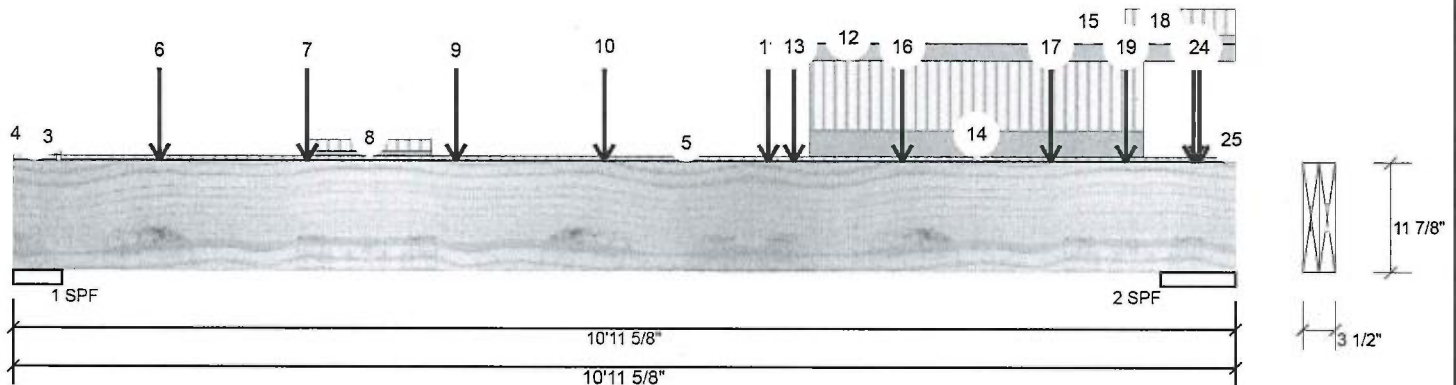
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 2 of 2

F4-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	1-3-12		Far Face	22 lb	58 lb	0 lb	0 lb	J1
7	Point	2-7-12		Far Face	26 lb	69 lb	0 lb	0 lb	J1
8	Tie-In	2-7-12 to 3-9-2	(Span)2-9-8 to 2-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Point	3-11-12		Far Face	113 lb	300 lb	0 lb	0 lb	J11
10	Point	5-3-12		Far Face	171 lb	456 lb	0 lb	0 lb	J11
11	Point	6-9-6		Far Face	176 lb	470 lb	0 lb	0 lb	F9
12	Part. Uniform	6-10-10 to 10-11-10		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
13	Point	7-0-2		Top	494 lb	1164 lb	0 lb	0 lb	F13 F13
14	Part. Uniform	7-1-12 to 10-1-12		Top	127 PLF	330 PLF	0 PLF	0 PLF	J11
15	Part. Uniform	7-2-7 to 10-3-8		Top	1 PLF	0 PLF	0 PLF	0 PLF	
16	Point	7-11-12		Far Face	138 lb	368 lb	0 lb	0 lb	J8
17	Point	9-3-12		Far Face	109 lb	292 lb	0 lb	0 lb	J8
18	Part. Uniform	9-11-12 to 10-11-10		Top	45 PLF	119 PLF	0 PLF	0 PLF	J11
19	Point	9-11-14		Far Face	98 lb	262 lb	0 lb	0 lb	F9
20	Point	10-7-2		Top	8 lb	22 lb	0 lb	0 lb	J8
21	Point	10-7-2		Top	1 lb	3 lb	0 lb	0 lb	J5
22	Point	10-7-2		Top	22 lb	59 lb	0 lb	0 lb	J11
23	Point	10-7-2		Top	39 lb	0 lb	0 lb	0 lb	Wall Self Weight
24	Point	10-7-12		Far Face	55 lb	140 lb	0 lb	0 lb	J11
25	Part. Uniform	10-10-12 to 10-11-10		Top	58 PLF	155 PLF	0 PLF	0 PLF	J11
Self Weight					10 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
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 L4A 7X4
 905-642-4400

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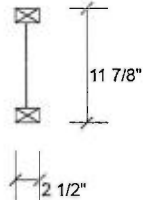
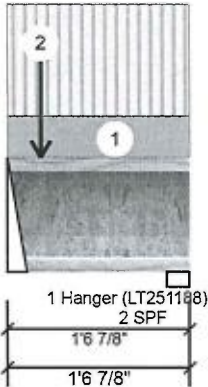
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F6-A LPI 20Plus 11.875" - PASSED

Level: Ground Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	112	42	0	0
2	61	23	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	14% 52 / 169	221 L	1.25D+1.5L
2 - SPF	2.375"	7% 29 / 92	121 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	43 ft-lb	7 3/8"	6250 ft-lb	0.007 (1%)	1.25D+1.5L	L
Shear	208 lb	1 1/4"	2345 lb	0.089 (9%)	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/38315)	7 1/2"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/27904)	7 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 14, 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	0-3-7		Far Face	27 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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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
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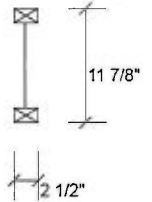
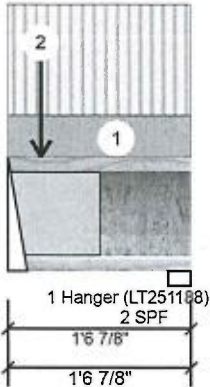
Client: GREENPARK
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Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F6-B LPI 20Plus 11.875" - PASSED

Level: Ground Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	184	69	0	0
2	73	27	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	23% 87 / 276	363 L	1.25D+1.5L
2 - SPF	2.375"	9% 34 / 109	143 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	63 ft-lb	5 1/4"	6250 ft-lb	0.010 (1%)	1.25D+1.5L	L
Shear	350 lb	1 1/4"	2345 lb	0.149 (15%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/69521)	5 11/16"	0.044 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.001 (L/26213)	5 11/16"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/19036)	5 11/16"	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 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 14, 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	0-3-7		Near Face	59 lb	156 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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 414 Union Street, Suite 2000
 Nashville, TN 37219
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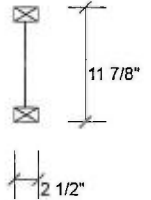
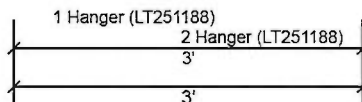
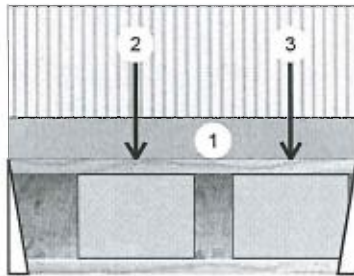
Client: GREENPARK
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 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F7-A LPI 20Plus 11.875" - PASSED

Level: Ground Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	338	127	0	0
2	425	159	0	0

Bearings and Factored Reactions

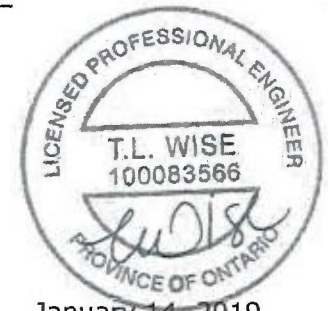
Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	42%	158 / 507	666 L	1.25D+1.5L
2 - Hanger	2.000"	53%	199 / 638	836 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	619 ft-lb	1'1 1/8"	6250 ft-lb	0.099 (10%)	1.25D+1.5L	L
Shear	829 lb	2'10 3/4"	2345 lb	0.354 (35%)	1.25D+1.5L	L
Perm Defl in. (L/12916)	0.003	1'1 3/16"	0.093 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.007 (L/4840)	1'1 3/16"	0.093 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.010 (L/3520)	1'1 3/16"	0.140 (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.



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 to 1-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-1-2		Near Face	138 lb	368 lb	0 lb	0 lb	J8
3	Point	2-5-2		Near Face	109 lb	292 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

Louisiana-Pacific Corp
 414 Union Street, Suite 2000
 Nashville, TN 37219
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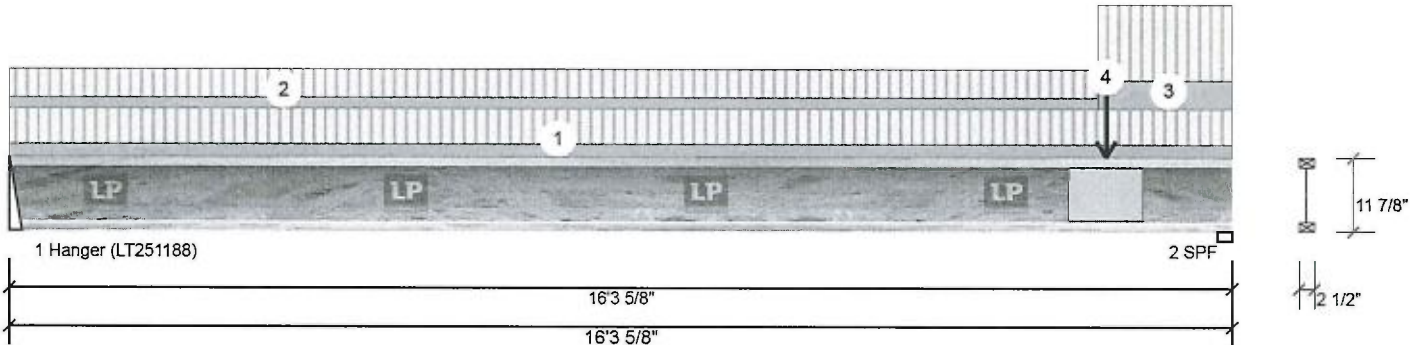
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 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F9-A LPI 20Plus 11.875" - PASSED

Level: Ground Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

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		

Brg	Live	Dead	Snow	Wind
1	470	176	0	0
2	809	304	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	58% 220 / 705	925 L	1.25D+1.5L
2 - SPF	2.375"	97% 380 / 1214	1594 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3977 ft-lb	8'9 11/16"	6250 ft-lb	0.636 (64%)	1.25D+1.5L	L
Shear	1569 lb	16'2"	2345 lb	0.669 (67%)	1.25D+1.5L	L
Perm Defl in.	0.127 (L/1520)	8'4 5/16"	0.535 (L/360)	0.240 (24%)	D	Uniform
LL Defl inch	0.338 (L/570)	8'4 5/16"	0.535 (L/360)	0.630 (63%)	L	L
TL Defl inch	0.465 (L/415)	8'4 5/16"	0.803 (L/240)	0.580 (58%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.127", Long Term = 0.190"
- 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 must be laterally braced at a maximum of 5'2" o.c.
- 7 Bottom flange braced at bearings.



January 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-3-10	(Span)1-5-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 14-6-4	(Span)1-2-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	14-6-4 to 16-3-10	(Span)3-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	14-7-8		Near Face	127 lb	338 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

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

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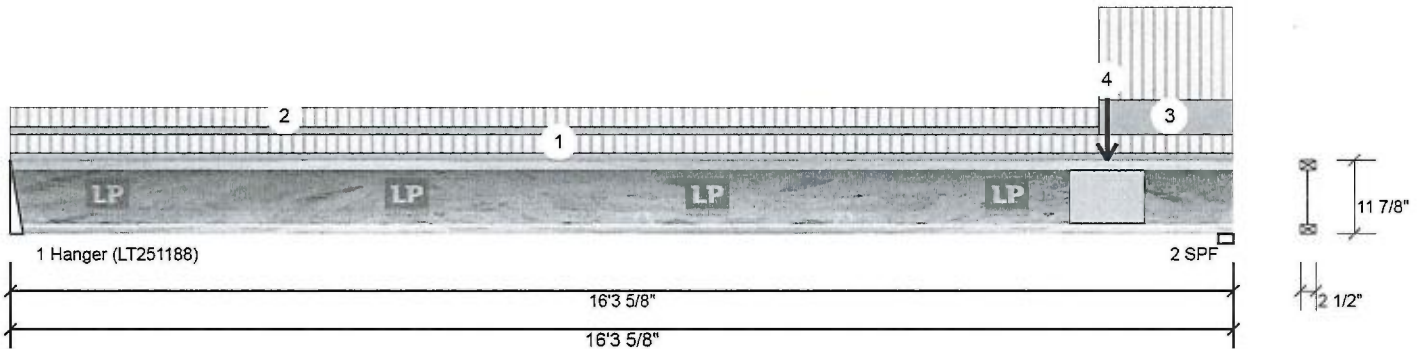
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F9-B LPI 20Plus 11.875" - 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	262	98	0	0
2	688	258	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	32%	123 / 393	516 L	1.25D+1.5L
2 - SPF	2.375"	83%	322 / 1032	1354 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2480 ft-lb	9'9 7/8"	6250 ft-lb	0.397 (40%)	1.25D+1.5L	L
Shear	1333 lb	16'2"	2345 lb	0.569 (57%)	1.25D+1.5L	L
Perm Defl in.	0.079 (L/2433)	8'7 1/4"	0.535 (L/360)	0.150 (15%)	D	Uniform
LL Defl inch	0.211 (L/912)	8'7 1/4"	0.535 (L/360)	0.390 (39%)	L	L
TL Defl inch	0.291 (L/663)	8'7 1/4"	0.803 (L/240)	0.360 (36%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.079", Long Term = 0.119"
- 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 must be laterally braced at a maximum of 6'8" o.c.
- 7 Bottom flange braced at bearings.



January 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-3-10	(Span)0-7-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 14-6-4	(Span)0-8-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	14-6-4 to 16-3-10	(Span)3-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	14-7-8		Far Face	159 lb	425 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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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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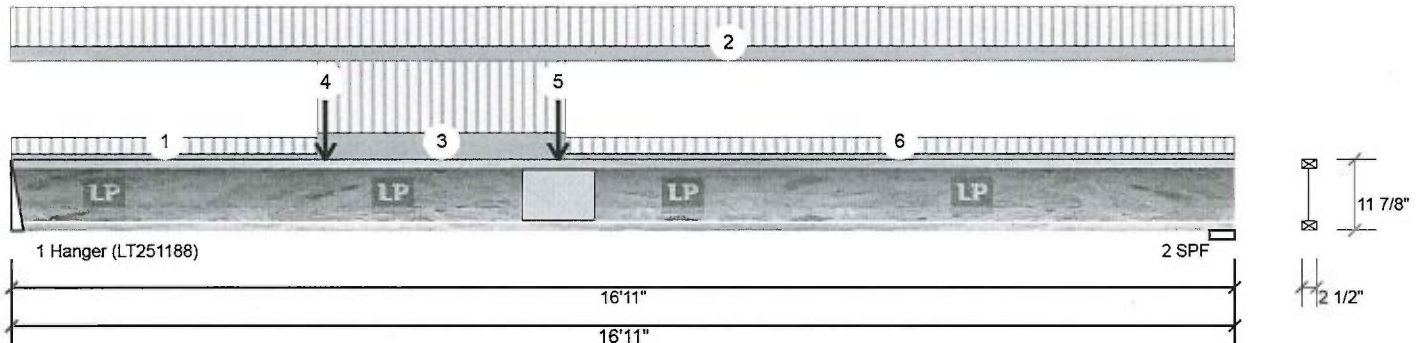
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F9-C LPI 20Plus 11.875" - PASSED

Level: Ground Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

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		

Brg	Live	Dead	Snow	Wind
1	466	175	0	0
2	372	139	0	0

Bearings and Factored Reactions

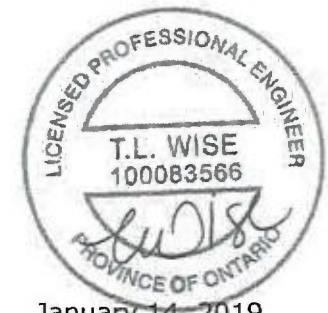
Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	58%	219 / 699	918 L 1.25D+1.5L
2 - SPF	4.125"	40%	174 / 558	732 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4349 ft-lb	7'6 3/4"	6250 ft-lb	0.696 (70%)	1.25D+1.5L	L
Shear	912 lb	1 1/4"	2345 lb	0.389 (39%)	1.25D+1.5L	L
Perm Defl in.	0.133 (L/1493)	7'10 11/16"	0.551 (L/360)	0.240 (24%)	D	Uniform
LL Defl inch	0.354 (L/560)	7'10 11/16"	0.551 (L/360)	0.640 (64%)	L	L
TL Defl inch	0.487 (L/407)	7'10 11/16"	0.827 (L/240)	0.590 (59%)	D+L	L

Design Notes

- 1 Provide restraint at supports to ensure lateral stability.
- 2 Dead Load Deflection: Instant = 0.133", Long Term = 0.199"
- 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 must be laterally braced at a maximum of 4'10" o.c.
- 7 Bottom flange braced at bearings.



January 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-3-0	(Span)0-4-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 16-11-0	(Span)0-11-5 to 0-11-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	4-3-0 to 7-8-0	(Span)1-8-11 to 1-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	4-4-4		Far Face	42 lb	112 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
5	Point	7-6-12		Far Face	69 lb	184 lb	0 lb	0 lb	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
6	Tie-In	7-8-0 to 16-11-0	(Span)0-4-11 to 0-4-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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

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Manufacturer Info

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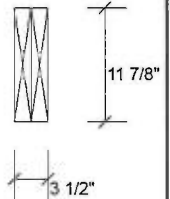
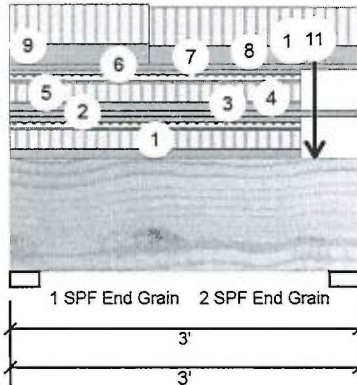
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 2

FH2-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	858	727	128	0
2	1094	944	199	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	29%	909 / 1351	2260 L	1.25D+1.5L +0.5S
2 - SPF End Grain	3.000"	37%	1180 / 1741	2922 L	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1343 ft-lb	1'6 9/16"	34261 ft-lb	0.039 (4%)	1.25D+1.5L +0.5S	L
Unbraced	1343 ft-lb	1'6 9/16"	34261 ft-lb	0.039 (4%)	1.25D+1.5L +0.5S	L
Shear	1646 lb	1'9 7/8"	11596 lb	0.142 (14%)	1.25D+1.5L +0.5S	L
Perm Defl in.	0.002 (L/17953)	1'6 7/16"	0.088 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.002 (L/14168)	1'6 7/16"	0.088 (L/360)	0.030 (3%)	L+0.5S	L
TL Defl inch	0.004 (L/7919)	1'6 7/16"	0.131 (L/240)	0.030 (3%)	D+L+0.5S	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 14, 2019

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

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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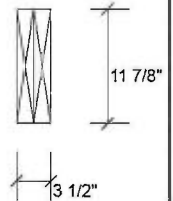
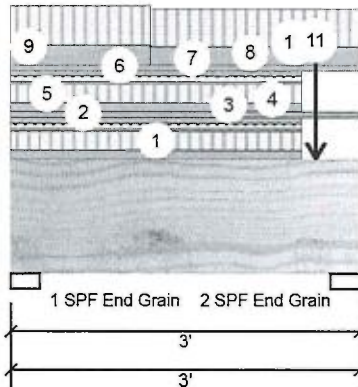
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 2 of 2

FH2-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 2-6-0		Top	64 PLF	138 PLF	0 PLF	0 PLF	J6
2	Part. Uniform	0-0-0 to 2-6-0		Top	17 PLF	0 PLF	40 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 2-6-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-0-0 to 3-0-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Part. Uniform	0-0-0 to 2-6-0		Near Face	64 PLF	138 PLF	0 PLF	0 PLF	J6
6	Part. Uniform	0-0-0 to 2-6-0		Near Face	17 PLF	0 PLF	40 PLF	0 PLF	
7	Part. Uniform	0-0-0 to 2-6-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Part. Uniform	0-0-0 to 3-0-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Part. Uniform	0-0-0 to 1-2-7		Near Face	141 PLF	283 PLF	0 PLF	0 PLF	J6
10	Part. Uniform	1-2-7 to 3-0-0		Near Face	131 PLF	270 PLF	0 PLF	0 PLF	J6
11	Point	2-7-8		Top	393 lb	437 lb	127 lb	0 lb	Header Column Header Column
	Self Weight				10 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

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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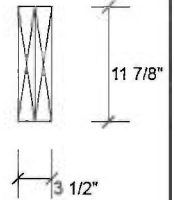
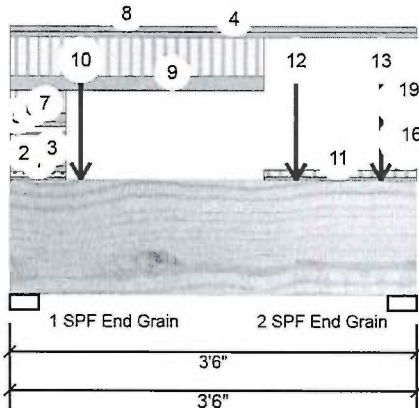
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Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 2

FH2-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level: Ground Floor



Member Information

Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)
Ply:	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		

Brg	Live	Dead	Snow	Wind
1	1186	813	140	0
2	1186	816	140	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	37% 1017 / 1849	2866 L	1.25D+1.5L +0.5S
2 - SPF End Grain	3.000"	41% 1019 / 1849	2869 L	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1430 ft-lb	1'9 7/16"	34261 ft-lb	0.042 (4%)	1.25D+1.5L +0.5S	L
Unbraced	1430 ft-lb	1'9 7/16"	34261 ft-lb	0.042 (4%)	1.25D+1.5L +0.5S	L
Shear	1983 lb	2'3 7/8"	11596 lb	0.171 (17%)	1.25D+1.5L +0.5S	L
Perm Defl in.	0.002 (L/20554)	1'8 11/16"	0.104 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.003 (L/12671)	1'9 3/8"	0.104 (L/360)	0.030 (3%)	L+0.5S	L
TL Defl inch	0.005 (L/7841)	1'9 1/16"	0.156 (L/240)	0.030 (3%)	D+L+0.5S	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 14, 2019

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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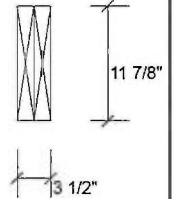
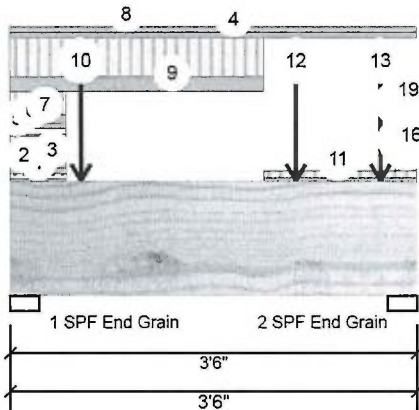
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Client: GREENPARK
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Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 2 of 2

FH2-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level: Ground Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-5-13		Top	17 PLF	0 PLF	40 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 0-5-13		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-0 to 0-5-13		Top	65 PLF	171 PLF	0 PLF	0 PLF	J11
4	Part. Uniform	0-0-0 to 3-6-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Part. Uniform	0-0-0 to 0-5-13		Near Face	17 PLF	0 PLF	40 PLF	0 PLF	
6	Part. Uniform	0-0-0 to 0-5-13		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Part. Uniform	0-0-0 to 0-5-13		Near Face	65 PLF	171 PLF	0 PLF	0 PLF	J11
8	Part. Uniform	0-0-0 to 3-6-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Part. Uniform	0-0-0 to 2-2-4		Near Face	109 PLF	290 PLF	0 PLF	0 PLF	J10
10	Point	0-7-5		Top	356 lb	486 lb	113 lb	0 lb	Header Column Header Column
11	Part. Uniform	2-2-4 to 3-6-0		Near Face	21 PLF	55 PLF	0 PLF	0 PLF	J2
12	Point	2-5-9		Top	175 lb	466 lb	0 lb	0 lb	F9 F9
13	Point	3-2-5		Top	356 lb	486 lb	113 lb	0 lb	Header Column Header Column
14	Part. Uniform	3-3-13 to 3-6-0		Top	17 PLF	0 PLF	40 PLF	0 PLF	
15	Part. Uniform	3-3-13 to 3-6-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
16	Part. Uniform	3-3-13 to 3-6-0		Top	65 PLF	171 PLF	0 PLF	0 PLF	J11
17	Part. Uniform	3-3-13 to 3-6-0		Near Face	17 PLF	0 PLF	40 PLF	0 PLF	
18	Part. Uniform	3-3-13 to 3-6-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
19	Part. Uniform	3-3-13 to 3-6-0		Near Face	65 PLF	171 PLF	0 PLF	0 PLF	J11
	Self Weight				10 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

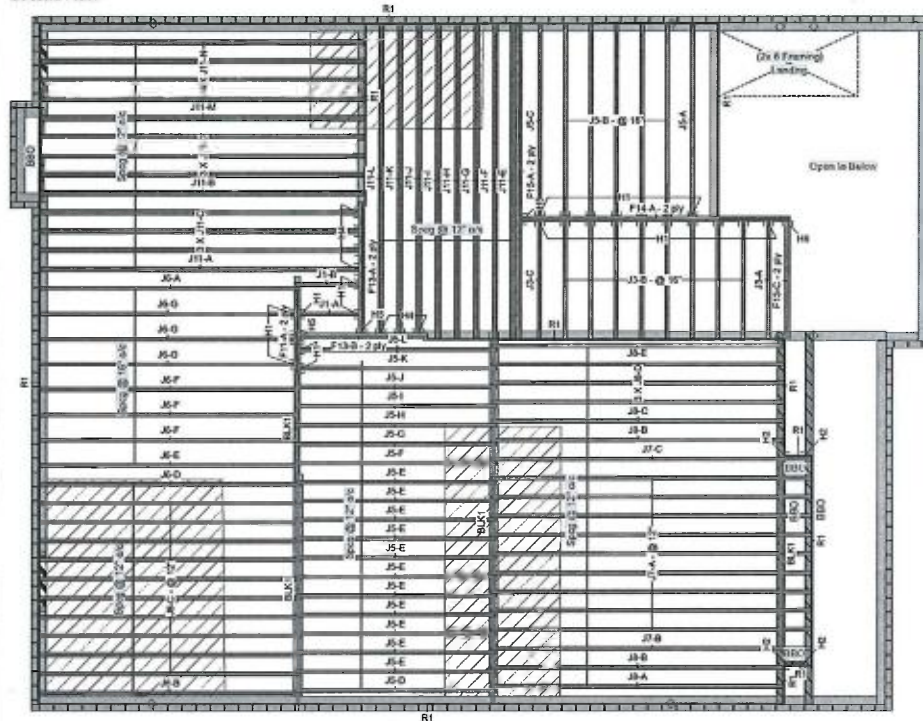
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 Canada
 L4A 7X4
 905-642-4400

NASCOR

This design is valid until 7/10/2021

Second Floor



This certification is to confirm that:

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
2. The floor joists comply with the Nascor span table for the loads and spacing shown on this layout.

The floor system must be assembled in accordance to the Nascor Specifier Guide. Multi-ply members must be attached together as per the included multiple member connection detail.

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



January 14, 2019

Legend

	Load from Above
	Wall Opening
	Norbord Rimboard Plus 1.125 X 11.875 LPI 20Plus 11.875 NJ40U 11.875 Forex 2.0E-3000Fb LVL 1.75 X 11.875

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC - 14056-R
4. CAN/CSA-O86-09
5. CCMC - 12787-R APA PR-1310(C)

Second Floor
LVL / LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F15	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	18-0-0
F14	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	16-0-0
F13	Forex 2.0E-3000Fb LVL	1.75	11.875	3	2	6	8-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	6-0-0

Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J7	LPI 20Plus	2.5	11.875			11	18-0-0
J8	LPI 20Plus	2.5	11.875			8	16-0-0
J6	LPI 20Plus	2.5	11.875			20	14-0-0
J5	LPI 20Plus	2.5	11.875			26	12-0-0
J3	LPI 20Plus	2.5	11.875			10	8-0-0
J1	LPI 20Plus	2.5	11.875			2	4-0-0
J11	NJ40U	3.5	11.875			21	18-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			15	12

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	LPI 20 Plus	2.5	11.875			Varies	33-0-0

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	25	LT251188			4 10dx1 1/2	2 10dx1 1/2
H2	4	Unknown Hanger				
H4	7	LT351188			4 10dx1 1/2	2 10dx1 1/2
H5	3	HGUS410			46 16d	16 16d
H6	1	HUC410 (Min)			14 16d	6 16d

NOTES:

1. Framer to verify dimensions on the architectural drawings.
2. Double joist only require filer/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.

ARCHITECTURAL DRAWINGS:

REGION DESIGN INC.
8700 Dufferin St., Concord, ON
Date: Oct. 2016
Project No:
Model: LOT 19 (SANDSTONE 1A)

NASCOR

Layout Name

LOT 19 (SANDSTONE 1A)

Design Method

LSD

Description

MINNISALE HOMES

BRAMPTON, ONT.

Created

June 29, 2018

Builder

GREENPARK

Sales Rep

RM

Designer

RCO

Shipping

Project

Builder's Project

Kott Lumber Company

14 Anderson Blvd

Stouffville, Ontario

Canada

L4A 7X4

905-642-4400

Job Path

D:\Users\vchayniko\WORK FROM

HOMES\GREENPARK\MINNISALE

HOMES\LOT 19 (SANDSTONE 1A)

FLOOR\LOT 19 (SANDSTONE 1A)

Second Floor

Design Method

Building Code

NBC 2010 / OBC

2012

Floor

Loads

Live

Dead

Deflection Joist

LL Span 1/

TL Span 1/

LL Cant 2L/

TL Cant 2L/

Deflection Girder

LL Span 1/

TL Span 1/

LL Cant 2L/

TL Cant 2L/

Decking

Deck

Thickness

Fastener

Vibration

Ceiling

SPF Plywood

5/8"

Nailed & Glued

Gypsum 1/2"



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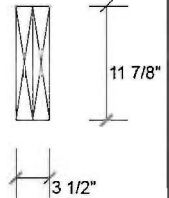
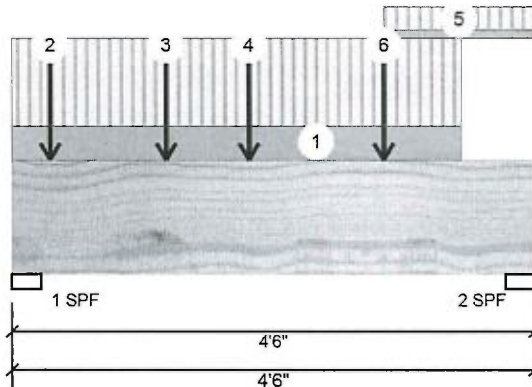
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

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

Level: Second Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)
Piles:	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		

Brg	Live	Dead	Snow	Wind
1	1335	553	0	0
2	948	403	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.000"	42%	691 / 2002	2694 L	1.25D+1.5L
2 - SPF	3.000"	30%	503 / 1422	1925 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2931 ft-lb	2' 1/2"	34261 ft-lb	0.086 (9%)	1.25D+1.5L	L
Unbraced	2931 ft-lb	2' 1/2"	34261 ft-lb	0.086 (9%)	1.25D+1.5L	L
Shear	2341 lb	1'2 1/8"	11596 lb	0.202 (20%)	1.25D+1.5L	L
Perm Defl in.	0.003 (L/14371)	2' 1/2"	0.138 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.008 (L/6128)	2' 1/2"	0.138 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.012 (L/4296)	2' 1/2"	0.206 (L/240)	0.060 (6%)	D+L	L

Design Notes

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



January 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-10-7		Far Face	103 PLF	273 PLF	0 PLF	0 PLF	
2	Point	0-3-15		Near Face	76 lb	203 lb	0 lb	0 lb	J5
3	Point	1-3-15		Near Face	65 lb	172 lb	0 lb	0 lb	
4	Point	2-0-8		Near Face	308 lb	679 lb	0 lb	0 lb	
5	Tie-In	3-2-7 to 4-6-0	(Span)3-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	3-2-7		Near Face	32 lb	84 lb	0 lb	0 lb	
	Self Weight				10 PLF				

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

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

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

NASCOR




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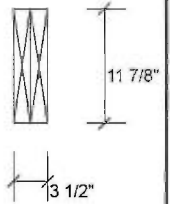
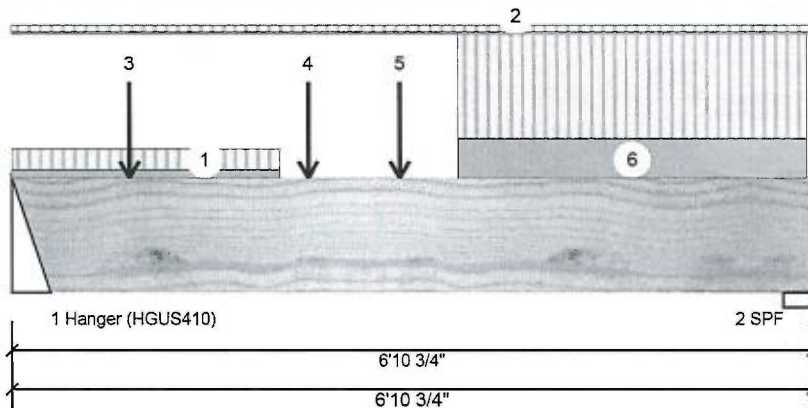
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 2

F13-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	709	300	0	0
2	1069	434	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	14%	375 / 1063	1438 L	1.25D+1.5L
2 - SPF	3.000"	33%	542 / 1603	2145 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2953 ft-lb	3'5 1/2"	34261 ft-lb	0.086 (9%)	1.25D+1.5L	L
Unbraced	2953 ft-lb	3'5 1/2"	32333 ft-lb	0.091 (9%)	1.25D+1.5L	L
Shear	1852 lb	1'3 1/8"	11596 lb	0.160 (16%)	1.25D+1.5L	L
Perm Defl in.	0.006 (L/12576)	3'6 13/16"	0.215 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.015 (L/5152)	3'6 15/16"	0.215 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.021 (L/3655)	3'6 7/8"	0.322 (L/240)	0.070 (7%)	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 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-3-12	(Span)3-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 6-10-12	(Span)1-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-0-3		Far Face	32 lb	84 lb	0 lb	0 lb	J1
4	Point	2-6-11		Far Face	29 lb	77 lb	0 lb	0 lb	J1
5	Point	3-4-3		Far Face	120 lb	320 lb	0 lb	0 lb	J11

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

This design

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.

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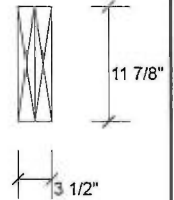
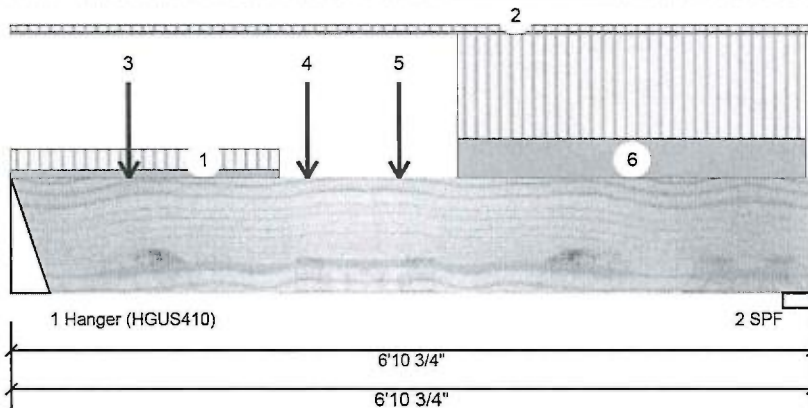
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 2 of 2

F13-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Part. Uniform	3-10-3 to 6-10-3		Far Face	125 PLF	333 PLF	0 PLF	0 PLF	
	Self Weight				10 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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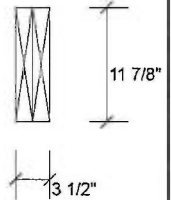
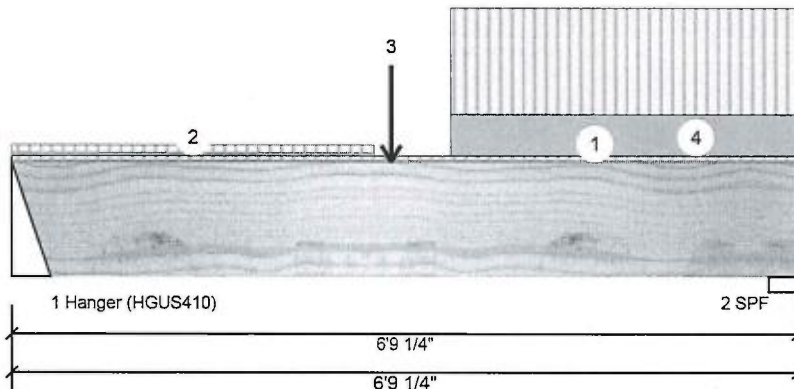
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F13-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	679	308	0	0
2	1164	494	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	14%	385 / 1019	1404 L	1.25D+1.5L
2 - SPF	3.000"	37%	617 / 1747	2364 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3756 ft-lb	3'3 1/4"	34261 ft-lb	0.110 (11%)	1.25D+1.5L	L
Unbraced	3756 ft-lb	3'3 1/4"	32407 ft-lb	0.116 (12%)	1.25D+1.5L	L
Shear	1930 lb	1'3 1/8"	11596 lb	0.166 (17%)	1.25D+1.5L	L
Perm Defl in.	0.008 (L/10081)	3'4 1/4"	0.210 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.017 (L/4373)	3'4 7/16"	0.210 (L/360)	0.080 (8%)	L	L
TL Defl inch	0.025 (L/3050)	3'4 3/8"	0.316 (L/240)	0.080 (8%)	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 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 6-9-4	(Span)0-8-9 to 0-8-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 3-1-8	(Span)1-1-15 to 1-1-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	Pass-Thru Framing Squash Block is required at all point loads over bearings
3	Point	3-3-4		Far Face	300 lb	709 lb	0 lb	0 lb	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
4	Part. Uniform Self Weight	3-9-6 to 6-9-4		Far Face	125 PLF 10 PLF	323 PLF	0 PLF	0 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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This design is valid

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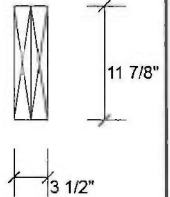
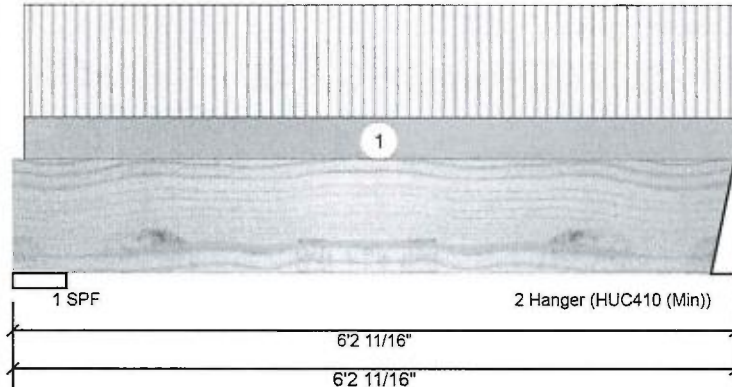
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F13-C Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)
Piles:	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		

Brg	Live	Dead	Snow	Wind
1	64	55	0	0
2	60	51	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	1%	68 / 95	164 L	1.25D+1.5L
2 - Hanger	2.500"	2%	64 / 91	154 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	209 ft-lb	3'2 13/16"	34261 ft-lb	0.006 (1%)	1.25D+1.5L	L
Unbraced	209 ft-lb	3'2 13/16"	32759 ft-lb	0.006 (1%)	1.25D+1.5L	L
Shear	96 lb	1'4 5/8"	11596 lb	0.008 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

Design Notes

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 6-2-11	(Span)1-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 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

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

NASCOR





isDesign™

Client: GREENPARK

Project:

Address:

Date: 1/10/2019

Designer: RCO

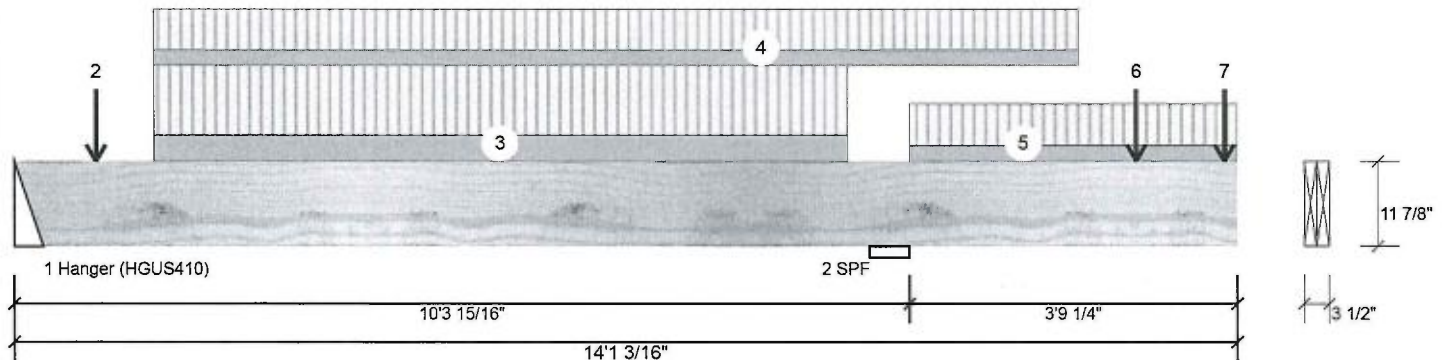
Job Name: LOT 19 (SANDSTONE 1A)

Project #:

Page 1 of 2

F14-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

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		

Brg	Live	Dead	Snow	Wind
1	1352	538	0	0
2	2545	1082	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	28%	672 / 2284	2956 L	1.25D+1.5L
2 - SPF	5.500"	44%	1353 / 3818	5171 LL	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-3506 ft-lb	10'3 15/16"	29807 ft-lb	0.118 (12%)	1.25D+1.5L	L
Unbraced	-3506 ft-lb	10'3 15/16"	29807 ft-lb	0.118 (12%)	1.25D+1.5L	L
Pos Moment	7156 ft-lb	5' 5/16"	34261 ft-lb	0.209 (21%)	1.25D+1.5L	L
Unbraced	7156 ft-lb	5' 5/16"	30068 ft-lb	0.238 (24%)	1.25D+1.5L	L
Shear	3368 lb	1'3 1/8"	11596 lb	0.290 (29%)	1.25D+1.5L	L
Perm Defl in.	0.023 (L/5076)	4'11 5/16"	0.328 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.078 (L/1505)	5'2 1/4"	0.328 (L/360)	0.240 (24%)	L	L
TL Defl inch	0.102 (L/1161)	5'1 9/16"	0.491 (L/240)	0.210 (21%)	D+L	L
LL Cant	-0.083 (2L/1089)	Rt Cant	0.200 (2L/480)	0.415 (42%)	L	L
TL Cant	-0.091 (2L/995)	Rt Cant	0.300 (2L/360)	0.303 (30%)	D+L	L



January 14, 2019

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Warning Note: right cant exceeds 1/3 of back span, wind uplift may need to be checked.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top braced at bearings.
- 7 Bottom braced at bearings.
- 8 Lateral slenderness ratio based on full section width.

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

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

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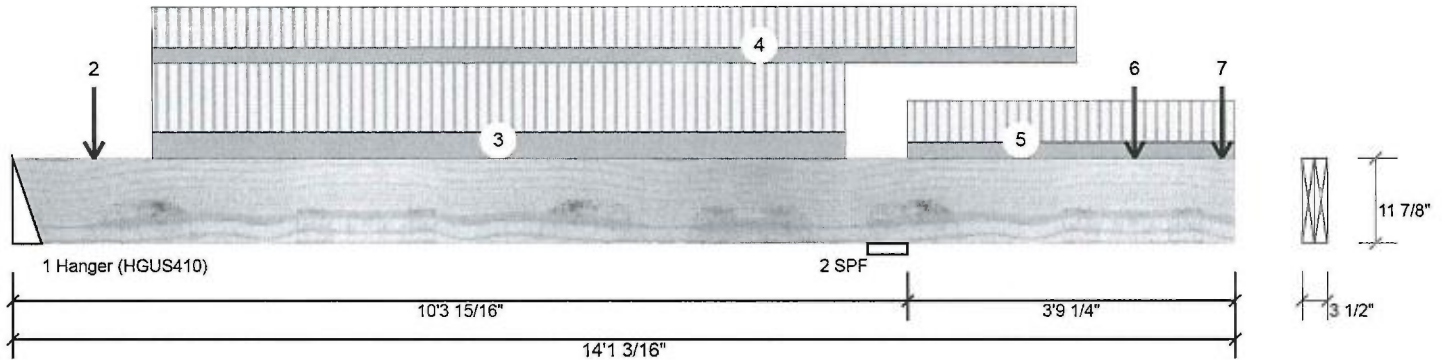
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 2 of 2

F14-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-11-5		Far Face	90 lb	241 lb	0 lb	0 lb	J5
2	Point	0-11-5		Near Face	54 lb	144 lb	0 lb	0 lb	J3
3	Part. Uniform	1-7-5 to 9-7-5		Far Face	75 PLF	199 PLF	0 PLF	0 PLF	
4	Part. Uniform	1-7-5 to 12-3-5		Near Face	44 PLF	119 PLF	0 PLF	0 PLF	
5	Part. Uniform	10-3-15 to 14-1-3		Top	45 PLF	120 PLF	0 PLF	0 PLF	
6	Point	12-11-5		Near Face	52 lb	139 lb	0 lb	0 lb	J3
7	Point	13-11-7		Near Face	51 lb	60 lb	0 lb	0 lb	F13
	Self Weight				10 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
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Handling & Installation

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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

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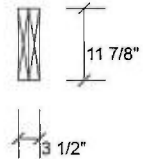
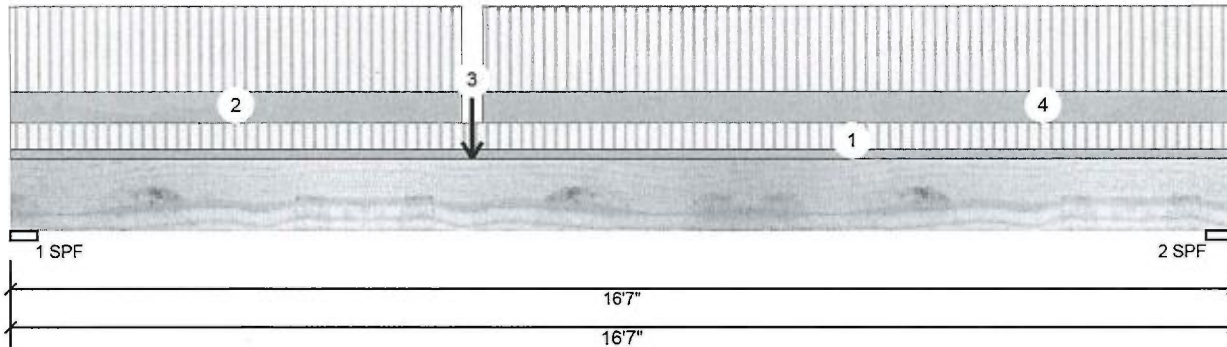
Client: GREENPARK
 Project:
 Address:

Date: 1/10/2019
 Designer: RCO
 Job Name: LOT 19 (SANDSTONE 1A)
 Project #:

Page 1 of 1

F15-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor


Member Information
Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	1078	502	0	0
2	738	367	0	0

Bearings and Factored Reactions

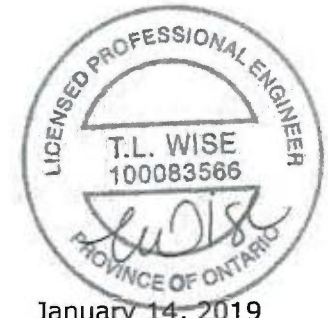
Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	4.375"	24%	628 / 1616	2245 L 1.25D+1.5L
2 - SPF	4.375"	17%	459 / 1107	1566 L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12076 ft-lb	6'3 5/16"	34261 ft-lb	0.352 (35%)	1.25D+1.5L	L
Unbraced	12076 ft-lb	6'3 5/16"	22510 ft-lb	0.536 (54%)	1.25D+1.5L	L
Shear	2157 lb	1'3 1/2"	11596 lb	0.186 (19%)	1.25D+1.5L	L
Perm Defl in.	0.111 (L/1734)	7'9"	0.533 (L/360)	0.210 (21%)	D	Uniform
LL Defl inch	0.243 (L/791)	7'8 1/8"	0.533 (L/360)	0.460 (46%)	L	L
TL Defl inch	0.353 (L/543)	7'8 7/16"	0.799 (L/240)	0.440 (44%)	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 14, 2019

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-7-0	(Span)0-3-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 6-1-9	(Span)1-1-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	6-3-5		Near Face	538 lb	1352 lb	0 lb	0 lb	F14
4	Tie-In	6-5-1 to 16-7-0	(Span)1-1-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 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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- LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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- Damaged Beams must not be used
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This design is valid

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