# **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 <u>only</u> 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 <a href="http://www.kottgroup.com">http://www.kottgroup.com</a>.

### <u>CODE</u>

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 preauthorization.

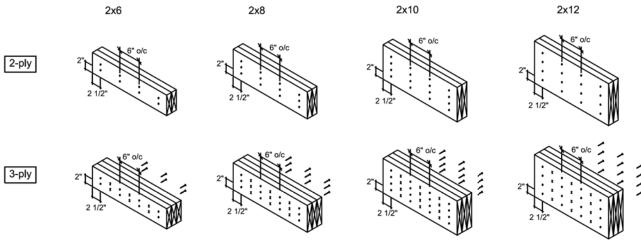


CITY OF RICHMOND HILL BUILDING DIVISION

09/22/2022

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Per: joshua.nabua

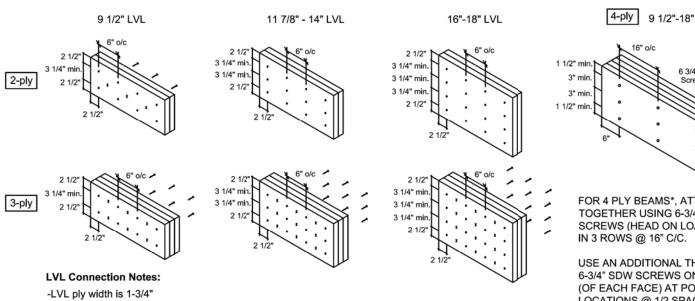
# **Conventional Connections**



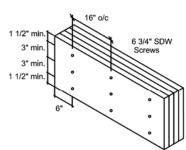
### **Conventional Connection Notes:**

- -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



- -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)

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



KOTTY INF. RICHMOND HILL 3228 Moodle Brive ISION Ottawa, ON K2H7V1/ZZ 613-838-2775

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Last revised: February 19, 2021

KTF-GREENPARK-PINETREE 38-1-1 IM0621-158 Page 3 of 22

Ground Floor LVL/LSL Label Description Qty Plies Pcs Length Width Depth F8 11.875 14-0-0 Forex 2 2.0E-3000Fb LVI F10 Forex 2.0E-3000Fb LVL 1.75 11.875 10-0-0 F7 Forex 1.75 11.875 10-0-0 2.0E-3000Fb LVL Forex 2.0E-3000Fb LVL F6 1.75 11.875 8-0-0 F5 Forex 1.75 11.875 6-0-0 2.0E-3000Fb LVL I Joist Label Description Width Depth Qty Plies Pcs Length F4 AJS 24 3.5 11.875 2 18-0-0 F3 AJS 24 3.5 11.875 14-0-0 3 F2 AJS 24 3.5 11.875 4-0-0 F1 AJS 24 3.5 11.875 4 2-0-0 J6 AJS 24 3.5 11.875 10 18-0-0 3.5 11.875 J5 AJS 24 5 16-0-0 J4 AJS 24 3.5 11.875 23 14-0-0 J3 AJS 24 3.5 11.875 2 J2 AJS 24 3.5 11.875 2

3.5 11.875 J1 AJS 24 Rim Board Label Description Width Depth Qty Plies Norbord Rimboard 1.125 11.875 Plus 1.125 X

11.875 Blocking Qty Plies Pcs Length Label Description Width Depth BLK1 AJS 24 3.5 11.875 LinFt Varies 16-0-0 Hanger

12

12-0-0

Live

Dead

Decking

Deckina

Thickness

Fastener

Vibration

Beam/Girder Supported Member Label Pcs Description Skew Slope fasteners fasteners 1 HUS1.81/10 H1 30 10dx1 1/2 10 16d H3 24 MIT411.88 4 10dx1 1/2 4 10dx1 1/2

JOB INFORMATION Builder GREENPARK Project ROUNDEL HOMES INC Shipping PINETREE 38-1-1 RICHMOND HILL,ON Sales Rep RALPH MIRIGELLO Designer WC Plotted June 08, 2021 Layout Name PT38-1-1 STANDARD & DECK CONDITION Job Path **DESIGN CRITERIA** 12-0-0 Ground Floor 10-0-0 Design Method LSD (Canada) NBCC 2015 / OBC 2012 6-0-0 Building Code Floor Pcs Length Loads

### **CCMC References**

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

### Kott Inc.

3228 Moodie Dr, Ottawa

613-838-2775 /



40

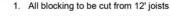
15

OSB

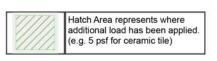
3/4"

Nailed & Glued

905-642-4400



- 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
- 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.



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

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

Legend CITY OF RICHMOND HILL In Hanger Laber Denotes Web Stiffene -ws PS Point Load Support **\Q** Coad from Above / 2 Wall Opening Norbord Rimboard Plus 1,125 X 11.875 AJS 24 11.875 L V L L

Forex 2:0E-3000Fb LVL 1.75 X 11.875

Version 21.20.293 Powered by iStruct™ Dataset: embedded

Ground Floor

Start Joist Run (Level)

H3-ws=

C-1 ply

R - 1 ply

₩ H3-ws

J6-A

**J6-B** 

J6-D

J6-E

J6-F

J6-G

F4-A - 1 ply

J6-H

2 X J4-AR

J5-K

J5-L F4-B - 1 ply

B1-A

BI K1

J5-I J5-H

2 X J4 AQ

F5-D - 1 ply

PS<sub>J1-F</sub>

7-6-1 ply

J2-D

F10-A - 2 ply

-J4-AO - @ 16"

R1

R1

J4-AL

F2-A - 1 ply

2 X H3-ws FH1-A

J4-AK

J4-AJ

2 X J4-AI 4

Page 7 of 72



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC PINETREE 38-1-1

6/28/2021 WC Input by:

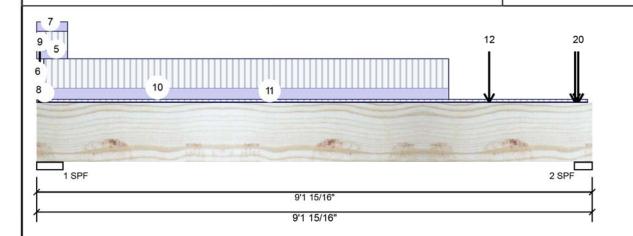
Project #:

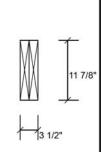
PT38-1-1 STANDARD & DECK CONDITION Job Name: ROUNDEL HOMES INC

F10-A Forex 2.0E-3000Fb LVL

RICHMOND HILL, ON 1.750" X 11.875"

2-Ply - PASSED Level: Ground Floor





### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition	n: 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 Ib (Uplift)

-	Direction	Live	Dead	Snow	Wind
1	Vertical	2124	897	0	0
2	Vertical	2494	1044	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.188"	Vert	39%	1121 / 3185	4306	L	1.25D+1.5L
2-SPF	3.500"	Vert	67%	1305 / 3741	5046	L	1.25D+1.5L

### **Analysis Results**

Г	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	4938 ft-lb	4'7 7/16"	34261 ft-lb	0.144 (14%)	1.25D+1.5L	L
	Unbraced	4938 ft-lb	4'7 7/16"	34261 ft-lb	0.144 (14%)	1.25D+1.5L	L
	Shear	2424 lb	7'10 9/16"	11596 lb	0.209 (21%)	1.25D+1.5L	L
	Perm Defl in.	0.016 (L/6269)	4'7 11/16"	0.285 (L/360)	0.057 (6%)	D	Uniform
	LL Defl inch	0.040 (L/2578)	4'7 11/16"	0.214 (L/480)	0.186 (19%)	L	L
	TL Defl inch	0.056 (L/1827)	4'7 11/16"	0.428 (L/240)	0.131 (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.



### 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 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

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

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II	D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1		Tie-In	0-0-0 to 0-2-9	0-5-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	2	Part. Uniform	0-0-0 to 0-0-1		Тор	32 PLF	86 PLF	0 PLF	0 PLF	J4
4	ı	Part. Uniform	0-0-0 to 0-0-1		Тор	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	5	Part. Uniform	0-0-0 to 0-6-1		Тор	64 PLF	171 PLF	0 PLF	0 PLF	J4

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
  - 1. UVL beams must not be cutor drilled
    2. Refer to manufacturer's product information regarding installation requirements, multi-ph fastening details, beam stength values, and codi approvals
    3. Damaged Beams must not be used

  - Design assumes top edge is laterally restrained
    Provide lateral support at bearing points to avoid
    lateral displacement and rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Forex APA: PR-L318

Manufacturer Info

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



Page 8 of 72



...Continued from page 1

Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC PINETREE 38-1-1

Input by:

Project #:

6/28/2021 WC

PT38-1-1 STANDARD & DECK CONDITION

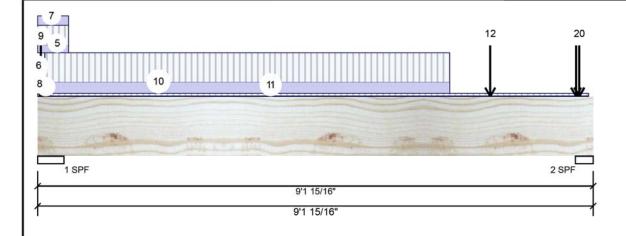
ROUNDEL HOMES INC

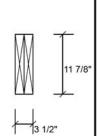
Forex 2.0E-3000Fb LVL F10-A

RICHMOND HILL, ON 1.750" X 11.875"

2-Ply - PASSED

Level: Ground Floor





	moni page i								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Tapered Start	0-0-0		Тор	0 PLF	1 PLF	0 PLF	0 PLF	
	End	0-0-5			0 PLF	1 PLF	0 PLF	0 PLF	
7	Part. Uniform	0-0-0 to 0-6-1		Тор	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Tapered Start	0-0-5		Тор	0 PLF	1 PLF	0 PLF	0 PLF	
	End	0-0-7			0 PLF	1 PLF	0 PLF	0 PLF	
9	Point	0-0-10		Тор	320 lb	813 lb	0 lb	0 lb	F7 F7
	Bearing Length	0-5-8							10
10	Part. Uniform	0-1-6 to 6-9-6		Near Face	95 PLF	253 PLF	0 PLF	0 PLF	18
11	Tie-In	0-2-9 to 9-1-0	0-5-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	LICENSES
12	Point	7-5-6		Near Face	131 lb	349 lb	0 lb	0 lb	J4 \
13	Point	8-10-9		Near Face	305 lb	770 lb	0 lb	0 lb	F3 (3)
14	Point	8-11-3		Тор	6 lb	17 lb	0 lb	0 lb	J2
	Bearing Length	0-5-8							1
15	Point	8-11-3		Тор	9 lb	23 lb	0 lb	0 lb	J4
	Bearing Length	0-5-8							

Top

Top



Wall Self Weight

Wall Self Weight

0 lb

0-5-8 8-11-3 Top 1 lb 2 lb 0 lb 0 lb 0-5-8

0 lb

0 lb

10 lb

22 lb

10 PLF

0-5-8 Bearing Length 8-11-3 Top 277 lb 705 lb 0 lb 0 lb F7 F7

Bearing Length 0-5-8 8-11-3 0 lb Wall Self Weight Point 4 lb 0 lb 0 lb Top

0-5-8 Bearing Length

> 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.

NAILING OR BOLTING REQUIREMENTS. **PASS-THRU SQUASH BLOCK** FRAMING IS REQUIRED AT ALL

POINT LOADS OVER BEARINGS. Manufacturer Info

REFER TO MULTIPLE MEMBER CONNECTION DETAIL FOR PLY TO PLY

0 lb

0 lb

16

17

18

20

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.

Point

Point

Point

Point

Self Weight

Bearing Length

Bearing Length

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

Handling & Installation

8-11-3

8-11-3

1. UVL beams must not be cutor drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ph fastening details, beam stength values, and codi approvals
3. Damaged Beams must not be used

Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rolation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Forex APA: PR-L318 3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400

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ROUNDEL HOMES INC PINETREE 38-1-1

RICHMOND HILL, ON

6/28/2021 Date WC Input by:

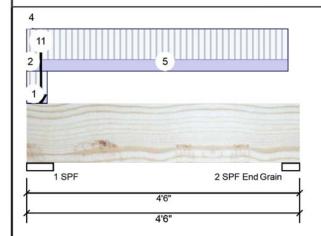
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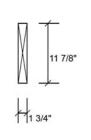
PT38-1-1 STANDARD & DECK CONDITION Job Name: ROUNDEL HOMES INC

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

Address:

Level: Ground Floor





Member Information						
Type:	Girder					
Plies:	1					

Moisture Condition: Dry Deflection LL: Deflection TL: 240 Importance: Normal - II

General Load 40 PSF Floor Live: 15 PSF Dead:

Analysis Results

Application: Floor (Residential)

Design Method: LSD Building Code: NBCC 2015 / OBC 2012

Load Sharing: No Deck: Not Checked

Vibration: Not Checked

Analysis Comb. Case Actual Location Allowed Capacity Moment 68 ft-lb 2'3 7/8" 17130 ft-lb 0.004 (0%) 1.25D+1.5L L Unbraced 68 ft-lb 2'3 7/8" 17130 ft-lb 0.004 (0%) 1.25D+1.5L L 0.007 (1%) 1.25D+1.5L L 38 lb 1'5 1/8" 5798 lb Shear Perm Defl in. 0.000 2'3 7/8" 0.130 (L/360) 0.002 (0%) D Uniform (L/212517) 0.000 2'3 7/8" 0.097 (L/480) 0.003 (0%) L LL Defl inch (L/146746) TL Defl inch 0.001 2'3 7/8" 0.195 (L/240) 0.003 (0%) D+L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 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.

(L/86806)

5 Bottom must be laterally braced at bearings.

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg 1	Direction	Live	Dead	Snow	Wind
1	Vertical	114	75	0	0
2	Vertical	30	22	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	5%	94 / 171	265	L	1.25D+1.5L
2 - SPF End Grain	3.500"	Vert	2%	27 / 45	72	L	1.25D+1.5L

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.

	O DOLLOIN	made be laterally bracea t	at bournigo.							-
ı	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
ı	1	Tie-In	0-0-0 to 0-4-1	0-3-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
ı	2	Tie-In	0-0-0 to 0-2-10	0-4-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
ı	3	Part. Uniform	0-0-0 to 0-1-4		Тор	1 PLF	0 PLF	0 PLF	0 PLF	
ı	4	Part. Uniform	0-0-0 to 0-1-3		Тор	2 PLF	0 PLF	0 PLF	0 PLF	

Notes

Continued on page 2...

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-pl
- regarding installation requirements, multi-fastening details, beam strength values, and or approvals naged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation
- 6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Manufacturer Info Forex

APA: PR-L318



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ROUNDEL HOMES INC PINETREE 38-1-1

6/28/2021 Input by:

WC

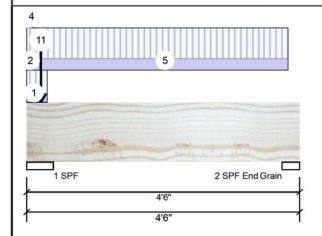
Job Name: PT38-1-1 STANDARD & DECK CONDITION

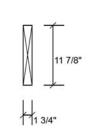
ROUNDEL HOMES INC

RICHMOND HILL, ON Project #: 1.750" X 11.875" - PASSED Forex 2.0E-3000Fb LVL F5-D

Address:

Level: Ground Floor





Continued from	m page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Tie-In	0-2-10 to 4-3-11	0-4-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	0-2-13		Тор	16 lb	43 lb	0 lb	0 lb	J5
	Bearing Length	0-5-8							
8	Point	0-2-13		Тор	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
9	Point	0-2-13		Тор	12 lb	32 lb	0 lb	0 lb	J5
	Bearing Length	0-5-8							
11	Point	0-2-13		Тор	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				5 PLF				

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

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

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

  1. IVI, beams must not be cutor drilled

  2. Refer to manufacturer's product information regarding installation equirements, multi-ply fastering 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 rolation

- For flat roofs provide proper drainage to prevent ponding

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400



joshua.nabua

This design is valid until 5/24/2024



ROUNDEL HOMES INC PINETREE 38-1-1

RICHMOND HILL, ON

6/28/2021 WC Input by:

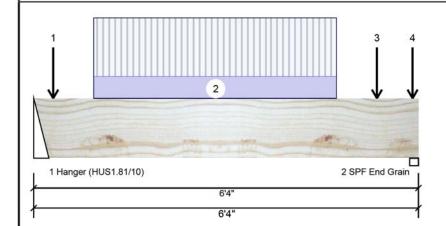
Project #:

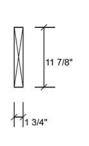
PT38-1-1 STANDARD & DECK CONDITION Job Name: ROUNDEL HOMES INC

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

Address:

Level: Ground Floor





### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition	on: 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 Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	251	109	0	0
2	Vertical	418	200	0	0

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	728 ft-lb	3'2 11/16"	17130 ft-lb	0.043 (4%)	1.25D+1.5L	L
Unbraced	728 ft-lb	3'2 11/16"	17130 ft-lb	0.043 (4%)	1.25D+1.5L	L
Shear	494 lb	5'2 3/8"	5798 lb	0.085 (9%)	1.25D+1.5L	L
Perm Defl in.	0.003 (L/24780)	3'2 3/4"	0.202 (L/360)	0.015 (1%)	D	Uniform
LL Defl inch	0.007 (L/10726)	3'2 11/16"	0.152 (L/480)	0.045 (4%)	L	L
TL Defl inch	0.010 (L/7486)	3'2 11/16"	0.303 (L/240)	0.032 (3%)	D+L	L

### Bearings and Factored Reactions

Grain

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	13%	136 / 377	512	L	1.25D+1.5L
2 - SPF End	1.750"	Vert	39%	250 / 627	876	L	1.25D+1.5L

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 28, 2021

## Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 1.75.
- 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 Fill all hanger nailing holes.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top must be continuously laterally braced.
- 6 Bottom must have sheathing attached or be continuously braced.

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-3-13		Far Face	26 lb	70 lb	0 lb	0 lb	J1
2	Part. Uniform	0-11-13 to 4-11-13		Far Face	30 PLF	81 PLF	0 PLF	0 PLF	
3	Point	5-7-13		Far Face	32 lb	84 lb	0 lb	0 lb	J1
4	Point	6-2-14		Тор	100 lb	191 lb	0 lb	0 lb	C1

Notes

Continued on page 2...

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- 1. UVL beams must not be cutor drilled
  2. Refer to manufacturer's product information regarding installation requirements, multi-ph fastening details, beam stength values, and codi approvals
  3. Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Manufacturer Info APA: PR-L318

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400



oshua.nabua



ROUNDEL HOMES INC

6/28/2021 Input by:

WC

Job Name: PT38-1-1 STANDARD & DECK CONDITION

PINETREE 38-1-1 RICHMOND HILL, ON

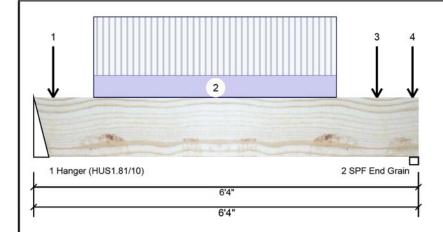
Side

Project #: ROUNDEL HOMES INC

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

Address:

Level: Ground Floor



.Continued from page 1

Load Type Bearing Length

Self Weight

Location Trib Width 0-3-8

Dead

5 PLF

Live

Snow

Wind Comments

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.



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.

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

### Handling & Installation

- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
   Damaged Beams must not be used
  - Design assumes top edge is laterally restrained
    Provide lateral support at bearing points to avoid
    lateral displacement and rolation
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

### Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400



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Page 26 of 72



Client: GREENPARK Project:

ROUNDEL HOMES INC PINETREE 38-1-1

RICHMOND HILL, ON

6/28/2021 WC Input by:

Project #:

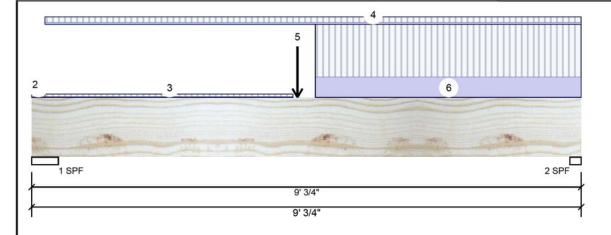
PT38-1-1 STANDARD & DECK CONDITION Job Name:

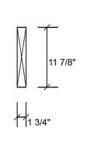
ROUNDEL HOMES INC

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

Address:

Level: Ground Floor





### Member Information Type: Plies: 1

Moisture Condition: Dry Deflection LL: 480 Deflection TL: 240 Importance: Normal - II

General Load 40 PSF Floor Live: 15 PSF Dead:

Application: Floor (Residential) Design Method: LSD

Building Code: NBCC 2015 / OBC 2012 Load Sharing: No

Deck: Not Checked Vibration: Not Checked

## Unfactored Reactions UNPATTERNED Ib (Uplift)

-	Direction	Live	Dead	Snow	Wind
1	Vertical	439	197	0	0
2	Vertical	806	339	0	0

### Bearings and Factored Reactions

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 5.250" Vert 16% 247 / 658 905 1 1.25D+1.5L 1.25D+1.5L 2 - SPF 2.250" Vert 67% 423 / 1209 1632 L

Analysis Results

Location Allowed Analysis Actual Capacity Comb. Case 0.182 (18%) 1.25D+1.5L L Moment 3126 ft-lb 4'11 13/16" 17130 ft-lb Unbraced 3126 ft-lb 4'11 13/16" 17130 ft-lb 0.182 (18%) 1.25D+1.5L L 1167 lb 0.201 (20%) 1.25D+1.5L L 7'10 5/8" 5798 lb Shear Perm Defl in. 0.021 (L/5005) 4'9 3/4" 0.285 (L/360) 0.072 (7%) D Uniform LL Defl inch 0.048 (L/2153) 4'10 1/8" 0.214 (L/480) 0.223 (22%) L L TL Defl inch 0.068 (L/1505) 4'10" 0.428 (L/240) 0.159 (16%) D+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.



### 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 be laterally braced at a maximum of 4'8 3/16" o.c.

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE CONTAINS SPECIFICATIONS AND CRITERIA USED

IS AN INTEGRAL PART OF THIS DRAWING AS IT IN THE DESIGN OF THIS COMPONENT.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-10	0-2-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-10	0-5-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-2-10 to 4-3-11	0-2-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-2-10 to 9-0-12	0-5-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	4-4-9		Far Face	109 lb	251 lb	0 lb	0 lb	F6
6	Part. Uniform	4-8-1 to 9-0-12		Тор	70 PLF	180 PLF	0 PLF	0 PLF	
1	Self Weight				5 PLF				

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-pl
- regarding installation requirements, multi-fastening details, beam strength values, and co approvals naged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation
- 6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontari 618-838-2775 D/\905-642-4400



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Page 27 of 72



Client: GREENPARK Project:

ROUNDEL HOMES INC PINETREE 38-1-1

RICHMOND HILL, ON

6/28/2021 WC Input by:

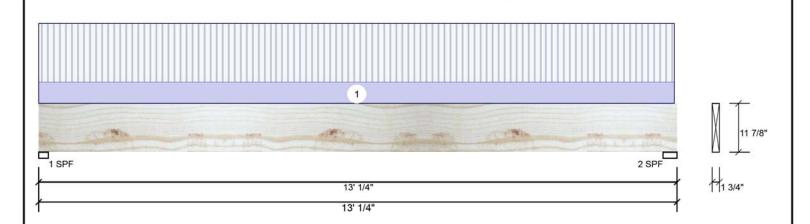
PT38-1-1 STANDARD & DECK CONDITION Job Name:

Project #: ROUNDEL HOMES INC

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

Address:

Level: Ground Floor



Member Information Unfactored Reactions UNPATTERNED Ib (Uplift) Brg Type: Application: Floor (Residential) Direction Live Dead Snow Wind Plies: 1 Design Method: LSD 204 107 1 Vertical 0 0 Moisture Condition: Dry Building Code: NBCC 2015 / OBC 2012 0 0 2 Vertical 205 108 Deflection LL: 480 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal - II Vibration: Not Checked General Load Bearings and Factored Reactions 40 PSF Floor Live: Dead: 15 PSF Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 2.375" Vert 17% 134 / 306 441 L 1.25D+1.5L 1.25D+1.5L 2 - SPF 3.438" Vert 12% 135 / 308 443 1

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1365 ft-lb	6'5 5/8"	17130 ft-lb	0.080 (8%)	1.25D+1.5L	L
Unbraced	1365 ft-lb	6'5 5/8"	17130 ft-lb	0.080 (8%)	1.25D+1.5L	L
Shear	366 lb	1'2 1/4"	5798 lb	0.063 (6%)	1.25D+1.5L	L
Perm Defl in.	0.022 (L/7064)	6'5 5/8"	0.422 (L/360)	0.051 (5%)	D	Uniform
LL Defl inch	0.041 (L/3714)	6'5 5/8"	0.317 (L/480)	0.129 (13%)	L	L
TL Defl inch	0.062 (L/2434)	6'5 5/8"	0.633 (L/240)	0.099 (10%)	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.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at bearings.

Self Weight

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-11-10	0-9-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

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.

Manufacturer Info

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-plifastening details, beam strength values, and code approvals
- naged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

6. For flat roofs provide proper drainage to prevent

5 PLF

APA: PR-L318

This design is valid until 5/24/2024



oshua.nabua

PROFESSIONAL

I.MATIJEVIC 100528832

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June 28, 2021

Page 28 of 72



Client: GREENPARK Project:

ROUNDEL HOMES INC PINETREE 38-1-1

RICHMOND HILL, ON

6/28/2021 Date WC Input by:

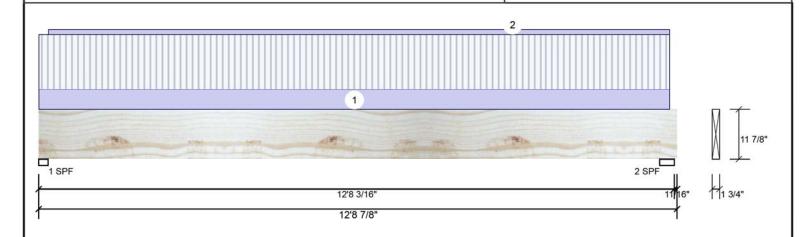
Project #:

PT38-1-1 STANDARD & DECK CONDITION Job Name: ROUNDEL HOMES INC

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

Address:

Level: Ground Floor



### Member Information Unfactored Reactions UNPATTERNED Ib (Uplift) Brg Type: Application: Floor (Residential) Direction Live Dead Snow Wind Plies: 1 Design Method: LSD 136 93 0 1 Vertical 0 Moisture Condition: Dry Building Code: NBCC 2015 / OBC 2012 93 0 0 2 Vertical 134 Deflection LL: 480 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal - II Vibration: Not Checked General Load Bearings and Factored Reactions 40 PSF Floor Live: 15 PSF Dead: Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 2.250" Vert 13% 117 / 204 321 L 1.25D+1.5L 1.25D+1.5L 2 - SPF 3.500" Vert 8% 117 / 202 319 L

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	977 ft-lb	6'4"	17130 ft-lb	0.057 (6%)	1.25D+1.5L	L_
Unbraced	977 ft-lb	6'4"	17130 ft-lb	0.057 (6%)	1.25D+1.5L	L_
Shear	267 lb	1'2 1/8"	5798 lb	0.046 (5%)	1.25D+1.5L	L_
Perm Defl in.	0.018 (L/8374)	6'4"	0.414 (L/360)	0.043 (4%)	D	Uniform
LL Defl inch	0.026 (L/5776)	6'4"	0.310 (L/480)	0.083 (8%)	L	LL
TL Defl inch	0.044 (L/3418)	6'4"	0.621 (L/240)	0.070 (7%)	D+L	LL
LL Cant	-0.000 (2L/3962)	Rt Cant	0.200 (2L/480)	0.002 (0%)	L	LL
TL Cant	-0.001 (2L/2345)	Rt Cant	0.300 (2L/240)	0.002 (0%)	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.

### 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 Rottom must be laterally braced at bearings

4 DOMOITI III	lust be laterally braces			1.0					
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-1 to 12-7-1	0-6-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-5 to 12-7-1		Тор	2 PLF	0 PLF	0 PLF	0 PLF	
Self Weight  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		5 PLF							

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-pl

IN THE DESIGN OF THIS COMPONENT.

- regarding installation requirements, multi-fastening details, beam strength values, and co approvals
- naged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Manufacturer Info APA: PR-L318

3228 Moodie Dr. Ottawa, Ontari 618-838-2775 D/\905-642-4400

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I.MATIJEVIC 100528832

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oshua.nabua

J4-D

J4-AE

J4-AD

J4-AC

J4-AB

F9-A - 2 ply

J4-F

J4-G

J4-J

BLK1

-J4-P - @ 16"-

-3 X J4-R-

2 X J4-L 3-

KTF-GREENPARK-PINETREE 38-1-1 IM0621-158 Page 13 of 22

16 MIT411.88

H3

Second Floor JOB INFORMATION LVL/LSL Width Depth Qty Plies Pcs Length Label Description F9 Forex 11.875 2 14-0-0 2.0E-3000Fb LVI Forex 2.0E-3000Fb LVL F7 1.75 11.875 10-0-0 F14 Forex 1.75 11.875 8-0-0 2 2.0E-3000Fb LVL F5 Forex 2.0E-3000Fb LVL 1.75 11.875 3 6-0-0 I Joist Label Description Width Depth Qty Plies Pcs Length J5 AJS 24 3.5 11.875 13 16-0-0 J4 AJS 24 3.5 11.875 46 14-0-0 J2 AJS 24 3.5 11.875 2 10-0-0 J1 AJS 24 3.5 11.875 3 6-0-0 Rim Board Label Description Width Depth Qty Plies Pcs Length Norbord Rimboard 1.125 11.875 12-0-0 Plus 1.125 X 11.875 Blocking Label Description Qty Plies Pcs Length Width Depth 3.5 11.875 LinFt BLK1 AJS 24 Hanger Beam/Girder Supported Member Label Pcs Description Skew Slope fasteners fasteners H1 3 HUS1.81/10 30 10dx1 1/2 10 16d 1 LF3511 12 10d 2 #8x1 1/4WS H2

4 10dx1 1/2

4 10dx1 1/2

Builder GREENPARK Project ROUNDEL HOMES INC Shipping PINETREE 38-1-1 RICHMOND HILL,ON Sales Rep RALPH MIRIGELLO Designer WC Plotted June 08, 2021 ayout Name PT38-1-1 STANDARD & DECK CONDITION Job Path **DESIGN CRITERIA** Second Floor Design Method NBCC 2015 / OBC 2012 Varies 27-0-0 Building Code Floor oads Live

Dead Decking Decking OSB 5/8" Thickness

LSD (Canada)

Nailed & Glued

SPF Plywood

40

15

Vibration Ceiling:

Gypsum 1/2"

Roof Loads

Fastener

Live 10.3 Dead Snow 21

Decking Decking

**CCMC References** 

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

Kott Inc.

3228 Moodie Dr, Ottawa

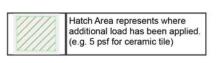
613-838-2775 / 905-642-4400

14 Anderson Blvd, Uxbridge Ontario

CITY OF RICHMOND HILL

1.	All blocking to be cut from 12' jois	ts

- 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
- 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.



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

In Hange Laber Denotes Web Stiffene -ws Point Load Support PS **\Q** Coad from Above 2 Wall Opening Norbord Rimboard Plus 1,125 X 11.875 AJS 24 11 875 E V E D Forex 2:0E-3000Fb LVL 1.75 X 11.875

Legend

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

J5-G

J5-E

J5-D

J5-C

J5-A

B5-A

2 X J4-Z

Start Joist Run (Level)

BLK2

F5-B - 1 ply

J1-C

F5-A - 1 piy

J1-B

J1-A F7-A - 1 ply

H1 J2-A

J2-B

F7-B - 1 ply

Page 41 of 72



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC

6/28/2021 WC Input by:

Job Name: PT38-1-1 STANDARD & DECK CONDITION

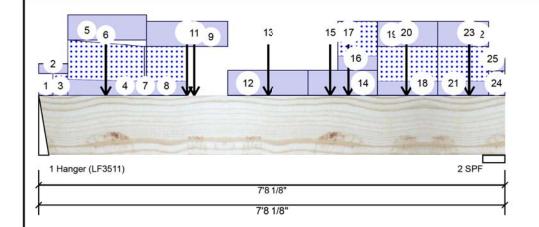
ROUNDEL HOMES INC

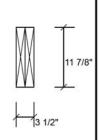
PINETREE 38-1-1

RICHMOND HILL, ON Project #:

F14-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		

### Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	819	829	383	0
2	Vertical	923	953	423	0

### **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5250 ft-lb	3'9 1/4"	34261 ft-lb	0.153 (15%)	1.25D+1.5L +S	L
Unbraced	5250 ft-lb	3'9 1/4"	34261 ft-lb	0.153 (15%)	1.25D+1.5L +S	L
Shear	2669 lb	6'3 7/8"	11596 lb	0.230 (23%)	1.25D+1.5L +S	L
Perm Defl in.	0.021 (L/4233)	3'9 1/4"	0.242 (L/360)	0.085 (9%)	D	Uniform
LL Defl inch	0.025 (L/3486)	3'9 1/4"	0.182 (L/480)	0.138 (14%)	L+0.5S	L
TL Defl inch	0.046 (L/1912)	3'9 1/4"	0.363 (L/240)	0.126 (13%)	D+L+0.5S	L

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	51%	1037 / 1612	2648	L	1.25D+1.5L +S
2 - SPF	4.375"	Vert	32%	1192 / 1807	2999	L	1.25D+1.5L

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 28, 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.

15 PSF

- 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.

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.

I	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
I	1	Tie-In	0-0-0 to 0-2-13	0-3-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
I	2	Part. Uniform	0-0-0 to 0-5-12		Тор	31 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight	
I	3	Tapered Start	0-2-13		Тор	20 PLF	0 PLF	50 PLF	0 PLF		
1											

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength values, and code approvals
   Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400



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6

Client: GREENPARK Project:

Address:

11

9

ROUNDEL HOMES INC PINETREE 38-1-1

6/28/2021 Date Input by:

WC

PT38-1-1 STANDARD & DECK CONDITION Job Name:

ROUNDEL HOMES INC

RICHMOND HILL, ON Project #:

15 20

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

15 17

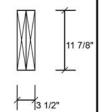
Level: Second Floor 2-Ply - PASSED

23 2

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 28, 2021

3 4 7 8	12	16	21
		APPENTY.	
1 Hanger (LF3511)			2 SPF
	7'8 1/8"		
	7'8 1/8"		

13

.Continued from page 1 Trib Width Side Load Type Location Dead Live Snow Wind Comments ID 20 PLF 49 PLF End 0-5-12 0 PLF 0 PLF 4 Tapered Start 0-5-12 Top 51 PLF 0 PLF 126 PLF 0 PLF 0 PLF End 1-8-13 45 PLF 0 PLF 111 PLF 5 Part. Uniform 0-5-12 to 1-9-4 80 PLF 0 PLF 0 PLF 0 PLF Wall Self Weight Top 324 lb 6 Point 1-1-4 Far Face 122 lb 0 lb 0 lb J4 7 Part. Uniform 1-8-13 to 1-9-4 45 PLF 0 PLF 111 PLF 0 PLF Top Part. Uniform 1-9-4 to 2-5-2 45 PLF 0 PLF 111 PLF 0 PLF 8 Top 9 Part. Uniform 1-9-4 to 3-1-4 Top 80 PLF 0 PLF 0 PLF 0 PLF Wall Self Weight Far Face 147 lb 335 lb 0 lb 10 Point 2-5-4 0 lb J4 11 Point 2-6-10 Top 66 lb 0 lb 139 lb 0 lb Header Column Bearing Length 0-5-8 12 Part. Uniform 3-1-4 to 4-5-4 Top 80 PLF 0 PLF 0 PLF 0 PLF Wall Self Weight 13 Point 3-9-4 Far Face 158 lb 335 lb 0 lb 0 lb 14 Part. Uniform 4-5-4 to 5-6-15 Top 80 PLF 0 PLF 0 PLF 0 PLF Wall Self Weight 15 Point 4-9-10 Top 66 lb 0 lb 139 lb 0 lb Header Column Bearing Length 0-5-8 45 PLF 0 PLF 111 PLF 0 PLF Part Uniform 4-11-2 to 5-6-15 16 Top 135 lb 287 lb 0 lb 17 Point Far Face 0 lb J4 5-1-4 18 Part Uniform 5-6-15 to 6-6-14 Top 45 PLF 0 PLF 111 PLF 0 PLF Part. Uniform 80 PLF 0 PLF 0 PLF 0 PLF Wall Self Weight 19 5-6-15 to 6-6-14 Top 20 Point 6-0-11 Far Face 121 lb 249 lb 0 lb 0 lb Part. Uniform 6-6-14 to 7-4-14 45 PLF 0 PLF 111 PLF 0 PLF 21 Top 80 PLF 22 Part. Uniform 6-6-14 to 7-4-14 Top 0 PLF 0 PLF 0 PLF Wall Self Weight

Far Face

Top

Top

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.

23

24

25

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.

Point

Part. Uniform

Part. Uniform

Self Weight

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

Handling & Installation

7-1-1

7-4-14 to 7-8-2

7-4-14 to 7-8-2

- LVL beams must not be cut or drilled
   Refer to manufacturer's product informatic regarding installation requirements, multi-regarding installation requirements. details, beam stre
- naged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation
- 6. For flat roofs provide proper drainage to prevent

100 lb

22 PLF

40 PLF

10 PLF

Manufacturer Info Forex

209 lb

0 PLF

0 PLF

0 lb

56 PLF

0 PLF

0 lb J4

0 PLF

0 PLF

APA: PR-L318

This design is valid until 5/24/2024

3228 Moodie Dr. Ottawa, Ontari 613-838-2775 D/\905-642-4400

Wall Self Weight



Per: oshua.nabua

Page 43 of 72



Client: GREENPARK Project:

ROUNDEL HOMES INC PINETREE 38-1-1

6/28/2021 WC Input by:

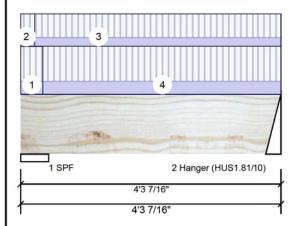
PT38-1-1 STANDARD & DECK CONDITION Job Name:

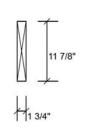
RICHMOND HILL, ON Project #: ROUNDEL HOMES INC

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

Address:

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						

Unf	actored	Reactions	UNPAT	TERNED	lb (Uplift)
Bra	Direction		ivo	Dead	Snc

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	60	33	0	0
2	Vertical	54	30	0	0
1					

# Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	2%	42 / 90	131	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	3%	38 / 82	119	L	1.25D+1.5L

**Analysis Results** 

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	100 ft-lb	2'3"	17130 ft-lb	0.006 (1%)	1.25D+1.5L	L
Unbraced	100 ft-lb	2'3"	17130 ft-lb	0.006 (1%)	1.25D+1.5L	L
Shear	53 lb	1'5 3/8"	5798 lb	0.009 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/165445)	2'3"	0.124 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch	0.000 (L/91572)	2'3"	0.093 (L/480)	0.005 (1%)	L	L
TL Defl inch	0.001	2'3"	0.185 (L/240)	0.004 (0%)	D+L	L

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

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



June 28, 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.

15 PSF

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.

н	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 0-4-6	0-4-12	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	2	Tie-In	0-0-0 to 0-2-12	0-3-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	3	Tie-In	0-2-12 to 4-3-7	0-3-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	4	Tie-In	0-4-6 to 4-3-7	0-4-13	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
		Self Weight				5 PLF				

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength values, and code approvals
   Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Forex APA: PR-L318

Manufacturer Info

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400

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Address:

ROUNDEL HOMES INC PINETREE 38-1-1

RICHMOND HILL, ON

6/28/2021 WC Input by:

Project #:

1

2

Hanger

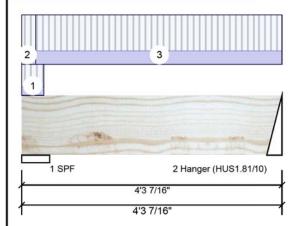
Vertical

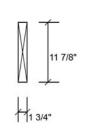
Vertical

PT38-1-1 STANDARD & DECK CONDITION Job Name: ROUNDEL HOMES INC

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

Level: Second Floor





Wind

0

0

Member Information							
Type:	Girder	Application:	Floor (Residential)				
Plies:	1	Design Method:	LSD				
Moisture Condition	on: 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						

### **Unfactored Reactions UNPATTERNED Ib (Uplift)** Brg Direction Live Dead Snow

41

33

Ì	Bearing	s and Fa	ctore	d Read	ctions			
ľ	Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
l	1 - SPF	5.500"	Vert	2%	32 / 61	93	L	1.25D+1.5L
ł	2 -	3.000"	Vert	2%	28 / 50	78	L	1.25D+1.5L

26

22

# **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	66 ft-lb	2'3"	17130 ft-lb	0.004 (0%)	1.25D+1.5L	L
Unbraced	66 ft-lb	2'3"	17130 ft-lb	0.004 (0%)	1.25D+1.5L	L
Shear	37 lb	3' 9/16"	5798 lb	0.006 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/223938)	2'3"	0.124 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch	0.000 (L/149025)	2'3"	0.093 (L/480)	0.003 (0%)	L	L
TL Defl inch	0.000 (L/89479)	2'3"	0.185 (L/240)	0.003 (0%)	D+L	L

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

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



0

0

### 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.

15 PSF

5 Bottom must be laterally braced at bearings.

15 PSF 0-0-0 to 0-4-6 0-3-1 1 Tie-In Top 0-0-0 to 0-2-12 0-4-15 15 PSF 2 Tie-In Top 0-2-12 to 4-3-7 0-4-15 15 PSF 3 Tie-In Top 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.

ID Load Type Trib Width Wind Comments Location Side Dead Live Snow 40 PSF 0 PSF 0 PSF 40 PSF 0 PSF 0 PSF 40 PSF 0 PSF 0 PSF

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength values, and code approvals
   Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Forex APA: PR-L318

Manufacturer Info



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Page 45 of 72



Client: GREENPARK Project:

ROUNDEL HOMES INC PINETREE 38-1-1

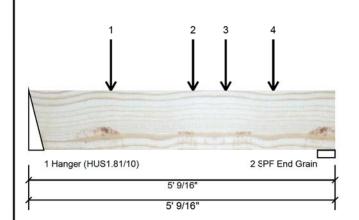
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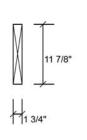
PT38-1-1 STANDARD & DECK CONDITION Job Name:

Address: RICHMOND HILL, ON

Project #: ROUNDEL HOMES INC

F5-C Forex 2.0E-3000Fb LVL 1.750" X 11.875" - PASSED Level: Second Floor





### Member Information Type: 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

### Unfactored Reactions UNPATTERNED Ib (Uplift) Brg Direction Live Dead Snow Wind 147 71 0 1 Vertical 0 77 0 0 2 Vertical 158

# 40 PSF Floor Live: 15 PSF Dead: Analysis Results Location Allowed Capacity

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	458 ft-lb	2'8 3/8"	17130 ft-lb	0.027 (3%)	1.25D+1.5L	L
Unbraced	458 ft-lb	2'8 3/8"	17130 ft-lb	0.027 (3%)	1.25D+1.5L	L
Shear	332 lb	3'9 3/16"	5798 lb	0.057 (6%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/40873)	2'8 3/8"	0.154 (L/360)	0.009 (1%)	D	Uniform
LL Defl inch	0.003 (L/19269)	2'8 3/8"	0.116 (L/480)	0.025 (2%)	L	L
TL Defl inch	0.004 (L/13095)	2'8 3/8"	0.232 (L/240)	0.018 (2%)	D+L	L

Bearings and Factored Reactions

Grain

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	8%	88 / 221	309	L	1.25D+1.5L
2 - SPF End	3.500"	Vert	7%	97 / 237	334	L	1.25D+1.5L

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 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 have sheathing attached or be continuously braced

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

ı	O DOMONTHUSET	lave streaming attached of t	oc continuous	ory bracea.		-				
I	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
ı	1	Point	1-4-3		Far Face	42 lb	111 lb	0 lb	0 lb	J1
ı	2	Point	2-8-6		Far Face	28 lb	75 lb	0 lb	0 lb	J1
I	3	Point	3-2-13		Far Face	30 lb	54 lb	0 lb	0 lb	F5
ı	4	Point	4-0-6		Far Face	24 lb	65 lb	0 lb	0 lb	J1
ı		Self Weight				5 PLF				

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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-pl
- regarding installation requirements, multi-fastening details, beam strength values, and co approvals Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Manufacturer Info

APA: PR-L318



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Page 46 of 72



Client: GREENPARK Project:

ROUNDEL HOMES INC PINETREE 38-1-1

RICHMOND HILL,ON

6/28/2021 WC Input by:

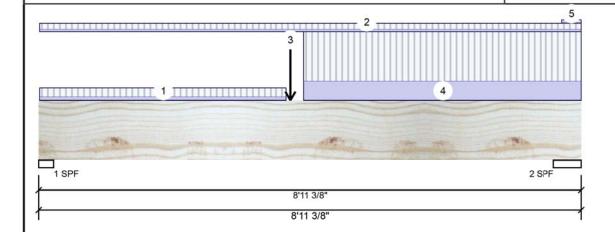
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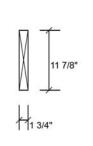
Job Name: PT38-1-1 STANDARD & DECK CONDITION ROUNDEL HOMES INC

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

Address:

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		

## Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	412	185	0	0
2	Vertical	736	311	0	0
ı					

### Rearings and Factored Reactions

bearing.	bearings and ractored reactions											
Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.					
1 - SPF	2.940"	Vert	27%	232 / 619	850	L	1.25D+1.5L					
2-SPF	5.500"	Vert	25%	388 / 1103	1492	L	1.25D+1.5L					

### **Analysis Results**

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2578 ft-lb	4'8 11/16"	17130 ft-lb	0.150 (15%)	1.25D+1.5L	L
Unbraced	2578 ft-lb	4'8 11/16"	17130 ft-lb	0.150 (15%)	1.25D+1.5L	L
Shear	983 lb	7'6"	5798 lb	0.170 (17%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/6036)	4'6 3/16"	0.279 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.038 (L/2638)	4'6 5/8"	0.209 (L/480)	0.182 (18%)	L	L
TL Defl inch	0.055 (L/1836)	4'6 1/2"	0.418 (L/240)	0.131 (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.

### **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.

15 PSF

4 Bottom must be laterally braced at a maximum of 4'9 9/16" o.c.

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	0-0-3 to 4-0-14	0-8-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-3 to 8-11-6	0-5-11	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	4-1-12		Far Face	71 lb	147 lb	0 lb	0 lb	F5
4	Part. Uniform	4-4-6 to 8-11-6		Тор	60 PLF	156 PLF	0 PLF	0 PLF	
5	Tie-In	8-7-8 to 8-11-6	0-2-5	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- I. UVL beams must not be cutor drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam stength values, and code approvals
   Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info APA: PR-L318

3228 Moodie Dr. Ottawa, Ontario 61B-838-2775 D/\905-642-4400

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Page 47 of 72



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC PINETREE 38-1-1

RICHMOND HILL, ON

6/28/2021 Date Input by:

Project #:

WC

PT38-1-1 STANDARD & DECK CONDITION Job Name: ROUNDEL HOMES INC

Unfactored Reactions UNPATTERNED Ib (Uplift)

20%

39%

Dead

471

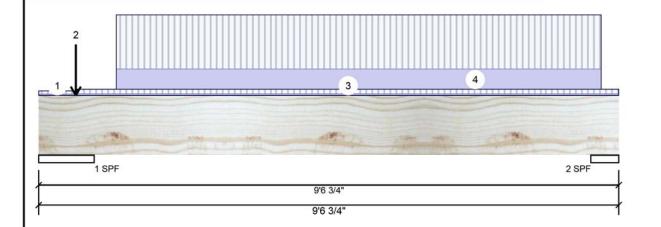
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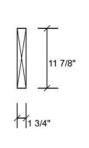
Live

1197

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

Level: Second Floor





Wind

0

0

## Member Information Type:

Plies: 1 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 240 Importance: Normal - II General Load

40 PSF 15 PSF Application: Floor (Residential) Design Method: LSD

Building Code: NBCC 2015 / OBC 2012 Load Sharing: No

Deck: Not Checked Vibration: Not Checked

# 2 Vertical 1154

Bearings and Factored Reactions

Dir.

Vert

Vert

Direction

Vertical

Bearing Length

1 - SPF 10.938'

2 - SPF 5.500"

Brg

1

### Cap. React D/L lb Total Ld. Case Ld. Comb. 589 / 1795 2384 1 1.25D+1.5L 1.25D+1.5L 566 / 1730 2296 L

Snow

0

0

## Analysis Results

Floor Live:

Dead:

Analysis Actual Location Allowed Capacity Comb. Case 4617 ft-lb 0.270 (27%) 1.25D+1.5L L Moment 5' 1/4" 17130 ft-lb 5' 1/4" 17130 ft-lb Unbraced 4617 ft-lb 0.270 (27%) 1.25D+1.5L L 0.373 (37%) 1.25D+1.5L L 2162 lb 1'10 13/16" 5798 lb Shear Perm Defl in. 0.028 (L/3542) 5' 1/8" 0.277 (L/360) 0.102 (10%) D Uniform LL Defl inch 0.072 (L/1386) 5' 1/8" 0.208 (L/480) 0.346 (35%) L L TL Defl inch 0.100 (L/996) 5' 1/8" 0.416 (L/240) 0.241 (24%) 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.



### **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

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.

4 Dottom must n	lave sheathing attach	ied of be continuous	siy bi aced.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Tie-In	0-0-0 to 0-7-10	0-4-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Point	0-7-5		Near Face	62 lb	165 lb	0 lb	0 lb	J4	
3	Tie-In	0-7-10 to 9-6-12	0-6-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
4	Part. Uniform	1-3-5 to 9-3-5		Near Face	93 PLF	249 PLF	0 PLF	0 PLF		
	Self Weight				5 PLF					

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-pl regarding installation requirements, multi-fastening details, beam strength values, and co approvals
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rolation

naged Beams must not be used

6. For flat roofs provide proper drainage to prevent

Manufacturer Info Forex APA: PR-L318

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This design is valid until 5/24/2024

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Wind

0

0



Client: GREENPARK Project:

Address:

ROUNDEL HOMES INC PINETREE 38-1-1

6/28/2021 Date: Input by:

Project #:

WC

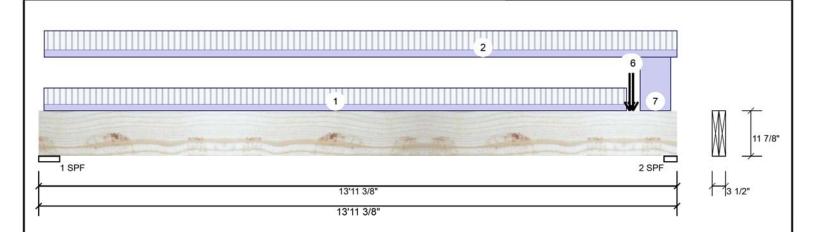
PT38-1-1 STANDARD & DECK CONDITION Job Name: ROUNDEL HOMES INC

F9-A Forex 2.0E-3000Fb LVL

RICHMOND HILL, ON 1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



Member Inforn	nation			Unf	acto	red Rea	ctions	UNP	ATTERNED I	b (Upl	ift)
Туре:	Girder	Application:	Floor (Residential)	Brg	Dire	ection		Live	Dead		Sno
Plies:	2	Design Method:	LSD	1	Vert	ical		415	256		2
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vert	ical		1114	1075		38
Deflection LL:	480	Load Sharing:	No								
Deflection TL:	240	Deck:	Not Checked								
Importance:	Normal - II	Vibration:	Not Checked								
General Load						(****)	115		- Santa		
Floor Live:	40 PSF			Bea	rings	and Fa	actore	d Read	ctions		
Dead:	15 PSF			Bea	aring	Length	Dir.	Cap.	React D/L lb	Total	Ld.
				1 -	SPF	5.500"	Vert	8%	319 / 644	964	L
Analysis Result	s			2-	SPF	3.438"	Vert	46%	1344 / 2051	3395	L
A   -   A - 4	1	tian Allawad Casas	it. 0 0	┫							

Bearings and Factored Reactions								
Ì	Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
	1 - SPF	5.500"	Vert	8%	319 / 644	964	L	1.25D+1.5L +S
	2 - SPF	3.438"	Vert	46%	1344 / 2051	3395	L	1.25D+1.5L +S

Snow

22

380

### Analysis Actual Location Allowed Capacity Comb. Case 8'4 3/16" 34261 ft-lb 0.108 (11%) 1.25D+1.5L L Moment 3698 ft-lb +S Unbraced 3698 ft-lb 8'4 3/16" 34261 ft-lb 0.108 (11%) 1.25D+1.5L L +S Shear 3225 lb 12'8 1/16" 11596 lb 0.278 (28%) 1.25D+1.5L L Perm Defl in. 0.037 (L/4293) 7'5 13/16" 0.444 (L/360) 0.084 (8%) D Uniform LL Defl inch 0.058 (L/2772) 7'4 5/16" 0.333 (L/480) 0.173 (17%) L+0.5S L TL Defl inch 0.095 (L/1684) 7'4 7/8" 0.666 (L/240) 0.142 (14%) D+L+0.5S

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3,4375.
- 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 12'11 7/8" o.c.
- 8 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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June 28, 2021

### Notes

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  Provide lateral support at bearing points to avoid
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6. For flat roofs provide proper drainage to prevent

This design is valid until 5/24/2024

Manufacturer Info Forex

APA: PR-L318

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

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Address:

ROUNDEL HOMES INC PINETREE 38-1-1

Date: 6/28/2021 WC Input by:

Project #:

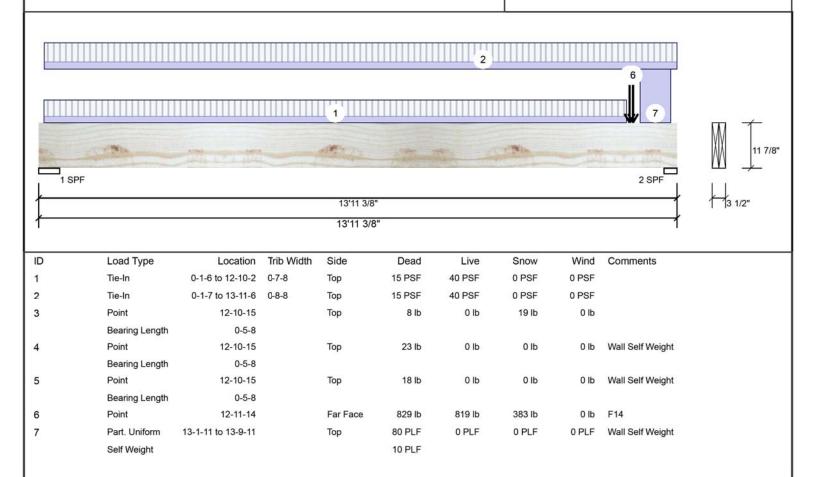
PT38-1-1 STANDARD & DECK CONDITION Job Name: ROUNDEL HOMES INC

F9-A Forex 2.0E-3000Fb LVL

RICHMOND HILL, ON 1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



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

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