

Engineering Note Page (ENP-2)

REVISION 2018-10-17

Please read all notes prior to installation of the component**DESIGN INFORMATION**

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

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

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

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

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

Installation of floor joists is to be carried out in accordance with the current edition of the manufacturer's literature available at <http://www.kottgroup.com>.

CODE

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

COMPONENT

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

HANDLING AND INSTALLATION

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



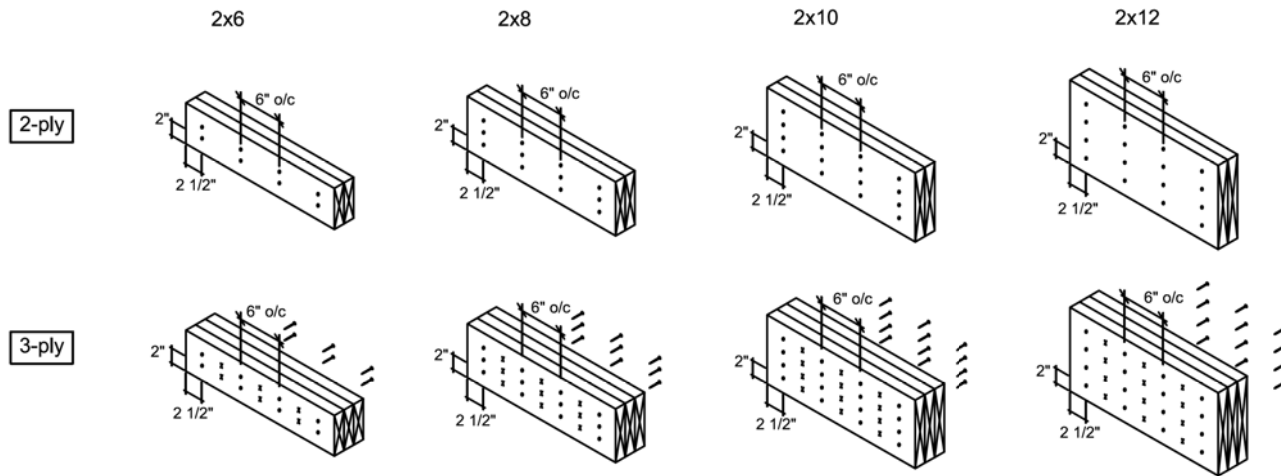
CITY OF RICHMOND HILL
BUILDING DIVISION

09/22/2022

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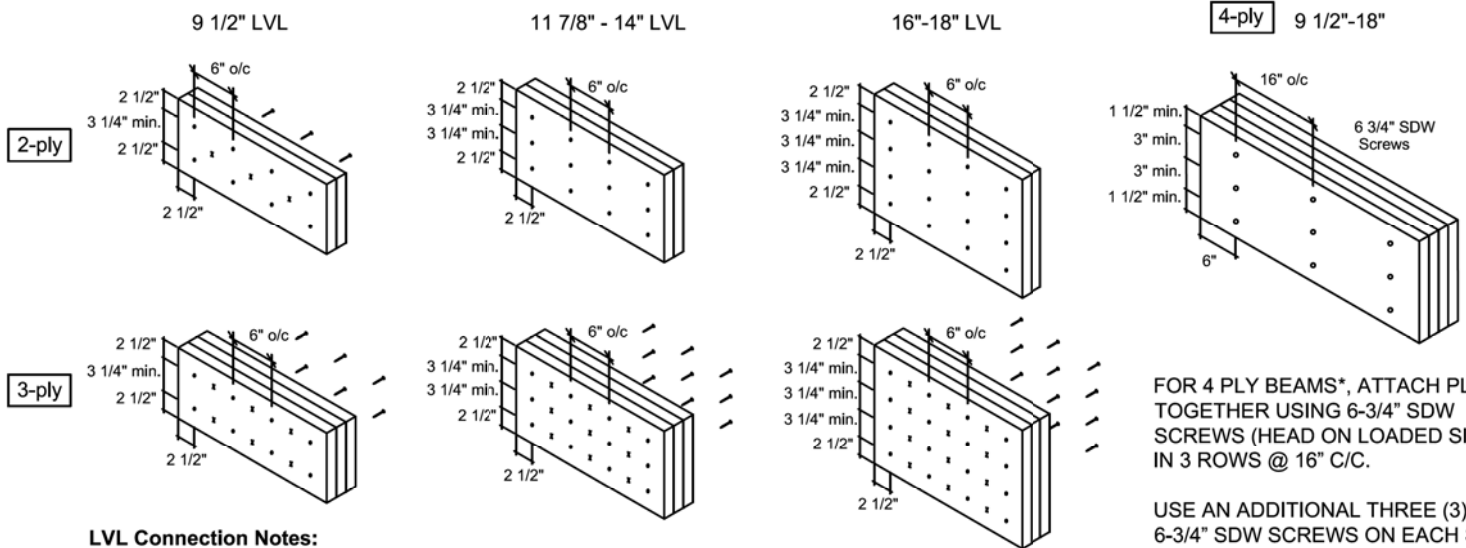
Conventional Connections



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 driven from the opposite side.
- Head of all specified screws must be on the loaded side.

FOR 4 PLY BEAMS*, ATTACH PLYS TOGETHER USING 6-3/4" SDW SCREWS (HEAD ON LOADED SIDE) IN 3 ROWS @ 16" C/C.

USE AN ADDITIONAL THREE (3) 6-3/4" SDW SCREWS ON EACH SIDE (OF EACH FACE) AT POINT LOAD LOCATIONS @ 1/2 SPACING, WHERE APPLICABLE.

*UNLESS NOTED OTHERWISE ON LAYOUT OR CALCULATION SHEET OF BEAM IN THE FLOOR PACKAGE

Multiple Member Connections

All connections are for uniformly distributed loads.

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

Last revised: February 19, 2021



CITY OF RICHMOND HILL
BUILDING DIVISION
KOTT Inc.
3228 Moodie Drive
Ottawa, ON
K2H 7V1
613-838-2775

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[illegible]

Hanger				Beam/Girder		Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	20	LF3511			12 10d	2 #8x1 1/4WS
H2	1	HUS1.81/10			30 16d	10 16d

<p>CCMC References</p> <p>Boise - 12472-R , 12787-R LP - 12412-R Forex - 14056-R</p>	<p>Kott Inc.</p> <p>3228 Moodie Dr, Ottawa 14 Anderson Blvd, Uxbridge Ontario</p> <p>613-838-2775 / 905-642-4400</p>
-----------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------

Kott Inc.
3228 Moodie Dr, Ottawa
14 Anderson Blvd, Uxbridge
Ontario
613-838-2775 /
905-642-4400

AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

- Legend**

WS	Web Stiffener
-WS	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
◇	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1 125 X 11.875
	Norbord Rimboard Plus 1 125 X 9.5
	AJS 24 9.5

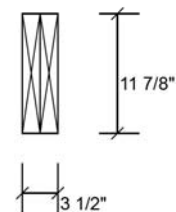
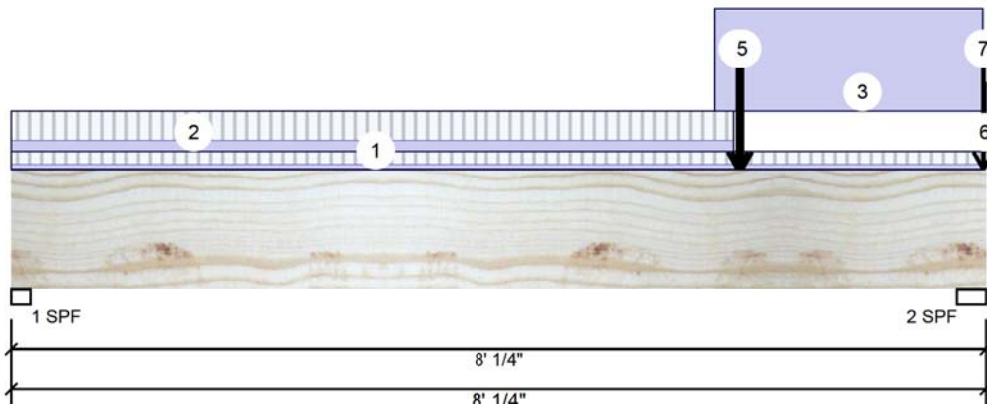


Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 1 of 35

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



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	322	186	0	0
2	Vertical	1948	960	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.901"	Vert	17%	233 / 484	716	L	1.25D+1.5L
2 - SPF	2.875"	Vert	67%	1199 / 2922	4122	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3062 ft-lb	5'11 3/4"	34261 ft-lb	0.089 (9%)	1.25D+1.5L	L
Unbraced	3062 ft-lb	5'11 3/4"	34261 ft-lb	0.089 (9%)	1.25D+1.5L	L
Shear	1661 lb	6'9 1/2"	11596 lb	0.143 (14%)	1.25D+1.5L	L
Perm Defl in. (L/10831)	0.009	4'6 15/16"	0.258 (L/360)	0.033 (3%)	D	Uniform
LL Defl inch	0.016 (L/5871)	4'7 1/2"	0.194 (L/480)	0.082 (8%)	L	L
TL Defl inch	0.024 (L/3807)	4'7 5/16"	0.387 (L/240)	0.063 (6%)	D+L	L

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

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



July 05 2021

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.

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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 must be continuously laterally braced.
- Bottom must be laterally braced at a maximum of 6' 3/16" o.c.
- Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-0-0	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 5-11-5	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	5-9-8 to 7-11-15		Top	64 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	5-11-12		Top	184 lb	405 lb	0 lb	0 lb	F8 F8
	Bearing Length	0-3-8							

Continued on page 2...

Notes

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

Lumber

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

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



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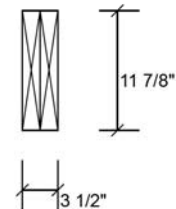
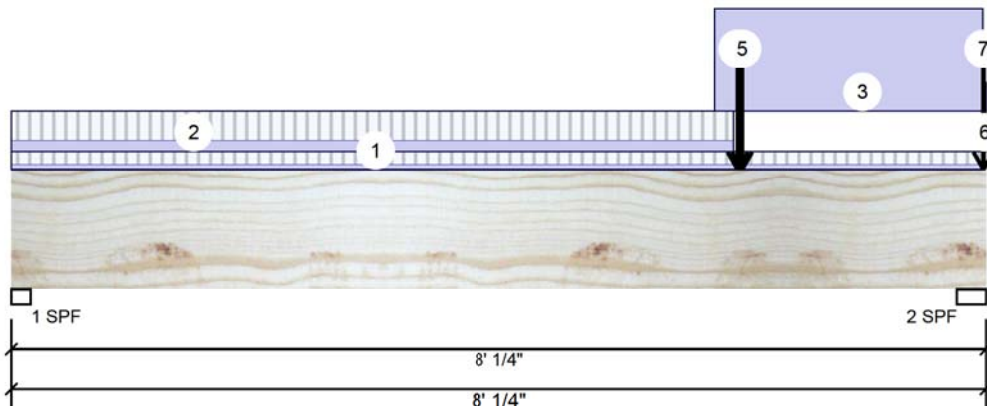


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Date: 7/5/2021
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 Job Name: GR41-2-2 STANDARD
 Project #: ROUNDEL HOMES INC

Page 2 of 35

F14-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
5	Point	6-0-3		Near Face	205 lb	523 lb	0 lb	0 lb	F6
6	Part. Uniform	7-11-15 to 8-0-4		Top	43 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Point	8-0-0		Top	472 lb	1167 lb	0 lb	0 lb	C1
	Bearing Length	0-3-8							
	Self Weight				10 PLF				

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

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



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Lumber

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

Handling & Installation

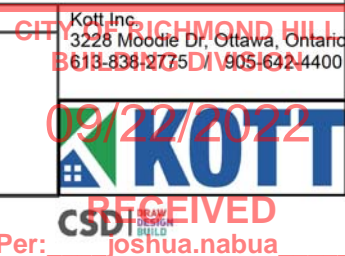
1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

This design is valid until 5/24/2024





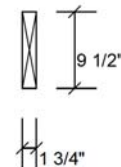
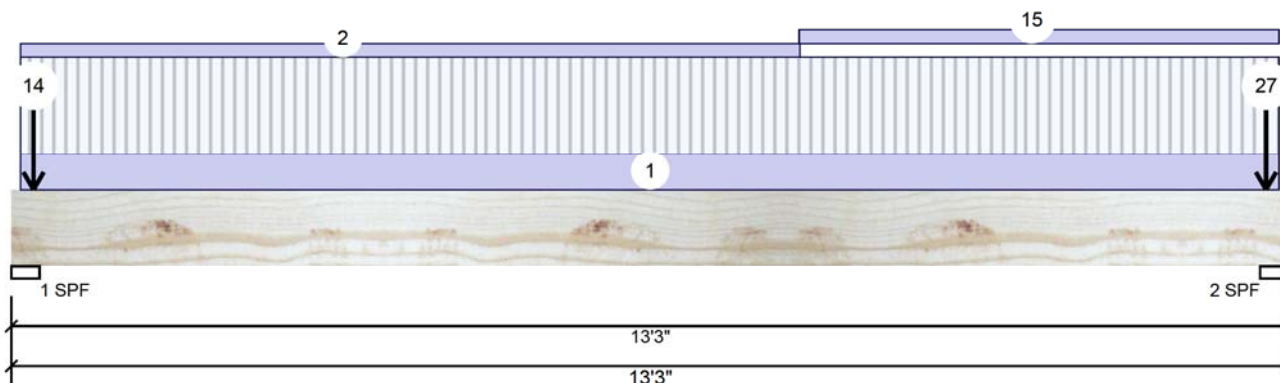
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Page 11 of 35

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

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	100	138	87	0
2	Vertical	116	95	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	11%	173 / 230	403	L	1.25D+1.5S+L
2 - SPF	3.500"	Vert	8%	119 / 174	293	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	407 ft-lb	6'7 1/2"	11135 ft-lb	0.037 (4%)	1.25D+1.5L	L
Unbraced	407 ft-lb	6'7 1/2"	11135 ft-lb	0.037 (4%)	1.25D+1.5L	L
Shear	114 lb	12'2"	4546 lb	0.025 (3%)	1.25D+1.5L	L
Perm Defl in.	0.019 (L/8075)	6'7 9/16"	0.426 (L/360)	0.045 (4%)	D	Uniform
LL Defl inch	0.018 (L/8546)	6'7 9/16"	0.320 (L/480)	0.056 (6%)	L+0.5S	L
TL Defl inch	0.037 (L/4152)	6'7 9/16"	0.640 (L/240)	0.058 (6%)	D+L+0.5S	L

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

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

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July 05 2021

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 4 Girders are designed to be supported on the bottom edge only
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 13-1-14	0-2-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-1-2 to 8-2-1		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-2-12		Top	9 lb	0 lb	23 lb	0 lb	
	Bearing Length	0-5-8							
4	Point	0-2-12		Top	5 lb	14 lb	0 lb	0 lb	J7

Continued on page 2...

Notes

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

Lumber

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 Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



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Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

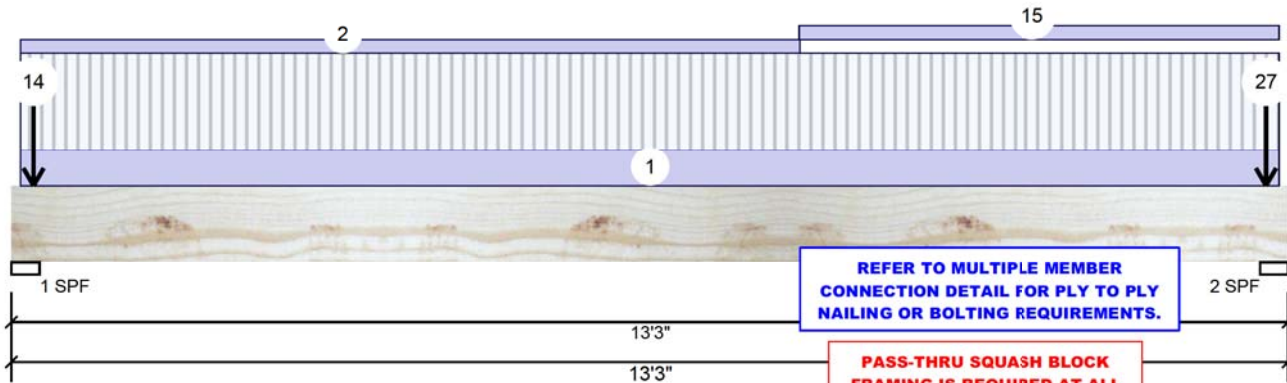
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Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 12 of 35

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

Level: Ground Floor

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...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
5	Point	0-2-12		Top	4 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-2-12		Top	5 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
7	Point	0-2-12		Top	13 lb	0 lb	32 lb	0 lb	
	Bearing Length	0-5-8							
8	Point	0-2-12		Top	7 lb	20 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
9	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
10	Point	0-2-12		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Point	0-2-12		Top	13 lb	0 lb	32 lb	0 lb	
	Bearing Length	0-5-8							
12	Point	0-2-12		Top	7 lb	20 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
13	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
14	Point	0-2-12		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
15	Part. Uniform	8-2-0 to 13-1-14		Top	1 PLF	0 PLF	0 PLF	0 PLF	
16	Point	13-0-4		Top	9 lb	24 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
18	Point	13-0-4		Top	1 lb	2 lb	0 lb	0 lb	
	Bearing Length	0-5-8							
19	Point	13-0-4		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
20	Point	13-0-4		Top	9 lb	24 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							



Notes

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Handling & Installation

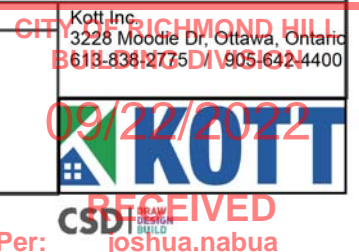
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Manufacturer Info

Forex
APA: PR-L318

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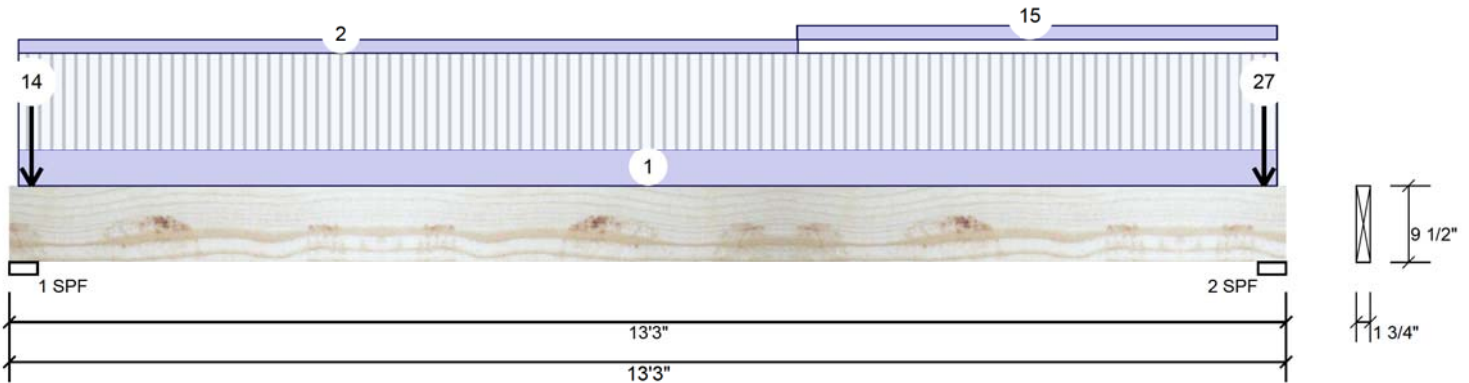
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F4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



...Continued from page 2

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
22	Point	13-0-4		Top	1 lb	2 lb	0 lb	0 lb	
	Bearing Length	0-5-8							
23	Point	13-0-4		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
24	Point	13-0-4		Top	6 lb	17 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
26	Point	13-0-4		Top	1 lb	1 lb	0 lb	0 lb	
	Bearing Length	0-5-8							
27	Point	13-0-4		Top	5 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				4 PLF				

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

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



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Lumber

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

chemicals

Handling & Installation

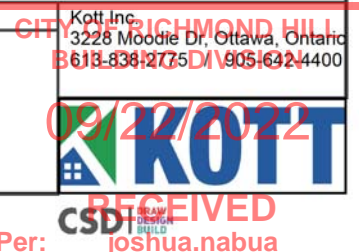
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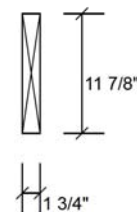
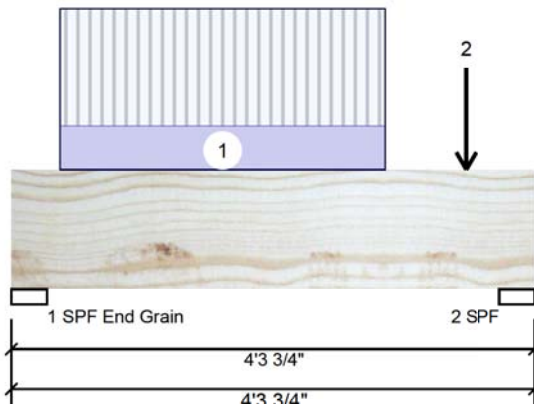
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F5-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	330	133	0	0
2	Vertical	365	146	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.505"	Vert	15%	167 / 495	662	L	1.25D+1.5L
2 - SPF	3.500"	Vert	19%	183 / 547	730	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	677 ft-lb	2'1 5/16"	17130 ft-lb	0.039 (4%)	1.25D+1.5L	L
Unbraced	677 ft-lb	2'1 5/16"	17130 ft-lb	0.039 (4%)	1.25D+1.5L	L
Shear	1025 lb	3' 3/8"	5798 lb	0.177 (18%)	1.25D+1.5L	L
Perm Defl in. (L/31156)	0.001	2'1 9/16"	0.128 (L/360)	0.012 (1%)	D	Uniform
LL Defl inch (L/12435)	0.004	2'1 9/16"	0.096 (L/480)	0.039 (4%)	L	L
TL Defl inch (L/8888)	0.005	2'1 9/16"	0.193 (L/240)	0.027 (3%)	D+L	L

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

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



July 05 2021

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.

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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-4-13 to 3-0-13		Far Face	72 PLF	193 PLF	0 PLF	0 PLF	
2	Point	3-8-13		Far Face	67 lb	180 lb	0 lb	0 lb	J5
	Self Weight				5 PLF				

Notes

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

Lumber

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

chemicals

Handling & Installation

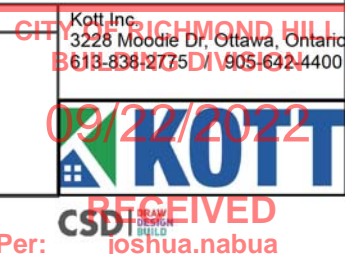
- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024





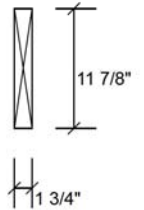
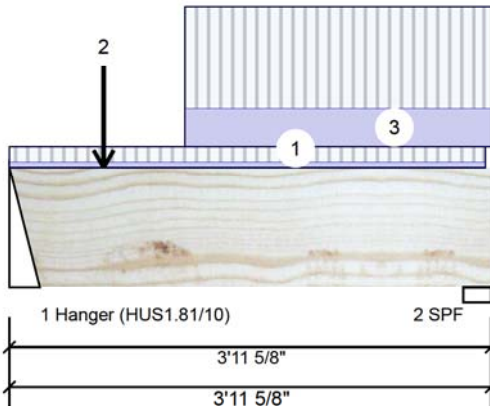
Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 15 of 35

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

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	523	205	0	0
2	Vertical	595	232	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	27%	257 / 785	1042	L	1.25D+1.5L
2 - SPF	2.938"	Vert	37%	290 / 893	1183	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	948 ft-lb	2' 5/16"	17130 ft-lb	0.055 (6%)	1.25D+1.5L	L
Unbraced	948 ft-lb	2' 5/16"	17130 ft-lb	0.055 (6%)	1.25D+1.5L	L
Shear	1463 lb	1'2 7/8"	5798 lb	0.252 (25%)	1.25D+1.5L	L
Perm Defl in. (L/22421)	0.002	2' 1/8"	0.120 (L/360)	0.016 (2%)	D	Uniform
LL Defl inch	0.005 (L/8759)	2' 1/8"	0.090 (L/480)	0.055 (5%)	L	L
TL Defl inch	0.007 (L/6299)	2' 1/8"	0.180 (L/240)	0.038 (4%)	D+L	L

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

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



July 05 2021

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.

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-11-1		Top	15 PLF	40 PLF	0 PLF	0 PLF	
2	Point	0-9-5		Near Face	107 lb	286 lb	0 lb	0 lb	J7
3	Part. Uniform	1-5-5 to 3-11-10		Near Face	100 PLF	267 PLF	0 PLF	0 PLF	
	Self Weight				5 PLF				

Notes

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

Lumber

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

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
K1M 1Y4
613-838-2775 / 905-642-4400



RECEIVED
Per: joshua.nabua



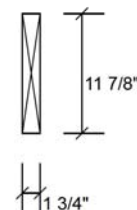
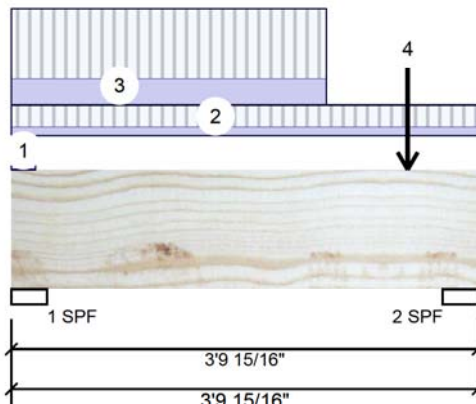
Client: GREENPARK
Project:
Address: GLENROWAN 41-2-2
RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 16 of 35

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

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	415	166	0	0
2	Vertical	359	145	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	22%	208 / 622	830	L	1.25D+1.5L
2 - SPF	3.500"	Vert	19%	181 / 539	720	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	580 ft-lb	1'10 3/8"	17130 ft-lb	0.034 (3%)	1.25D+1.5L	L
Unbraced	580 ft-lb	1'10 3/8"	17130 ft-lb	0.034 (3%)	1.25D+1.5L	L
Shear	895 lb	2'6 9/16"	5798 lb	0.154 (15%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/35748)	1'10 5/8"	0.112 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/14400)	1'10 5/8"	0.084 (L/480)	0.033 (3%)	L	L
TL Defl inch	0.004 (L/10265)	1'10 5/8"	0.169 (L/240)	0.023 (2%)	D+L	L

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

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



July 05 2021

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.

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-6	1-5-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-9-15		Top	20 PLF	52 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 2-7-0		Far Face	62 PLF	164 PLF	0 PLF	0 PLF	
4	Point	3-3-0		Far Face	52 lb	139 lb	0 lb	0 lb	J5
	Self Weight				5 PLF				

Notes

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

Lumber

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

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
K1H 8B8
613-838-2775 / 905-642-4400



Per: joshua.nabua



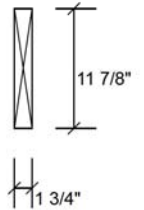
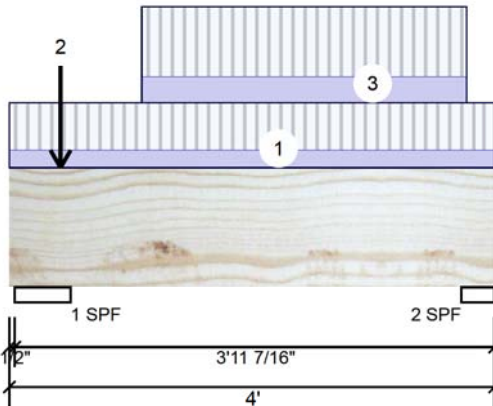
Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 17 of 35

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

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	596	249	0	0
2	Vertical	374	150	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	20%	311 / 893	1204	LL	1.25D+1.5L
2 - SPF	3.500"	Vert	20%	187 / 562	749	_L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	604 ft-lb	2' 15/16"	17130 ft-lb	0.035 (4%)	1.25D+1.5L	_L
Unbraced	604 ft-lb	2' 15/16"	17130 ft-lb	0.035 (4%)	1.25D+1.5L	_L
Shear	494 lb	1'5 7/8"	5798 lb	0.085 (9%)	1.25D+1.5L	LL
Perm Defl in.	0.001 (L/34861)	2' 11/16"	0.117 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/13899)	2' 3/4"	0.087 (L/480)	0.035 (3%)	L	_L
TL Defl inch	0.004 (L/9937)	2' 3/4"	0.175 (L/240)	0.024 (2%)	D+L	_L
LL Cant	-0.000 (2L/20066)	Lt Cant	0.200 (2L/480)	0.000 (0%)	L	_L
TL Cant	-0.000 (2L/14376)	Lt Cant	0.300 (2L/240)	0.000 (0%)	D+L	_L

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

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



July 05 2021

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.

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 4-0-0		Top	32 PLF	85 PLF	0 PLF	0 PLF	
2	Point	0-5-1		Far Face	126 lb	294 lb	0 lb	0 lb	J4
3	Part. Uniform	1-1-1 to 3-9-1		Far Face	47 PLF	126 PLF	0 PLF	0 PLF	
	Self Weight				5 PLF				

Notes

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

Lumber

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

Handling & Installation

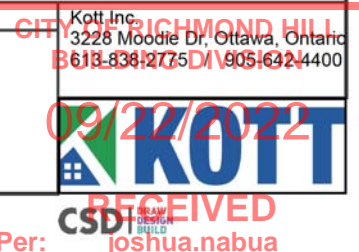
- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024





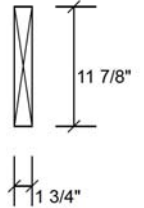
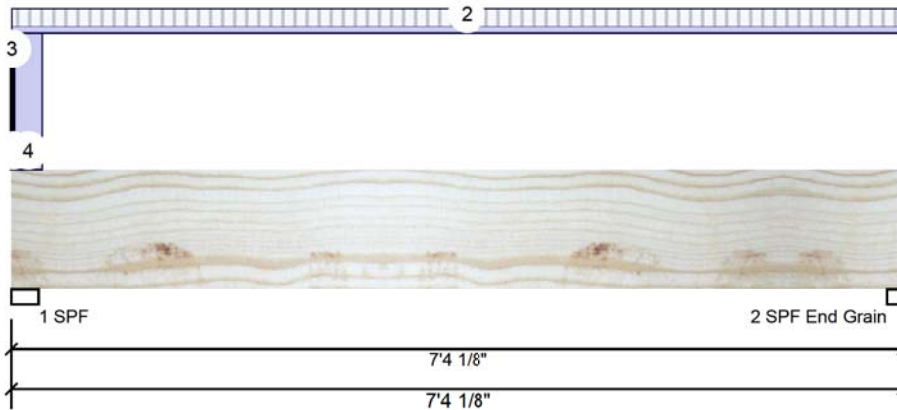
Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 18 of 35

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

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1198	516	0	0
2	Vertical	30	29	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.688"	Vert	84%	645 / 1797	2442	L	1.25D+1.5L
2 - SPF	1.625"	Vert	4%	36 / 45	81	L	1.25D+1.5L
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	141 ft-lb	3'8 9/16"	17130 ft-lb	0.008 (1%)	1.25D+1.5L	L
Unbraced	141 ft-lb	3'8 9/16"	17130 ft-lb	0.008 (1%)	1.25D+1.5L	L
Shear	62 lb	6'2 5/8"	5798 lb	0.011 (1%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/70817)	3'8 9/16"	0.237 (L/360)	0.005 (1%)	D	Uniform
LL Defl inch	0.001 (L/67516)	3'8 5/8"	0.178 (L/480)	0.007 (1%)	L	L
TL Defl inch	0.002 (L/34564)	3'8 9/16"	0.355 (L/240)	0.007 (1%)	D+L	L

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

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



July 05 2021

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must be laterally braced at bearings.

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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-0-5		Top	21 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Tie-In	0-0-1 to 7-4-2	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-0-1		Top	472 lb	1167 lb	0 lb	0 lb	C1
	Bearing Length	0-3-8							
4	Part. Uniform	0-0-5 to 0-3-1		Top	64 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				5 PLF				

Notes

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

Lumber

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

Handling & Installation

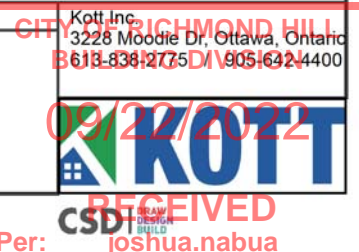
- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024





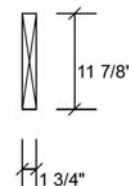
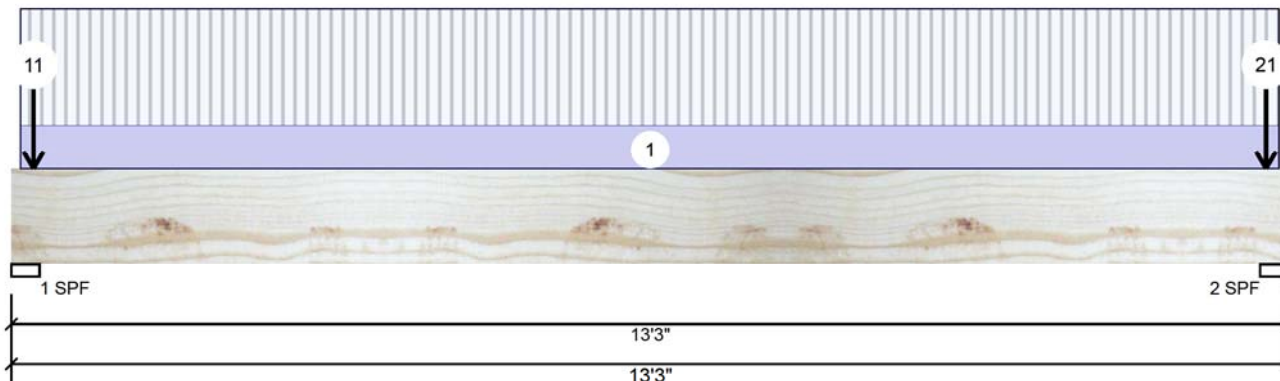
Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 19 of 35

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

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	140	199	152	0
2	Vertical	149	115	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	17%	249 / 368	617	L	1.25D+1.5S +L
2 - SPF	3.500"	Vert	10%	144 / 223	367	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	769 ft-lb	6'7 1/2"	16788 ft-lb	0.046 (5%)	1.25D+1.5L	L
Unbraced	769 ft-lb	6'7 1/2"	16788 ft-lb	0.046 (5%)	1.25D+1.5L	L
Shear	207 lb	1'3 3/8"	5682 lb	0.036 (4%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/10562)	6'7 9/16"	0.426 (L/360)	0.034 (3%)	D	Uniform
LL Defl inch	0.022 (L/7090)	6'7 9/16"	0.320 (L/480)	0.068 (7%)	L+0.5S	L
TL Defl inch	0.036 (L/4242)	6'7 9/16"	0.640 (L/240)	0.057 (6%)	D+L+0.5S	L

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

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



July 05 2021

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.

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 13-1-14	0-4-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Top	8 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
3	Point	0-2-12		Top	19 lb	0 lb	47 lb	0 lb	

Continued on page 2...

Notes

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Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



RECEIVED
Per: joshua.nabua



Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

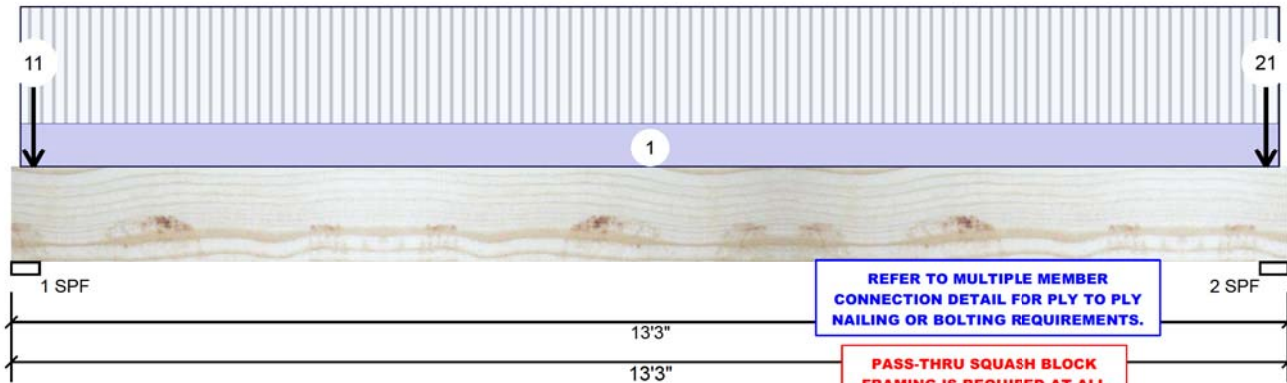
Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 20 of 35

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

Level: Ground Floor

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.



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

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

...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
4	Point	0-2-12		Top	8 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
5	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-2-12		Top	13 lb	0 lb	32 lb	0 lb	
	Bearing Length	0-5-8							
7	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Point	0-2-12		Top	13 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
9	Point	0-2-12		Top	29 lb	0 lb	73 lb	0 lb	
	Bearing Length	0-5-8							
10	Point	0-2-12		Top	13 lb	35 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
11	Point	0-2-12		Top	13 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
12	Point	13-0-4		Top	2 lb	4 lb	0 lb	0 lb	
	Bearing Length	0-5-8							
13	Point	13-0-4		Top	13 lb	35 lb	0 lb	0 lb	J7
	Bearing Length	0-5-8							
15	Point	13-0-4		Top	13 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
16	Point	13-0-4		Top	1 lb	2 lb	0 lb	0 lb	
	Bearing Length	0-5-8							
18	Point	13-0-4		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
19	Point	13-0-4		Top	1 lb	3 lb	0 lb	0 lb	
	Bearing Length	0-5-8							
21	Point	13-0-4		Top	8 lb	0 lb	0 lb	0 lb	Wall Self Weight



Notes

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Lumber

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

Handling & Installation

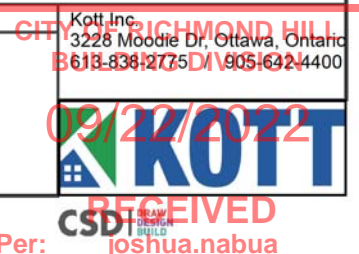
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2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024





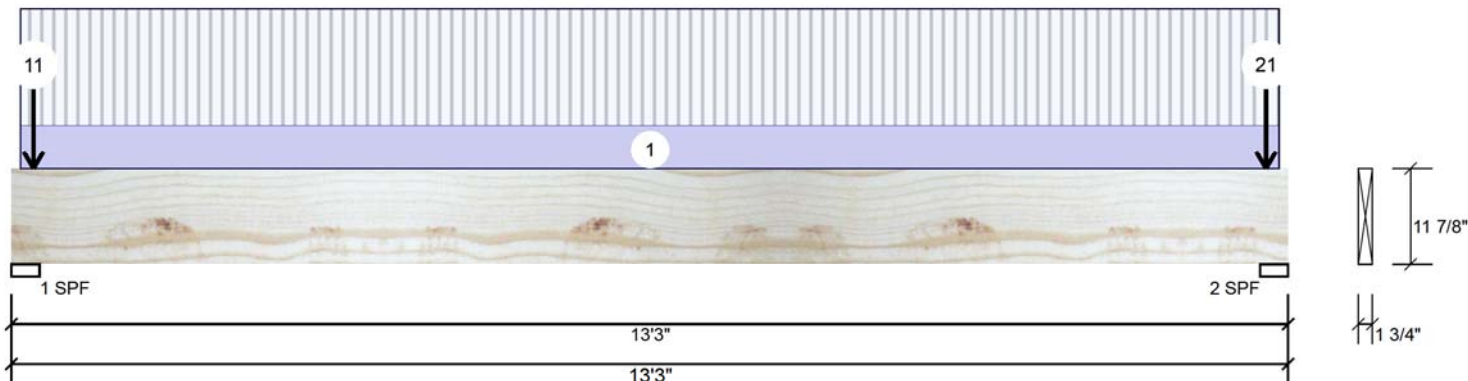
Client: GREENPARK
 Project:
 Address: GLENROWAN 41-2-2
 RICHMOND HILL, ON

Date: 7/5/2021
 Input by: W C
 Job Name: GR41-2-2 STANDARD
 Project #: ROUNDEL HOMES INC

Page 21 of 35

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

Level: Ground Floor



...Continued from page 2

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
	Self Weight				5 PLF				

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

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

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July 05 2021

Notes

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Lumber

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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

This design is valid until 5/24/2024

Kott Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



RECEIVED
 Per: joshua.nabua

Joist

Label	Description
J10	AJS 24
J8	AJS 24
J7	AJS 24
J4	AJS 24

Rim Board

Label	Description
R1	Norbord R Plus 1.125 11.875

Blocking

Label	Description
BLK1	AJS 24

Hanger

Label	Pcs	Description
H1	24	LF
H2	1	HF

Hanger					Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	24	LF3511			12 10d	2 #8x1 1/4WS
H2	1	HUS1.81/10			30 10dX1 1/2	10 16d

JOB INFORMATION	
Builder	GREENPARK
Project	ROUNDEL HOMES INC
Shipping	GLENROWAN 41-2-2 RICHMOND HILL, ON
Sales Rep	RALPH MIRIGELLO
Designer	W C
Plotted	June 09, 2021
Layout Name	GR41-2-2 STANDARD
Job Path	
DESIGN CRITERIA	
Second Floor	
Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012
Floor	
Loads	
Live	40
Dead	15
Decking	
Decking	OSB
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling:	Gypsum 1/2"
Roof	
Loads	
Live	0
Dead	10.3
Snow	21
Decking	
Decking	SPF Plywood
CCMC References	
Boise - 12472-R , 12787-R	
LP - 12412-R	
Forex - 14056-R	
Kott Inc.	
3228 Moodie Dr, Ottawa	
14 Anderson Blvd, Uxbridge	
Ontario	
613-838-2775 /	
905-642-4400	

AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

1. All blocking to be cut from 12' joists
2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
3. Ends of joists to be laterally supported
4. Packing of Steel beams and attachment by others
5. Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
6. Beams identified as "B" are dropped and supplied by others
7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
8. Load transfer blocks to be installed under all point loads
9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
10. Hangers and Fasteners to be installed as per manufacturer
11. Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.

Legend

WS	Web Stiffener
-WS	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
◇	Load from Above
Wall	Wall
Wall Opening	Wall Opening
Norbord Rimboard Plus 1, 125 X 11.875	
AJS 24, 11.875	
Forex 2, 06, 3000Fb LVL 1.75 X 11.875	



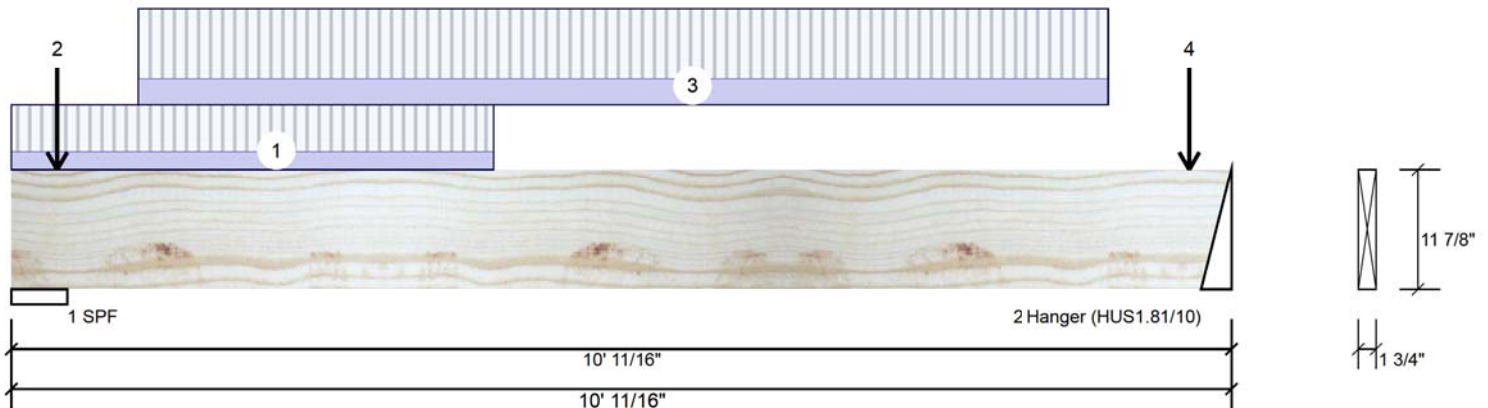
Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 22 of 35

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

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	869	352	0	0
2	Vertical	657	271	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	29%	440 / 1304	1744	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	34%	339 / 986	1325	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3335 ft-lb	4'8 1/4"	17130 ft-lb	0.195 (19%)	1.25D+1.5L	L
Unbraced	3335 ft-lb	4'8 1/4"	17130 ft-lb	0.195 (19%)	1.25D+1.5L	L
Shear	1352 lb	8'9 13/16"	5798 lb	0.233 (23%)	1.25D+1.5L	L
Perm Defl in.	0.026 (L/4329)	5' 1/8"	0.316 (L/360)	0.083 (8%)	D	Uniform
LL Defl inch	0.064 (L/1770)	5' 1/16"	0.237 (L/480)	0.271 (27%)	L	L
TL Defl inch	0.090 (L/1257)	5' 1/16"	0.474 (L/240)	0.191 (19%)	D+L	L

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

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

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.



July 05 2021

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-11-11		Top	32 PLF	84 PLF	0 PLF	0 PLF	
2	Point	0-4-8		Far Face	30 lb	81 lb	0 lb	0 lb	J4
3	Part. Uniform	1-0-8 to 9-0-8		Far Face	47 PLF	125 PLF	0 PLF	0 PLF	
4	Point	9-8-8		Far Face	42 lb	112 lb	0 lb	0 lb	J4
	Self Weight				5 PLF				

Notes

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

Lumber

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

Handling & Installation

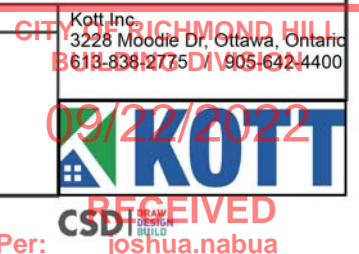
- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024

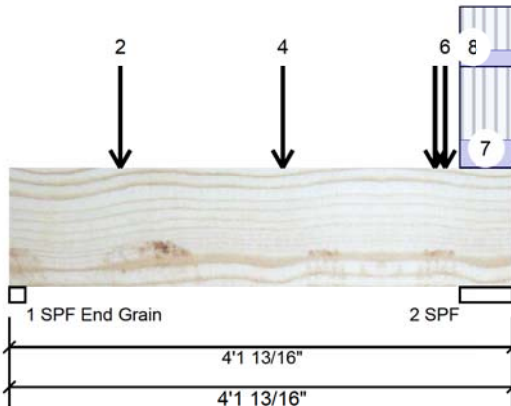




Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

F12-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	974	407	0	0
2	Vertical	1198	517	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	1.581"	Vert	48%	509 / 1461	1971	L	1.25D+1.5L
2 - SPF	5.447"	Vert	21%	646 / 1797	2443	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2170 ft-lb	2'2 15/16"	34261 ft-lb	0.063 (6%)	1.25D+1.5L	L
Unbraced	2170 ft-lb	2'2 15/16"	34261 ft-lb	0.063 (6%)	1.25D+1.5L	L
Shear	2413 lb	2'8 1/2"	11596 lb	0.208 (21%)	1.25D+1.5L	L
Perm Defl in. (L/19407)	0.002	2'2 3/8"	0.123 (L/360)	0.019 (2%)	D	Uniform
LL Defl inch	0.005 (L/8168)	2'2 3/8"	0.092 (L/480)	0.059 (6%)	L	L
TL Defl inch	0.008 (L/5749)	2'2 3/8"	0.184 (L/240)	0.042 (4%)	D+L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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 must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.
- Lateral slenderness ratio based on full section width.

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

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

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.



July 05 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-10-15		Far Face	168 lb	448 lb	0 lb	0 lb	J10
2	Point	0-10-15		Near Face	140 lb	337 lb	0 lb	0 lb	J8
3	Point	2-2-15		Far Face	175 lb	434 lb	0 lb	0 lb	J10
4	Point	2-2-15		Near Face	160 lb	384 lb	0 lb	0 lb	J8
5	Point	3-5-15		Far Face	91 lb	210 lb	0 lb	0 lb	J10

Continued on page 2...

Notes

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Lumber

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

Handling & Installation

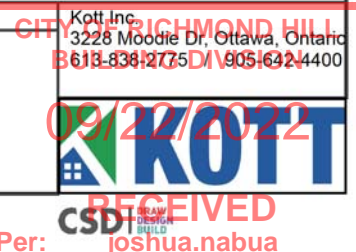
- LVL beams must not be cut or drilled
- Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
- Provide lateral support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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024



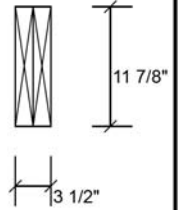
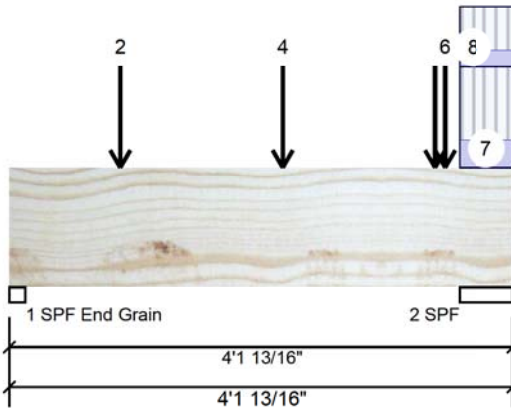


Client: GREENPARK
 Project:
 Address: GLENROWAN 41-2-2
 RICHMOND HILL, ON

Date: 7/5/2021
 Input by: W C
 Job Name: GR41-2-2 STANDARD
 Project #: ROUNDEL HOMES INC

Page 24 of 35

F12-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	3-6-15		Near Face	146 lb	347 lb	0 lb	0 lb	J8
7	Tie-In	3-8-6 to 4-1-13	0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Tie-In	3-8-6 to 4-1-13	0-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				

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

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

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July 05 2021

Notes

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Lumber

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

chemicals**Handling & Installation**

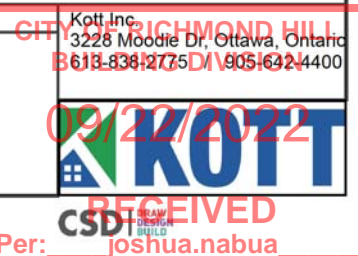
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5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

This design is valid until 5/24/2024

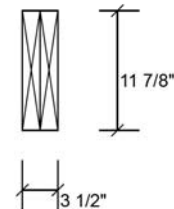
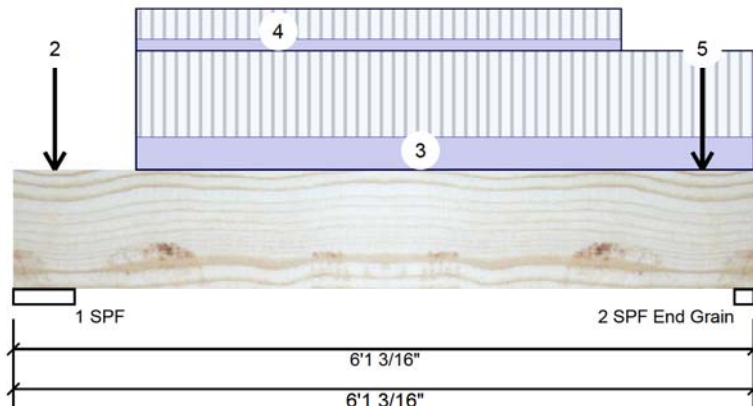




Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

F16-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1459	576	0	0
2	Vertical	1360	537	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.026"	Vert	22%	721 / 2188	2908	L	1.25D+1.5L
2 - SPF	1.938"	Vert	54%	671 / 2040	2711	L	1.25D+1.5L
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3572 ft-lb	3'2 7/8"	34261 ft-lb	0.104 (10%)	1.25D+1.5L	L
Unbraced	3572 ft-lb	3'2 7/8"	34261 ft-lb	0.104 (10%)	1.25D+1.5L	L
Shear	2357 lb	1'5 7/8"	11596 lb	0.203 (20%)	1.25D+1.5L	L
Perm Defl in.	0.006 (L/11178)	3'2 3/4"	0.185 (L/360)	0.032 (3%)	D	Uniform
LL Defl inch	0.015 (L/4411)	3'2 13/16"	0.139 (L/480)	0.109 (11%)	L	L
TL Defl inch	0.021 (L/3163)	3'2 3/4"	0.278 (L/240)	0.076 (8%)	D+L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.
- Lateral slenderness ratio based on full section width.

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

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

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.



July 05 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-4-1		Far Face	102 lb	273 lb	0 lb	0 lb	J10
2	Point	0-4-1		Near Face	46 lb	122 lb	0 lb	0 lb	J4
3	Part. Uniform	1-0-1 to 6-1-3		Far Face	132 PLF	352 PLF	0 PLF	0 PLF	
4	Part. Uniform	1-0-1 to 5-0-1		Near Face	46 PLF	124 PLF	0 PLF	0 PLF	
5	Point	5-8-1		Near Face	51 lb	136 lb	0 lb	0 lb	J4
	Self Weight				10 PLF				

Notes

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

Lumber

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

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

This design is valid until 5/24/2024

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



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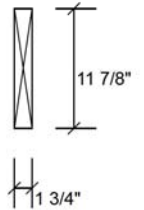
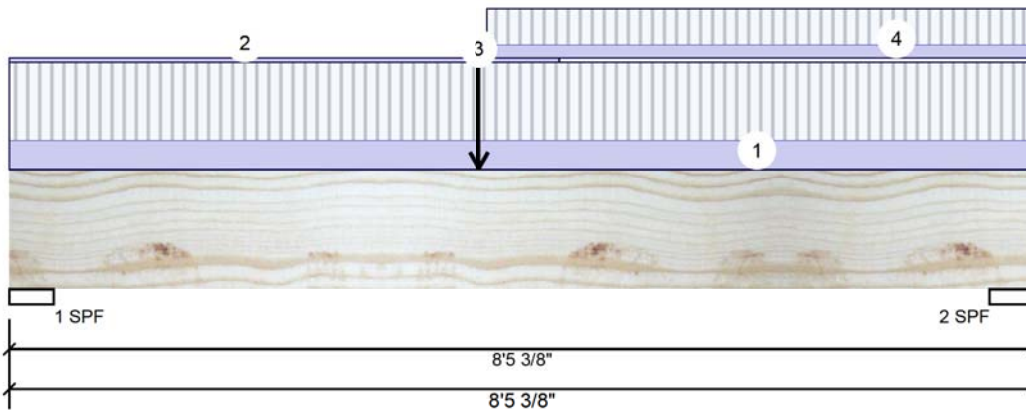
Client: GREENPARK
Project: GLENROWAN 41-2-2
Address: RICHMOND HILL, ON

Date: 7/5/2021
Input by: W C
Job Name: GR41-2-2 STANDARD
Project #: ROUNDEL HOMES INC

Page 26 of 35

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

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	445	204	0	0
2	Vertical	405	184	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.385"	Vert	20%	255 / 667	922	L	1.25D+1.5L
2 - SPF	4.571"	Vert	17%	230 / 607	837	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2960 ft-lb	3'10 5/16"	17130 ft-lb	0.173 (17%)	1.25D+1.5L	L
Unbraced	2960 ft-lb	3'10 5/16"	17130 ft-lb	0.173 (17%)	1.25D+1.5L	L
Shear	869 lb	1'4 1/4"	5798 lb	0.150 (15%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/6137)	3'10 3/8"	0.261 (L/360)	0.059 (6%)	D	Uniform
LL Defl inch	0.035 (L/2700)	3'10 3/8"	0.196 (L/480)	0.178 (18%)	L	L
TL Defl inch	0.050 (L/1875)	3'10 3/8"	0.391 (L/240)	0.128 (13%)	D+L	L

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

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

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.



July 05 2021

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must be laterally braced at a maximum of 4'7 1/16" o.c.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-5-6	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 4-6-6		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Point	3-10-6		Far Face	271 lb	657 lb	0 lb	0 lb	F10
4	Tie-In	3-11-4 to 8-5-6	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

Notes

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

Lumber

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

chemicals

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

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