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

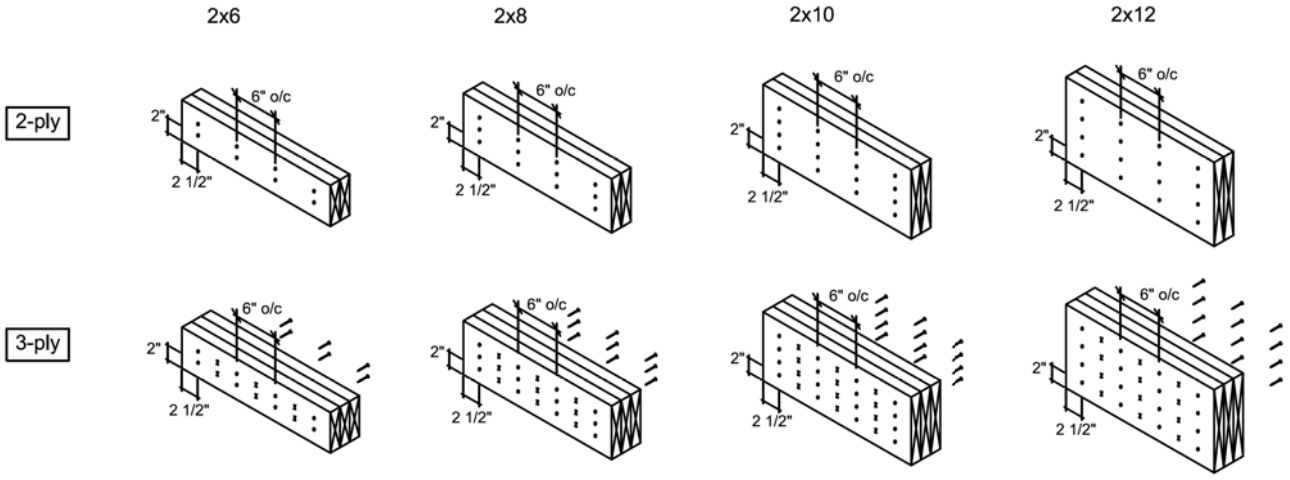
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies 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.

KOTT

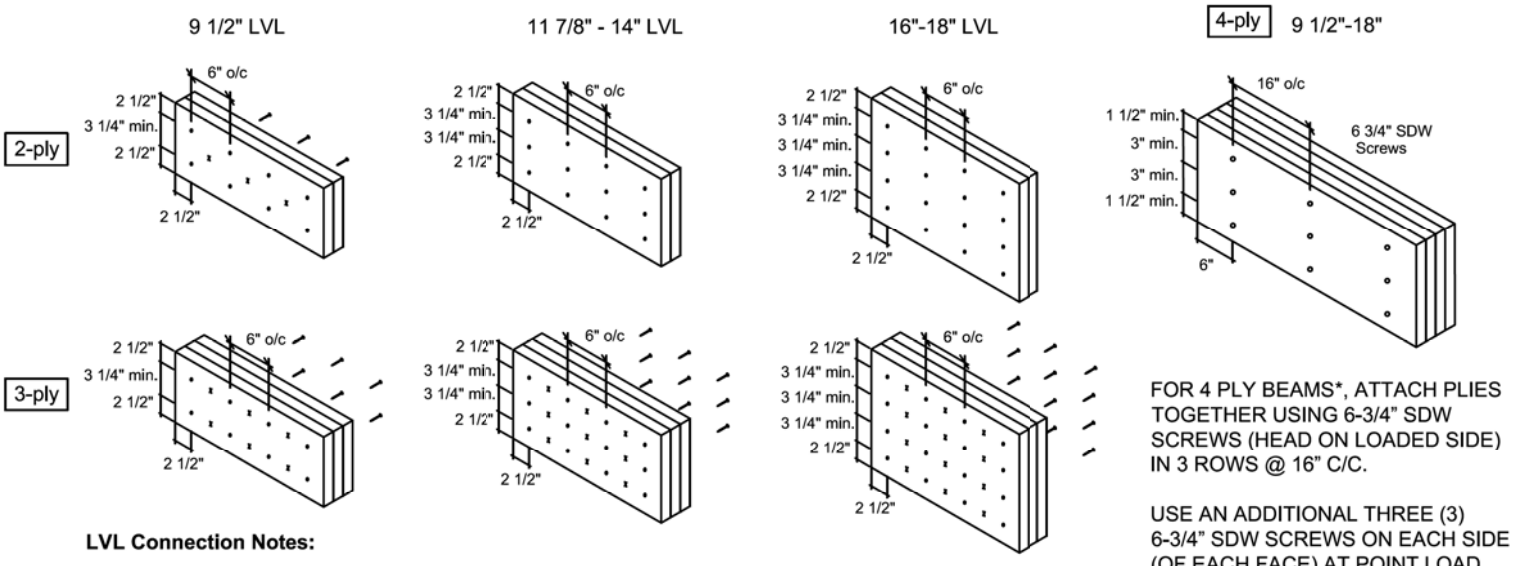
Conventional Connections



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 PLIES 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

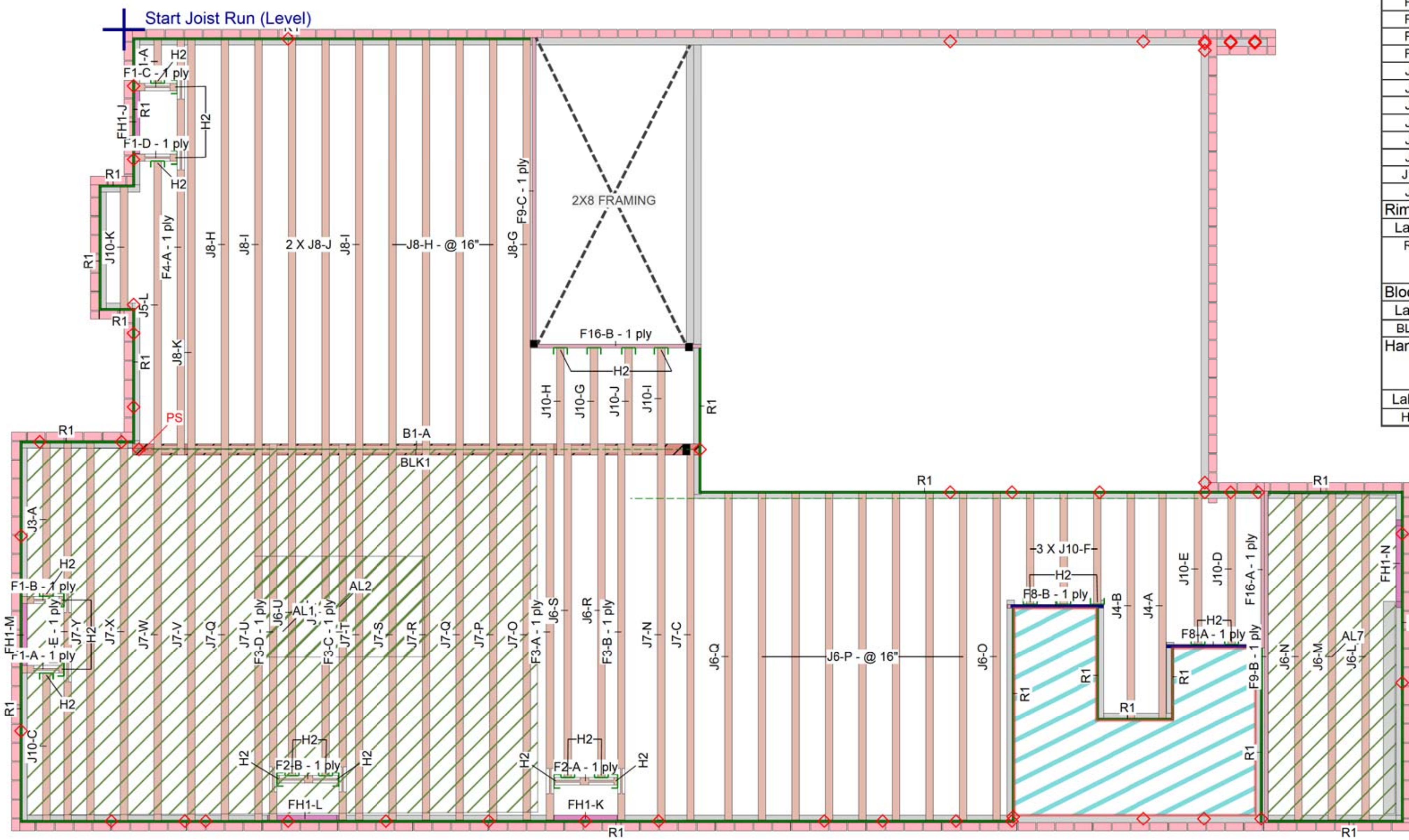
All connections are for uniformly distributed loads.

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

Last revised: February 19, 2021

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

Ground Floor



Ground Floor

LVL/LSL

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F9	Forex 2.0E-3000Fb LVL	1.75	11.875			2	14-0-0
F16	Forex 2.0E-3000Fb LVL	1.75	11.875			2	8-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	11.875			2	4-0-0

I Joist

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F4	AJS 24	3.5	11.875			1	18-0-0
F3	AJS 24	3.5	11.875			5	16-0-0
F2	AJS 24	3.5	11.875			2	4-0-0
F1	AJS 24	3.5	11.875			4	2-0-0
J8	AJS 24	3.5	11.875			11	18-0-0
J7	AJS 24	3.5	11.875			14	16-0-0
J6	AJS 24	3.5	11.875			16	14-0-0
J5	AJS 24	3.5	11.875			1	12-0-0
J4	AJS 24	3.5	11.875			2	10-0-0
J3	AJS 24	3.5	11.875			1	8-0-0
J10	AJS 24	3.5	11.875			11	6-0-0
J1	AJS 24	3.5	11.875			1	2-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			15	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 24	3.5	11.875	LinFt		Varies	14-0-0

Hanger

Label	Pcs	Description	Skew	Slope	Beam/Girder fasteners	Supported Member fasteners
H2	25	LF3511			12 10d	2 #8x1 1/4WS

JOB INFORMATION

Builder
GREENPARK

Project
ROUNDEL HOMES INC

Shipping
PINETREE 38-3-3
RICHMOND HILL,ON

Sales Rep
RALHP MIRIGELLO

Designer
W C

Plotted
June 09, 2021

Layout Name
PT38-3-3 STANDARD & DECK CONDITION

Job Path

DESIGN CRITERIA

Ground Floor

Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012

Floor

Loads

Live	40
Dead	15

Decking

Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued

Vibration

Ceiling:	Gypsum 1/2"

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

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

- PS Point Load Support
- Load from Above
- Wall
- Wall Opening
- Norbord Rimboard Plus 1.125 X 11.875
- AJS 24 11.875
- Forex 2.0E-3000Fb LVL 1.75 X 11.875
- 1.75 X 9.25 (Dropped)
- 5.25 X 8 (Dropped)

Hatch Area represents where additional load has been applied. (e.g. 5 psf for ceramic tile)

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

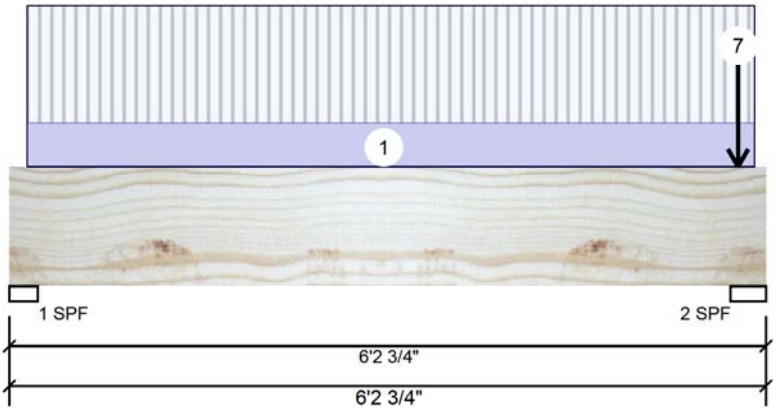
This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them

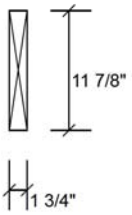
iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F16-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	72	42	0	0
2	Vertical	208	771	708	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.813"	Vert	7%	52 / 109	161	L	1.25D+1.5L
2 - SPF	3.500"	Vert	69%	964 / 1270	2234	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	231 ft-lb	3'1 1/16"	13190 ft-lb	0.018 (2%)	1.25D+1.5L	L
Unbraced	231 ft-lb	3'1 1/16"	13190 ft-lb	0.018 (2%)	1.25D+1.5L	L
Shear	107 lb	1'2 11/16"	4464 lb	0.024 (2%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/65188)	3'1 1/16"	0.194 (L/360)	0.006 (1%)	D	Uniform
LL Defl inch	0.002 (L/37062)	3'1 1/16"	0.146 (L/480)	0.013 (1%)	L+0.5S	L
TL Defl inch	0.003 (L/23629)	3'1 1/16"	0.291 (L/240)	0.010 (1%)	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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 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 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.
3 Girders are designed to be supported on the bottom edge only.
4 Top must be continuously laterally braced.
5 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	Tie-In	0-1-12 to 6-1-10	0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	6-0-0		Top	673 lb	133 lb	701 lb	0 lb	F19 F19 B2 B2
	Bearing Length	0-5-8							
3	Point	6-0-0		Top	3 lb	0 lb	7 lb	0 lb	

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

This design is valid until 5/24/2024

Manufacturer Info

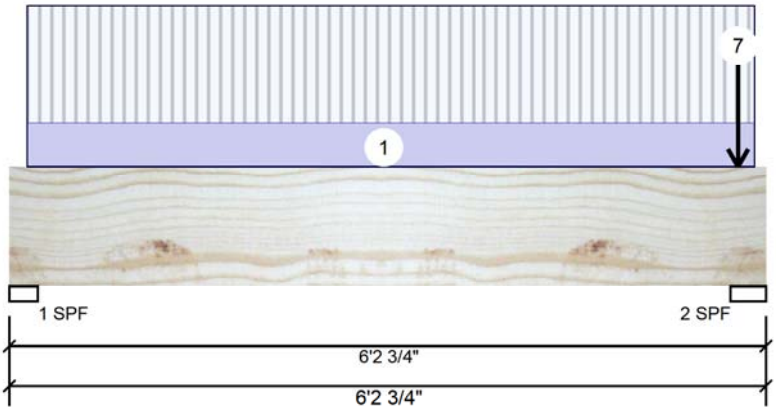
Forex
APA: PR-L318

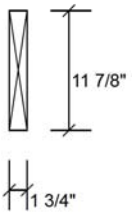
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F16-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED

Level: Ground Floor





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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
4	Point	6-0-0		Top	18 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
5	Point	6-0-0		Top	22 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	6-0-0		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
7	Point	6-0-0		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				5 PLF				

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.

June 29, 2021

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

This design is valid until 5/24/2024

Manufacturer Info

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613-838-2775 905-642-4400

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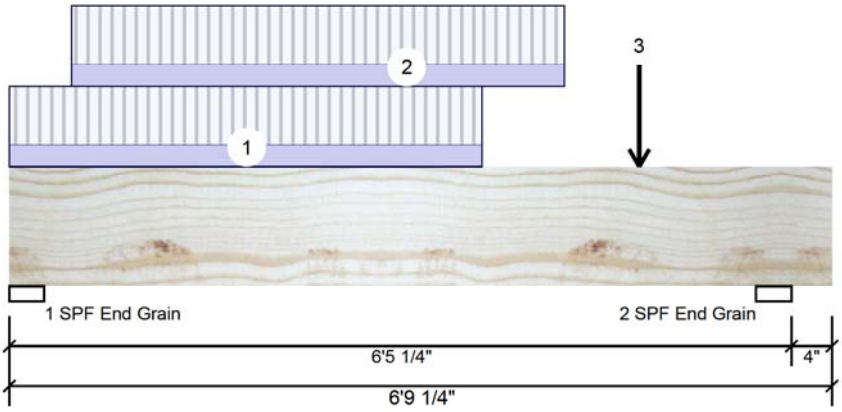
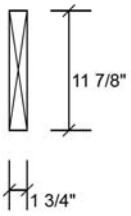
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F16-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	432	177	0	0
2	Vertical	299	128	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.438"	Vert	19%	221 / 648	869	L_	1.25D+1.5L
2 - SPF End Grain	3.500"	Vert	13%	160 / 448	608	L_	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1229 ft-lb	3' 1/2"	17130 ft-lb	0.072 (7%)	1.25D+1.5L	L_
Unbraced	1229 ft-lb	3' 1/2"	17130 ft-lb	0.072 (7%)	1.25D+1.5L	L_
Shear	712 lb	5'1 7/8"	5798 lb	0.123 (12%)	1.25D+1.5L	L_
Perm Defl in.	0.005 (L/15434)	3'1 15/16"	0.202 (L/360)	0.023 (2%)	D	Uniform
LL Defl inch	0.012 (L/6322)	3'1 13/16"	0.152 (L/480)	0.076 (8%)	L	LL
TL Defl inch	0.016 (L/4485)	3'1 7/8"	0.303 (L/240)	0.054 (5%)	D+L	LL
LL Cant	-0.001 (2L/5804)	Rt Cant	0.200 (2L/480)	0.007 (1%)	L	LL
TL Cant	-0.002 (2L/4116)	Rt Cant	0.300 (2L/240)	0.006 (1%)	D+L	LL

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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1 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.
2 Girders are designed to be supported on the bottom edge only.
3 Top must be continuously laterally braced.
4 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 3-10-12	1-11-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-6-2 to 4-6-14		Near Face	29 PLF	78 PLF	0 PLF	0 PLF	
3	Point	5-2-4		Near Face	42 lb	112 lb	0 lb	0 lb	J10
	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

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
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Manufacturer Info

Forex
APA: PR-L318

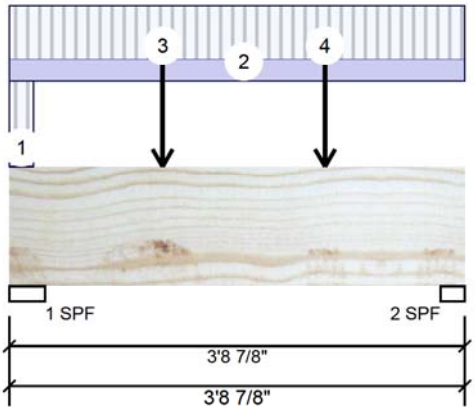
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

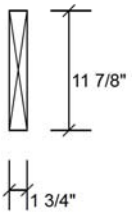
iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F8-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	267	111	0	0
2	Vertical	248	104	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	14%	139 / 401	540	L	1.25D+1.5L
2 - SPF	2.394"	Vert	19%	130 / 372	502	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	468 ft-lb	1'10 1/16"	17130 ft-lb	0.027 (3%)	1.25D+1.5L	L
Unbraced	468 ft-lb	1'10 1/16"	17130 ft-lb	0.027 (3%)	1.25D+1.5L	L
Shear	387 lb	1'3 3/8"	5798 lb	0.067 (7%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/42975)	1'10 3/4"	0.112 (L/360)	0.008 (1%)	D	Uniform
LL Defl inch	0.002 (L/17585)	1'10 11/16"	0.084 (L/480)	0.027 (3%)	L	L
TL Defl inch	0.003 (L/12479)	1'10 11/16"	0.169 (L/240)	0.019 (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.

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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1 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.
2 Girders are designed to be supported on the bottom edge only.
3 Top must be continuously laterally braced.
4 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	1-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-8-14		Top	20 PLF	50 PLF	0 PLF	0 PLF	
3	Point	1-3-1		Far Face	61 lb	164 lb	0 lb	0 lb	J10
4	Point	2-7-1		Far Face	57 lb	153 lb	0 lb	0 lb	J10
	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

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

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

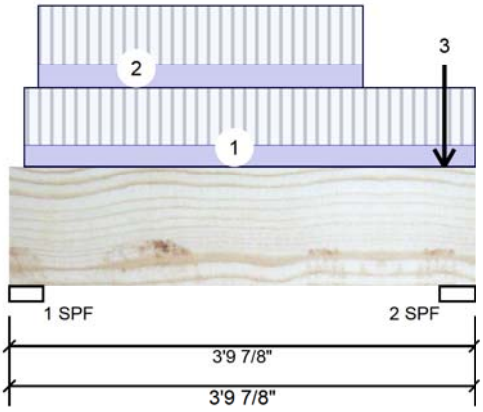
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

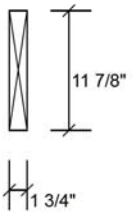
iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F8-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	292	119	0	0
2	Vertical	314	127	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.313"	Vert	16%	148 / 438	586	L	1.25D+1.5L
2 - SPF	3.500"	Vert	17%	159 / 471	630	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	475 ft-lb	1'10 7/16"	17130 ft-lb	0.028 (3%)	1.25D+1.5L	L
Unbraced	475 ft-lb	1'10 7/16"	17130 ft-lb	0.028 (3%)	1.25D+1.5L	L
Shear	407 lb	2'6 1/2"	5798 lb	0.070 (7%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/43582)	1'10 9/16"	0.113 (L/360)	0.008 (1%)	D	Uniform
LL Defl inch	0.002 (L/17633)	1'10 9/16"	0.084 (L/480)	0.027 (3%)	L	L
TL Defl inch	0.003 (L/12554)	1'10 9/16"	0.169 (L/240)	0.019 (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.

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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1 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.
2 Girders are designed to be supported on the bottom edge only.
3 Top must be continuously laterally braced.
4 Bottom must have sheathing attached or be continuously braced.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-1-8 to 3-9-14		Top	32 PLF	85 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-2-13 to 2-10-13		Far Face	33 PLF	88 PLF	0 PLF	0 PLF	
3	Point	3-6-13		Far Face	21 lb	57 lb	0 lb	0 lb	J10
	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

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

This design is valid until 5/24/2024

Manufacturer Info

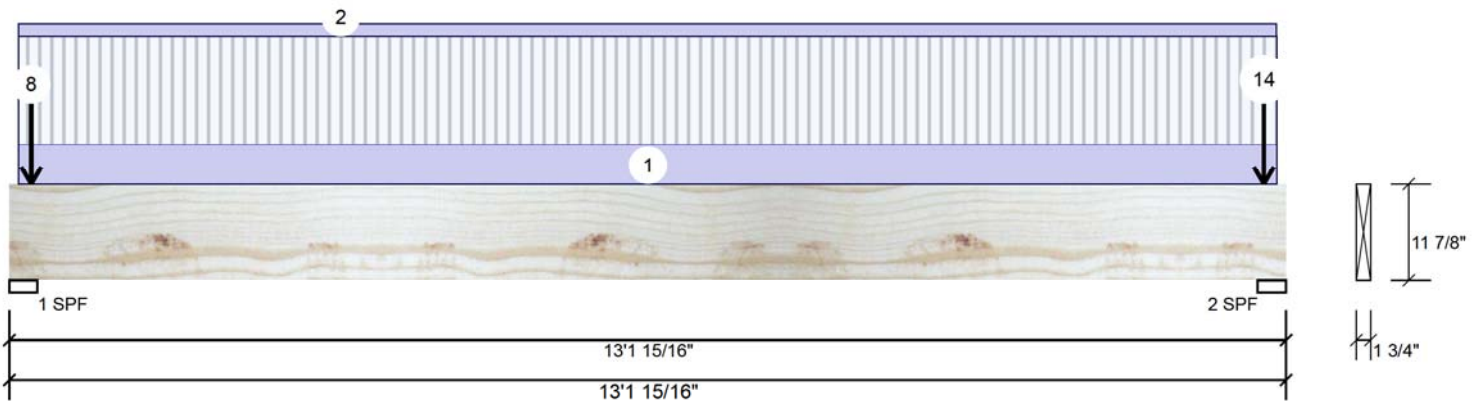
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F9-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	168	171	23	0
2	Vertical	168	167	23	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.446"	Vert	13%	213 / 274	488	L	1.25D+1.5L +S
2 - SPF	3.500"	Vert	13%	208 / 274	483	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1222 ft-lb	6'6 15/16"	17130 ft-lb	0.071 (7%)	1.25D+1.5L	L
Unbraced	1222 ft-lb	6'6 15/16"	17130 ft-lb	0.071 (7%)	1.25D+1.5L	L
Shear	327 lb	11'10 9/16"	5798 lb	0.056 (6%)	1.25D+1.5L	L
Perm Defl in.	0.023 (L/6655)	6'7"	0.424 (L/360)	0.054 (5%)	D	Uniform
LL Defl inch	0.034 (L/4495)	6'7"	0.318 (L/480)	0.107 (11%)	L+0.5S	L
TL Defl inch	0.057 (L/2683)	6'7"	0.635 (L/240)	0.089 (9%)	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 3.446196660483.
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.

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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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-2 to 13-0-13	0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-1-2 to 13-0-12		Top	3 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-2-11		Top	6 lb	0 lb	15 lb	0 lb	
	Bearing Length	0-5-8							
4	Point	0-2-11		Top	29 lb	0 lb	0 lb	0 lb	Wall Self Weight

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

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

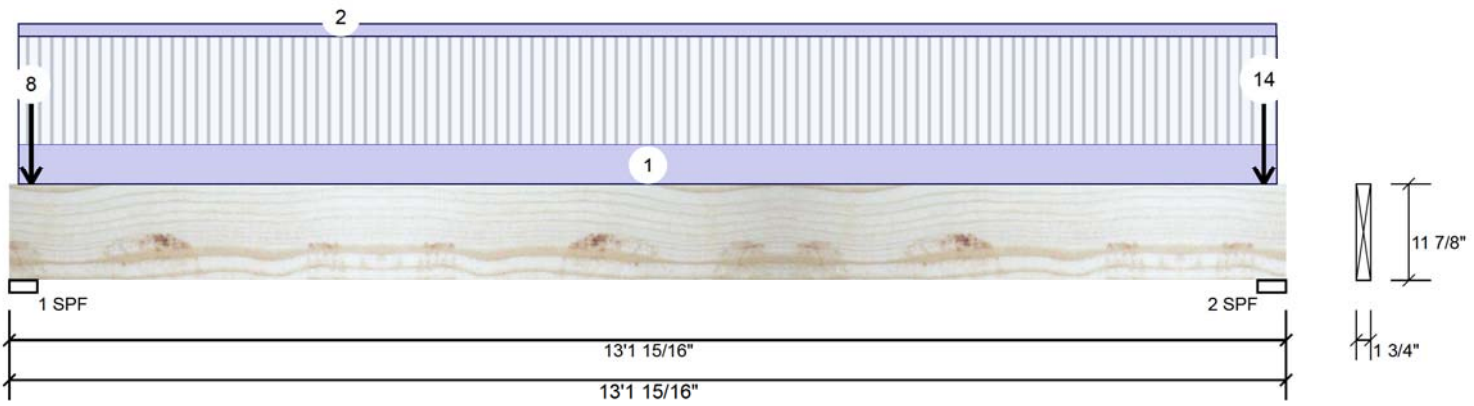
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

isDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

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

Level: Ground Floor



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
5	Point	0-2-11		Top	2 lb	0 lb	4 lb	0 lb	
	Bearing Length	0-5-8							
6	Point	0-2-11		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
7	Point	0-2-11		Top	2 lb	0 lb	4 lb	0 lb	
	Bearing Length	0-5-8							
8	Point	0-2-11		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
9	Point	12-11-3		Top	2 lb	0 lb	4 lb	0 lb	
	Bearing Length	0-5-8							
10	Point	12-11-3		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Point	12-11-3		Top	2 lb	0 lb	4 lb	0 lb	
	Bearing Length	0-5-8							
12	Point	12-11-3		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
13	Point	12-11-3		Top	6 lb	0 lb	15 lb	0 lb	
	Bearing Length	0-5-8							
14	Point	12-11-3		Top	29 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				5 PLF				

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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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Notes

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

iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F9-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	0	29	0	0
2	Vertical	47	93	60	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	1.875"	Vert	3%	40 / 0	40	Uniform	1.4D
2 - SPF	3.500"	Vert	7%	117 / 137	254	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	117 ft-lb	6' 3/16"	11135 ft-lb	0.011 (1%)	1.4D	Uniform
Unbraced	117 ft-lb	6' 3/16"	11135 ft-lb	0.011 (1%)	1.4D	Uniform
Shear	39 lb	1'1 3/4"	3769 lb	0.010 (1%)	1.4D	Uniform
Perm Defl in.	0.005 (L/29701)	6' 1/4"	0.395 (L/360)	0.012 (1%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.005 (L/29701)	6' 1/4"	0.592 (L/240)	0.008 (1%)	D+S+0.5L	L

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
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4 Top must be continuously laterally braced.
5 Bottom must be laterally braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	11-11-5		Top	18 lb	47 lb	0 lb	0 lb	J8
	Bearing Length	0-5-8							
2	Point	11-11-5		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
3	Point	11-11-5		Top	24 lb	0 lb	60 lb	0 lb	

Continued on page 2...

Notes

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Lumber

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Manufacturer Info

Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	6/28/2021
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Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F9-C 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
	Bearing Length	0-5-8							
5	Point	11-11-5		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				5 PLF				

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I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Notes

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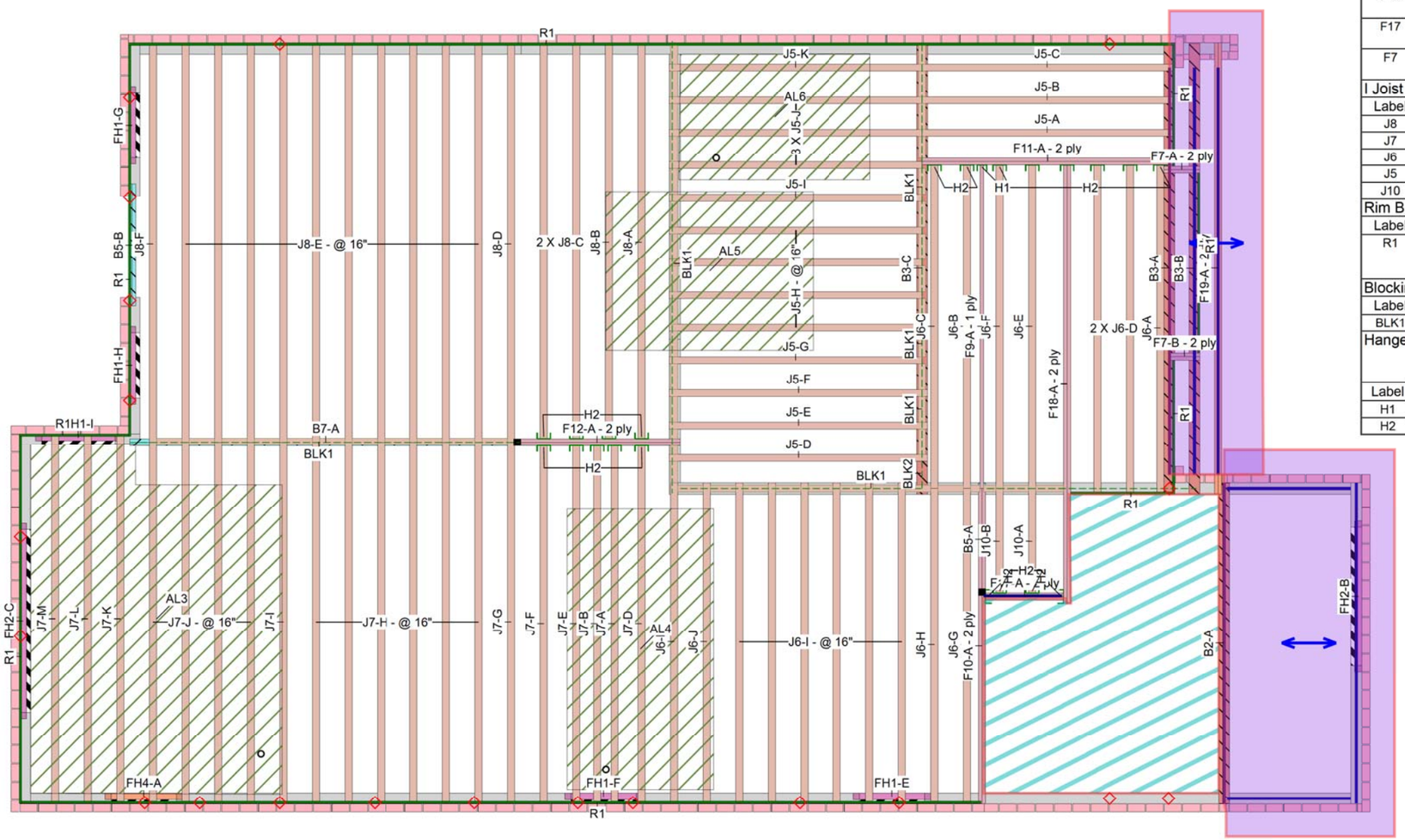
Manufacturer Info

Forex
APA: PR-L318

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

Second Floor



Hatch Area represents where additional load has been applied. (e.g. 5 psf for ceramic tile)

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

This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them

Second Floor

LVL/LSL

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F19	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	20-0-0
FH4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0
F18	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	18-0-0
F10	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	14-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	11.875			1	14-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	12-0-0
F12	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	8-0-0
F17	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	4-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	11.875	2	2	4	2-0-0

I Joist

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J8	AJS 24	3.5	11.875			16	18-0-0
J7	AJS 24	3.5	11.875			20	16-0-0
J6	AJS 24	3.5	11.875			17	14-0-0
J5	AJS 24	3.5	11.875			16	12-0-0
J10	AJS 24	3.5	11.875			2	6-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			12	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 24	3.5	11.875	LinFt		Varies	51-0-0

Hanger

					Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	1	HUS1.81/10			30 16d	10 16d
H2	21	LF3511			12 10d	2 #8x1 1/4WS

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

PS Point Load Support
Load from Above
Wall
Wall Opening
Norbord Rimboard Plus 1.125 X 11.875
AJS 24 11.875
Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)
Forex 2.0E-3000Fb LVL 1.75 X 9.5

JOB INFORMATION

Builder
GREENPARK

Project
ROUNDEL HOMES INC

Shipping
PINETREE 38-3-3
RICHMOND HILL,ON

Sales Rep
RALHP MIRIGELLO

Designer
W C

Plotted
June 09, 2021

Layout Name
PT38-3-3 STANDARD & DECK CONDITION

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

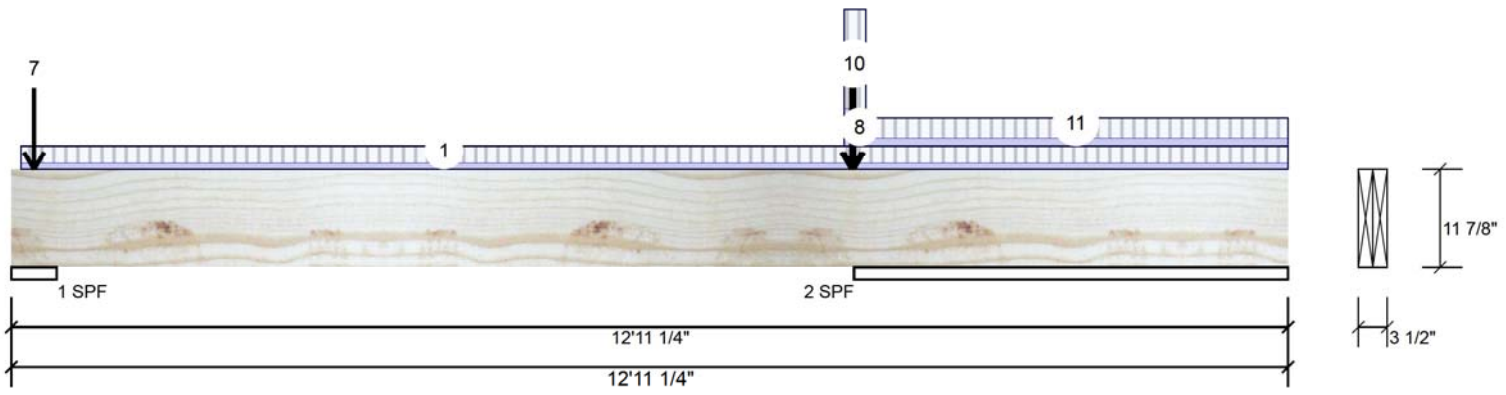
Boise - 12472-R , 12787-R
LP - 12412-R
Forex - 14056-R

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

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F10-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	57	132	114	0
2	Vertical	436	260	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	4%	165 / 171	336	L	1.25D+1.5S
2 - SPF	52.901"	Vert	1%	325 / 655	979	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	326 ft-lb	4'7 15/16"	34261 ft-lb	0.010 (1%)	1.25D+1.5L	L
Unbraced	326 ft-lb	4'7 15/16"	34261 ft-lb	0.010 (1%)	1.25D+1.5L	L
Shear	633 lb	7'6 7/16"	11596 lb	0.055 (5%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/52186)	4'6 7/16"	0.273 (L/360)	0.007 (1%)	D	Uniform
LL Defl inch	0.002 (L/55822)	4'7 1/16"	0.205 (L/480)	0.009 (1%)	L+0.5S	L
TL Defl inch	0.004 (L/26973)	4'6 3/4"	0.410 (L/240)	0.009 (1%)	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.

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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
2 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.
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 must be continuously laterally braced.
7 Bottom must be laterally braced at a maximum of 8'6" o.c.
8 Lateral slenderness ratio based on full section width.

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

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

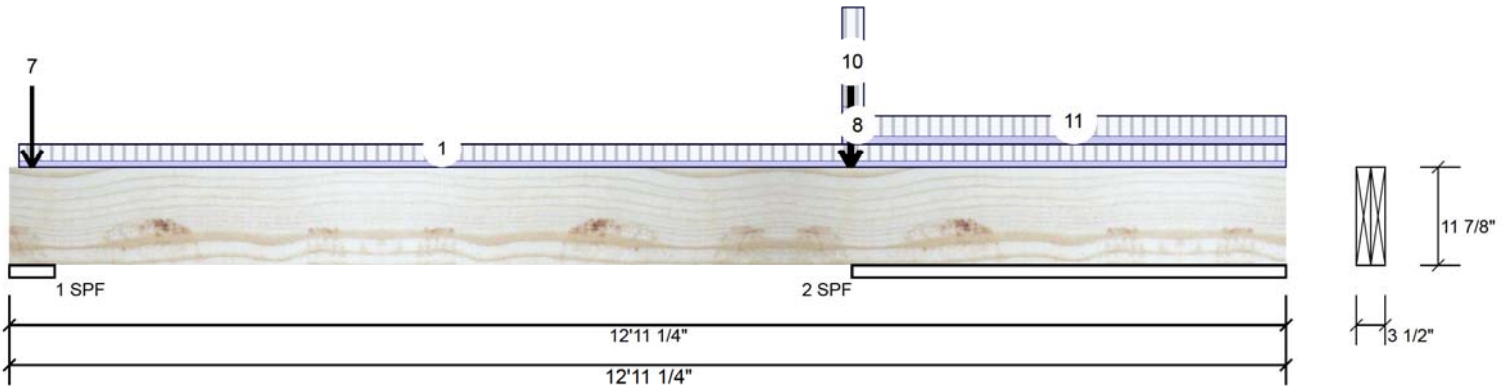
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F10-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	Tie-In	0-1-3 to 12-11-4	0-3-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Top	17 lb	0 lb	41 lb	0 lb	
	Bearing Length	0-5-8							
3	Point	0-2-12		Top	8 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
4	Point	0-2-12		Top	6 lb	0 lb	15 lb	0 lb	
	Bearing Length	0-5-8							
5	Point	0-2-12		Top	3 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-2-12		Top	23 lb	0 lb	58 lb	0 lb	
	Bearing Length	0-5-8							
7	Point	0-2-12		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Tie-In	8-5-2 to 8-7-12	1-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Point	8-6-0		Near Face	111 lb	253 lb	0 lb	0 lb	F17
10	Point	8-6-5		Top	2 lb	6 lb	0 lb	0 lb	
	Bearing Length	0-3-8							
11	Tie-In	8-7-12 to 12-11-4	0-4-5	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.

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

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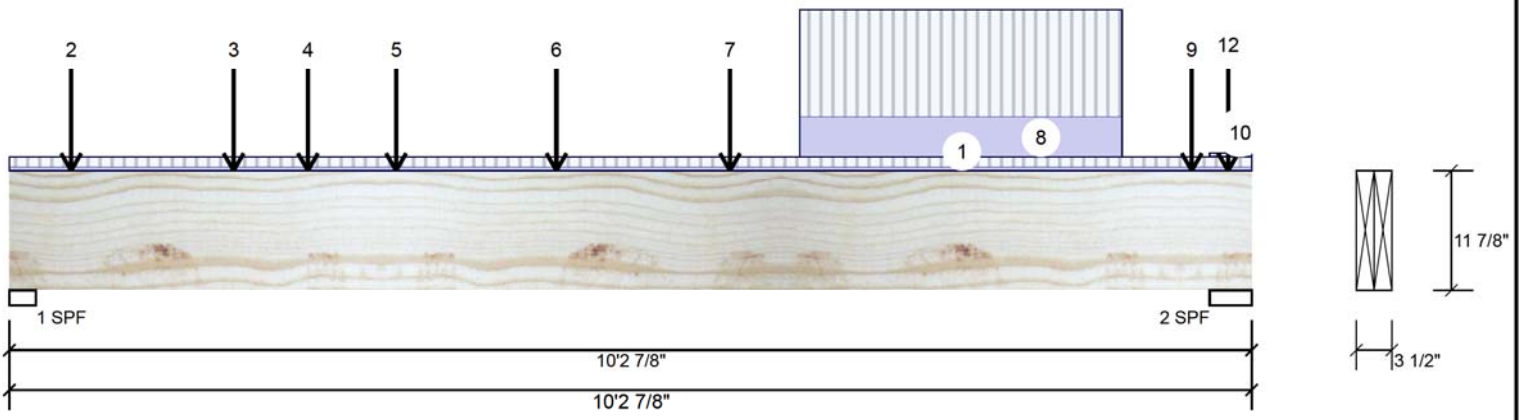

Member Information

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	1348	599	0	0
2	Vertical	1459	697	5	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	49%	749 / 2022	2771	L	1.25D+1.5L
2 - SPF	4.138"	Vert	34%	871 / 2193	3064	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6721 ft-lb	4'6 1/16"	34261 ft-lb	0.196 (20%)	1.25D+1.5L	L
Unbraced	6721 ft-lb	4'6 1/16"	34261 ft-lb	0.196 (20%)	1.25D+1.5L	L
Shear	2815 lb	1'2 1/2"	11596 lb	0.243 (24%)	1.25D+1.5L	L
Perm Defl in.	0.030 (L/3914)	5' 5/16"	0.327 (L/360)	0.092 (9%)	D	Uniform
LL Defl inch	0.066 (L/1770)	5'	0.245 (L/480)	0.271 (27%)	L+0.5S	L
TL Defl inch	0.097 (L/1219)	5' 1/8"	0.490 (L/240)	0.197 (20%)	D+L+0.5S	L

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I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1. Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.138366788285.
2. 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.
3. Girders are designed to be supported on the bottom edge only.
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6. Top must be continuously laterally braced.
7. Bottom must have sheathing attached or be continuously braced.
8. 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 10-2-14	0-7-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-6-1		Near Face	90 lb	239 lb	0 lb	0 lb	J6
3	Point	1-10-1		Near Face	96 lb	256 lb	0 lb	0 lb	J6
4	Point	2-5-6		Near Face	98 lb	177 lb	0 lb	0 lb	F9

Continued on page 2...

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Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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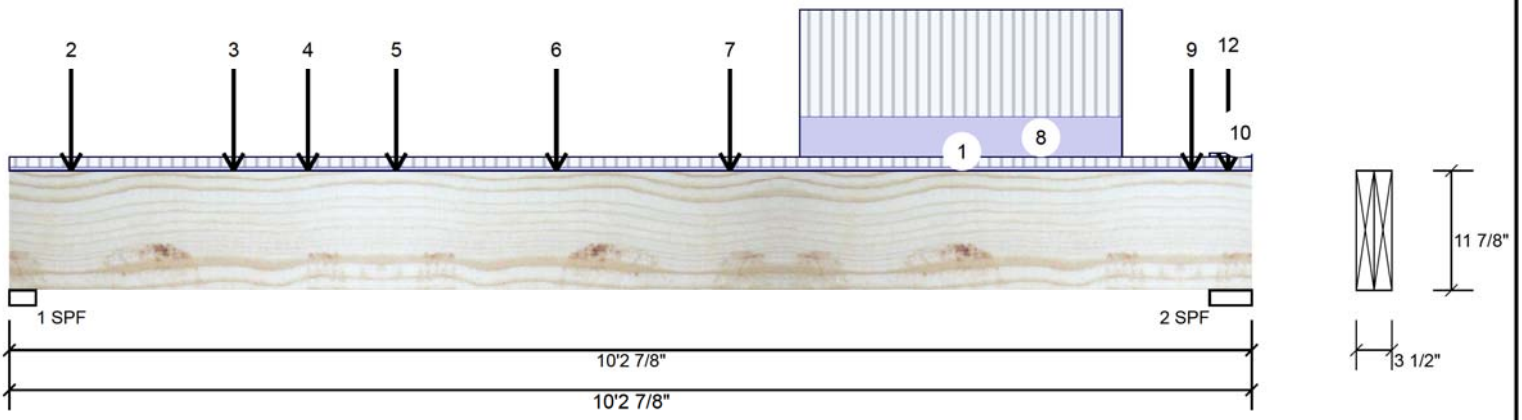

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	3-2-1		Near Face	102 lb	271 lb	0 lb	0 lb	J6
6	Point	4-6-1		Near Face	136 lb	364 lb	0 lb	0 lb	J6
7	Point	5-11-3		Near Face	149 lb	260 lb	0 lb	0 lb	F18
8	Part. Uniform	6-6-1 to 9-2-1		Near Face	95 PLF	254 PLF	0 PLF	0 PLF	
9	Point	9-8-15		Near Face	119 lb	317 lb	0 lb	0 lb	J6
10	Tie-In	9-10-12 to 10-2-14	0-2-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
11	Point	10-0-9		Top	2 lb	0 lb	5 lb	0 lb	
	Bearing Length	0-5-8							
12	Point	10-0-9		Top	61 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				10 PLF				

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

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June 29, 2021

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iStruct Design

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Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

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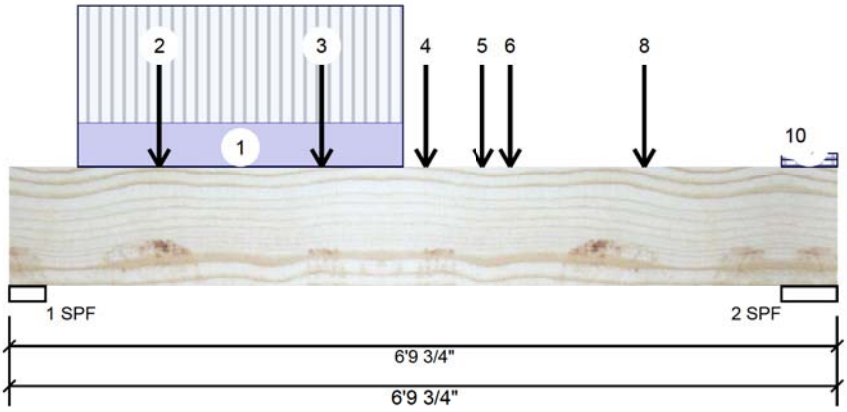
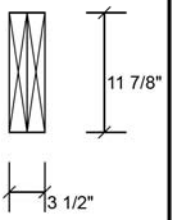
Level: Second Floor





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	1653	697	0	0
2	Vertical	1519	686	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.563"	Vert	44%	872 / 2479	3351	L	1.25D+1.5L
2 - SPF	5.500"	Vert	26%	857 / 2279	3136	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5854 ft-lb	3'5"	34261 ft-lb	0.171 (17%)	1.25D+1.5L	L
Unbraced	5854 ft-lb	3'5"	34261 ft-lb	0.171 (17%)	1.25D+1.5L	L
Shear	3520 lb	5'4 3/8"	11596 lb	0.304 (30%)	1.25D+1.5L	L
Perm Defl in.	0.012 (L/6106)	3'5"	0.206 (L/360)	0.059 (6%)	D	Uniform
LL Defl inch	0.028 (L/2659)	3'4 9/16"	0.155 (L/480)	0.181 (18%)	L	L
TL Defl inch	0.040 (L/1852)	3'4 3/4"	0.309 (L/240)	0.130 (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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-6-12 to 3-2-12		Far Face	119 PLF	318 PLF	0 PLF	0 PLF	
2	Point	1-2-12		Near Face	144 lb	384 lb	0 lb	0 lb	J7
3	Point	2-6-12		Near Face	137 lb	315 lb	0 lb	0 lb	J7
4	Point	3-5-0		Near Face	104 lb	225 lb	0 lb	0 lb	J7
5	Point	3-10-12		Far Face	174 lb	424 lb	0 lb	0 lb	J8

Continued on page 2...

Notes

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Lumber

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Handling & Installation

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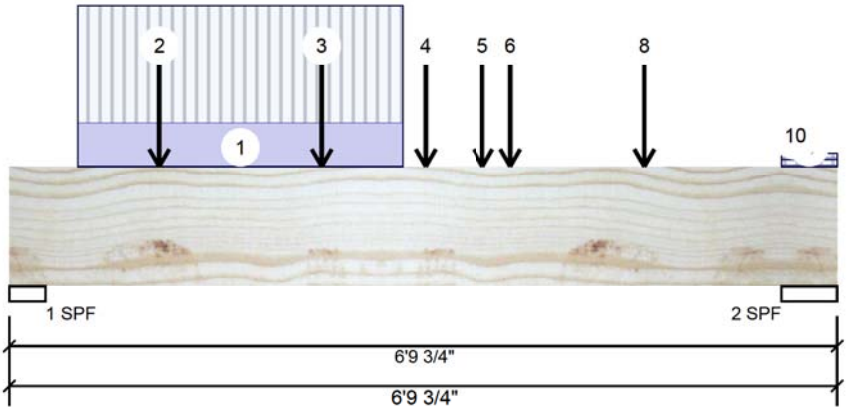

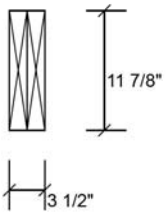

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	4-1-8		Near Face	122 lb	261 lb	0 lb	0 lb	J7
7	Point	5-2-12		Far Face	169 lb	391 lb	0 lb	0 lb	J8
8	Point	5-2-12		Near Face	146 lb	312 lb	0 lb	0 lb	J7
9	Tie-In	6-4-4 to 6-9-12	0-4-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Tie-In	6-4-4 to 6-9-12	0-3-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				

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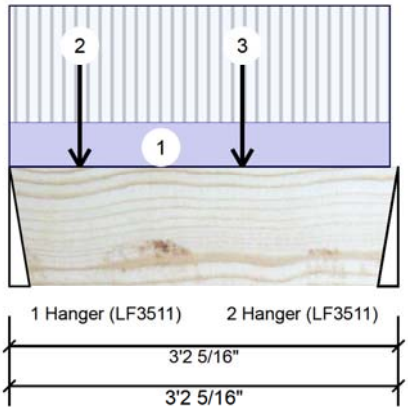
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

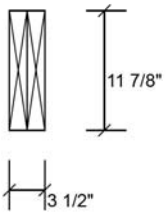
iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F17-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	253	111	0	0
2	Vertical	213	96	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	10%	139 / 380	519	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	8%	120 / 319	439	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	385 ft-lb	1'10 15/16"	34261 ft-lb	0.011 (1%)	1.25D+1.5L	L
Unbraced	385 ft-lb	1'10 15/16"	34261 ft-lb	0.011 (1%)	1.25D+1.5L	L
Shear	325 lb	1'1 7/8"	11596 lb	0.028 (3%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/100882)	1'8 13/16"	0.099 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.001 (L/43950)	1'9 1/8"	0.075 (L/480)	0.011 (1%)	L	L
TL Defl inch	0.001 (L/30615)	1'9"	0.149 (L/240)	0.008 (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.

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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1 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.
2 Fill all hanger nailing holes.
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 must be continuously laterally braced.
7 Bottom must have sheathing attached or be continuously braced.
8 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-1-8		Top	32 PLF	84 PLF	0 PLF	0 PLF	
2	Point	0-6-15		Far Face	33 lb	87 lb	0 lb	0 lb	J10
3	Point	1-10-15		Far Face	44 lb	117 lb	0 lb	0 lb	J10
	Self Weight				10 PLF				

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

This design is valid until 5/24/2024

Manufacturer Info

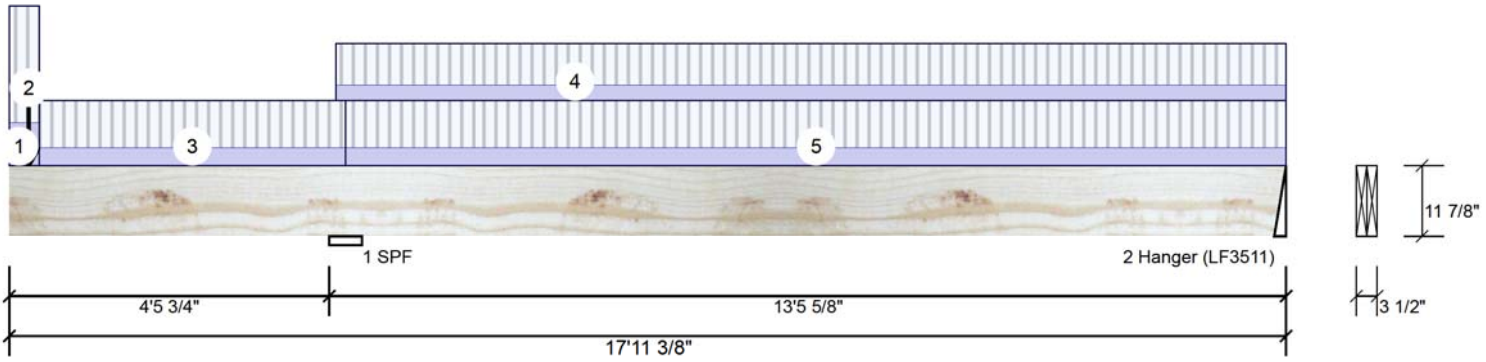
Forex
APA: PR-L318

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

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F18-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	814	441	0	0
2	Vertical	260	149	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	15%	551 / 1221	1772	LL	1.25D+1.5L
2 - Hanger	2.000"	Vert	14%	186 / 534	720 (-1)	_L	1.25D+1.5L (0.9D+1.5L)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2676 ft-lb	4'8 1/2"	30835 ft-lb	0.087 (9%)	1.25D+1.5L	L_
Unbraced	-2676 ft-lb	4'8 1/2"	24982 ft-lb	0.107 (11%)	1.25D+1.5L	L_
Pos Moment	2141 ft-lb	11'9 1/2"	34261 ft-lb	0.062 (6%)	1.25D+1.5L	_L
Unbraced	2141 ft-lb	11'9 1/2"	34261 ft-lb	0.062 (6%)	1.25D+1.5L	_L
Shear	841 lb	5'11 1/8"	11596 lb	0.073 (7%)	1.25D+1.5L	LL
Perm Defl in.	0.010 (L/15458)	12'2 3/16"	0.438 (L/360)	0.023 (2%)	D	Uniform
LL Defl inch	0.040 (L/3964)	11'3 5/16"	0.328 (L/480)	0.121 (12%)	L	_L
TL Defl inch	0.050 (L/3169)	11'5 15/16"	0.657 (L/240)	0.076 (8%)	D+L	_L
LL Cant	0.062 (2L/1738)	Lt Cant	0.224 (2L/480)	0.276 (28%)	L	L_
TL Cant	0.071 (2L/1517)	Lt Cant	0.448 (2L/240)	0.158 (16%)	D+L	L_

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

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1 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.
2 Fill all hanger nailing holes.
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 Tie-down connection required at bearing 2 for uplift 1 lb (Combination 0.9D+1.5L, Load Case L_).
7 Top must be continuously laterally braced.
8 Bottom must be laterally braced at a maximum of 17'8 1/8" o.c.
9 Lateral slenderness ratio based on full section width.

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

This design is valid until 5/24/2024

Manufacturer Info

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iStructDesign

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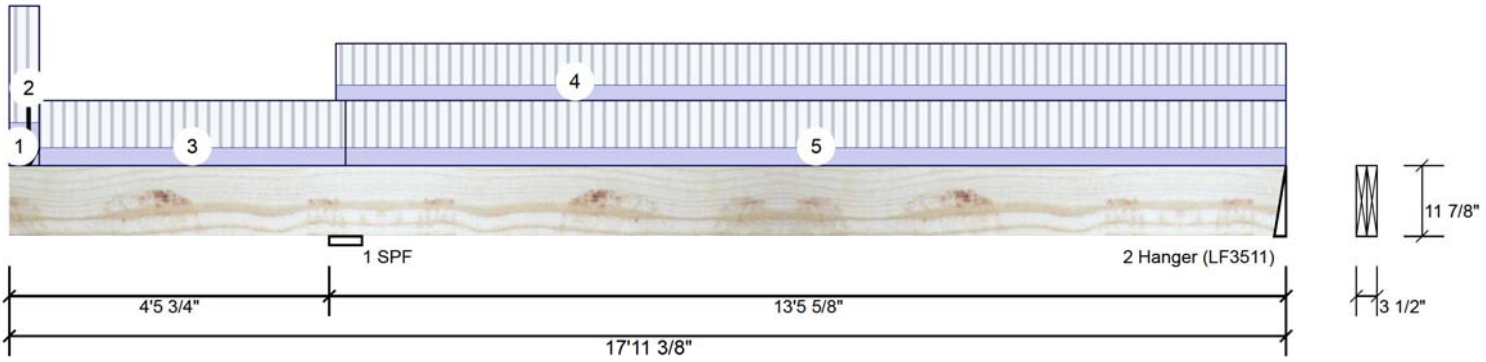
F18-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-0	1-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-4		Far Face	96 lb	213 lb	0 lb	0 lb	F17
3	Tie-In	0-5-0 to 4-8-8	0-8-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	4-6-14 to 17-11-6	0-7-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	4-8-8 to 17-11-6	0-8-9	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.

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Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
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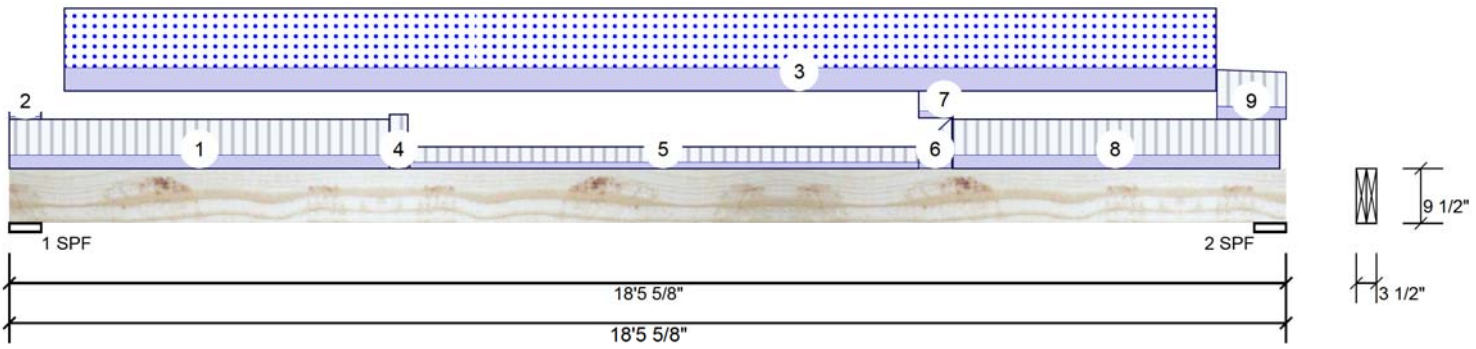
F19-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	267	373	506	0
2	Vertical	294	378	494	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	13%	466 / 1026	1492	L	1.25D+1.5S +L
2 - SPF	5.500"	Vert	13%	473 / 1035	1508	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6373 ft-lb	9'2 5/8"	22724 ft-lb	0.280 (28%)	1.25D+1.5S +L	L
Unbraced	6373 ft-lb	9'2 5/8"	16552 ft-lb	0.385 (39%)	1.25D+1.5S +L	L
Shear	1361 lb	1'3"	9277 lb	0.147 (15%)	1.25D+1.5S +L	L
Perm Defl in.	0.184 (L/1155)	9'2 3/4"	0.589 (L/360)	0.312 (31%)	D	Uniform
LL Defl inch	0.325 (L/652)	9'2 3/4"	0.442 (L/480)	0.736 (74%)	S+0.5L	L
TL Defl inch	0.509 (L/417)	9'2 3/4"	0.884 (L/240)	0.576 (58%)	D+S+0.5L	L

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PROVINCE OF ONTARIO
June 29, 2021

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4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at a maximum of 18'5 5/8" o.c.
6 Bottom must be laterally braced at bearings.
7 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 5-5-11	0-10-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-8	0-2-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-9-8 to 17-5-8		Top	24 PLF	0 PLF	60 PLF	0 PLF	
4	Tie-In	5-5-11 to 5-8-14	0-11-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Continued on page 2...

Notes

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Lumber

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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
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This design is valid until 5/24/2024

Manufacturer Info

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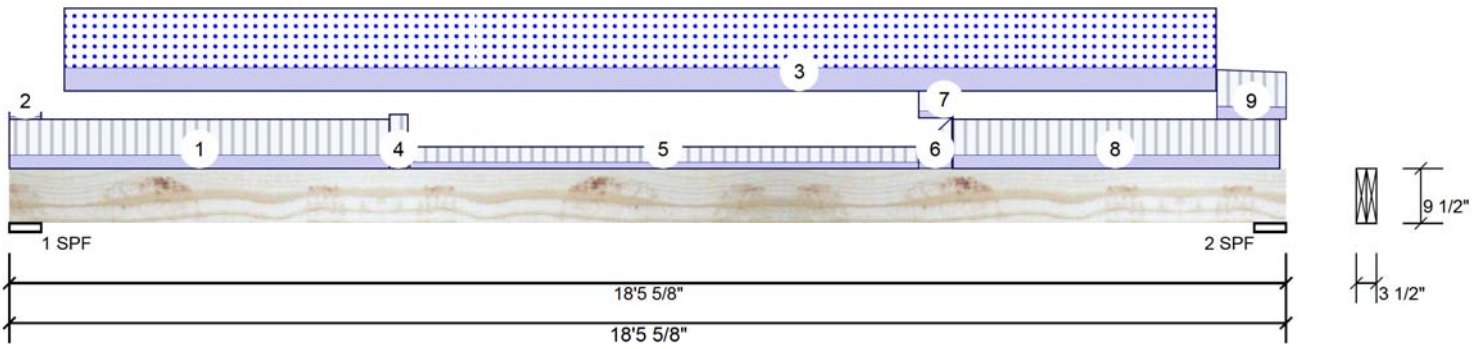

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Tie-In	5-9-3 to 13-1-10	0-4-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	13-1-10 to 13-7-6	0-4-7 to 0-11-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Tie-In	13-1-10 to 13-7-9	0-6-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Tie-In	13-7-9 to 18-4-8	0-10-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Tie-In	17-5-10 to 18-5-10	0-11-3 to 0-10-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

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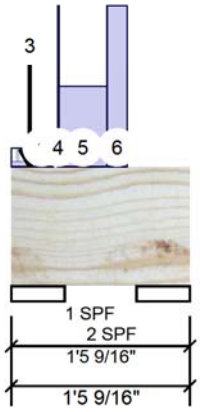

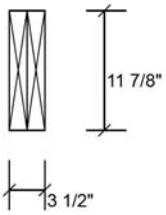

Member Information

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	2	46	0	0
2	Vertical	0	21	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	1%	64 / 0	64	Uniform	1.4D
2 - SPF	5.250"	Vert	0%	29 / 0	29	Uniform	1.4D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5 ft-lb	9 1/8"	22269 ft-lb	0.000 (0%)	1.4D	Uniform
Unbraced	5 ft-lb	9 1/8"	22269 ft-lb	0.000 (0%)	1.4D	Uniform
Shear	18 lb	7/16"	7537 lb	0.002 (0%)	1.4D	Uniform
Perm Defl in.	0.000 (L/804346)	9 1/8"	0.024 (L/360)	0.000 (0%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/804346)	9 1/8"	0.036 (L/240)	0.000 (0%)	D+L	L

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5 Top must be continuously laterally braced.
6 Bottom must have sheathing attached or be continuously braced.
7 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	0-2-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-1-13		Top	13 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
3	Point	0-1-13		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight

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

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

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

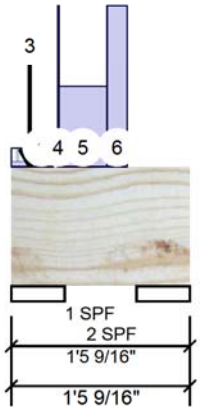
iStructDesign

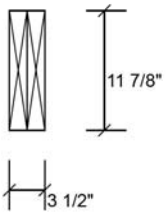
Client: GREENPARK
Project:
Address: PINETREE 38-3-3
RICHMOND HILL,ON

Date: 6/28/2021
Input by: W C
Job Name: PT38-3-3 STANDARD & DECK CONDITION
Project #: ROUNDEL HOMES INC

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

Level: Second Floor





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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
4	Part. Uniform	0-4-9 to 0-4-11		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Part. Uniform	0-4-11 to 0-9-7		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Part. Uniform	0-9-7 to 0-11-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				10 PLF				

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

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Notes

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6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info

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

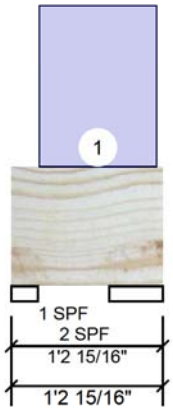
iStruct Design

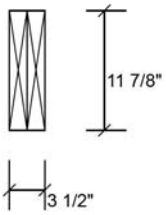
Client: GREENPARK
Project:
Address: PINETREE 38-3-3
RICHMOND HILL,ON

Date: 6/28/2021
Input by: W C
Job Name: PT38-3-3 STANDARD & DECK CONDITION
Project #: ROUNDEL HOMES INC

F7-B 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	0	28	0	0
2	Vertical	0	61	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.633"	Vert	1%	39 / 0	39	Uniform	1.4D
2 - SPF	5.250"	Vert	1%	85 / 0	85	Uniform	1.4D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8 ft-lb	6 3/16"	22269 ft-lb	0.000 (0%)	1.4D	Uniform
Unbraced	8 ft-lb	6 3/16"	22269 ft-lb	0.000 (0%)	1.4D	Uniform
Shear	35 lb	1'2 1/2"	7537 lb	0.005 (0%)	1.4D	Uniform
Perm Defl in.	0.000 (L/536616)	6 3/16"	0.024 (L/360)	0.001 (0%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/536616)	6 3/16"	0.036 (L/240)	0.000 (0%)	D	Uniform

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

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

1 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.
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 must be continuously laterally braced.
6 Bottom must have sheathing attached or be continuously braced.
7 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-2-12 to 1-2-5		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				10 PLF				

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

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

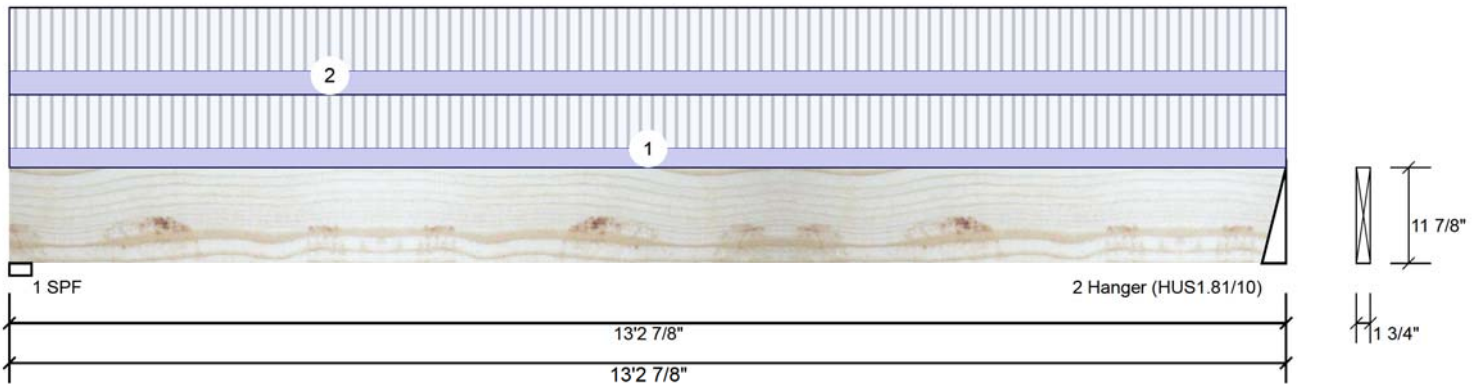
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

isDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F9-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	176	98	0	0
2	Vertical	177	98	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.750"	Vert	13%	122 / 264	386	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	10%	122 / 265	388	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1213 ft-lb	6'7 5/16"	17130 ft-lb	0.071 (7%)	1.25D+1.5L	L
Unbraced	1213 ft-lb	6'7 5/16"	17130 ft-lb	0.071 (7%)	1.25D+1.5L	L
Shear	321 lb	1'2 5/8"	5798 lb	0.055 (6%)	1.25D+1.5L	L
Perm Defl in.	0.020 (L/7562)	6'7 3/8"	0.430 (L/360)	0.048 (5%)	D	Uniform
LL Defl inch	0.037 (L/4186)	6'7 3/8"	0.322 (L/480)	0.115 (11%)	L	L
TL Defl inch	0.057 (L/2694)	6'7 3/8"	0.644 (L/240)	0.089 (9%)	D+L	L

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-2-14	0-3-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-2-14	0-4-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

Notes

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Lumber

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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
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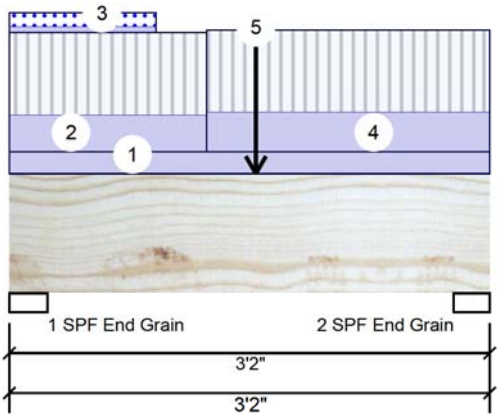
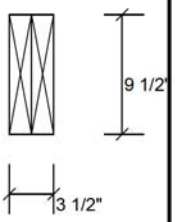
iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-3 RICHMOND HILL,ON	Job Name:	PT38-3-3 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

FH4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor





Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	474	505	304	0
2	Vertical	474	504	280	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	21%	631 / 1016	1647	L	1.25D+1.5L +S
2 - SPF End Grain	3.000"	Vert	21%	630 / 990	1620	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1378 ft-lb	1'7 7/16"	22724 ft-lb	0.061 (6%)	1.25D+1.5S +L	L
Unbraced	1378 ft-lb	1'7 7/16"	22724 ft-lb	0.061 (6%)	1.25D+1.5S +L	L
Shear	918 lb	2'1 1/2"	9277 lb	0.099 (10%)	1.25D+1.5S +L	L
Perm Defl in.	0.002 (L/13507)	1'7 7/16"	0.093 (L/360)	0.027 (3%)	D	Uniform
LL Defl inch	0.003 (L/10839)	1'7 7/16"	0.070 (L/480)	0.044 (4%)	S+0.5L	L
TL Defl inch	0.006 (L/6013)	1'7 7/16"	0.140 (L/240)	0.040 (4%)	D+S+0.5L	L

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

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LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 2021

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Handling & Installation

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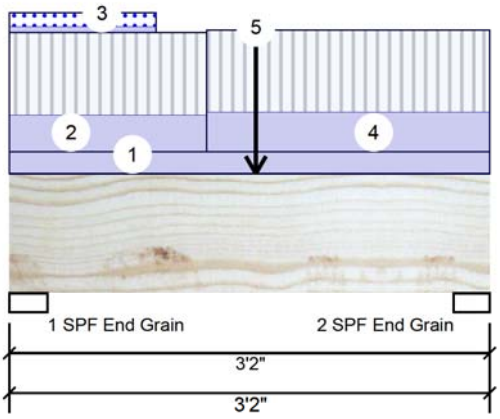

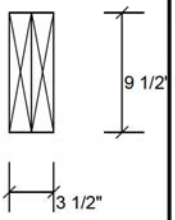

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-2-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 1-3-9		Top	134 PLF	300 PLF	0 PLF	0 PLF	J7
3	Part. Uniform	0-0-0 to 0-11-9		Top	21 PLF	0 PLF	51 PLF	0 PLF	
4	Part. Uniform	1-3-9 to 3-2-0		Top	144 PLF	299 PLF	0 PLF	0 PLF	J7
5	Point	1-7-7		Top	268 lb	0 lb	535 lb	0 lb	Header Column
	Bearing Length	0-3-8							
	Self Weight				8 PLF				

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