

GREENPARK-TRINAR HALL-  
BRENTWOOD 3-EL.1&2

## **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 a



Town of  
East Gwillimbury  
Building Standards Branch BCIN #16487

### **HANDLING AND INSTALLATION**

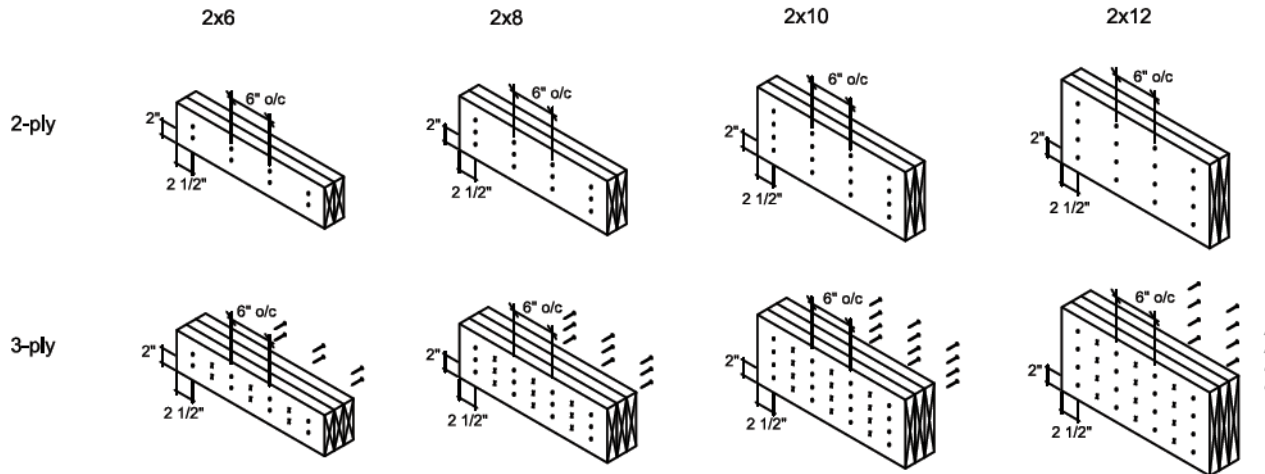
Do not drill any hole, cut or notch a certified building component without a written pre-authorization.

These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amended. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

GREENPARK-TRINAR HALL-  
BRENTWOOD 3-EL.1&2

## Conventional Connections



Conventional connection notes:

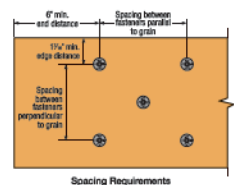
- Nails to be 3" long wire nails.
- Nails to be located 2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

### SIMPSON SDW SPACING REQUIREMENT

Table 9 – Spacing Requirements

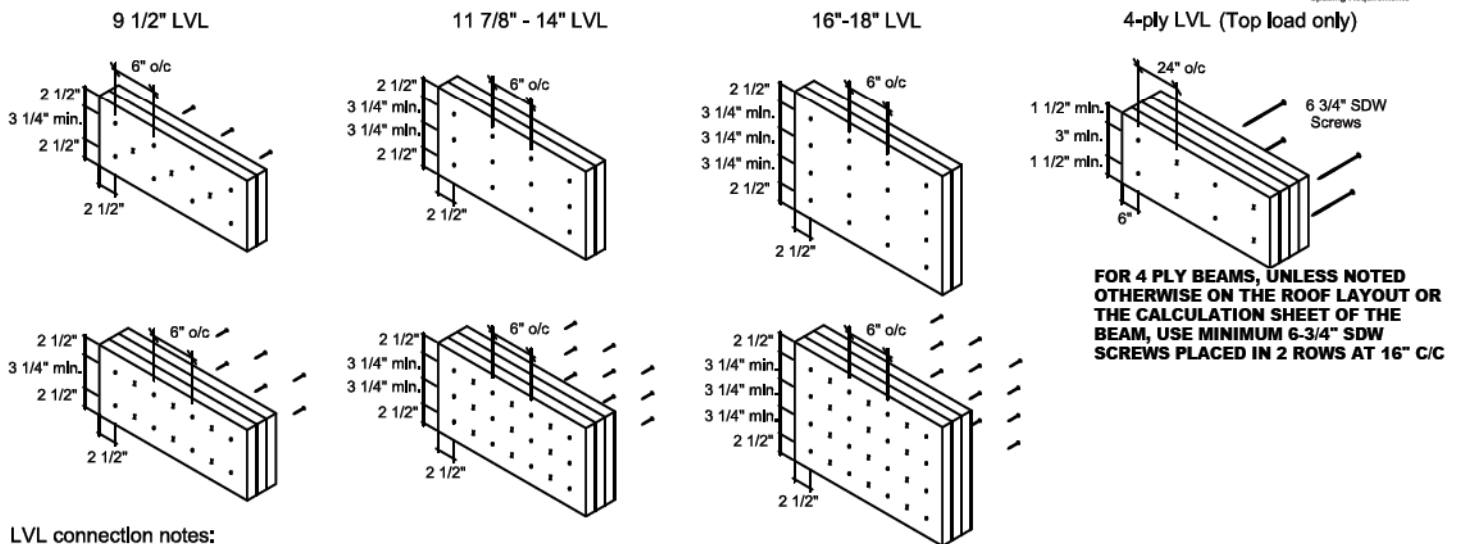
Geometry	Minimum Dimensions (in.)	
	D-J-L	S-P-F
Spacing parallel to grain	6	5
End distance parallel to grain	6	6
Spacing perpendicular to grain	3	2 1/2
End distance perpendicular to grain	1 1/2	1 1/2

1. Additional screws may be staggered diagonally between rows.



## LVL Connections

HEAD OF ALL SPECIFIED NAILS AND  
SCREWS MUST BE ON THE LOADED SIDE



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.
- Minimum 3 1/4" spacing between rows.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail or screw driven from the opposite side.

**FOR 4 PLY BEAMS, UNLESS NOTED OTHERWISE ON THE ROOF LAYOUT OR THE CALCULATION SHEET OF THE BEAM, USE MINIMUM 6-3/4" SDW SCREWS PLACED IN 2 ROWS AT 16" C/C**

## Multiple Member Connections

All connections are for uniformly distributed loads.

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

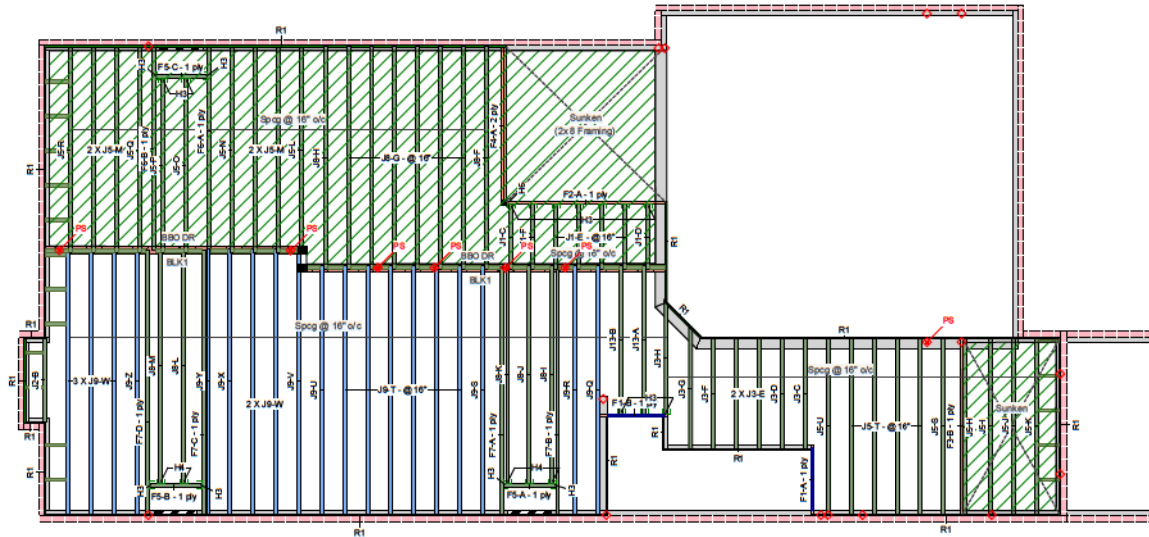


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Sewage System			
Zoning			



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



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

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

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



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

#### Ground Floor LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			1	12-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			2	4-0-0

#### I Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F7	AJS 140	2.5	9.5			4	16-0-0
F6	AJS 140	2.5	9.5			2	12-0-0
F5	AJS 140	2.5	9.5			3	4-0-0
J8	AJS 140	2.5	9.5			13	14-0-0
J5	AJS 140	2.5	9.5			20	12-0-0
J13	AJS 140	2.5	9.5			2	10-0-0
J3	AJS 140	2.5	9.5			7	8-0-0
J2	AJS 140	2.5	9.5			1	6-0-0
J1	AJS 140	2.5	9.5			7	4-0-0
J9	AJS 20	2.5	9.5			19	16-0-0

#### Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 140	2.5	9.5			Varies	48-0-0

#### Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			14	12-0-0

#### Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H3	17	LF259				
H3	1	LF259				
H4	5	LF259			10 10d	1 #8x1 1/4WS
H6	1	HUS1.81/10				

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H3	17	LF259				
H3	1	LF259				
H4	5	LF259			10 10d	1 #8x1 1/4WS
H6	1	HUS1.81/10				

- All blocking to be cut from 12' joists
- 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
- Ends of joists to be laterally supported
- Packing of Steel beams and attachment by others
- Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
- Beams identified as "B" are dropped and supplied by others
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
- Load transfer blocks to be installed under all point loads
- Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
- Hangers and Fasteners to be installed as per manufacturer
- 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 9.5
▪	AJS 140 9.5
▬	AJS 20 9.5
▭	Forex 2.0E-3000Fb LVL 1.75 X 9.5

#### JOB INFORMATION

<b>Builder</b>	GREENPARK
<b>Project</b>	BRENTWOOD 3 (ELEV. 1.2)
<b>Shipping</b>	
<b>Sales Rep</b>	RM
<b>Designer</b>	RCO

#### Plotted

December 17, 2020

#### Layout Name

BRENTWOOD 3 (ELEV. 1.2)

#### Job Path

C:\Users\rochavillo\Documents\WORK FROM HOME\GREENPARK\TRINAR HALL\BRENTWOOD 3\ELEV 1\FLOOR\BRENTWOOD 3 (ELEV. 1).isl

#### DESIGN CRITERIA

#### Ground Floor

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

#### Floor

#### Loads

Live	40
Dead	15

#### Deflection Joist

LL Span U/	480
TL Span U/	360
LL Cant 2L/	480
TL Cant 2L/	360

#### Deflection Girder

LL Span U/	360
TL Span U/	240
LL Cant 2L/	480
TL Cant 2L/	360

#### Decking

OSB	
Thickness	3/4"
Fastener	Nailed & Glued

#### Vibration

Nailed & Glued

#### CCMC References

Boise - 12472-R, 12787-R  
LP - 12412-R  
Forex - 14096-R

#### Kott Lumber Company

14 Anderson Blvd  
Stouffville, Ontario  
Canada  
L4A 7X4  
905-642-4400



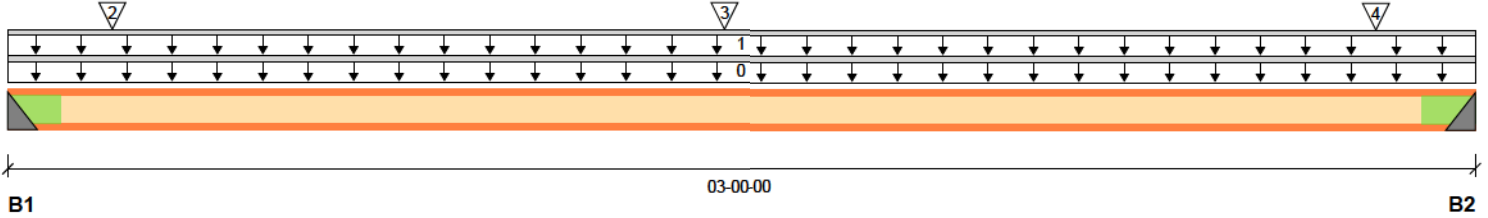
F5-A

BC CALC® Member Report  
Build 7364  
Job name:  
Address:  
City, Province, Postal Code:  
Customer:  
Code reports: CCMC 12787-R

Dry | 1 span | No cant.

December 17, 2020 13:18:12

File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl  
Description: Level - Ground Floor  
Specifier:  
Designer: RCO  
Company: GREENPARK



**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 2"	410 / 0	157 / 0		
B2, 2"	412 / 0	157 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Top		2			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Top	34	13			n/a
2	J8	Conc. Pt. (lbs)	L	00-02-09	00-02-09	Back	194	73			n/a
3	J8	Conc. Pt. (lbs)	L	01-05-09	01-05-09	Back	320	120			n/a
4	J8	Conc. Pt. (lbs)	L	02-09-09	02-09-09	Back	204	76			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	548 ft-lbs	4095 ft-lbs	13.4%	1	01-05-09
End Reaction	814 lbs	2050 lbs	39.7%	1	03-00-00
End Shear	802 lbs	1830 lbs	43.8%	1	02-10-00
Total Load Deflection	L/999 (0.009")	n/a	n/a	4	01-05-09
Live Load Deflection	L/999 (0.007")	n/a	n/a	5	01-05-09
Max Defl.	0.009"	n/a	n/a	4	01-05-09
Span / Depth	3.5				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger 2" x 2-1/2"	811 lbs	41.7%	39.6%	LF259
B2	Hanger 2" x 2-1/2"	814 lbs	41.9%	39.7%	LF259

**Cautions**

Web stiffeners required at bearing B1.  
Hanger LF259 requires (10) 10dx1.5 face nails, (2) 10dx1.5 joist nails.  
Web stiffeners required at bearing B2.  
Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist  
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Town of  
**East Gwillimbury**  
Building Standards Branch BCIN #16487

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**F5-A**

Dry | 1 span | No cant.

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BC CALC® Member Report

Build 7364

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12787-R

File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl

Description: Level - Ground Floor

Specifier:

Designer: RCO

Company: GREENPARK

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Simpson Strong-Tie, Inc.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

**Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.



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

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

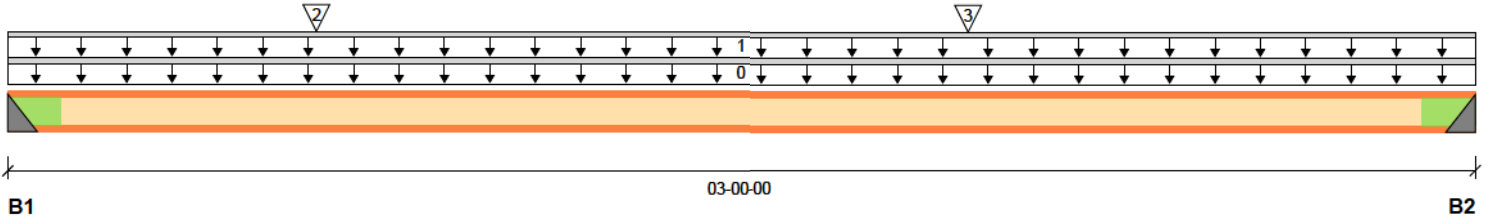
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Build 7364  
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City, Province, Postal Code:  
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Code reports: CCMC 12787-R

Dry | 1 span | No cant.

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Description: Level - Ground Floor  
Specifier:  
Designer: RCO  
Company: GREENPARK



Total Horizontal Product Length = 03-00-00

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 2"	387 / 0	149 / 0		
B2, 2"	325 / 0	125 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Top		2			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Top	34	13			n/a
2	J8	Conc. Pt. (lbs)	L	00-07-09	00-07-09	Back	277	104			n/a
3	J8	Conc. Pt. (lbs)	L	01-11-09	01-11-09	Back	332	124			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	562 ft-lbs	4095 ft-lbs	13.7%	1	01-11-09
End Reaction	767 lbs	2050 lbs	37.4%	1	00-00-00
End Shear	755 lbs	1830 lbs	41.3%	1	00-02-00
Total Load Deflection	L/999 (0.01")	n/a	n/a	4	01-10-01
Live Load Deflection	L/999 (0.007")	n/a	n/a	5	01-10-01
Max Defl.	0.01"	n/a	n/a	4	01-10-01
Span / Depth	3.5				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 2-1/2"	767 lbs	39.4%	37.4%	LF259
B2	Hanger 2" x 2-1/2"	644 lbs	33.1%	31.4%	LF259

**Cautions**

Web stiffeners required at bearing B1.  
Hanger LF259 requires (10) 10dx1.5 face nails, (2) 10dx1.5 joist nails.  
Web stiffeners required at bearing B2.  
Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist  
Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist



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

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**F5-B**

Dry | 1 span | No cant.

December 17, 2020 13:18:12

BC CALC® Member Report

Build 7364

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12787-R

File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl

Description: Level - Ground Floor

Specifier:

Designer: RCO

Company: GREENPARK

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Simpson Strong-Tie, Inc.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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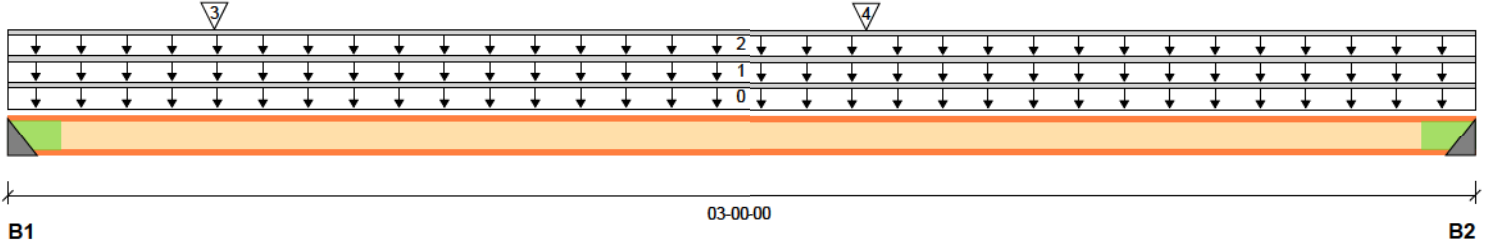
BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

BC CALC® Member Report  
Build 7364  
Job name:  
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### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	324 / 0	160 / 0		
B2, 2"	230 / 0	115 / 0		

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Top		2			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Top		4			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Top	34	13			n/a
3	J5	Conc. Pt. (lbs)	L	00-05-01	00-05-01	Front	184	89			n/a
4	J5	Conc. Pt. (lbs)	L	01-09-01	01-09-01	Front	266	129			n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	499 ft-lbs	4095 ft-lbs	12.2%	1	01-09-01
End Reaction	686 lbs	2050 lbs	33.4%	1	00-00-00
End Shear	673 lbs	1830 lbs	36.8%	1	00-02-00
Total Load Deflection	L/999 (0.009")	n/a	n/a	4	01-09-01
Live Load Deflection	L/999 (0.006")	n/a	n/a	5	01-09-01
Max Defl.	0.009"	n/a	n/a	4	01-09-01
Span / Depth	3.5				



### Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Hanger	2" x 2-1/2"	686 lbs	35.3%	33.4%	LF259
B2 Hanger	2" x 2-1/2"	489 lbs	25.1%	23.8%	LF259

### Cautions

Web stiffeners required at bearing B1.  
Hanger LF259 requires (10) 10dx1.5 face nails, (2) 10dx1.5 joist nails.  
Web stiffeners required at bearing B2.  
Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist  
Header for the hanger LF259 is a Single 2-1/2" x 9-1/2" I-joist



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

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

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

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



**F5-C**

Dry | 1 span | No cant.

December 17, 2020 13:18:12

BC CALC® Member Report

Build 7364

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12787-R

File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl

Description: Level - Ground Floor

Specifier:

Designer: RCO

Company: GREENPARK

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Simpson Strong-Tie, Inc.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

**Disclosure**

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

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

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

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**F6-A**

Dry | 1 span | No cant.

December 17, 2020 13:18:12

BC CALC® Member Report

Build 7364

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12787-R

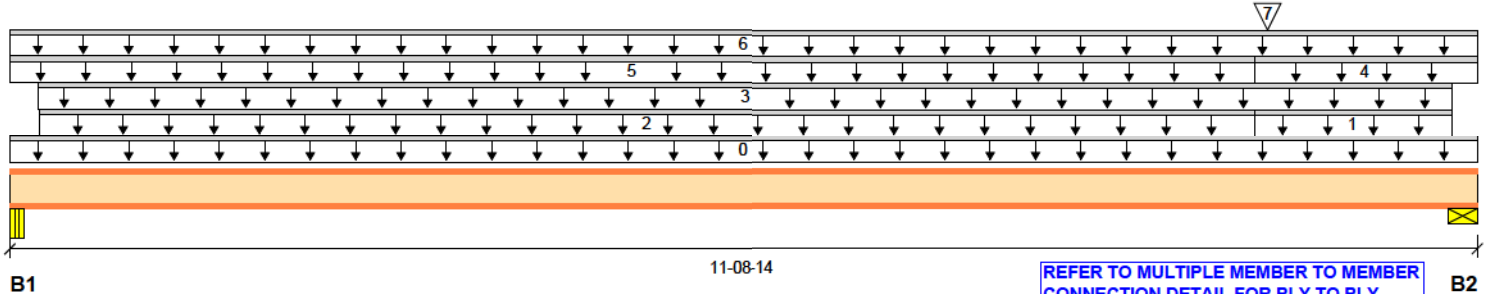
File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl

Description: Level - Ground Floor

Specifier:

Designer: RCO

Company: GREENPARK



**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	349 / 0	182 / 0		
B2, 2-3/8"	573 / 0	294 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-08-14	Top		2			00-00-00
1		Unf. Lin. (lb/ft)	L	09-11-08	11-06-08	Top		8			n/a
2		Unf. Lin. (lb/ft)	L	00-02-13	09-11-08	Top		3			n/a
3		Unf. Lin. (lb/ft)	L	00-02-13	11-06-08	Top		3			n/a
4		Unf. Lin. (lb/ft)	L	09-11-08	11-08-14	Top	64	24			n/a
5		Unf. Lin. (lb/ft)	L	00-00-00	09-11-08	Top	27	10			n/a
6		Unf. Lin. (lb/ft)	L	00-00-00	11-08-14	Top	26	10			n/a
7	F5	Conc. Pt. (lbs)	L	10-00-12	10-00-12	Back	230	115			

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2343 ft-lbs	4095 ft-lbs	57.2%	1	06-07-04
End Reaction	1228 lbs	1653 lbs	74.3%	1	11-08-14
End Shear	1192 lbs	1830 lbs	65.1%	1	11-06-08
Total Load Deflection	L/551 (0.249")	n/a	43.5%	4	06-00-08
Live Load Deflection	L/840 (0.164")	n/a	42.9%	5	06-00-08
Max Defl.	0.249"	n/a	24.9%	4	06-00-08
Span / Depth	14.5				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance	Demand/Resistance
B1	Beam 2-5/8" x 2-1/2"	751 lbs	18.6%	44.3%
B2	Wall/Plate 2-3/8" x 2-1/2"	1228 lbs	33.6%	74.3%

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
Design meets Code minimum (L/360) Live load deflection criteria.  
Design meets User specified (1") Maximum Total load deflection criteria.  
Calculations assume member is fully braced.  
Resistance Factor phi has been applied to all presented results per CSA O86.  
BC CALC® analysis is based on Canadian Limit States Design, as per NBC.  
Design based on Dry Service Condition.  
Importance Factor : Normal Part code : Part 9

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

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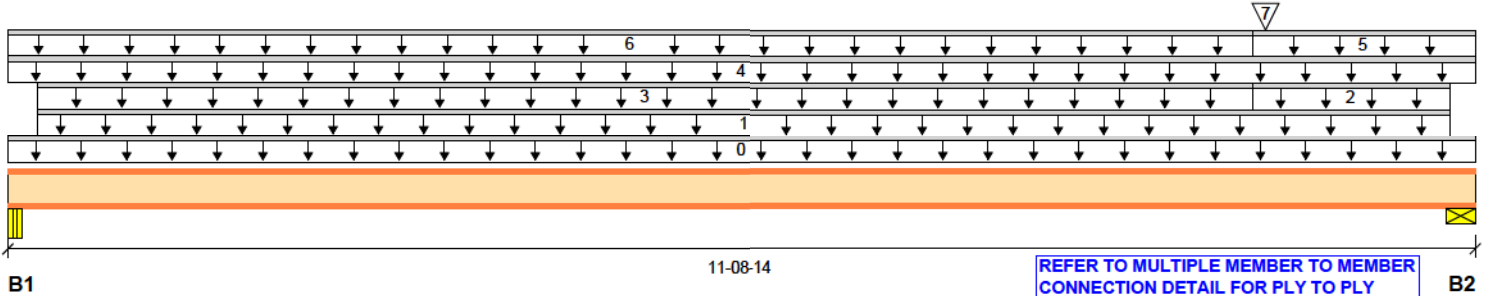
**F6-B**

BC CALC® Member Report  
Build 7364  
Job name:  
Address:  
City, Province, Postal Code:  
Customer:  
Code reports: CCMC 12787-R

Dry | 1 span | No cant.

December 17, 2020 13:18:12

File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl  
Description: Level - Ground Floor  
Specifier:  
Designer: RCO  
Company: GREENPARK



**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	207 / 0	113 / 0		
B2, 2-3/8"	526 / 0	271 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-08-14	Top		2			00-00-00
1		Unf. Lin. (lb/ft)	L	00-02-14	11-06-08	Top		2			n/a
2		Unf. Lin. (lb/ft)	L	09-11-08	11-06-08	Top		8			n/a
3		Unf. Lin. (lb/ft)	L	00-02-14	09-11-08	Top		1			n/a
4		Unf. Lin. (lb/ft)	L	00-00-00	11-08-14	Top	16	6			n/a
5		Unf. Lin. (lb/ft)	L	09-11-08	11-08-14	Top	64	24			n/a
6		Unf. Lin. (lb/ft)	L	00-00-00	09-11-08	Top	11	4			n/a
7	F5	Conc. Pt. (lbs)	L	10-00-12	10-00-12	Front	324	160			

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1668 ft-lbs	4095 ft-lbs	40.7%	1	07-08-10
End Reaction	1127 lbs	1653 lbs	68.2%	1	11-08-14
End Shear	1095 lbs	1830 lbs	59.8%	1	11-06-08
Total Load Deflection	L/785 (0.175")	n/a	30.6%	4	06-03-14
Live Load Deflection	L/999 (0.114")	n/a	n/a	5	06-03-14
Max Defl.	0.175"	n/a	17.5%	4	06-03-14
Span / Depth	14.5				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance	Demand/Resistance
B1 Beam	2-5/8" x 2-1/2"	452 lbs	11.2%	26.6%
B2 Wall/Plate	2-3/8" x 2-1/2"	1127 lbs	30.8%	68.2%

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
Design meets Code minimum (L/360) Live load deflection criteria.  
Design meets User specified (1") Maximum Total load deflection criteria.  
Calculations assume member is fully braced.  
Resistance Factor phi has been applied to all presented results per CSA O86.  
BC CALC® analysis is based on Canadian Limit States Design, as per NBC.  
Design based on Dry Service Condition.  
Importance Factor : Normal Part code : Part 9

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

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**F7-A**

Dry | 1 span | No cant.

December 17, 2020 13:18:12

BC CALC® Member Report

Build 7364

Job name:

File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl

Address:

Description: Level - Ground Floor

City, Province, Postal Code:

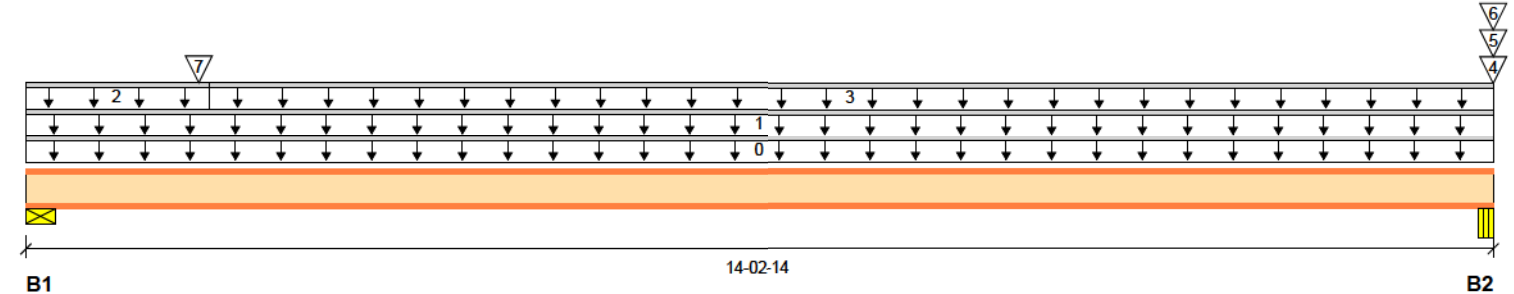
Specifier:

Customer:

Designer: RCO

Code reports: CCMC 12787-R

Company: GREENPARK



**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	664 / 0	267 / 0		
B2, 2-5/8"	442 / 0	209 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-02-14	Top	2	8			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	14-02-14	Top	22	24			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	01-09-06	Top	64	2			n/a
3		Unf. Lin. (lb/ft)	L	01-09-06	14-02-14	Top	6	37			n/a
4	J9	Conc. Pt. (lbs)	L	14-02-14	14-02-14	Top	100	89			n/a
5	J8	Conc. Pt. (lbs)	L	14-02-14	14-02-14	Top	89	28			n/a
6	Wall Self Weight	Conc. Pt. (lbs)	L	14-02-14	14-02-14	Top		410			n/a
7	F5	Conc. Pt. (lbs)	L	01-08-02	01-08-02	Front		157			

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2213 ft-lbs	4095 ft-lbs	54.0%	1	05-04-05
End Reaction	1329 lbs	1653 lbs	80.4%	1	00-00-00
End Shear	1295 lbs	1830 lbs	70.8%	1	00-02-06
Total Load Deflection	L/504 (0.332")	n/a	47.6%	4	06-07-05
Live Load Deflection	L/718 (0.233")	n/a	50.1%	5	06-07-05
Max Defl.	0.332"	n/a	33.2%	4	06-07-05
Span / Depth	17.6				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance	Demand/Resistance
B1	Wall/Plate 2-3/8" x 2-1/2"	1329 lbs	36.4%	80.4%
B2	Beam 2-5/8" x 2-1/2"	924 lbs	22.9%	54.5%



**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
Design meets Code minimum (L/360) Live load deflection criteria.  
Design meets User specified (1") Maximum Total load deflection criteria.  
Calculations assume member is fully braced.  
Resistance Factor phi has been applied to all presented results per CSA O86.  
BC CALC® analysis is based on Canadian Limit States Design, as per NBC.  
Design based on Dry Service Condition.  
Importance Factor: Normal Part code: Part 9

These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amended. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

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**REFER TO MULTIPLE MEMBER TO MEMBER CONNECTION DETAIL FOR PLY TO PLY NAILING OR BOLTING REQUIREMENTS.**  
**PASS THRU FRAMING SQUASH BLOCK IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.**



F7-B

Dry | 1 span | No cant.

December 17, 2020 13:18:12

BC CALC® Member Report

Build 7364

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12787-R

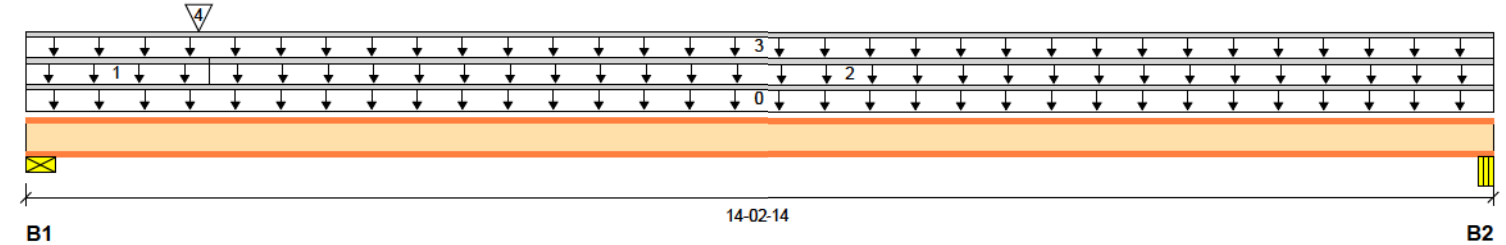
File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl

Description: Level - Ground Floor

Specifier:

Designer: RCO

Company: GREENPARK



Total Horizontal Product Length = 14-02-14

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	654 / 0	263 / 0		
B2, 2-5/8"	241 / 0	106 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-02-14	Top		2			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	01-09-06	Top	64	24			n/a
2		Unf. Lin. (lb/ft)	L	01-09-06	14-02-14	Top	6	2			n/a
3		Unf. Lin. (lb/ft)	L	00-00-00	14-02-14	Top	21	8			n/a
4	F5	Conc. Pt. (lbs)	L	01-08-02	01-08-02	Back	412	157			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2141 ft-lbs	4095 ft-lbs	52.3%	1	05-04-05
End Reaction	1310 lbs	1653 lbs	79.2%	1	00-00-00
End Shear	1276 lbs	1830 lbs	69.7%	1	00-02-06
Total Load Deflection	L/521 (0.321")	n/a	46.0%	4	06-07-05
Live Load Deflection	L/744 (0.225")	n/a	48.4%	5	06-07-05
Max Defl.	0.321"	n/a	32.1%	4	06-07-05
Span / Depth	17.6				



**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 2-1/2"	1310 lbs	35.9%	79.2%	Spruce-Pine-Fir
B2	Beam 2-5/8" x 2-1/2"	495 lbs	12.3%	29.2%	Spruce-Pine-Fir

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
Design meets Code minimum (L/360) Live load deflection criteria.  
Design meets User specified (1") Maximum Total load deflection criteria.  
Calculations assume member is fully braced.  
Resistance Factor phi has been applied to all presented results per CSA O8C.  
BC CALC® analysis is based on Canadian Limit States Design, as per NBC.  
Design based on Dry Service Condition.  
Importance Factor : Normal Part code : Part 9



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

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**F7-C**

Dry | 1 span | No cant.

December 17, 2020 13:18:12

BC CALC® Member Report

Build 7364

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12787-R

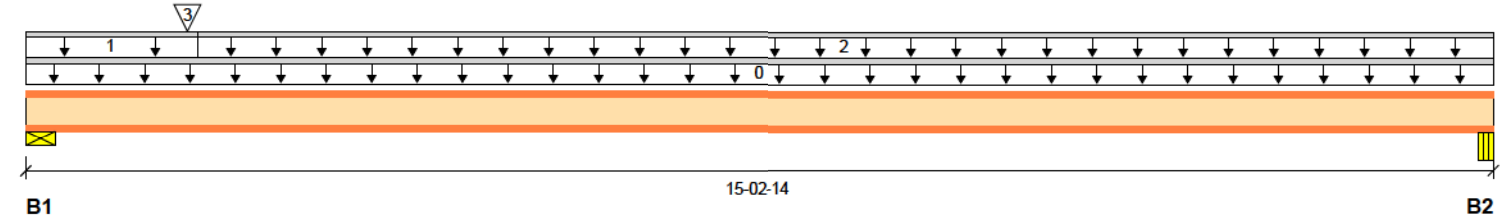
File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl

Description: Level - Ground Floor

Specifier:

Designer: RCO

Company: GREENPARK



Total Horizontal Product Length = 15'-02-14"

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	535 / 0	220 / 0		
B2, 2-5/8"	211 / 0	96 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	15-02-14	Top	1.00	0.65	1.00	1.15	00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	01-09-06	Top	64	24			n/a
2		Unf. Lin. (lb/ft)	L	01-09-06	15-02-14	Top	23	9			n/a
3	F5	Conc. Pt. (lbs)	L	01-08-02	01-08-02	Back	325	125			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1940 ft-lbs	4095 ft-lbs	47.4%	1	06-00-12
End Reaction	1078 lbs	1653 lbs	65.2%	1	00-00-00
End Shear	1052 lbs	1830 lbs	57.5%	1	00-02-06
Total Load Deflection	L/539 (0.333")	n/a	44.5%	4	07-02-12
Live Load Deflection	L/777 (0.231")	n/a	46.3%	5	07-02-12
Max Defl.	0.333"	n/a	33.3%	4	07-02-12
Span / Depth	18.9				

**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 2-1/2"	1078 lbs	29.5%	65.2%	Spruce-Pine-Fir
B2	Beam 2-5/8" x 2-1/2"	437 lbs	10.8%	25.8%	Spruce-Pine-Fir

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
Design meets Code minimum (L/360) Live load deflection criteria.  
Design meets User specified (1") Maximum Total load deflection criteria.  
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Design based on Dry Service Condition.  
Importance Factor : Normal Part code : Part 9



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			



**Disclosure**

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

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

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

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

F7-D

Dry | 1 span | No cant.

December 17, 2020 13:18:12

BC CALC® Member Report

Build 7364

Job name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12787-R

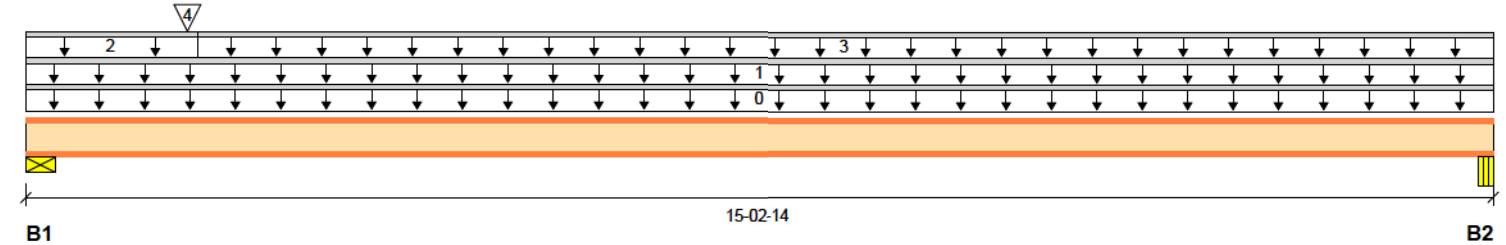
File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 1).isl

Description: Level - Ground Floor

Specifier:

Designer: RCO

Company: GREENPARK



Total Horizontal Product Length = 15'-02-14

**Reaction Summary (Down / Uplift) (lbs)**

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	634 / 0	258 / 0		
B2, 2-5/8"	248 / 0	110 / 0		

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	15-02-14	Top		2			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	15-02-14	Top	12	4			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	01-09-06	Top	64	24			n/a
3		Unf. Lin. (lb/ft)	L	01-09-06	15-02-14	Top	15	6			n/a
4	F5	Conc. Pt. (lbs)	L	01-08-02	01-08-02	Front	387	149			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2270 ft-lbs	4095 ft-lbs	55.4%	1	06-00-12
End Reaction	1273 lbs	1653 lbs	77.0%	1	00-00-00
End Shear	1243 lbs	1830 lbs	67.9%	1	00-02-06
Total Load Deflection	L/461 (0.389")	n/a	52.1%	4	07-02-12
Live Load Deflection	L/660 (0.272")	n/a	54.5%	5	07-02-12
Max Defl.	0.389"	n/a	38.9%	4	07-02-12
Span / Depth	18.9				



**Bearing Supports**

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 2-1/2"	1273 lbs	34.8%	77.0%	Spruce-Pine-Fir
B2	Beam 2-5/8" x 2-1/2"	510 lbs	12.6%	30.0%	Spruce-Pine-Fir

**Notes**

Design meets Code minimum (L/240) Total load deflection criteria.  
Design meets Code minimum (L/360) Live load deflection criteria.  
Design meets User specified (1") Maximum Total load deflection criteria.  
Calculations assume member is fully braced.  
Resistance Factor phi has been applied to all presented results per CSA O8C.  
BC CALC® analysis is based on Canadian Limit States Design, as per NBC.  
Design based on Dry Service Condition.  
Importance Factor : Normal Part code : Part 9



These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amended. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

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

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

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





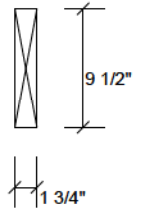
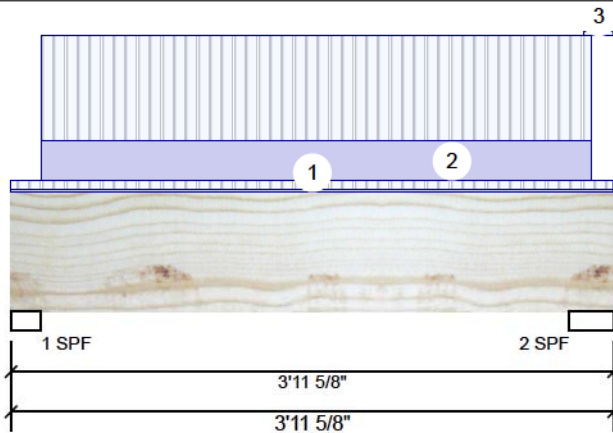
Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

Page 1 of 11

# F1-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	455	178	0	0
2	493	193	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	35%	222 / 682	905 L	1.25D+1.5L
2 - SPF	3.500"	26%	241 / 739	980 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	836 ft-lb	1'11 1/4"	11362 ft-lb	0.074 (7%)	1.25D+1.5L	L
Unbraced	836 ft-lb	1'11 1/4"	9310 ft-lb	0.090 (9%)	1.25D+1.5L	L
Shear	521 lb	11 1/8"	4638 lb	0.112 (11%)	1.25D+1.5L	L
Perm Defl in. (L/16203)	0.003	1'11 5/16"	0.120 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.007 (L/6315)	1'11 5/16"	0.120 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.010 (L/4544)	1'11 5/16"	0.180 (L/240)	0.050 (5%)	D+L	L

## Design Notes

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-11-10	0-5-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-6 to 3-9-14		Top	90 PLF	240 PLF	0 PLF	0 PLF	
3	Tie-In	3-9-4 to 3-11-10	0-2-4	Top	15 PSF				
	Self Weight				4 PLF				



East Gwillimbury  
Building Standards Branch BCIN #16487

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## Notes

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## Lumber

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

chemicals

## Handling & Installation

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

6. For flat roofs provide proper ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400







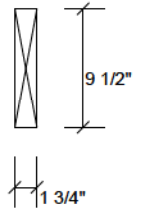
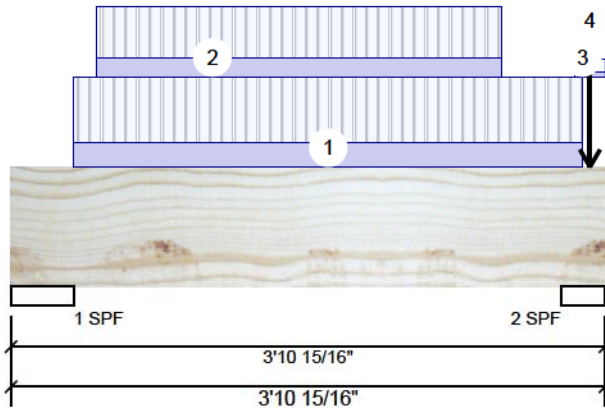
Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

Page 2 of 11

# F1-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	570	222	0	0
2	731	282	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.938"	21%	277 / 855	1132 L	1.25D+1.5L
2 - SPF	3.500"	38%	352 / 1097	1449 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1006 ft-lb	2' 1/16"	11362 ft-lb	0.089 (9%)	1.25D+1.5L	L
Unbraced	1006 ft-lb	2' 1/16"	9606 ft-lb	0.105 (10%)	1.25D+1.5L	L
Shear	840 lb	2'10 11/16"	4638 lb	0.181 (18%)	1.25D+1.5L	L
Perm Defl in. (L/13711)	0.003	2' 1/8"	0.111 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.008 (L/5290)	2' 1/8"	0.111 (L/360)	0.070 (7%)	L	L
TL Defl inch	0.010 (L/3817)	2' 1/8"	0.167 (L/240)	0.060 (6%)	D+L	L

## Design Notes

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-4-15 to 3-9-3		Top	79 PLF	210 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-6-12 to 3-2-12		Far Face	61 PLF	163 PLF	0 PLF	0 PLF	
3	Tie-In	3-8-9 to 3-10-15	1-0-1	Top	15 PSF				
4	Point	3-9-12		Far Face	58 lb				
	Self Weight				4 PLF				



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## Notes

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## Lumber

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

## chemicals

## Handling & Installation

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

6. For flat roofs provide proper ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400





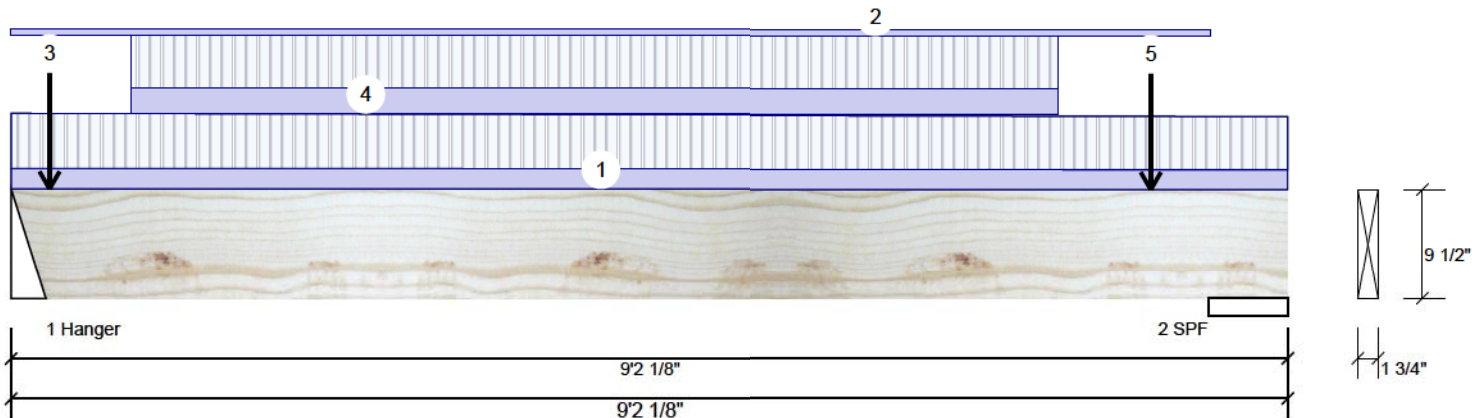
Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

Page 3 of 11

## F2-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	682	354	0	0
2	649	333	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	38% 442 / 1023	1465	L	1.25D+1.5L
2 - SPF	6.875"	19% 416 / 973	1389	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2795 ft-lb	4'5 1/16"	11362 ft-lb	0.246 (25%)	1.25D+1.5L	L
Unbraced	2795 ft-lb	4'5 1/16"	4396 ft-lb	0.636 (64%)	1.25D+1.5L	L
Shear	1287 lb	11 3/4"	4638 lb	0.277 (28%)	1.25D+1.5L	L
Perm Defl in.	0.040 (L/2574)	4'5 1/16"	0.283 (L/360)	0.140 (14%)	D	Uniform
LL Defl inch	0.076 (L/1334)	4'5 1/16"	0.283 (L/360)	0.270 (27%)	L	
TL Defl inch	0.116 (L/879)	4'5 1/16"	0.424 (L/240)	0.270 (27%)	D+L	L

### Design Notes

- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Top braced at bearings.
- Bottom braced at bearings.

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 9-2-2	1-10-8 to 1-9-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 8-7-7		Top	9 PLF				2LF
3	Point	0-3-5		Near Face	49 lb				0 lb J1
4	Part. Uniform	0-10-5 to 7-6-5		Near Face	35 PLF				2LF
5	Point	8-2-5		Near Face	38 lb				0 lb J1
	Self Weight				4 PLF				



Building Standards Branch BCIN #16487

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### Notes

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### Lumber

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

### chemicals

### Handling & Installation

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

6. For flat roofs provide proper ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400





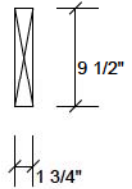
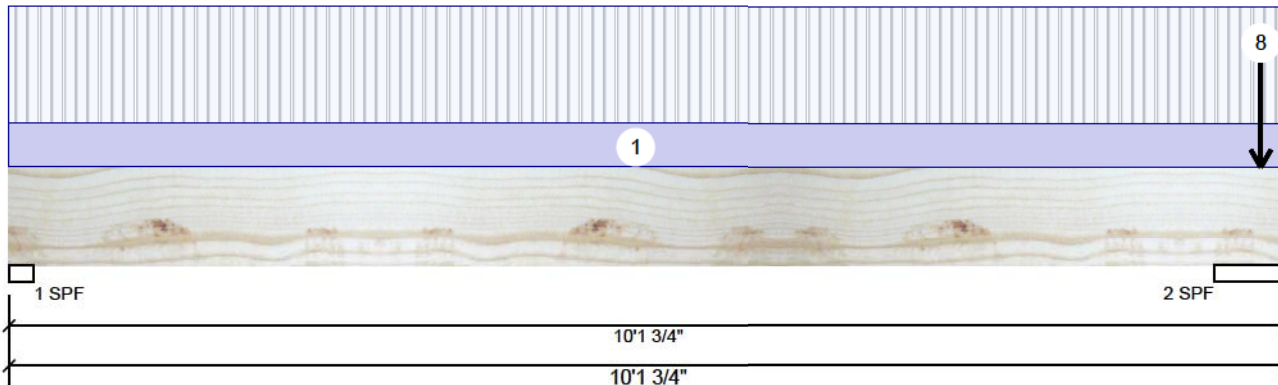
Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

Page 4 of 11

# F3-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	101	57	0	0
2	559	646	812	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	9%	71 / 152	223	L	1.25D+1.5L
2 - SPF	6.875"	54%	807 / 1777	2584	L	1.25D+1.5S +L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	514 ft-lb	4'10 5/8"	11248 ft-lb	0.046 (5%)	1.25D+1.5L	L
Unbraced	514 ft-lb	4'10 5/8"	3924 ft-lb	0.131 (13%)	1.25D+1.5L	L
Shear	180 lb	11 1/8"	4592 lb	0.039 (4%)	1.25D+1.5L	L
Perm Defl in. (L/12135)	0.009	4'10 5/8"	0.317 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.017 (L/6781)	4'10 5/8"	0.317 (L/360)	0.050 (5%)	L+0.5S	L
TL Defl inch	0.026 (L/4350)	4'10 5/8"	0.475 (L/240)	0.060 (6%)	D+L+0.5S	L

## Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-1-12	0-6-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	9-11-6		Top	462 lb				F11 F11
3	Point	9-11-6		Top	24 lb				Wall Self Weight
4	Point	9-11-6		Top	4 lb				
7	Point	9-11-6		Top	46 lb				J5
8	Point	9-11-6		Top	49 lb				Wall Self Weight
	Self Weight				4 PLF				



Building Standards Branch BCIN #16487

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## 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 ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
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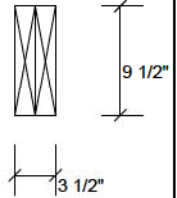
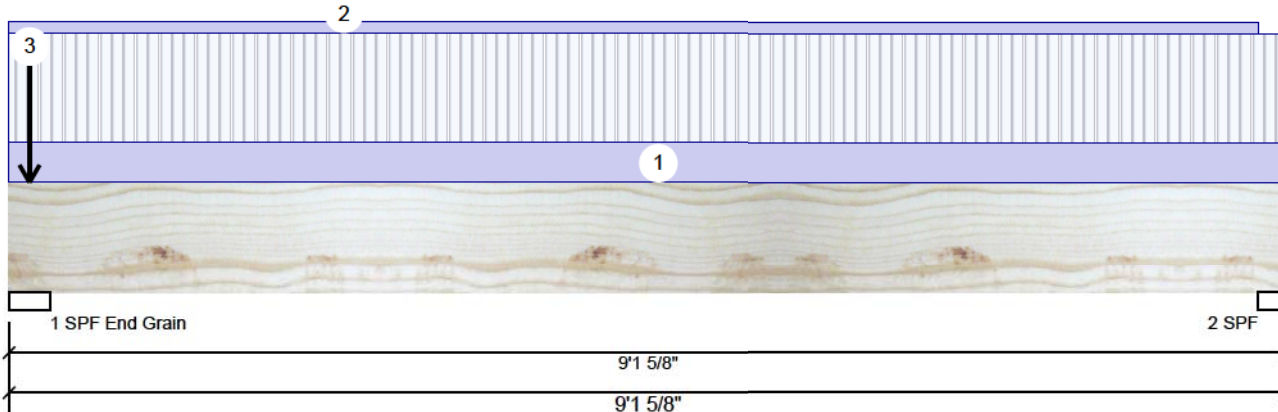


Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

**F4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	774	433	0	0
2	90	77	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	19%	541 / 1161	1702 L	1.25D+1.5L
2 - SPF	2.375"	5%	96 / 135	231 L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	492 ft-lb	4'7 3/8"	22724 ft-lb	0.022 (2%)	1.25D+1.5L	L
Unbraced	492 ft-lb	4'7 3/8"	21205 ft-lb	0.023 (2%)	1.25D+1.5L	L
Shear	184 lb	8'2 1/2"	9277 lb	0.020 (2%)	1.25D+1.5L	L
Perm Defl in. (L/20571)	0.005	4'7 3/8"	0.292 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch (L/17660)	0.006	4'7 3/8"	0.292 (L/360)	0.020 (2%)	L	L
TL Defl inch (L/9502)	0.011	4'7 3/8"	0.439 (L/240)	0.030 (3%)	D+L	L

### Design Notes

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

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Wind	Comments
1	Tie-In	0-0-0 to 9-1-10	0-6-0	Top	15 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 8-11-4		Top	2 PLF	0 PLF	
3	Point	0-1-12		Near Face	354 lb	0 lb	F2
	Self Weight				8 PLF		



Building Standards Branch BCIN #16487

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### Notes

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

### Lumber

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

### Handling & Installation

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

6. For flat roofs provide proper ponding

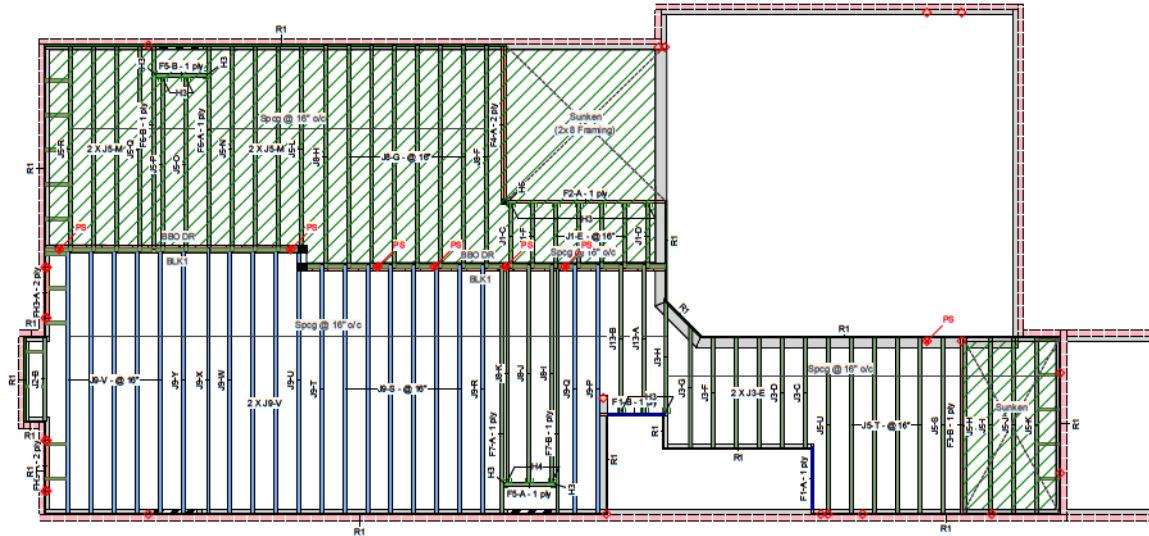
Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400







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



*Town of*  
**East Gwillimbury**  
Building Standards Branch BCIN #16487

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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

Ground Floor  
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			1	12-0-4
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-4
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-4
FH3	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	4-0-4
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			2	4-0-4

## 1 Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F7	AJS 140	2.5	9.5			2	16-04
F6	AJS 140	2.5	9.5			2	12-04
F5	AJS 140	2.5	9.5			2	4-04
J8	AJS 140	2.5	9.5			11	14-04
J5	AJS 140	2.5	9.5			20	12-04
J13	AJS 140	2.5	9.5			2	10-04
J3	AJS 140	2.5	9.5			7	8-04
J2	AJS 140	2.5	9.5			1	6-04
J1	AJS 140	2.5	9.5			7	4-04
J9	AJS 20	2.5	9.5			21	16-04

Blocking	
----------	--

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 140	2.5	9.5	LinRt		Varies	49-0-4

## Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard	1.125	9.5			14	12'-0"







	Pl
Hanger	

Hanger		Beam/Girder				Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H3	15	LF259				
H3	1	LF259				
H4	3	LF259			10 10d	1 #8x1 1/4W
H6	1	HUS1.81/10				

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**

**Legend**

PS ◇	Point Load Support Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 9.5
	AJS 140 9.5
	AJS 20 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5

## JOB INFORMATION

<b>Builder</b>	GREENPARK
<b>Project</b>	
<b>Shipping</b>	
<b>Sales Rep</b>	RM
<b>Designer</b>	RCO
<b>Plotted</b>	December 17, 2020

Layout Name
-------------

**Job Path**  
C:\Users\rochavillol\Documents\WORK FROM HOME\GREENPARK\TRINAR HALL\BRENTWOOD 3\LEVEL 1\FLOOR\DECK CONDITION\BRENTWOOD 3 (ELEV 1).isl

## DESIGN CRITERIA

<b>Ground Floor</b>	
Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012

## Floor

Live	40
Dead	15

### Deflection Joist

LL Span L/	480
TL Span L/	360
LL Cant 2L/	480
TL Cant 2L/	360

### Deflection Girder

LL Span L/	360
TL Span L/	240
LL Cant 2L/	480
TL Cant 2L/	360

## Decking

Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued

## Vibration

## CCMC References

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

**Kott Lumber  
Company**

14 Anderson Blvd  
Stouffville, Ontario  
Canada  
L4A 7X4  
905-642-4400



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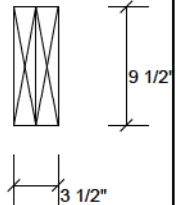
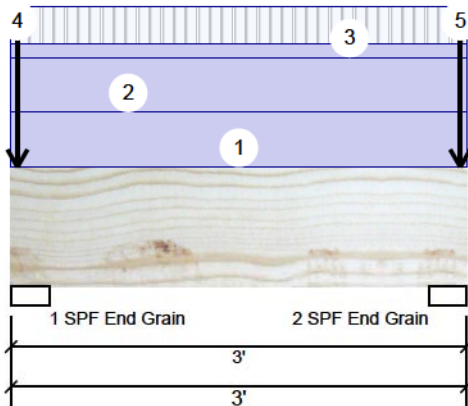
This layout is to be used as an installation guide only. It is meant to be used in conjunction with the architectural and structural drawings, not to replace them.



Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1) DECK CONDITION  
Project #:

**Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED** Level: Ground Floor



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	147	418	245	0
2	147	418	245	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	16%	523 / 514	1037	L	1.25D+1.5S +L
2 - SPF End Grain	3.000"	16%	523 / 514	1037	L	1.25D+1.5S +L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	140 ft-lb	1'6"	17497 ft-lb	0.008 (1%)	1.25D+1.5L	L
Unbraced	140 ft-lb	1'6"	17497 ft-lb	0.008 (1%)	1.25D+1.5L	L
Shear	166 lb	2' 1/4"	7143 lb	0.023 (2%)	1.25D+1.5L	L
Perm Defl in. (L/63020)	0.000	1'6"	0.088 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

### Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead
1	Part. Uniform	0-0-0 to 3-0-0		Top	40 PLF
2	Part. Uniform	0-0-0 to 3-0-0		Near Face	40 PLF
3	Tapered Start	0-0-0		Near Face	10 PLF
	End	3-0-0			10 PLF

Continued on page 2...



Town of East Gwillimbury  
Building Standards Branch BCIN #16487

ind Comments  
PLF Wall Self Weight  
PLF Wall Self Weight  
PLF  
PLF

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### 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 ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400

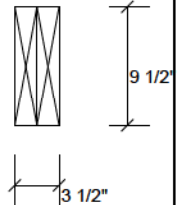
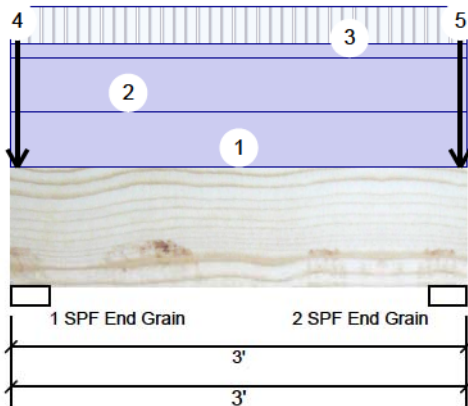




Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1) DECK CONDITION  
Project #:

**Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED** Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Point	0-0-8		Top	272 lb	106 lb	245 lb	0 lb	Header Column Header Column
5	Point	2-11-8		Top	272 lb	106 lb	245 lb	0 lb	Header Column Header Column
	Self Weight				8 PLF				

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

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



Town of  
**East Gwillimbury**  
Building Standards Branch BCIN #16487

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#### 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

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 ponding

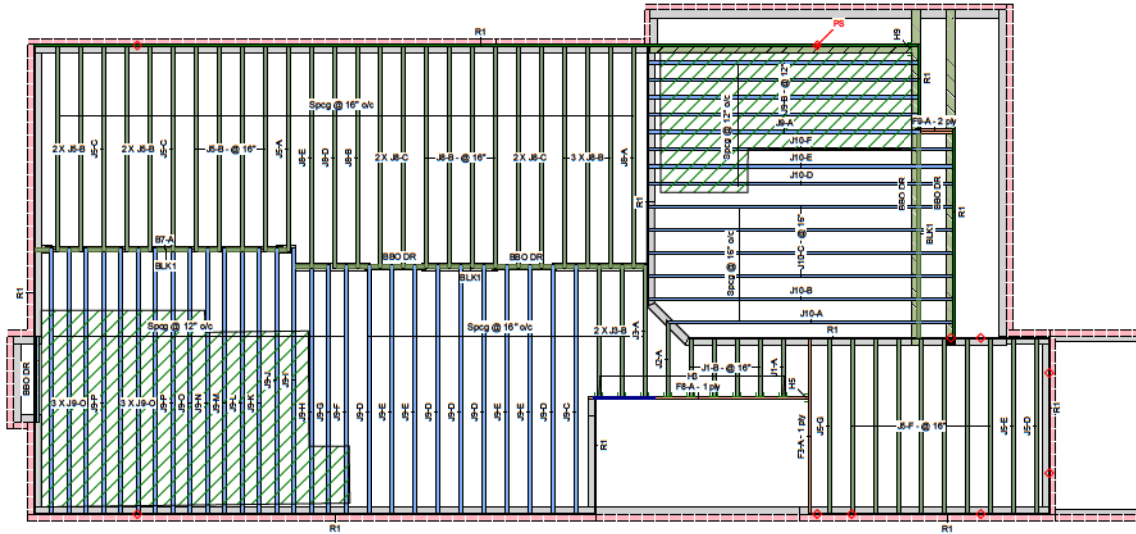
Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400







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

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

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

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

Second Floor  
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F8	Forex 2.0E-3000Fb LVL	1.75	9.5			1	14-0-0
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			1	12-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0

LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
B7	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	14-0-0

I Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J8	AJS 140	2.5	9.5			15	14-0-0
J5	AJS 140	2.5	9.5			21	12-0-0
J3	AJS 140	2.5	9.5			3	8-0-0
J2	AJS 140	2.5	9.5			1	6-0-0
J1	AJS 140	2.5	9.5			5	4-0-0
J10	AJS 20	2.5	9.5			9	18-0-0
J9	AJS 20	2.5	9.5			33	16-0-0

Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	AJS 140	2.5	9.5	LinR		Varies	34-0-0

Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			17	12-0-0

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H3	9	LF259				
H5	1	HUS1.81/10			30 16d	10 16d
H9	1	Unknown Hanger				

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
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
AJS 140 9.5	AJS 140 9.5
AJS 20 9.5	AJS 20 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5	Forex 2.0E-3000Fb LVL 1.75 X 9.5
Forex 2.0E-3000Fb LVL 1.75 X 11.875 (Dropped)	Forex 2.0E-3000Fb LVL 1.75 X 11.875 (Dropped)

JOB INFORMATION

Builder	GREENPARK
Project	BRENTWOOD 3 (ELEV. 1,2)
Shipping	
Sales Rep	RM
Designer	RCO
Plotted	December 17, 2020
Layout Name	BRENTWOOD 3 (ELEV. 1,2)
Job Path	C:\Users\vochavillo\Documents\WORK FROM HOME\GREENPARK\TRINAR HALL\BRENTWOOD 3\ELEV 1\FLOOR\BRENTWOOD 3 (ELEV. 1).isl

DESIGN CRITERIA

Second Floor	LSD (Canada)
Design Method	NBCC 2015 / OBC 2012
Building Code	
Floor	
Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	480
TL Span L/	360
LL Cant 2L/	480
TL Cant 2L/	360
Deflection Girder	
LL Span L/	360
TL Span L/	240
LL Cant 2L/	480
TL Cant 2L/	360
Decking	OSB
Decking	
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling	Gypsum 1/2"

CCMC References

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

Kott Lumber Company

14 Anderson Blvd  
Stouffville, Ontario  
Canada  
L4A 7X4  
905-642-4400





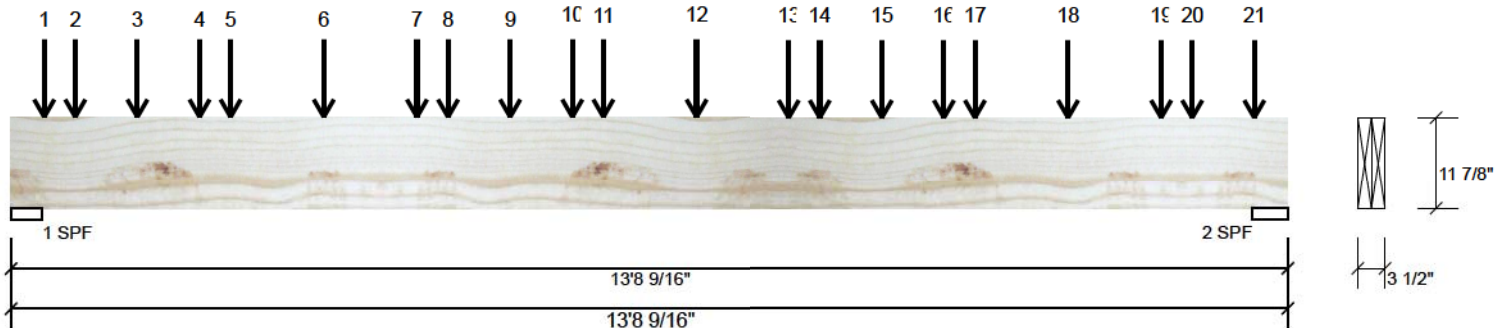
Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

Page 6 of 11

**B7-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:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	3681	1568	0	0
2	3461	1466	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.000"	87%	1960 / 5521	7481	L	1.25D+1.5L
2 - SPF	4.575"	71%	1832 / 5192	7024	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	23291 ft-lb	7'4 1/4"	34261 ft-lb	0.680 (68%)	1.25D+1.5L	L
Unbraced	23291 ft-lb	7'4 1/4"	26246 ft-lb	0.887 (89%)	1.25D+1.5L	L
Shear	6570 lb	12'4 7/8"	11596 lb	0.567 (57%)	1.25D+1.5L	L
Perm Defl in.	0.168 (L/936)	6'10"	0.438 (L/360)	0.380 (38%)	D	Uniform
LL Defl inch	0.396 (L/398)	6'10"	0.438 (L/360)	0.910 (91%)	L	
TL Defl inch	0.564 (L/279)	6'10"	0.656 (L/240)	0.860 (86%)	D+L	L

### Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

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

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Ind	Comments
1	Point	0-4-4		Top	131 lb	0 lb	J9
2	Point	0-8-4		Top	115 lb	0 lb	J5
3	Point	1-4-4		Top	131 lb	0 lb	J9
4	Point	2-0-4		Top	115 lb	0 lb	J5
5	Point	2-4-4		Top	131 lb	0 lb	J9

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 ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400



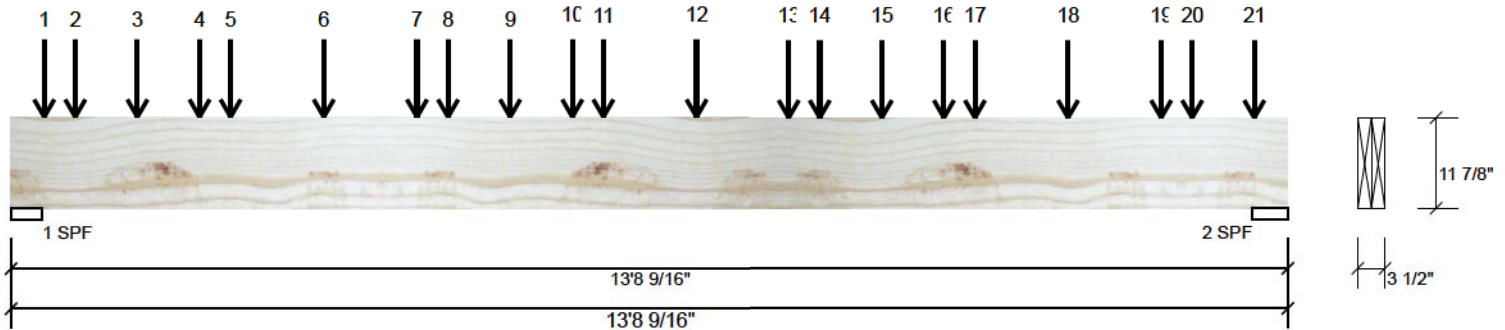


Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

Page 7 of 11

**B7-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED** Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	3-4-4		Top	249 lb	616 lb	0 lb	0 lb	J5 J9
7	Point	4-4-4		Top	131 lb	302 lb	0 lb	0 lb	J9
8	Point	4-8-4		Top	115 lb	306 lb	0 lb	0 lb	J5
9	Point	5-4-4		Top	131 lb	302 lb	0 lb	0 lb	J9
10	Point	6-0-4		Top	115 lb	306 lb	0 lb	0 lb	J5
11	Point	6-4-4		Top	131 lb	302 lb	0 lb	0 lb	J9
12	Point	7-4-4		Top	249 lb	616 lb	0 lb	0 lb	J9 J5
13	Point	8-4-4		Top	131 lb	302 lb	0 lb	0 lb	J9
14	Point	8-8-4		Top	115 lb	306 lb	0 lb	0 lb	J5
15	Point	9-4-4		Top	129 lb	302 lb	0 lb	0 lb	J9
16	Point	10-0-4		Top	115 lb	306 lb	0 lb	0 lb	J5
17	Point	10-4-4		Top	127 lb	302 lb	0 lb	0 lb	J9
18	Point	11-4-4		Top	245 lb	616 lb	0 lb	0 lb	J9 J5
19	Point	12-4-4		Top	127 lb	302 lb	0 lb	0 lb	J9
20	Point	12-8-4		Top	115 lb	306 lb	0 lb	0 lb	J5
21	Point	13-4-4		Top	55 lb	132 lb	0 lb	0 lb	J9
Self Weight					10 PLF				

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REFER TO  
CONNECTION  
NAILING



East Gwillimbury  
Building Standards Branch BCIN #16487

PASS THE  
BLOCKING  
POINT LOAD

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#### Lumber

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

#### chemicals

#### Handling & Installation

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

6. For flat roofs provide proper ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

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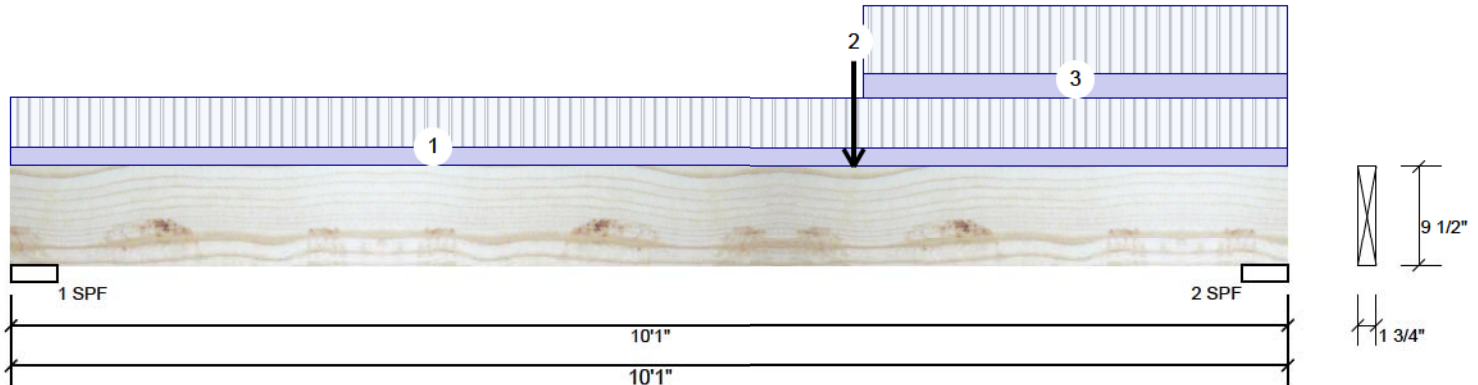


Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

# F3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - 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:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	332	152	0	0
2	615	267	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	4.375"	15% 190 / 498	688 L	1.25D+1.5L
2 - SPF	4.375"	27% 333 / 922	1255 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3284 ft-lb	6'7 7/8"	11362 ft-lb	0.289 (29%)	1.25D+1.5L	L
Unbraced	3284 ft-lb	6'7 7/8"	3933 ft-lb	0.835 (84%)	1.25D+1.5L	L
Shear	1135 lb	8'11 7/8"	4638 lb	0.245 (24%)	1.25D+1.5L	L
Perm Defl in.	0.042 (L/2721)	5'6 1/4"	0.316 (L/360)	0.130 (13%)	D	Uniform
LL Defl inch	0.096 (L/1190)	5'6 5/8"	0.316 (L/360)	0.300 (30%)	L	
TL Defl inch	0.137 (L/828)	5'6 1/2"	0.474 (L/240)	0.290 (29%)	D+L	L

## Design Notes

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

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-1-0	0-6-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	6-7-14		Far Face	256 lb	616 lb	0 lb	0 lb	F8
3	Tie-In	6-8-12 to 10-1-0	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				



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## Notes

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## Lumber

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

chemicals

## Handling & Installation

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

6. For flat roofs provide proper ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400





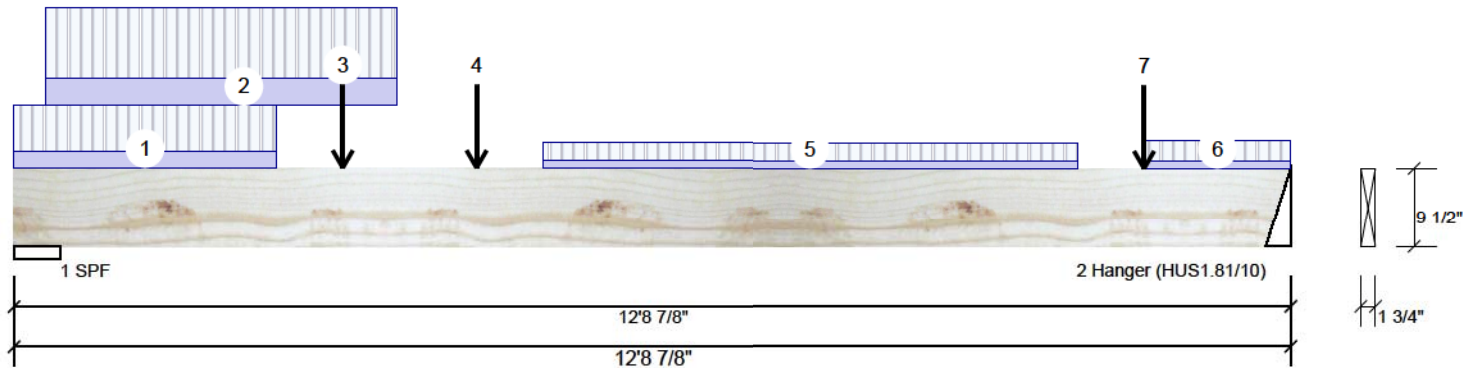
Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

Page 9 of 11

# F8-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - 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:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1449	569	0	0
2	616	256	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	49%	711 / 2174	2884 L	1.25D+1.5L
2 - Hanger	3.000"	32%	320 / 924	1244 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4839 ft-lb	4'7 5/16"	11362 ft-lb	0.426 (43%)	1.25D+1.5L	L
Unbraced	4839 ft-lb	4'7 5/16"	4849 ft-lb	0.998 (100%)	1.25D+1.5L	L
Shear	2110 lb	1'2 1/4"	4638 lb	0.455 (45%)	1.25D+1.5L	L
Perm Defl in.	0.108 (L/1349)	6'1"	0.405 (L/360)	0.270 (27%)	D	Uniform
LL Defl inch	0.266 (L/548)	6' 1/2"	0.405 (L/360)	0.660 (66%)	L	L
TL Defl inch	0.375 (L/389)	6' 11/16"	0.608 (L/240)	0.620 (62%)	D+L	L

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



## Design Notes

- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Top must be laterally braced at a maximum of 7'8 1/4" o.c.
- Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 2-7-5		Far Face	57 PLF	152 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-3-12 to 3-9-12		Top	90 PLF				
3	Point	3-3-5		Far Face	71 lb				
4	Point	4-7-5		Far Face	41 lb				
5	Part. Uniform	5-3-5 to 10-7-5		Far Face	24 PLF				
6	Tie-In	11-3-5 to 12-8-14	1-8-14	Top	15 PSF				
7	Point	11-3-5		Far Face	34 lb				
	Self Weight				4 PLF				



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## Notes

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## Lumber

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

chemicals

## Handling & Installation

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

6. For flat roofs provide proper ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
L4A 7X4  
905-642-4400



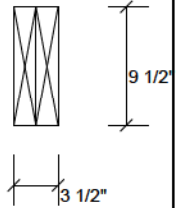
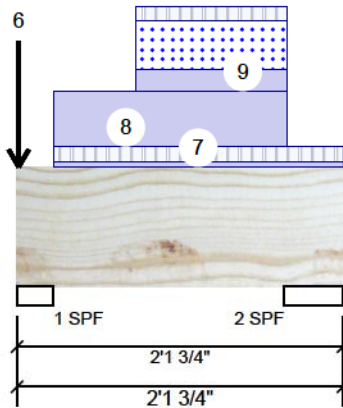


Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
Input by: RCO  
Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

**F9-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:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

### Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	29	103	41	0
2	39	101	47	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.875"	4%	129 / 91	220	L	1.25D+1.5S +L
2 - SPF	4.625"	3%	126 / 105	231	L	1.25D+1.5L +S

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	89 ft-lb	1' 11/16"	20224 ft-lb	0.004 (0%)	1.25D+1.5S +L	L
Unbraced	89 ft-lb	1' 11/16"	20224 ft-lb	0.004 (0%)	1.25D+1.5S +L	L
Shear	28 lb	11 5/8"	8256 lb	0.003 (0%)	1.25D+1.5S +L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

### Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

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



Building Standards Branch BCIN #16487

ID	Load Type	Location	Trib Width	Side	Dead
1	Point	0-0-2		Top	5 lb
2	Point	0-0-2		Top	6 lb
3	Point	0-0-2		Top	2 lb
4	Point	0-0-2		Top	3 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
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5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper ponding

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

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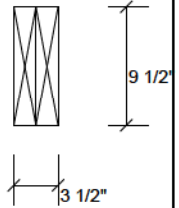
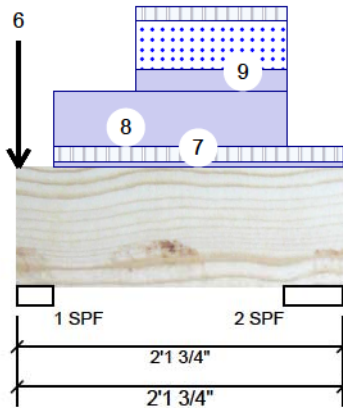


Client: GREENPARK  
Project:  
Address:

Date: 12/17/2020  
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Job Name: BRENTWOOD 3 (ELEV. 1)  
Project #:

**F9-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED**

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	0-0-2		Top	1 lb	1 lb	2 lb	0 lb	
6	Point	0-0-2		Top	1 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Tie-In	0-2-14 to 2-1-12	0-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Part. Uniform	0-2-14 to 1-9-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Part. Uniform	0-9-6 to 1-9-6		Top	31 PLF	21 PLF	70 PLF	0 PLF	
	Self Weight				8 PLF				

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



Town of  
**East Gwillimbury**

Building Standards Branch BCIN #16487

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#### Lumber

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Sewage System			
Zoning			

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