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

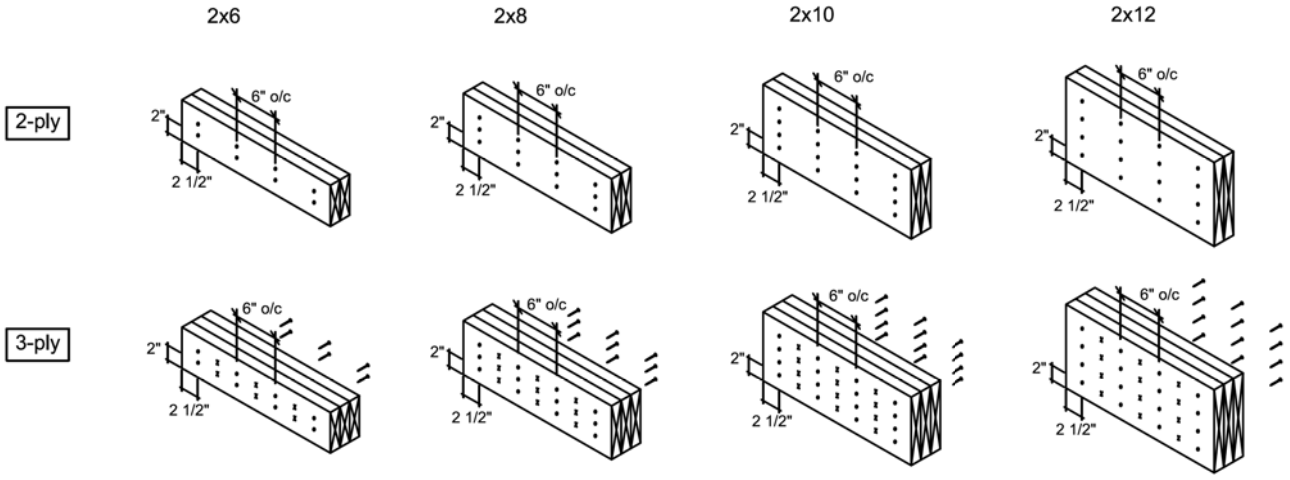
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies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

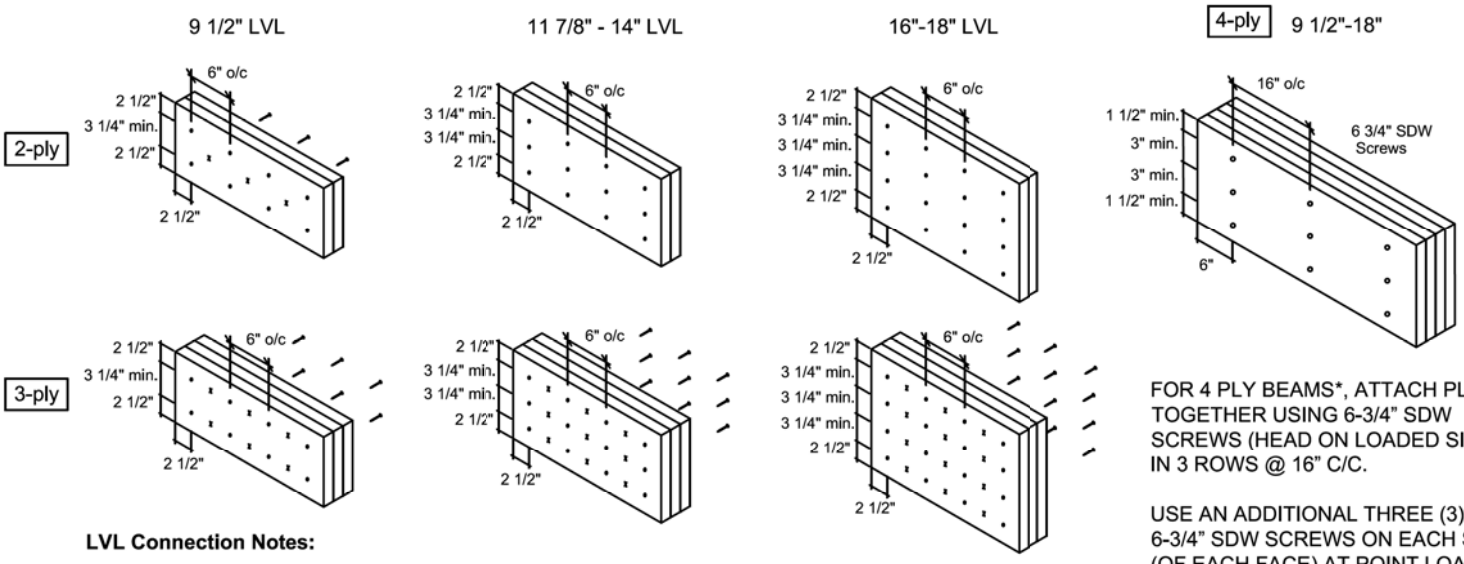
Conventional Connections



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.

4-ply 9 1/2"-18"

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

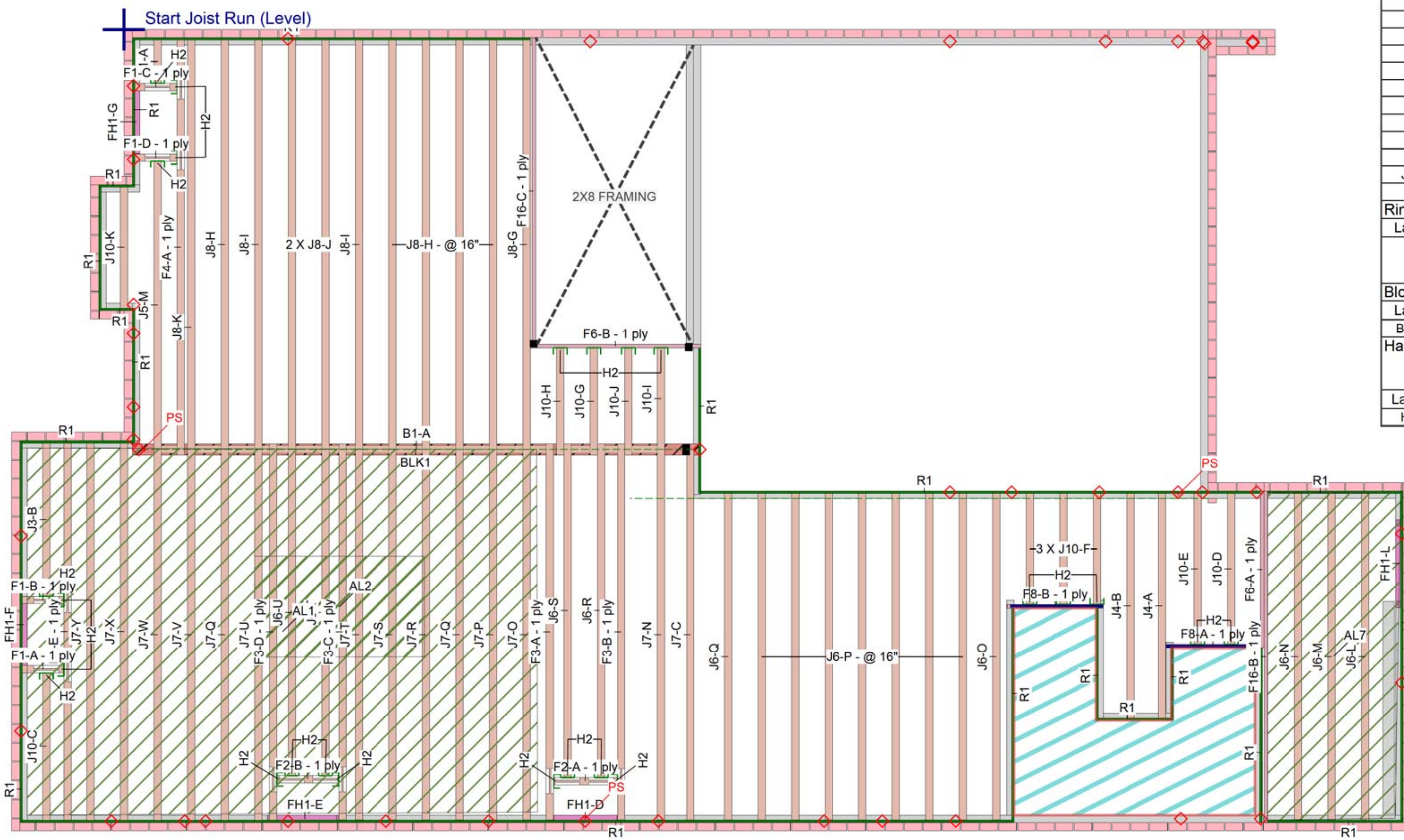
All connections are for uniformly distributed loads.

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



JOB INFORMATION	
Builder	GREENPARK
Project	ROUNDEL HOMES INC
Shipping	PINETREE 38-3-2 RICHMOND HILL,ON
Sales Rep	RALPH MIRIGELLO
Designer	W C
Plotted	June 09, 2021
Layout Name	PT38-3-2 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"

Ground Floor

LVL/LSL

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F16	Forex 2.0E-3000Fb LVL	1.75	11.875			2	14-0-0
F6	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

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
KOTT

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.

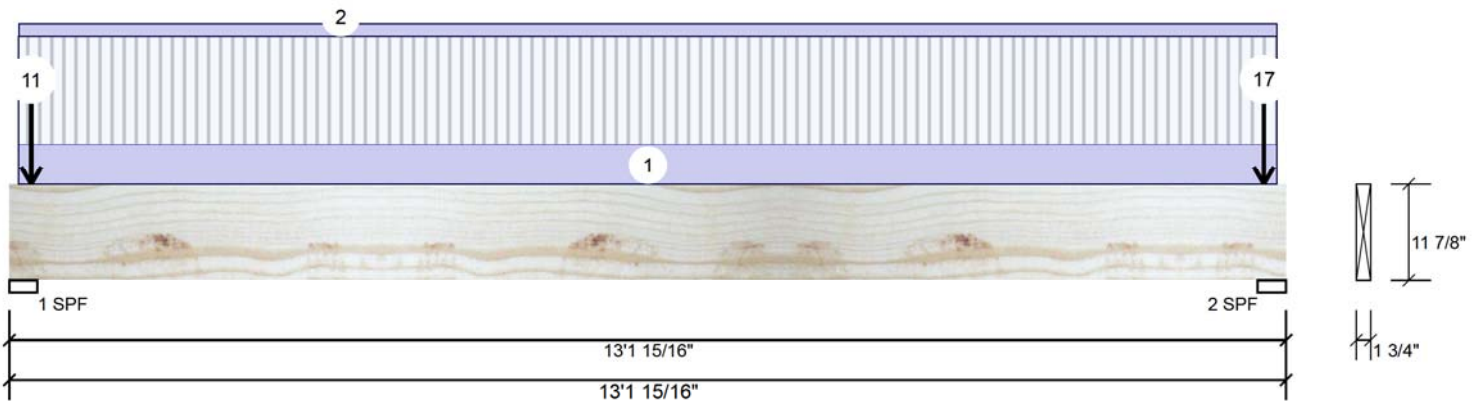
This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them

iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 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	168	206	23	0
2	Vertical	168	166	23	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.446"	Vert	14%	257 / 274	531	L	1.25D+1.5L +S
2 - SPF	3.500"	Vert	13%	207 / 274	482	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1222 ft-lb	6'6 15/16"	16788 ft-lb	0.073 (7%)	1.25D+1.5L	L
Unbraced	1222 ft-lb	6'6 15/16"	16788 ft-lb	0.073 (7%)	1.25D+1.5L	L
Shear	327 lb	11'10 9/16"	5682 lb	0.058 (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.

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

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	0-1-3 to 13-0-13		Top	3 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-2-11		Top	6 lb	0 lb	16 lb	0 lb	
	Bearing Length	0-5-8							
4	Point	0-2-11		Top	19 lb	0 lb	0 lb	0 lb	Wall Self Weight

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

iStructDesign

Client: GREENPARK
Project:
Address: PINETREE 38-3-2
RICHMOND HILL,ON

Date: 6/28/2021
Input by: W C
Job Name: PT38-3-2 STANDARD & DECK CONDITION
Project #: ROUNDEL HOMES INC

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

Level: Ground Floor

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

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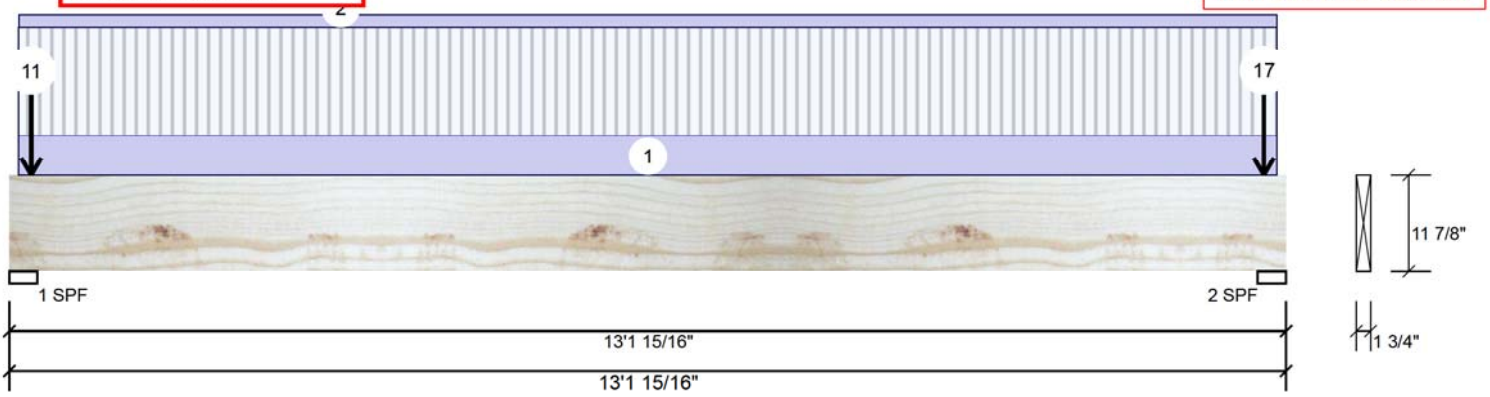

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
5	Point	0-2-11		Top	29 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-2-11		Top	2 lb	0 lb	4 lb	0 lb	
	Bearing Length	0-5-8							
7	Point	0-2-11		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Point	0-2-11		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
9	Point	0-2-11		Top	1 lb	0 lb	3 lb	0 lb	
	Bearing Length	0-5-8							
10	Point	0-2-11		Top	10 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Point	0-2-11		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
12	Point	12-11-3		Top	1 lb	0 lb	3 lb	0 lb	
	Bearing Length	0-5-8							
13	Point	12-11-3		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
14	Point	12-11-3		Top	2 lb	0 lb	4 lb	0 lb	
	Bearing Length	0-5-8							
15	Point	12-11-3		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
16	Point	12-11-3		Top	6 lb	0 lb	16 lb	0 lb	
	Bearing Length	0-5-8							
17	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				

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 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 roation
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 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F16-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

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 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.

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

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	Page 7 of 79	
Project:		Input by:	W C		
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION		
		Project #:	ROUNDEL HOMES INC		

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

Level: Ground Floor

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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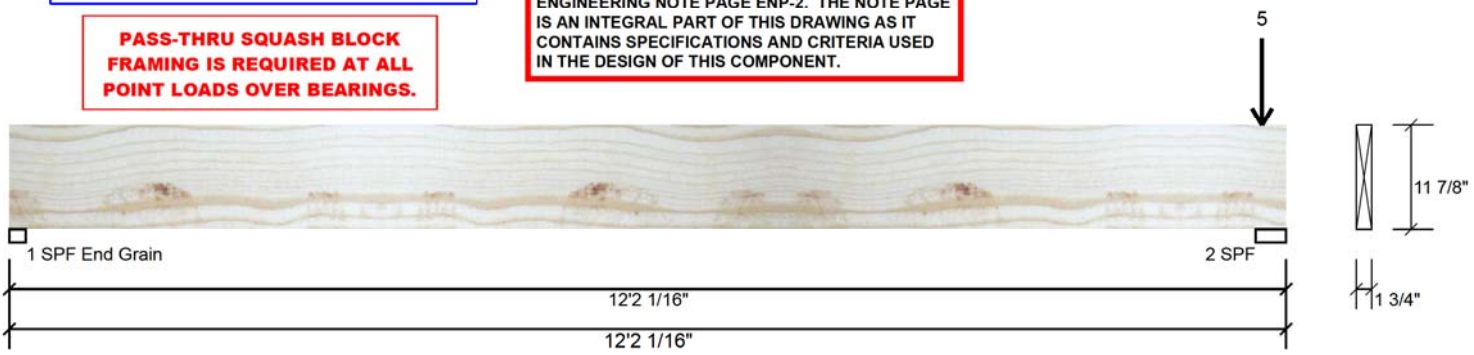

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
5	Point	11-11-5		Top	11 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				5 PLF				

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

Notes

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Lumber

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Handling & Installation

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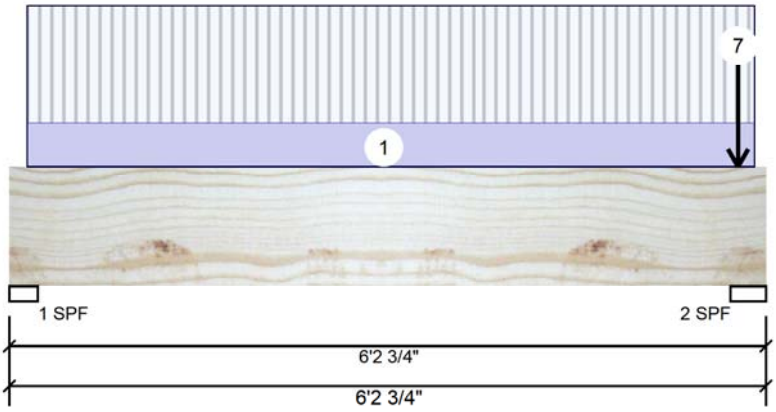
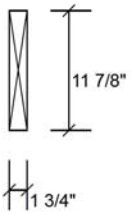
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

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	72	42	0	0
2	Vertical	292	856	744	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	77%	1070 / 1408	2478	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	231 ft-lb	3'1 1/16"	13704 ft-lb	0.017 (2%)	1.25D+1.5L	L
Unbraced	231 ft-lb	3'1 1/16"	13704 ft-lb	0.017 (2%)	1.25D+1.5L	L
Shear	107 lb	1'2 11/16"	4638 lb	0.023 (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.

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.

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.

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	742 lb	217 lb	699 lb	0 lb	F20 F20 B2 B2
	Bearing Length	0-5-8							
3	Point	6-0-0		Top	18 lb	0 lb	45 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

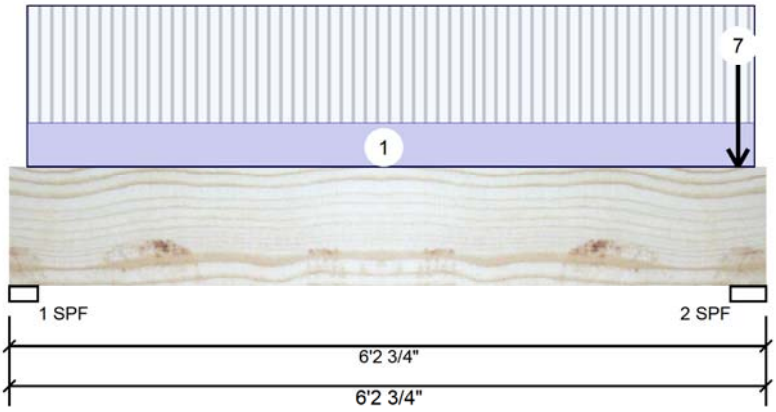
Forex
APA: PR-L318

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 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

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

Level: Ground Floor



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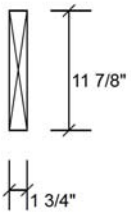
REFER TO MULTIPLE MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.

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



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
4	Point	6-0-0		Top	19 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				

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

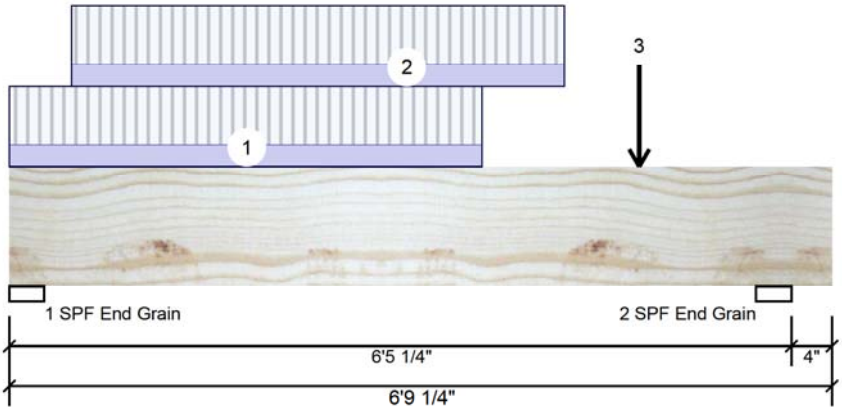
Forex
APA: PR-L318

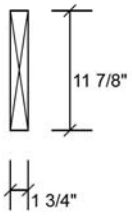
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

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	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.

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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
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

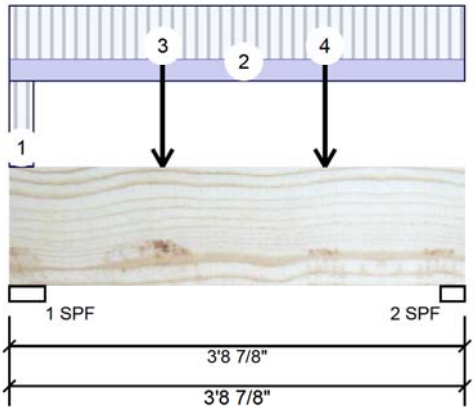
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

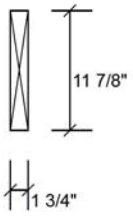
iStruct Design

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 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.

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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 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

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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

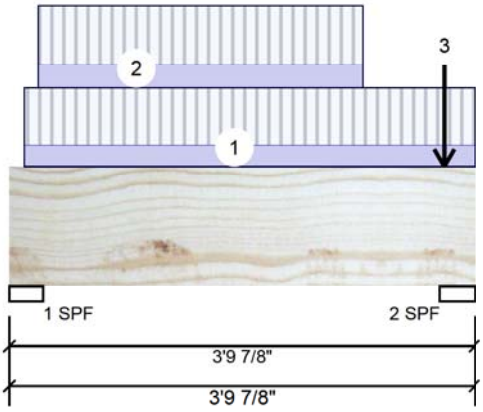
iStructDesign

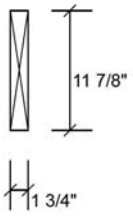
Client: GREENPARK
Project:
Address: PINETREE 38-3-2
RICHMOND HILL,ON

Date: 6/28/2021
Input by: W C
Job Name: PT38-3-2 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.

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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

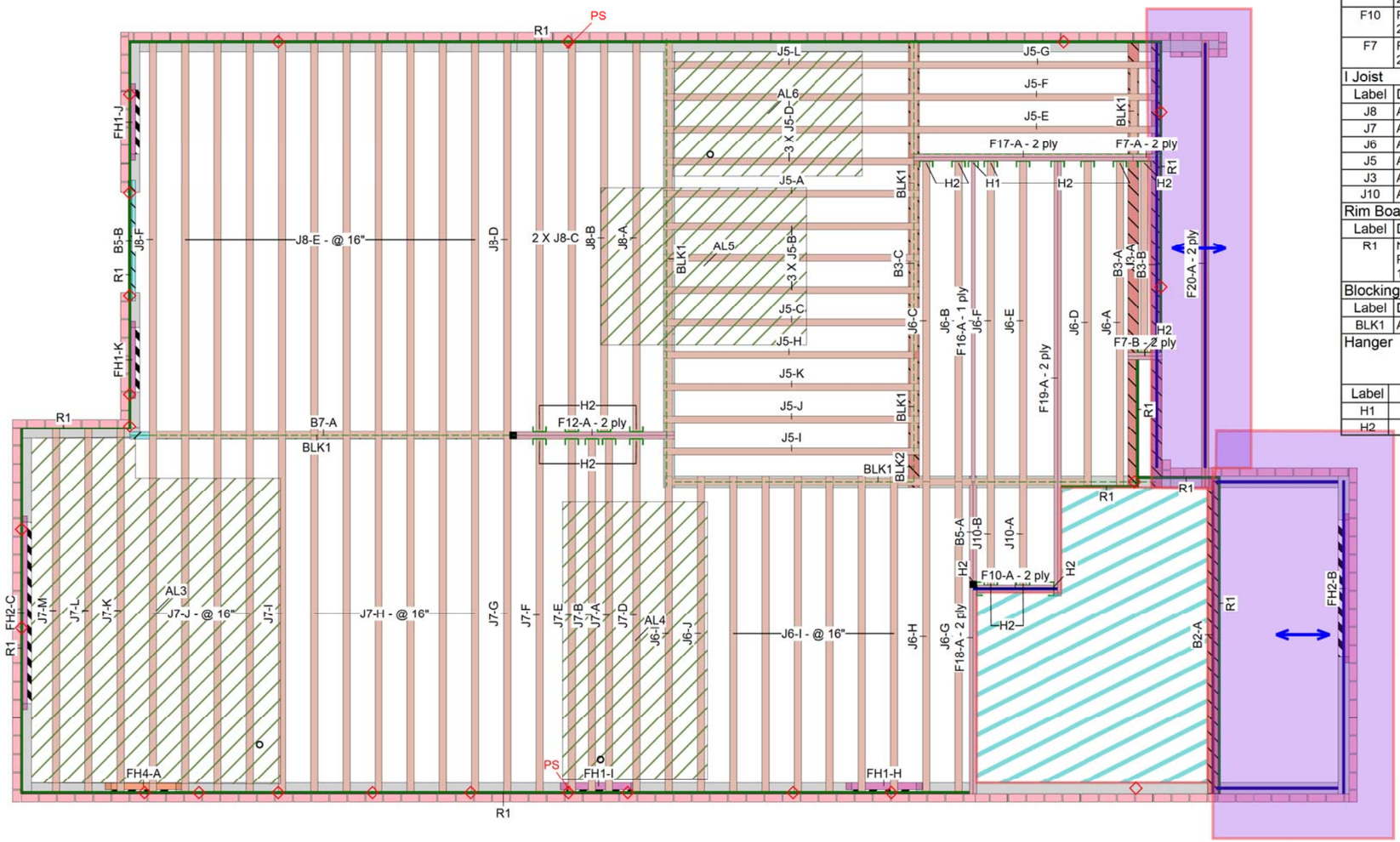
This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

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

Second Floor



Second Floor
LVL/LSL

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F20	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
F19	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	18-0-0
F18	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	14-0-0
F16	Forex 2.0E-3000Fb LVL	1.75	11.875			1	14-0-0
F17	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	10-0-0
F12	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	8-0-0
F10	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			16	14-0-0
J5	AJS 24	3.5	11.875			16	12-0-0
J3	AJS 24	3.5	11.875			1	8-0-0
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			13	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 24	3.5	11.875	LinFt		Varies	55-0-0

Hanger

Label	Pcs	Description	Skew	Slope	Beam/Girder fasteners	Supported Member fasteners
H1	1	HUS1.81/10			30 16d	10 16d
H2	22	LF3511			12 10d	2 #8x1 1/4WS

JOB INFORMATION

Builder
GREENPARK

Project
ROUNDEL HOMES INC

Shipping
PINETREE 38-3-2
RICHMOND HILL,ON

Sales Rep
RALPH MIRIGELLO

Designer
W C

Plotted
June 09, 2021

Layout Name
PT38-3-2 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

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

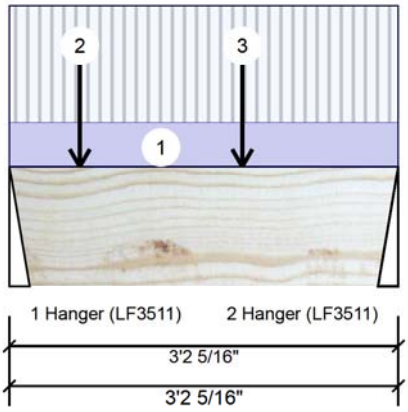
Hatch Area represents where additional load has been applied. (e.g. 5 psf for ceramic tile)

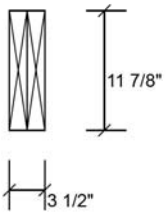
AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 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	253	111	0	0
2	Vertical	219	98	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	9%	123 / 328	451	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 3-2-5		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

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

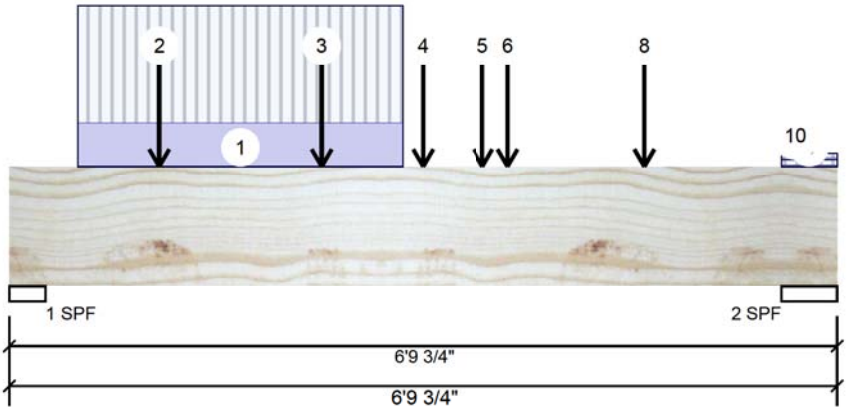
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

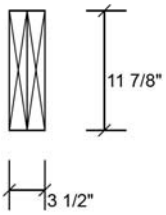
iStruct Design

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		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	1653	697	0	0
2	Vertical	1519	685	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%	871 / 2479	3350	L	1.25D+1.5L
2 - SPF	5.500"	Vert	26%	856 / 2279	3135	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5853 ft-lb	3'4 3/4"	34261 ft-lb	0.171 (17%)	1.25D+1.5L	L
Unbraced	5853 ft-lb	3'4 3/4"	34261 ft-lb	0.171 (17%)	1.25D+1.5L	L
Shear	3519 lb	5'4 3/8"	11596 lb	0.303 (30%)	1.25D+1.5L	L
Perm Defl in.	0.012 (L/6110)	3'4 3/4"	0.206 (L/360)	0.059 (6%)	D	Uniform
LL Defl inch	0.028 (L/2658)	3'4 5/8"	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.

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

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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	0-6-12 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	136 lb	312 lb	0 lb	0 lb	J7
4	Point	3-4-12		Near Face	102 lb	222 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

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

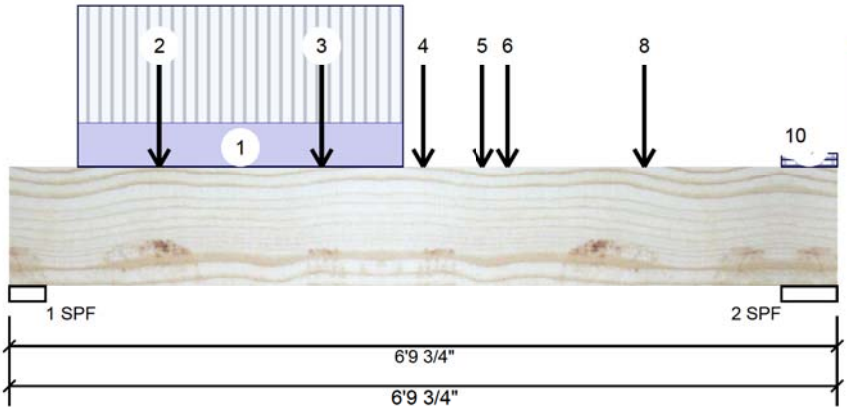
Forex
APA: PR-L318

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 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

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

Level: Second Floor



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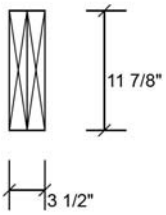

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	4-1-4		Near Face	123 lb	264 lb	0 lb	0 lb	J7
7	Point	5-2-12		Far Face	169 lb	391 lb	0 lb	0 lb	J8
8	Point	5-2-12		Near Face	147 lb	315 lb	0 lb	0 lb	J7
9	Tie-In	6-4-4 to 6-9-12	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				

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
June 29, 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 roation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info

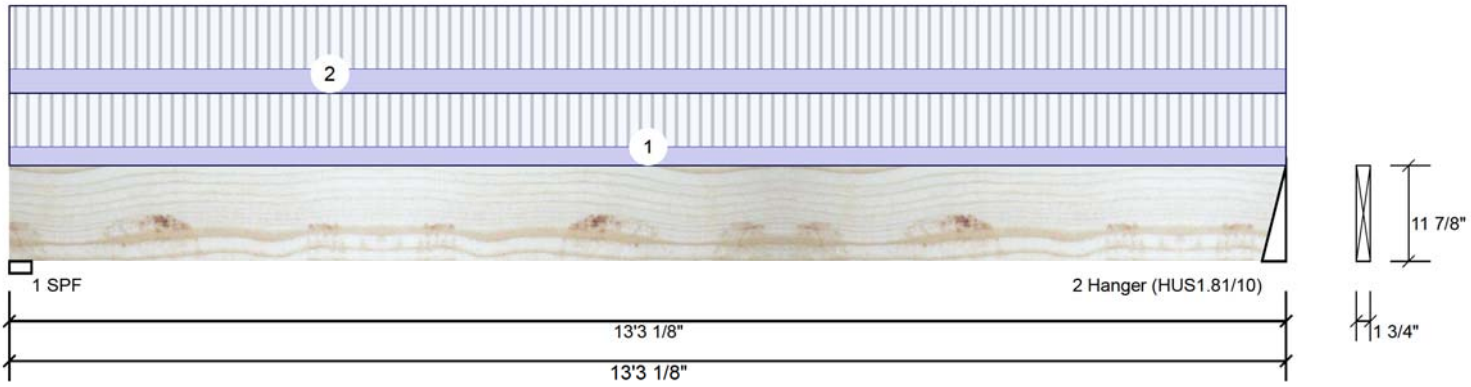
Forex
APA: PR-L318

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 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F16-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	177	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 / 265	387	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	10%	123 / 266	388	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1217 ft-lb	6'7 7/16"	17130 ft-lb	0.071 (7%)	1.25D+1.5L	L
Unbraced	1217 ft-lb	6'7 7/16"	17130 ft-lb	0.071 (7%)	1.25D+1.5L	L
Shear	322 lb	1'2 5/8"	5798 lb	0.055 (6%)	1.25D+1.5L	L
Perm Defl in.	0.021 (L/7527)	6'7 1/2"	0.430 (L/360)	0.048 (5%)	D	Uniform
LL Defl inch	0.037 (L/4167)	6'7 1/2"	0.323 (L/480)	0.115 (12%)	L	L
TL Defl inch	0.058 (L/2682)	6'7 1/2"	0.645 (L/240)	0.089 (9%)	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 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 13-3-2	0-3-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-3-2	0-4-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 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

iStructDesign

Client: GREENPARK
Project:
Address: PINETREE 38-3-2
RICHMOND HILL,ON

Date: 6/28/2021
Input by: W C
Job Name: PT38-3-2 STANDARD & DECK CONDITION
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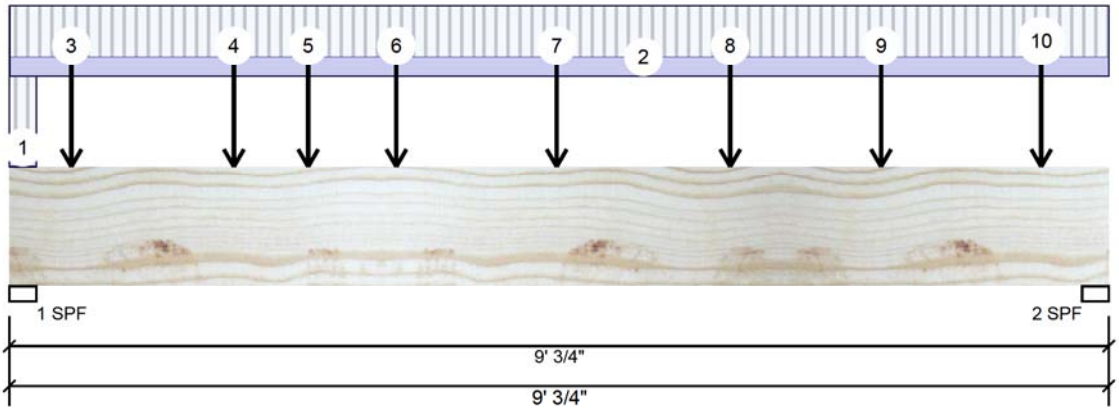
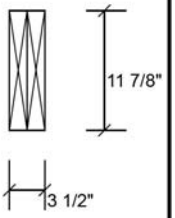
F17-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

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	1188	530	0	0
2	Vertical	1212	539	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.651"	Vert	43%	662 / 1782	2444	L	1.25D+1.5L
2 - SPF	2.625"	Vert	44%	674 / 1818	2492	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5412 ft-lb	4'6 1/8"	34261 ft-lb	0.158 (16%)	1.25D+1.5L	L
Unbraced	5412 ft-lb	4'6 1/8"	34261 ft-lb	0.158 (16%)	1.25D+1.5L	L
Shear	2434 lb	7'10 1/4"	11596 lb	0.210 (21%)	1.25D+1.5L	L
Perm Defl in.	0.020 (L/5284)	4'6 1/8"	0.292 (L/360)	0.068 (7%)	D	Uniform
LL Defl inch	0.044 (L/2407)	4'6 1/8"	0.219 (L/480)	0.199 (20%)	L	L
TL Defl inch	0.063 (L/1654)	4'6 1/8"	0.437 (L/240)	0.145 (15%)	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

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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 0-2-10	0-9-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 9-0-12	0-7-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-6-2		Near Face	82 lb	219 lb	0 lb	0 lb	J6
4	Point	1-10-2		Near Face	96 lb	256 lb	0 lb	0 lb	J6
5	Point	2-5-7		Near Face	98 lb	177 lb	0 lb	0 lb	F16

Continued on page 2...

Notes

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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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This design is valid until 5/24/2024

Manufacturer Info

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APA: PR-L318

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iStruct Design

Client:	GREENPARK	Date:	6/28/2021
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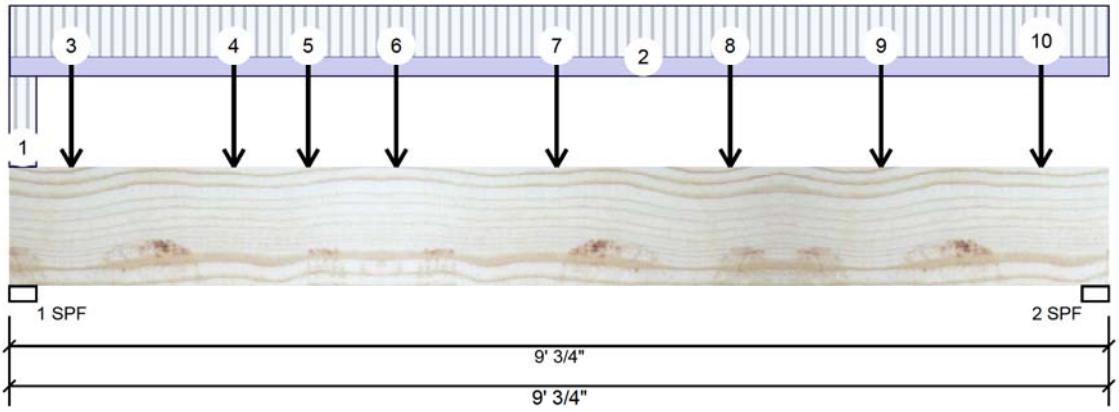
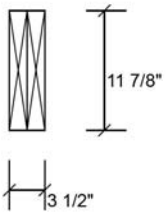
		Project #:	ROUNDEL HOMES INC

F17-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
6	Point	3-2-2		Near Face	102 lb	271 lb	0 lb	0 lb	J6
7	Point	4-6-2		Near Face	137 lb	364 lb	0 lb	0 lb	J6
8	Point	5-11-4		Near Face	147 lb	255 lb	0 lb	0 lb	F19
9	Point	7-2-2		Near Face	127 lb	340 lb	0 lb	0 lb	J6
10	Point	8-6-2		Near Face	112 lb	300 lb	0 lb	0 lb	J6
	Self Weight				10 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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
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

Forex
APA: PR-L318

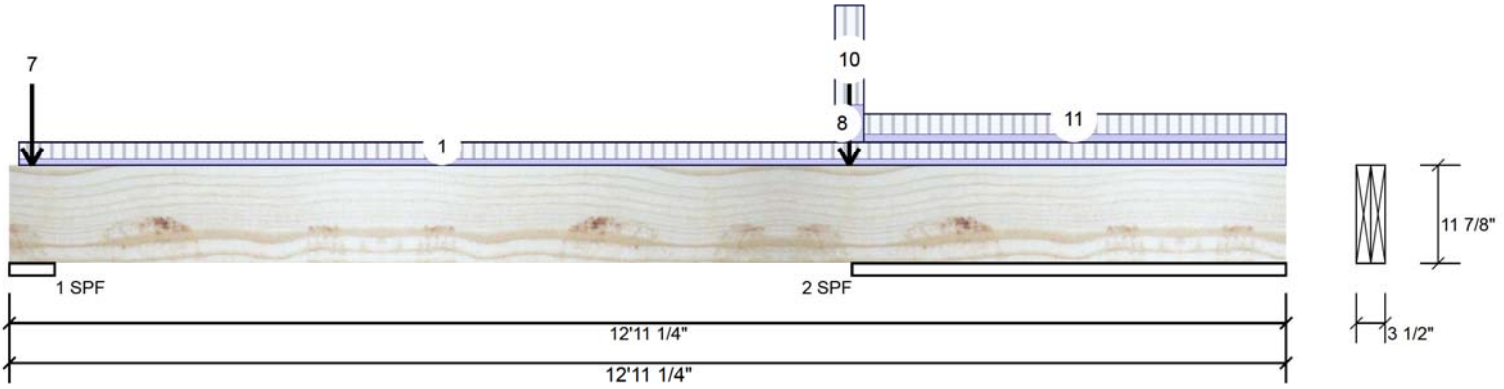
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

iStructDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 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	57	92	14	0
2	Vertical	447	265	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	2%	115 / 99	214	L	1.25D+1.5L +S
2 - SPF	52.901"	Vert	1%	331 / 671	1002	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	329 ft-lb	4'8 1/16"	34261 ft-lb	0.010 (1%)	1.25D+1.5L	L
Unbraced	329 ft-lb	4'8 1/16"	34261 ft-lb	0.010 (1%)	1.25D+1.5L	L
Shear	634 lb	7'6 7/16"	11596 lb	0.055 (5%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/51982)	4'6 7/16"	0.273 (L/360)	0.007 (1%)	D	Uniform
LL Defl inch	0.002 (L/55236)	4'7 3/16"	0.205 (L/480)	0.009 (1%)	L+0.5S	L
TL Defl inch	0.004 (L/26782)	4'6 13/16"	0.410 (L/240)	0.009 (1%)	D+L+0.5S	L

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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.

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.

LICENSED PROFESSIONAL ENGINEER
I.MATIJEVIC
100528832
PROVINCE OF ONTARIO
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

Forex
APA: PR-L318

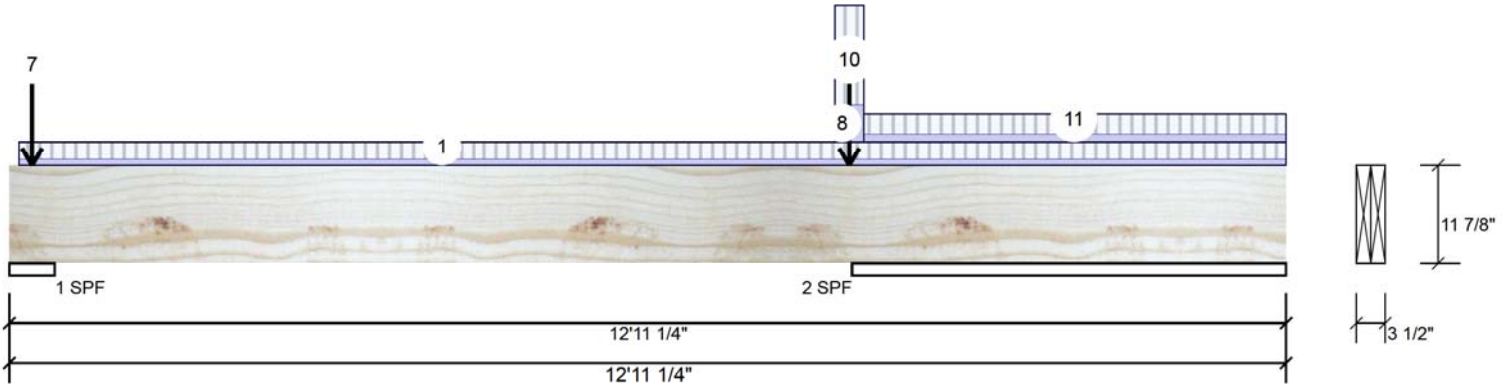
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

isDesign

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 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



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	2 lb	0 lb	5 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	1 lb	0 lb	2 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	3 lb	0 lb	7 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	8-4-4 to 8-7-12	1-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Point	8-6-0		Top	5 lb	12 lb	0 lb	0 lb	
	Bearing Length	0-3-8							
10	Point	8-6-0		Near Face	111 lb	253 lb	0 lb	0 lb	F10
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				

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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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Lumber

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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
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This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

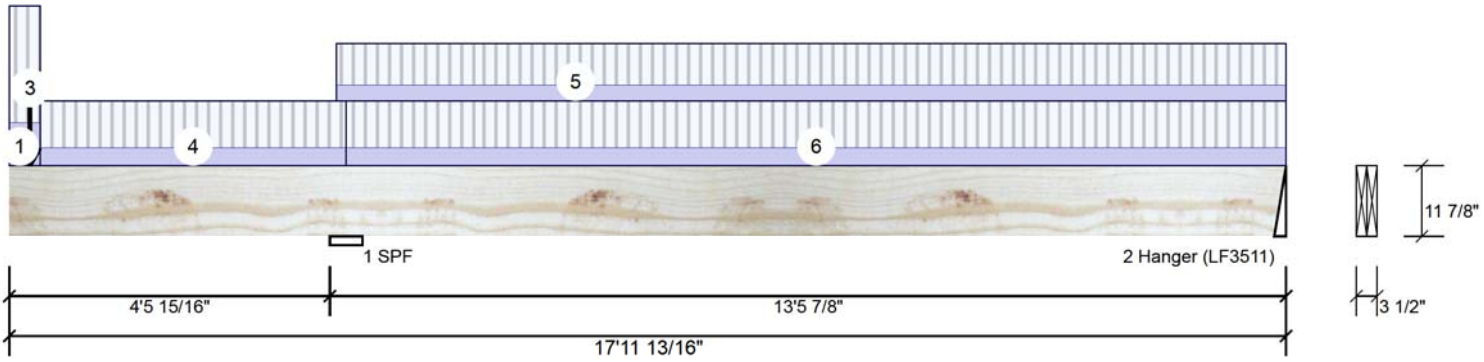
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

iStruct Design

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F19-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	839	451	0	0
2	Vertical	255	147	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%	564 / 1259	1823	LL	1.25D+1.5L
2 - Hanger	2.000"	Vert	14%	183 / 535	718 (-12)	_L	1.25D+1.5L (0.9D+1.5L)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-2838 ft-lb	4'8 11/16"	31177 ft-lb	0.091 (9%)	1.25D+1.5L	L_
Unbraced	-2838 ft-lb	4'8 11/16"	25108 ft-lb	0.113 (11%)	1.25D+1.5L	L_
Pos Moment	2130 ft-lb	11'10 1/8"	34261 ft-lb	0.062 (6%)	1.25D+1.5L	_L
Unbraced	2130 ft-lb	11'10 1/8"	34261 ft-lb	0.062 (6%)	1.25D+1.5L	_L
Shear	854 lb	5'11 5/16"	11596 lb	0.074 (7%)	1.25D+1.5L	LL
Perm Defl in.	0.010 (L/16249)	12'3 7/16"	0.439 (L/360)	0.022 (2%)	D	Uniform
LL Defl inch	0.040 (L/3946)	11'3 11/16"	0.329 (L/480)	0.122 (12%)	L	_L
TL Defl inch	0.049 (L/3191)	11'6 3/8"	0.658 (L/240)	0.075 (8%)	D+L	_L
LL Cant	0.066 (2L/1629)	Lt Cant	0.225 (2L/480)	0.295 (29%)	L	L_
TL Cant	0.077 (2L/1404)	Lt Cant	0.450 (2L/240)	0.171 (17%)	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 Tie-down connection required at bearing 2 for uplift 12 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 3/8" 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

Forex
APA: PR-L318

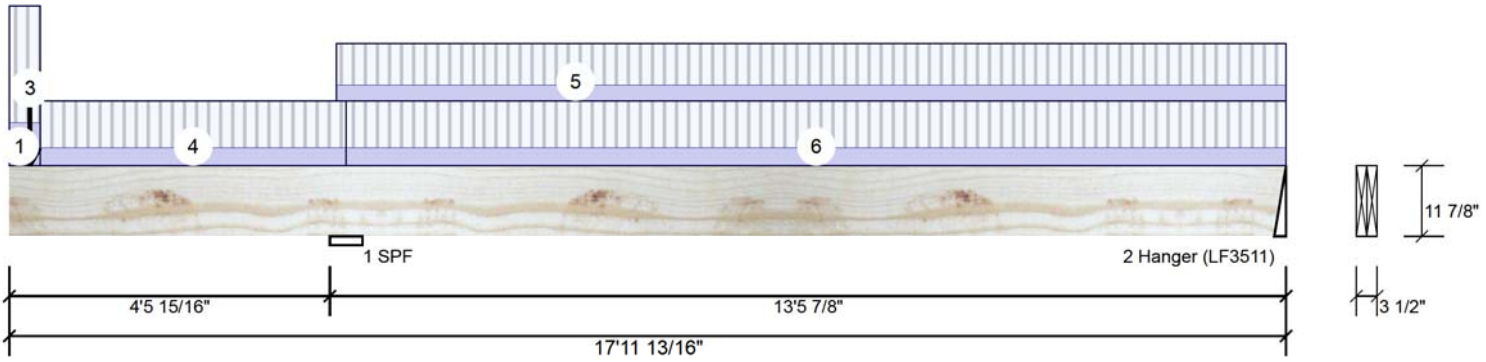
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

CSDT DRAW DESIGN BUILD

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F19-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 0-5-3	1-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-7		Top	5 lb	12 lb	0 lb	0 lb	
	Bearing Length	0-3-8							
3	Point	0-3-7		Far Face	98 lb	219 lb	0 lb	0 lb	F10
4	Tie-In	0-5-3 to 4-8-11	0-8-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	4-7-1 to 17-11-13	0-7-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	4-8-11 to 17-11-13	0-8-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				

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LICENSED PROFESSIONAL ENGINEER
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100528832
PROVINCE OF ONTARIO
June 29, 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

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

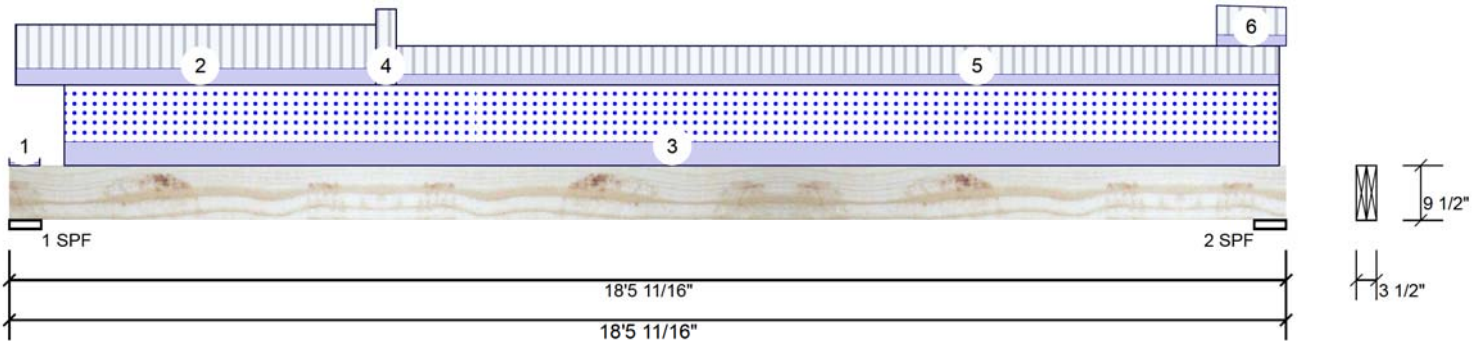
iStruct Design

Client: GREENPARK
Project:
Address: PINETREE 38-3-2
RICHMOND HILL,ON

Date: 6/28/2021
Input by: W C
Job Name: PT38-3-2 STANDARD & DECK CONDITION
Project #: ROUNDEL HOMES INC

F20-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	434	486	625	0
2	Vertical	387	490	676	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	17%	608 / 1371	1979	L	1.25D+1.5S +L
2 - SPF	5.563"	Vert	17%	612 / 1401	2013	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8477 ft-lb	9'1 9/16"	22724 ft-lb	0.373 (37%)	1.25D+1.5S +L	L
Unbraced	8477 ft-lb	9'1 9/16"	16553 ft-lb	0.512 (51%)	1.25D+1.5S +L	L
Shear	1806 lb	1'3"	9277 lb	0.195 (19%)	1.25D+1.5S +L	L
Perm Defl in.	0.239 (L/886)	9'2 7/16"	0.589 (L/360)	0.406 (41%)	D	Uniform
LL Defl inch	0.427 (L/497)	9'2 1/2"	0.442 (L/480)	0.966 (97%)	S+0.5L	L
TL Defl inch	0.666 (L/318)	9'2 1/2"	0.884 (L/240)	0.754 (75%)	D+S+0.5L	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 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 laterally braced at a maximum of 18'5 11/16" 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 0-5-4	0-2-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-2 to 5-3-6	1-4-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-9-8 to 18-4-8		Top	30 PLF	0 PLF	74 PLF	0 PLF	
4	Tie-In	5-3-6 to 5-6-14	1-9-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Continued on page 2...

Notes

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Lumber

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

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
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This design is valid until 5/24/2024

Manufacturer Info

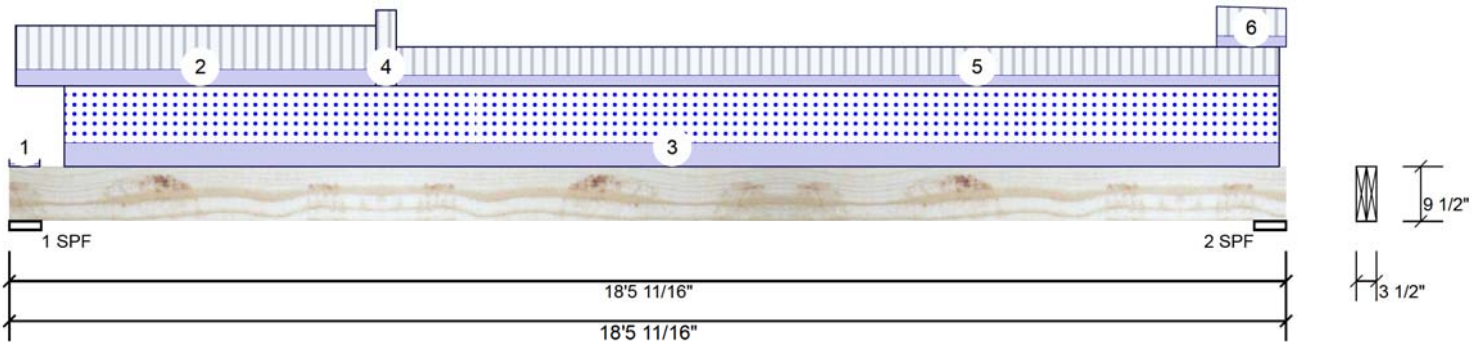
Forex
APA: PR-L318

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 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 STANDARD & DECK CONDITION
		Project #:	ROUNDEL HOMES INC

F20-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



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

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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

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

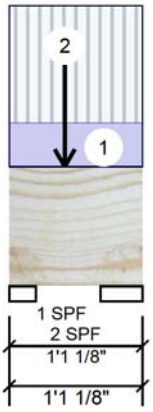
iStruct Design

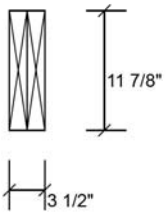
Client: GREENPARK
Project:
Address: PINETREE 38-3-2
RICHMOND HILL,ON

Date: 6/28/2021
Input by: W C
Job Name: PT38-3-2 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





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	84	36	0	0
2	Vertical	75	34	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	3%	45 / 126	171	L	1.25D+1.5L
2 - SPF	4.125"	Vert	2%	42 / 113	155	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	46 ft-lb	5 7/16"	34261 ft-lb	0.001 (0%)	1.25D+1.5L	L
Unbraced	46 ft-lb	5 7/16"	34261 ft-lb	0.001 (0%)	1.25D+1.5L	L
Shear	132 lb	1'2 1/2"	11596 lb	0.011 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/306627)	5 1/2"	0.022 (L/360)	0.001 (0%)	D	Uniform
LL Defl inch	0.000 (L/121289)	5 1/2"	0.016 (L/480)	0.004 (0%)	L	L
TL Defl inch	0.000 (L/86911)	5 1/2"	0.033 (L/240)	0.003 (0%)	D+L	L

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.
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7 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.

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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	0-0-0 to 1-1-2	0-7-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-5-7		Near Face	50 lb	134 lb	0 lb	0 lb	J3
	Self Weight				10 PLF				

Notes

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Lumber

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Handling & Installation

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6. For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

Forex
APA: PR-L318

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613-838-2775 905-642-4400

iStructDesign

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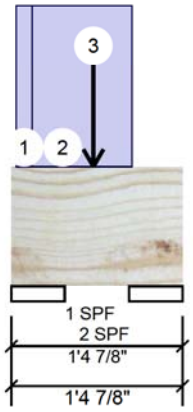
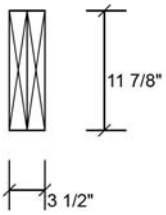
Project:
Address: PINETREE 38-3-2
RICHMOND HILL,ON

Date: 6/28/2021
Input by: W C
Job Name: PT38-3-2 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	73	87	0	0
2	Vertical	61	52	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	2%	109 / 109	218	L	1.25D+1.5L
2 - SPF	5.250"	Vert	1%	66 / 92	157	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	49 ft-lb	8 1/16"	33918 ft-lb	0.001 (0%)	1.25D+1.5L	L
Unbraced	49 ft-lb	8 1/16"	33918 ft-lb	0.001 (0%)	1.25D+1.5L	L
Shear	118 lb	1'5 1/8"	11480 lb	0.010 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/216128)	8 1/8"	0.022 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch	0.000 (L/128306)	8 1/8"	0.016 (L/480)	0.004 (0%)	L	L
TL Defl inch	0.000 (L/80510)	8 1/8"	0.033 (L/240)	0.003 (0%)	D+L	L

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

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LICENSED PROFESSIONAL ENGINEER
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100528832
PROVINCE OF ONTARIO
June 29, 2021

Design Notes

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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	0-0-8 to 0-2-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-2-0 to 0-11-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Point	0-8-1		Far Face	50 lb	134 lb	0 lb	0 lb	J3
	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
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Manufacturer Info

Forex
APA: PR-L318

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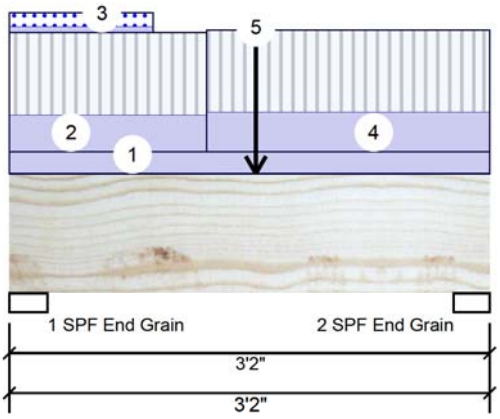
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 905-642-4400

Client:	GREENPARK	Date:	6/28/2021
Project:		Input by:	W C
Address:	PINETREE 38-3-2 RICHMOND HILL,ON	Job Name:	PT38-3-2 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



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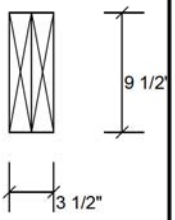

Member Information

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	474	505	306	0
2	Vertical	474	505	281	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%	632 / 1017	1649	L	1.25D+1.5L +S
2 - SPF End Grain	3.000"	Vert	21%	631 / 992	1623	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1383 ft-lb	1'7 7/16"	22724 ft-lb	0.061 (6%)	1.25D+1.5S +L	L
Unbraced	1383 ft-lb	1'7 7/16"	22724 ft-lb	0.061 (6%)	1.25D+1.5S +L	L
Shear	922 lb	2'1 1/2"	9277 lb	0.099 (10%)	1.25D+1.5S +L	L
Perm Defl in.	0.002 (L/13468)	1'7 7/16"	0.093 (L/360)	0.027 (3%)	D	Uniform
LL Defl inch	0.003 (L/10791)	1'7 7/16"	0.070 (L/480)	0.044 (4%)	S+0.5L	L
TL Defl inch	0.006 (L/5991)	1'7 7/16"	0.140 (L/240)	0.040 (4%)	D+S+0.5L	L

Design Notes

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June 29, 2021

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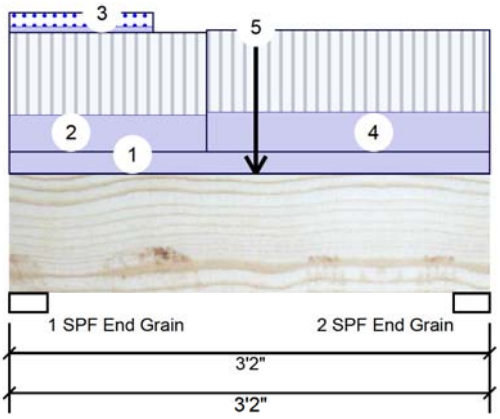

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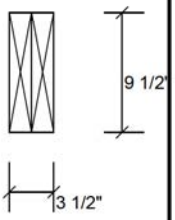

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-2-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 1-3-9		Top	134 PLF	300 PLF	0 PLF	0 PLF	J7
3	Part. Uniform	0-0-0 to 0-11-5		Top	21 PLF	0 PLF	51 PLF	0 PLF	
4	Part. Uniform	1-3-9 to 3-2-0		Top	144 PLF	299 PLF	0 PLF	0 PLF	J7
5	Point	1-7-7		Top	270 lb	0 lb	539 lb	0 lb	Header Column
	Bearing Length	0-3-8							
	Self Weight				8 PLF				

June 29, 2021

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