

GREENPARK-TRINAL HALL-  
BRENTWOOD 3 EL.3

## **Engineering Note Page (ENP-2)**

REVISION 2018-10-17

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

### **DESIGN INFORMATION**

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

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

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

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


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

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

### **CODE**

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

### **COMPONENT**

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

### **HANDLING AND INS**

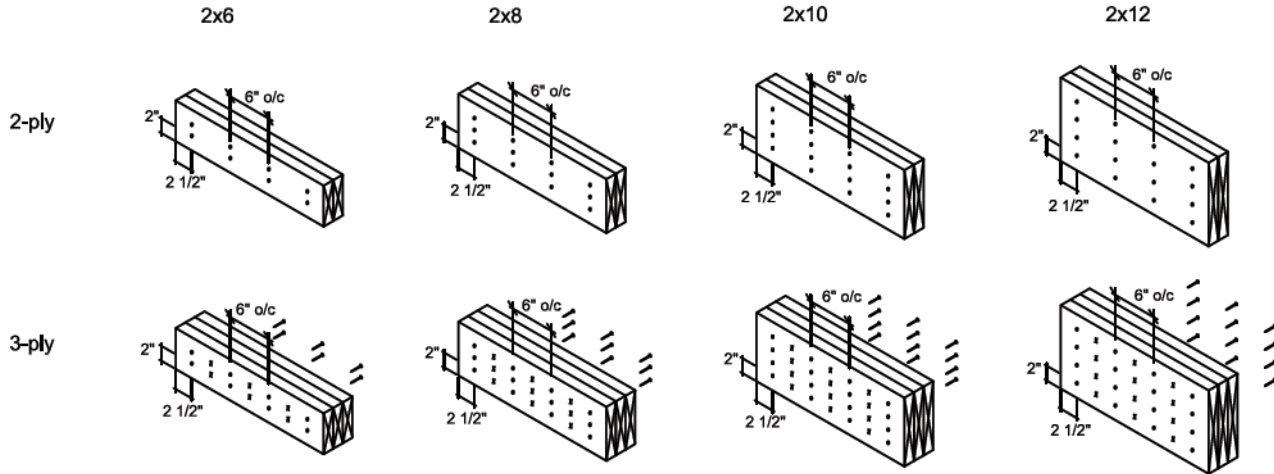
Do not drill any hole, cut or notch a certified building component without a written pre-authorization.

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

GREENPARK-TRINAL HALL-  
BRENTWOOD 3 EL.3

## Conventional Connections



Conventional connection notes:

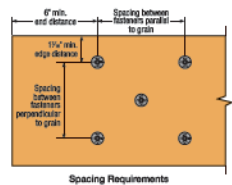
- Nails to be 3" long wire nails.
- Nails to be located 2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

### SIMPSON SDW SPACING REQUIREMENT

Table 9 — Spacing Requirements

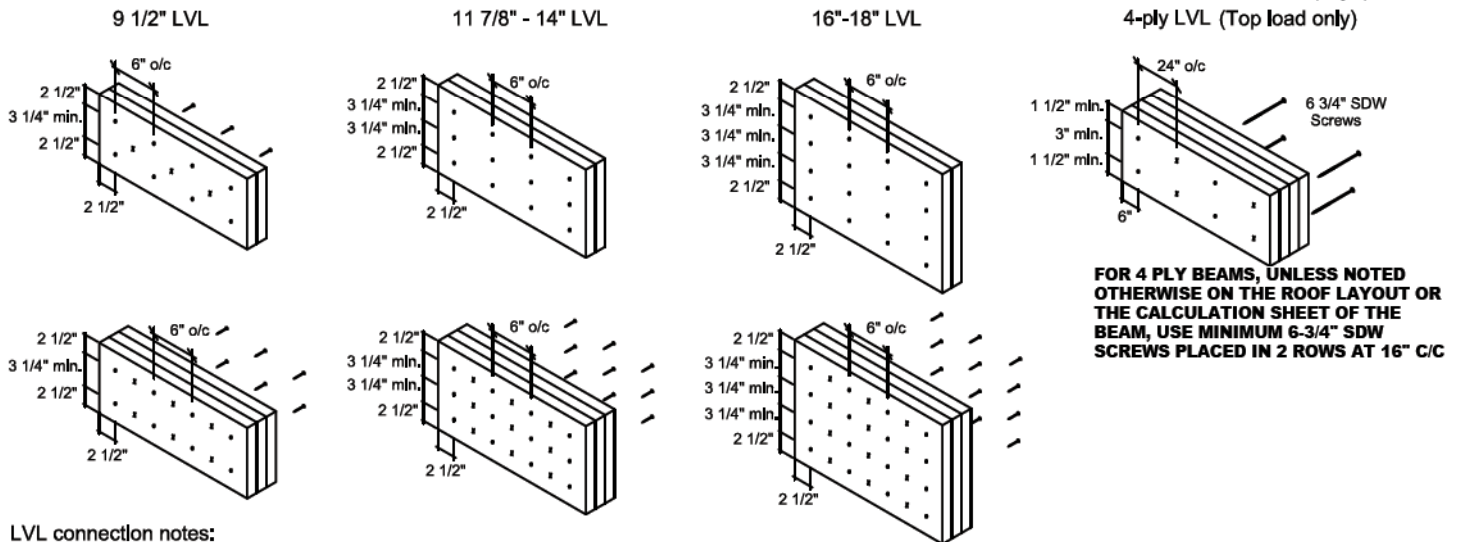
Geometry	Minimum Dimensions (in.)	
	D-F-L	S-F-F
Spacing parallel to grain	6	5
End distance parallel to grain	6	6
Spacing perpendicular to grain	3	2 1/2
End distance perpendicular to grain	1 1/2	1 1/2

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.



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## Multiple Member Connections

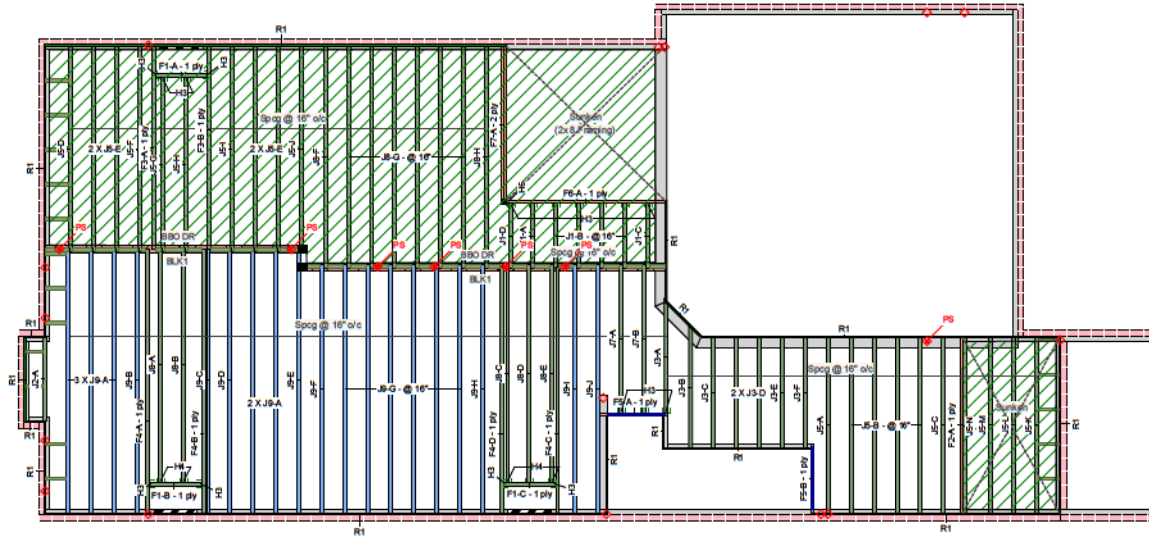
All connections are for uniformly distributed loads.

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

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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.



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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.

Ground Floor  
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	12-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5			2	4-0-0

I Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J8	AJS 140	2.5	9.5			13	14-0-0
J5	AJS 140	2.5	9.5			20	12-0-0
J7	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
F4	AJS 140	2.5	9.5			4	16-0-0
F3	AJS 140	2.5	9.5			2	12-0-0
F1	AJS 140	2.5	9.5			3	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				

- 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

Builder	GREENPARK
Project	TRINAR HALL EAST GWILLIMBURY, ON.
Sales Rep	RM
Designer	RCO
Plotted	December 17, 2020
Layout Name	BRENTWOOD 3 (ELEV. 3)
Job Path	C:\Users\rochavillo\Documents\WORK FROM HOME\GREENPARK\TRINAR HALL\BRENTWOOD 3\ELEV 3\FLOOR\BRENTWOOD 3 (ELEV. 3).ifc

DESIGN CRITERIA

Ground Floor	
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	OSB
Thickness	3/4"
Fastener	Nailed & Glued
Vibration	
Strapping	1"X4", 1 Row at Mdsplan

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



**F1-A**

BC CALC® Member Report

Dry | 1 span | No cant.

December 17, 2020 13:54:48

Build 7364

Job name:

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

Address:

TRINAL HALL  
EAST GWILLIMBURY, ON.

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

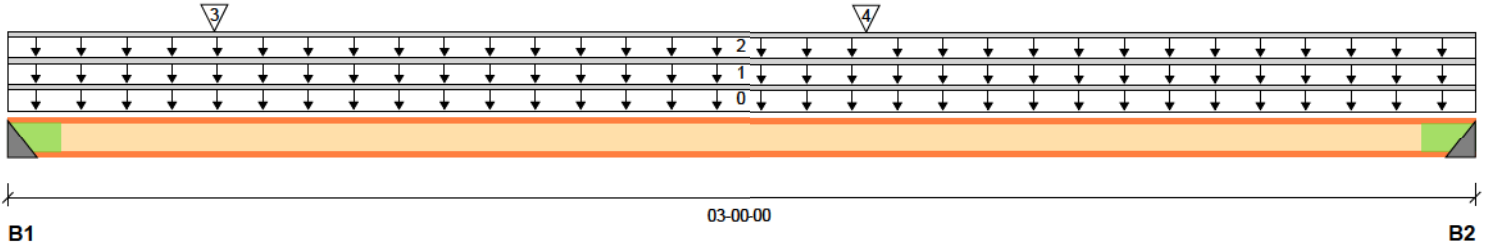
Customer:

Designer: RCO

Code reports:

CCMC 12787-R

Company: GREENPARK



Total Horizontal Product Length = 03-00-00

**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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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.



**F1-A**

Dry | 1 span | No cant.

December 17, 2020 13:54:48

BC CALC® Member Report

Build 7364

Job name:

Address: TRINAL HALL  
EAST GWILLIMBURY, ON.

City, Province, Postal Code:

Customer:

Code reports: CCMC 12787-R

File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 3).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 2015 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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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

F1-B

BC CALC® Member Report

Dry | 1 span | No cant.

December 17, 2020 13:54:48

Build 7364

Job name:

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

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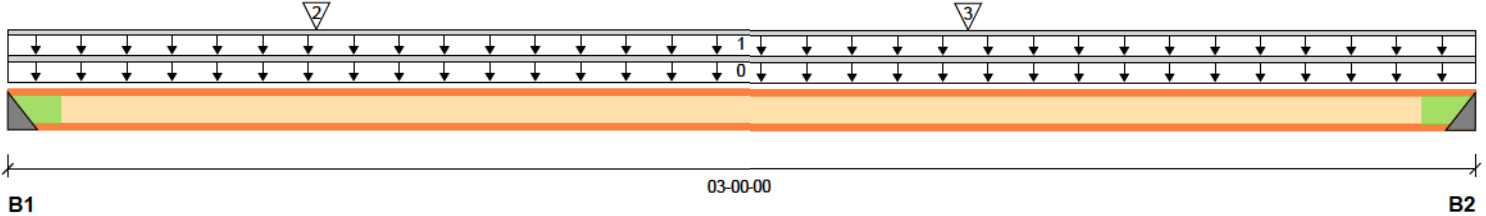
Customer:

Designer: RCO

Code reports:

CCMC 12787-R

Company: GREENPARK



**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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City, Province, Postal Code:

Customer:

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File name: C:\Users\rochavillo\Docu...ENTWOOD 3 (ELEV. 3).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 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

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F1-C

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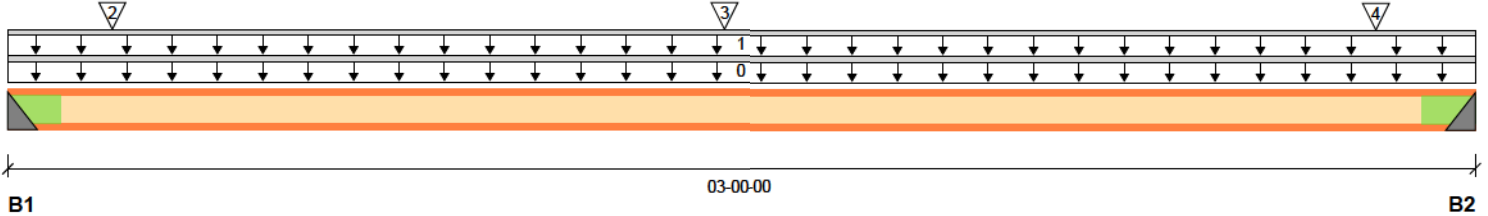
Customer:

Designer: RCO

Code reports:

CCMC 12787-R

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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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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**F1-C**

Dry | 1 span | No cant.

December 17, 2020 13:54:48

BC CALC® Member Report

Build 7364

Job name:

Address: TRINAL HALL  
EAST GWILLIMBURY, ON.

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

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

Customer:

Designer: RCO

Code reports: CCMC 12787-R

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 2015 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			

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**F3-A**

BC CALC® Member Report

Dry | 1 span | No cant.

December 17, 2020 13:54:48

Build 7364

Job name:

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

Address:

TRINAL HALL  
EAST GWILLIMBURY, ON.

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

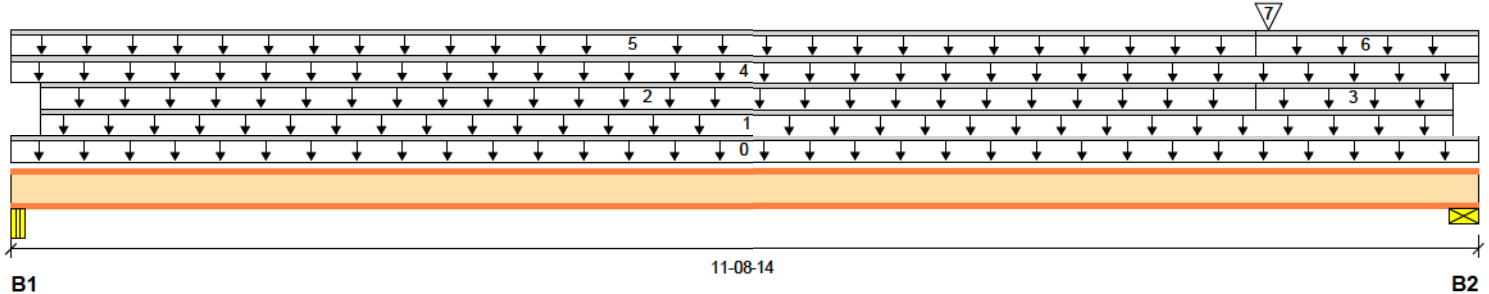
Customer:

Designer: RCO

Code reports:

CCMC 12787-R

Company: GREENPARK



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

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

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	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	00-02-14	09-11-08	Top		1			n/a
3		Unf. Lin. (lb/ft)	L	09-11-08	11-06-08	Top		8			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	00-00-00	09-11-08	Top	11	4			n/a
6		Unf. Lin. (lb/ft)	L	09-11-08	11-08-14	Top	64	24			n/a
7	F1	Conc. Pt. (lbs)	L	10-00-12	10-00-12	Front	324	160			n/a

**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%



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

**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 NBCC  
Design based on Dry Service Condition.  
Importance Factor: 1.0

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**F3-B**

Dry | 1 span | No cant.

December 17, 2020 13:54:48

BC CALC® Member Report

Build 7364

Job name:

Address: TRINAL HALL  
EAST GWILLIMBURY, ON.

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

Description: Level - Ground Floor

City, Province, Postal Code:

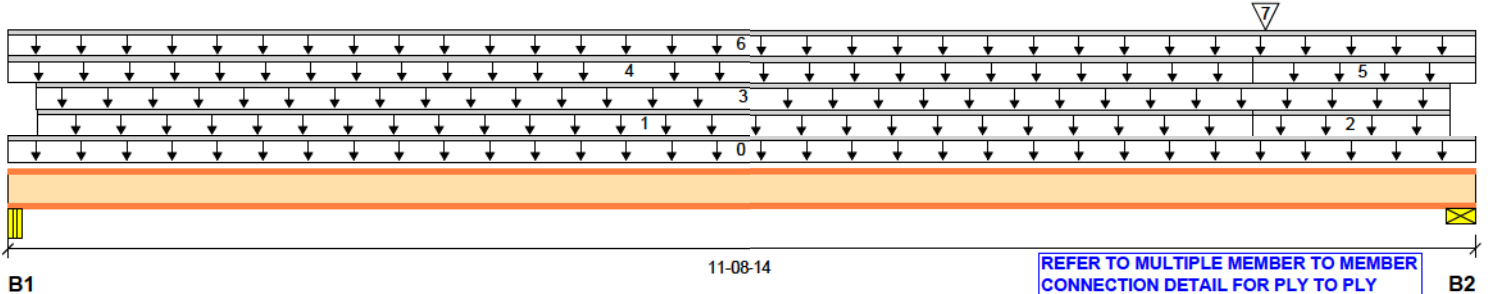
Specifier:

Customer:

Designer: RCO

Code reports: CCMC 12787-R

Company: GREENPARK



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

Bearing	Live	Dead	Snow	Wind
B1, 2-5/8"	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	00-02-13	09-11-08	Top		3			n/a
2		Unf. Lin. (lb/ft)	L	09-11-08	11-06-08	Top		8			n/a
3		Unf. Lin. (lb/ft)	L	00-02-13	11-06-08	Top		3			n/a
4		Unf. Lin. (lb/ft)	L	00-00-00	09-11-08	Top	27	10			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	11-08-14	Top	26	10			n/a
7	F1	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%



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

**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 NBCC  
Design based on Dry Service Condition.  
Importance Factor : Normal Part code : Part 9

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F4-A

Dry | 1 span | No cant.

December 17, 2020 13:54:48

BC CALC® Member Report

Build 7364

Job name:

Address: TRINAL HALL  
EAST GWILLIMBURY, ON.

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

Description: Level - Ground Floor

City, Province, Postal Code:

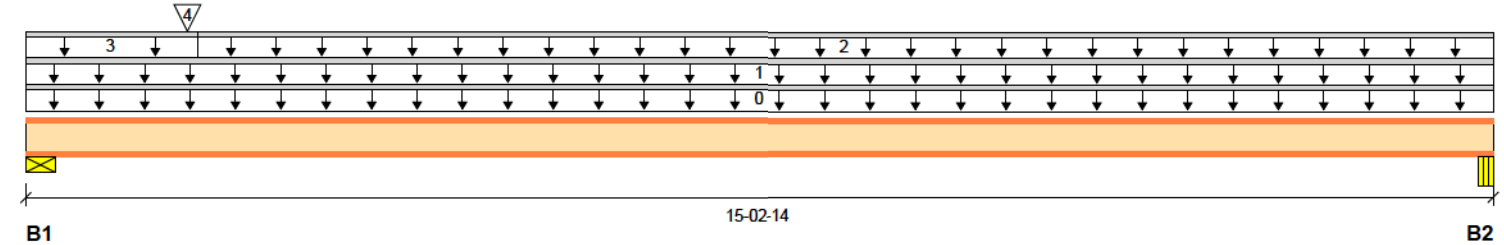
Specifier:

Customer:

Designer: RCO

Code reports: CCMC 12787-R

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	01-09-06	15-02-14	Top	15	6			n/a
3		Unf. Lin. (lb/ft)	L	00-00-00	01-09-06	Top	64	24			n/a
4	F1	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.  
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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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**F4-B**

BC CALC® Member Report

Dry | 1 span | No cant.

December 17, 2020 13:54:48

Build 7364

Job name:

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

Address: TRINAL HALL  
EAST GWILLIMBURY, ON.

Description: Level - Ground Floor

City, Province, Postal Code:

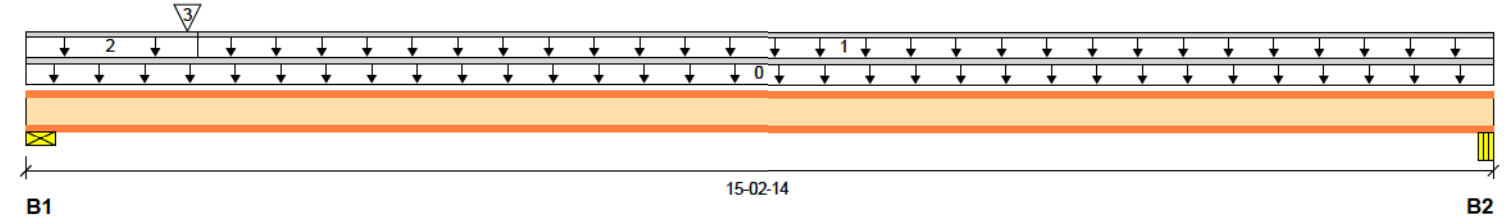
Specifier:

Customer:

Designer: RCO

Code reports: CCMC 12787-R

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	01-09-06	15-02-14	Top	23	9			n/a
2		Unf. Lin. (lb/ft)	L	00-00-00	01-09-06	Top	64	24			n/a
3	F1	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.  
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 NBCC.  
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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**F4-C**

Dry | 1 span | No cant.

December 17, 2020 13:54:48

BC CALC® Member Report

Build 7364

Job name:

Address: TRINAL HALL  
EAST GWILLIMBURY, ON.

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

Description: Level - Ground Floor

City, Province, Postal Code:

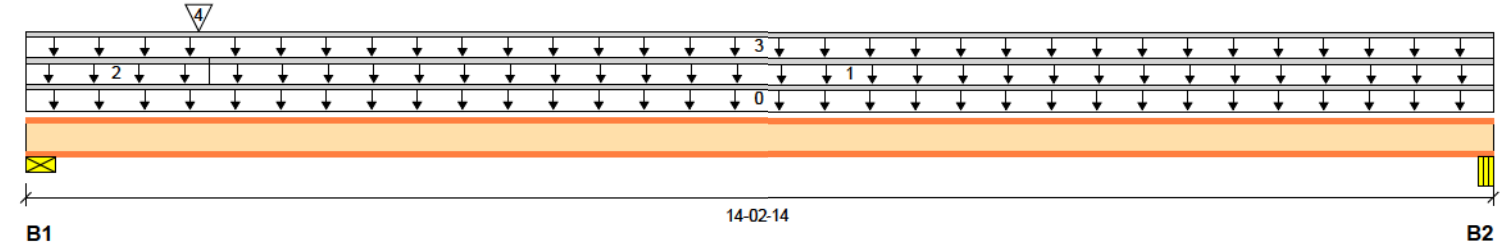
Specifier:

Customer:

Designer: RCO

Code reports: CCMC 12787-R

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	01-09-06	14-02-14	Top	6	2			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	00-00-00	14-02-14	Top	21	8			n/a
4	F1	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.  
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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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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.

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**F4-D**

BC CALC® Member Report

Dry | 1 span | No cant.

December 17, 2020 13:54:48

Build 7364

Job name:

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

Address:

TRINAL HALL  
EAST GWILLIMBURY, ON.

Description: Level - Ground Floor

City, Province, Postal Code:

Specifier:

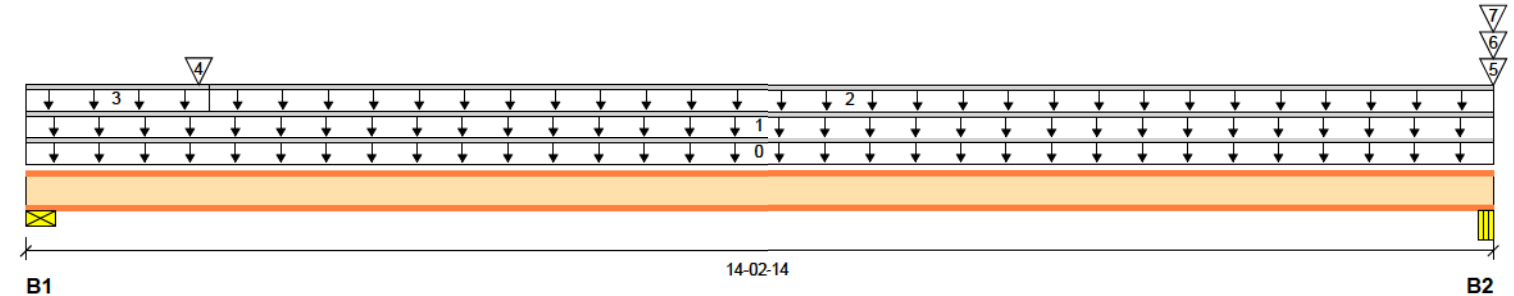
Customer:

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				00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	14-02-14	Top	22	8			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	01-09-06	Top	64	24			n/a
4	F1	Conc. Pt. (lbs)	L	01-08-02	01-08-02	Front	410	157			n/a
5	J9	Conc. Pt. (lbs)	L	14-02-14	14-02-14	Top	100	37			n/a
6	J8	Conc. Pt. (lbs)	L	14-02-14	14-02-14	Top	89	33			n/a
7	Wall Self Weight	Conc. Pt. (lbs)	L	14-02-14	14-02-14	Top	28				

**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%



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

**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 NBCC  
Design based on Dry Service Condition.  
Importance Factor: 1.0

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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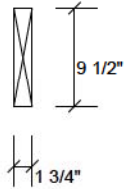
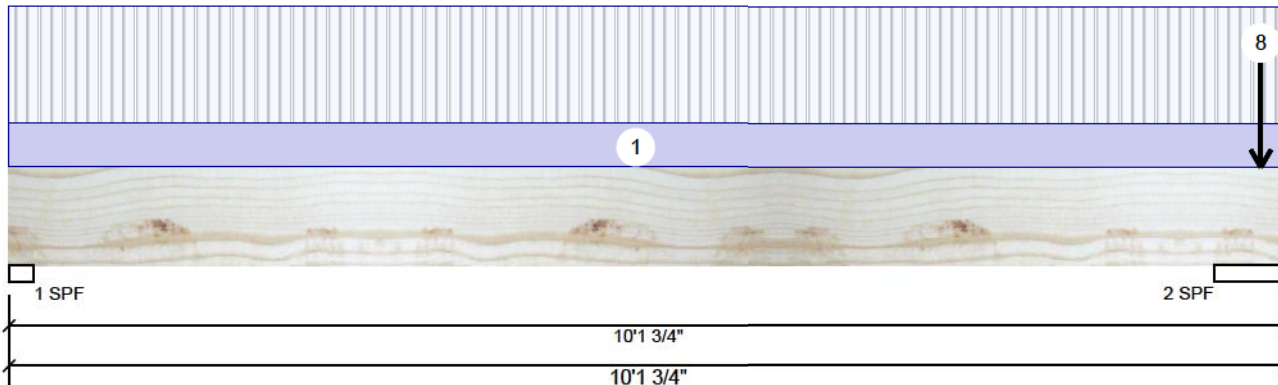


Client: GREENPARK  
 Project:  
 Address: TRINAL HALL  
 EAST GWILLIMBURY, ON.

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

## 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	101	57	0	0
2	297	264	181	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"	16%	330 / 627	956 L	1.25D+1.5L +S

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	514 ft-lb	4'10 5/8"	11362 ft-lb	0.045 (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"	4638 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			F	
2	Point	9-11-6		Top	80 lb			b	
3	Point	9-11-6		Top	24 lb			b	Wall Self Weight
4	Point	9-11-6		Top	4 lb			b	
7	Point	9-11-6		Top	46 lb			b	J5
8	Point	9-11-6		Top	49 lb			b	Wall Self Weight
	Self Weight				4 PLF				



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

### 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





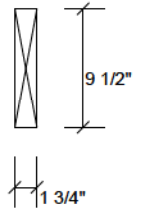
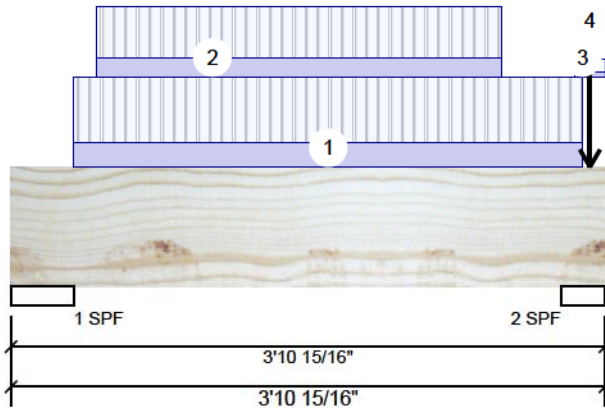


Client: GREENPARK  
 Project: TRINAL HALL  
 Address: EAST GWILLIMBURY, ON.

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

# F5-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	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 (L/5290)	0.008	2' 1/8"	0.111 (L/360)	0.070 (7%)	L	L
TL Defl inch (L/3817)	0.010	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			F	
3	Tie-In	3-8-9 to 3-10-15	1-0-1	Top	15 PSF			F	
4	Point	3-9-12		Far Face	58 lb			b J3	
	Self Weight				4 PLF				



Town of  
**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



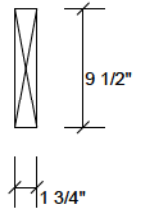
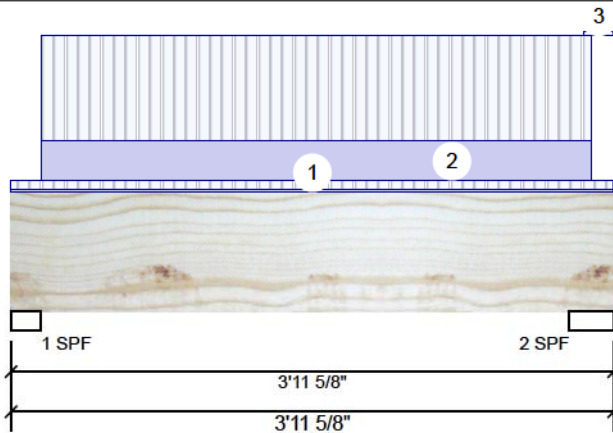


Client: GREENPARK  
Project: TRINAL HALL  
Address: EAST GWILLIMBURY, ON.

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

# F5-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	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				F
3	Tie-In	3-9-4 to 3-11-10	0-2-4	Top	15 PSF				F
	Self Weight				4 PLF				



Town of  
**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

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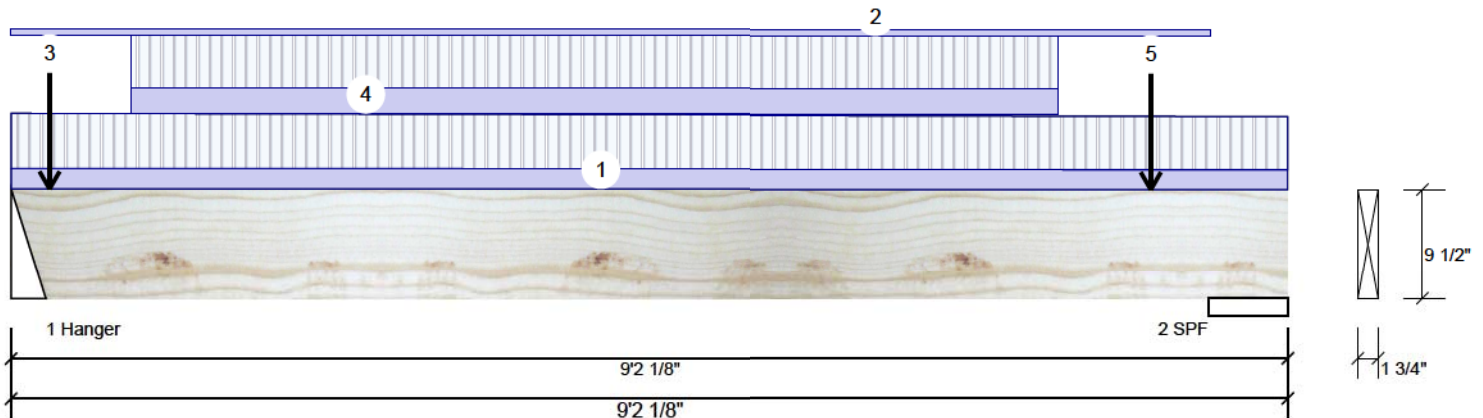


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 Project:  
 Address: TRINAL HALL  
 EAST GWILLIMBURY, ON.

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

# F6-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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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				
3	Point	0-3-5		Near Face	49 lb				b J1
4	Part. Uniform	0-10-5 to 7-6-5		Near Face	35 PLF				F
5	Point	8-2-5		Near Face	38 lb				b J1
	Self Weight				4 PLF				



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

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## Lumber

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- 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			

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



This design is valid until 10/15/2022



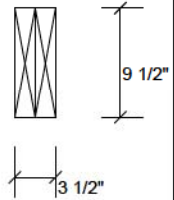
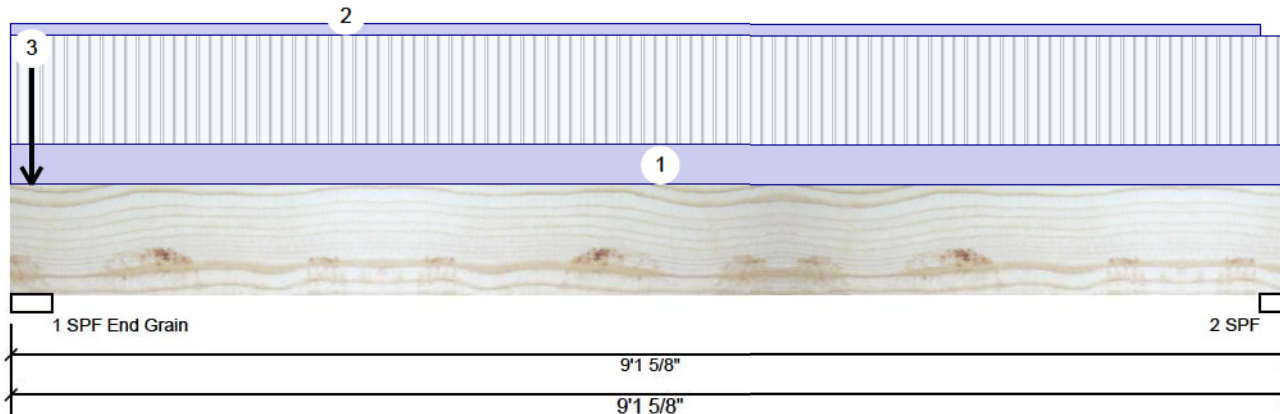


Client: GREENPARK  
 Project: TRINAL HALL  
 Address: EAST GWILLIMBURY, ON.

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

F7-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.

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

**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.**



Town of East Gwillimbury  
 Building Standards Branch BCIN #16487

Comments

F

F

F6

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			

### 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

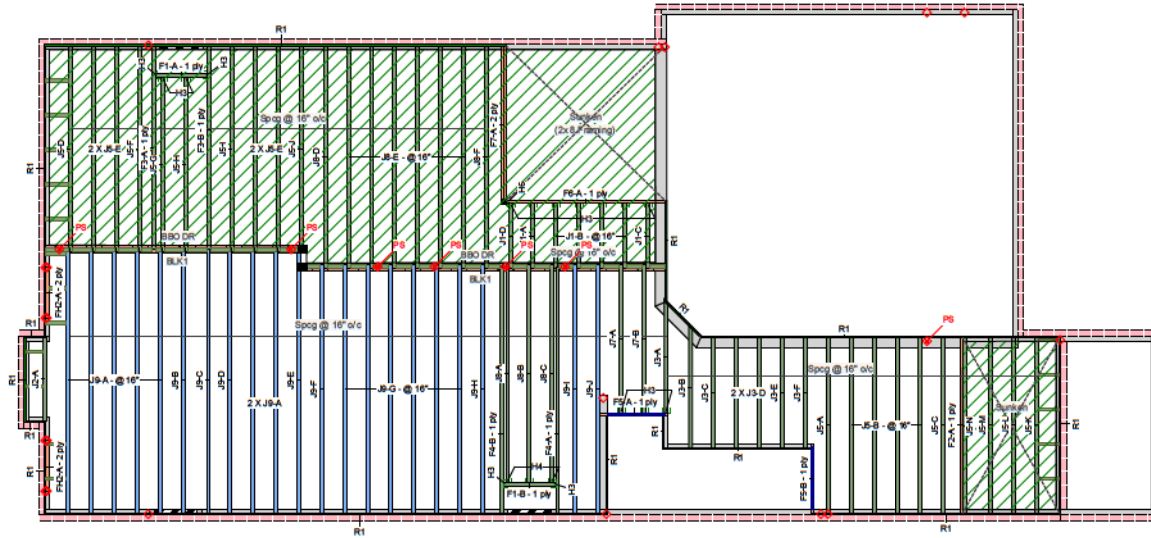
6. For flat roofs provide proper ponding

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



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

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

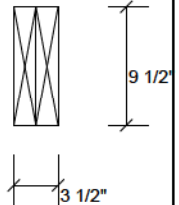
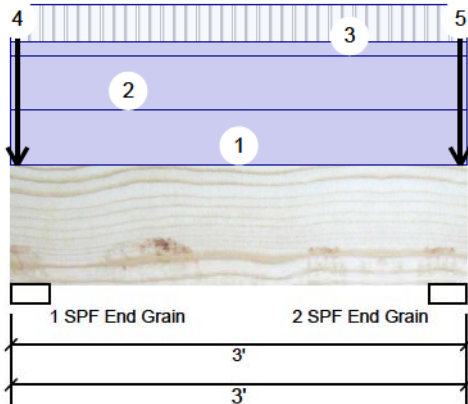
Ground Floor LVL/LSL (Flush)							JOB INFORMATION	
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	Builder
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	12-0-0	GREENPARK
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0	Project
F6	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0	Shipping
FH2	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	4-0-0	TRINAIL HALL EAST GWILLIMBURY, ON.
F5	Forex 2.0E-3000Fb LVL	1.75	9.5			2	4-0-0	Sales Rep
								RM
								Designer
								RCO
Joist (Flush)							Plotted	
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	December 17, 2020
J8	AJS 140	2.5	9.5			11	14-0-0	Layout Name
J5	AJS 140	2.5	9.5			20	12-0-0	BRENTWOOD 3 (ELEV. 3) DECK CONDITION
J7	AJS 140	2.5	9.5			2	10-0-0	Job Path
J3	AJS 140	2.5	9.5			7	8-0-0	C:\Users\rochavillo\Documents\WORK FROM HOME\GREENPARK\TRINAIL HALL\BRENTWOOD 3 (ELEV. 3)\J8
J2	AJS 140	2.5	9.5			1	6-0-0	DESIGN CRITERIA
J1	AJS 140	2.5	9.5			7	4-0-0	Ground Floor
F4	AJS 140	2.5	9.5			2	16-0-0	Design Method
F3	AJS 140	2.5	9.5			2	12-0-0	Building Code
F1	AJS 140	2.5	9.5			2	4-0-0	LSD (Canada)
J9	AJS 20	2.5	9.5			21	16-0-0	NECC 2015 / OBC 2012
Blocking							Floor	
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	Loads
BLK1	AJS 140	2.5	9.5	1inR		Varies	49-0-0	Live
Rim Board							Dead	
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	40
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			14	12-0-0	15
Hanger							Deflection on Joist	
Label	Pcs	Description	Skew	Slope	fasteners	Supported Member		
H3	15	LF259					LL Span L/	480
H3	1	LF259					TL Span U/	360
H4	3	LF259			10 10d		LL Cant 2L/	480
H6	1	HUS1.81/10				1 #8x11 1/4WS	TL Cant 2L/	360
1. All blocking to be cut from 12' joists							LL Span L/	360
2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length							LL Cant 2L/	480
3. Ends of joists to be laterally supported							TL Cant 2L/	360
4. Packing of Steel beams and attachment by others							LL Span L/	240
5. Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations							LL Cant 2L/	480
6. Beams identified as "B" are dropped and supplied by others							TL Cant 2L/	360
7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls							Decking	OSB
8. Load transfer blocks to be installed under all point loads							Thickness	3/4"
9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements							Fastener	Nailed & Glued
10. Hangers and Fasteners to be installed as per manufacturer							Vibration	
11. Framing shown on this layout may deviate from architectural drawings. Arch/ Eng to review and approve the deviation prior to construction.							Strapping	1"X4", 1 Row at Midspan
Legend							CMC References	
PS	Point Load Support						Boise - 12472-R, 12787-R	
◇	Load from Above						LP - 12412-R	
▨	Wall						Forex - 14056-R	
▨	Wall Opening						Kott Lumber Company	
▨	Norbord Rimboard Plus 1.125 X 9.5						14 Anderson Blvd	
▨	AJS 140 9.5						Stouffville, Ontario	
▨	AJS 20 9.5						Canada	
▨	Forex 2.0E-3000Fb LVL 1.75 X 9.5						L4A 7X4	
							905-642-4400	



Client: GREENPARK  
 Project: TRINAL HALL  
 Address: EAST GWILLIMBURY, ON.

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

**FH2-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	147	406	245	0
2	147	406	245	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	15% 508 / 514	1022 L	1.25D+1.5S +L
2 - SPF End Grain	3.000"	15% 508 / 514	1022 L	1.25D+1.5S +L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	118 ft-lb	1'6"	14770 ft-lb	0.008 (1%)	1.4D	Uniform
Unbraced	118 ft-lb	1'6"	14770 ft-lb	0.008 (1%)	1.4D	Uniform
Shear	166 lb	2' 1/4"	7236 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

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

### 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

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

This design is valid until 10/15/2022

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



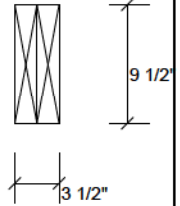
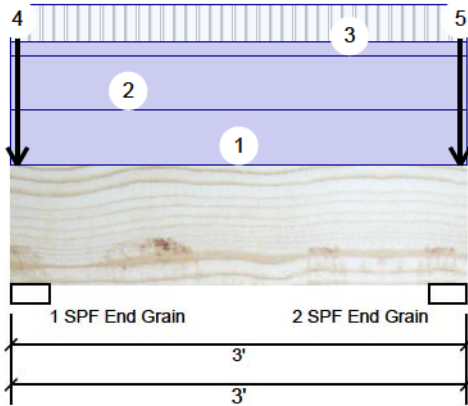


Client: GREENPARK  
 Project:  
 Address: TRINAL HALL  
 EAST GWILLIMBURY, ON.

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

FH2-A 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	260 lb	106 lb	245 lb	0 lb	Header Column Header Column
5	Point	2-11-8		Top	260 lb	106 lb	245 lb	0 lb	Header Column Header Column
	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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#### 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

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

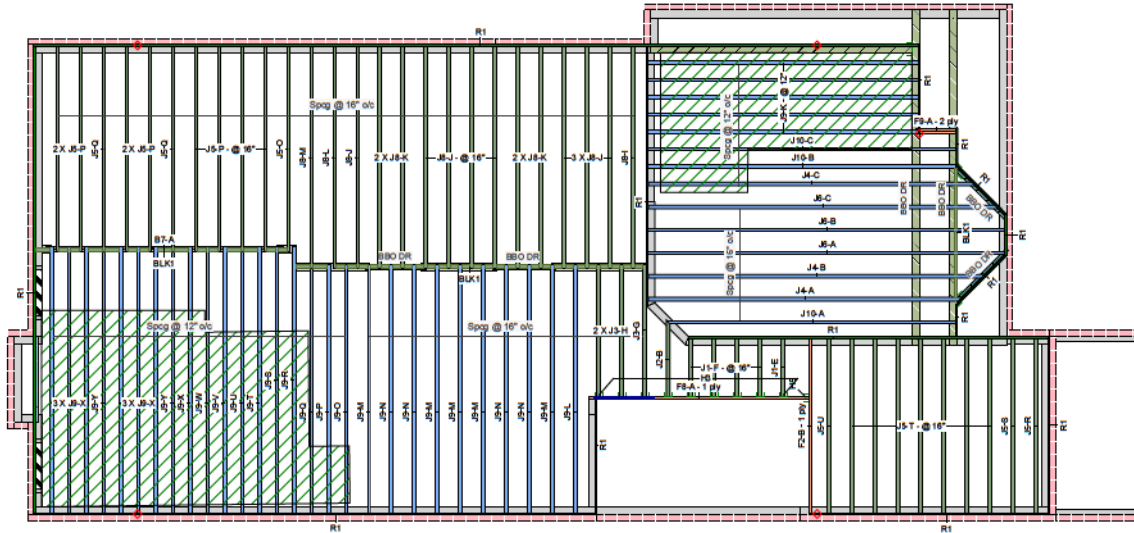
Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-05
Sewage System			
Zoning			

This design is valid until 10/15/2022

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








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



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-0
Sewage System			
Zoning			

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

Version 19.60.173 Powered by iStruct™

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  
LV/L/SL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F8	Forex 2.0E-3000Fb LVL	1.75	9.5			1	14-0-0
F2	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
LV/L/SL (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
J6	AJS 20	2.5	9.5			3	22-0-0
J4	AJS 20	2.5	9.5			3	20-0-0
J10	AJS 20	2.5	9.5			3	18-0-0
J9	AJS 20	2.5	9.5			33	16-0-0
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
Blocking							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	AJS 140	2.5	9.5	LinFt		Varies	30-0-0
Hanger							
				Beam/Girder		Supported Member	
H3	9	LF259					
H5	1	HUS1.81/10			30 16d	10 16d	
H9	1	Unknown Hanger					
H9	1	Unknown Hanger	Left				
H9	1	Unknown Hanger	Right				
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 ConnectionDetail for ply to ply nailing or bolting requirements							
10. Hangers and Fasteners to be installed as per manufacturer							
11. Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.							
Legend							
PS	Point Load Support						
◊	Load from Above						
	Wall						
	Wall Opening						
	Norbord Rimboard Plus 1.125 X 9.5						
	AJS 140 9.5						
	AJS 20 9.5						
	Forex 2.0E-3000Fb LVL 1.75 X 9.5						
	Forex 2.0E-3000Fb LVL 1.75 X 11.875 (Dropped)						

JOB INFORMATION

Builder  
GREENPARK

Project

Shipping  
TRINAL HALL  
EAST GWILLIMBURY, ON.

Sales Rep  
RM

Designer  
RCO

Plotted  
December 17, 2020

LAYOUT NAME  
BRENTWOOD 3 (ELEV. 3)

JOB PATH  
C:\Users\irochavillo\Documents\WORK FROM HOME\GREENPARK\TRINAIL HALL\BRENTWOOD 3\LEVEL 3\FLOOR\BRENTWOOD 3 (ELEV. 3).tif

DESIGN CRITERIA

Second Floor

Design Method  
Building Code

LSD (Canada)  
NBC CC 2015 / OBC 2012

Floor Loads

Live 40  
Dead 15

Deflection Joist

LL Span 1/ 480  
TL Span 1/ 360  
LL Cant. 2/ 480  
TL Cant. 2/ 360

Deflection Girder

LL Span 1/ 360  
TL Span 1/ 240  
LL Cant. 2/ 480  
TL Cant. 2/ 360

Decking

Thickness OSB  
Fastener 5/8"  
Nailed & Glued

Vibration


Ceiling: Gypsum 1/2"

CCMC References

Boise - 12472-R, 12787-R  
LP - 12412-R  
Forex - 14055-R

Kott Lumber Company

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

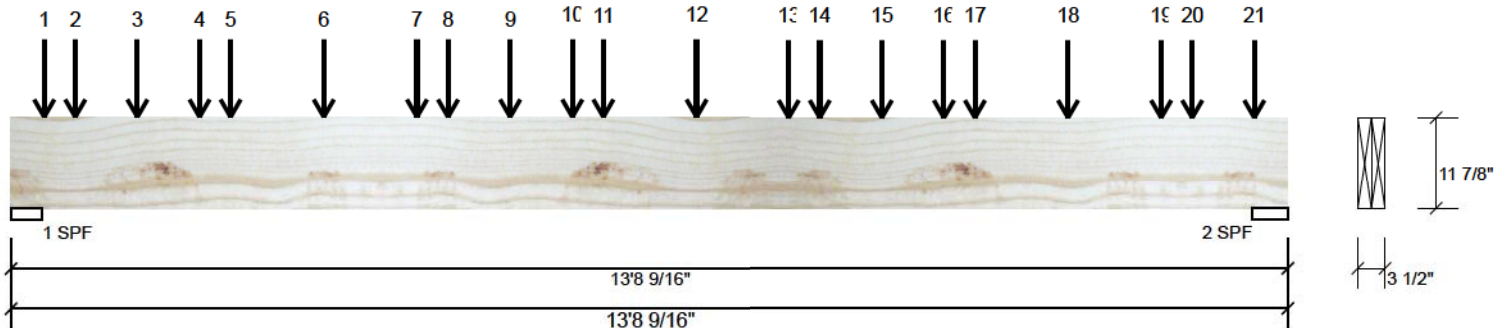




Client: GREENPARK  
 Project: TRINAL HALL  
 Address: EAST GWILLIMBURY, ON.

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

**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	3679	1568	0	0
2	3453	1465	0	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.000"	87%	1960 / 5519	7479	L	1.25D+1.5L
2 - SPF	4.575"	71%	1832 / 5179	7011	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	23277 ft-lb	7'4 1/4"	34261 ft-lb	0.679 (68%)	1.25D+1.5L	L
Unbraced	23277 ft-lb	7'4 1/4"	26246 ft-lb	0.887 (89%)	1.25D+1.5L	L
Shear	6557 lb	12'4 7/8"	11596 lb	0.565 (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)	0.900 (90%)	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.

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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.**



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

Continued on page 2...

### Notes

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### Lumber

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

### chemicals

### Handling & Installation

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

6. For flat roofs provide proper ponding



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			

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



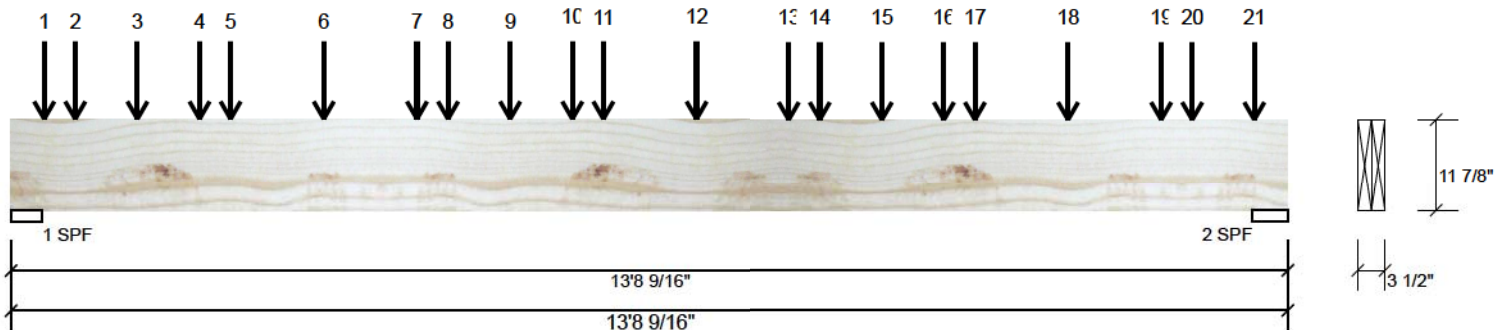
This design is valid until 10/15/2022



Client: GREENPARK  
 Project: TRINAL HALL  
 Address: EAST GWILLIMBURY, ON.

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

**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	J9 J5
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	131 lb	302 lb	0 lb	0 lb	J9
18	Point	11-4-4		Top	241 lb	606 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 MULTIPLE MEMBER TO MEMBER

CONNECTION DETAIL  
 NAILING OR BOLTING

PASS THRU FRAMING  
 BLOCK IS REQUIRED  
 POINT LOADS OVER



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

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#### Lumber

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#### 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			

Kott Lumber Company  
 14 Anderson Blvd, Ontario  
 Canada  
 L4A 7X4  
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This design is valid until 10/15/2022



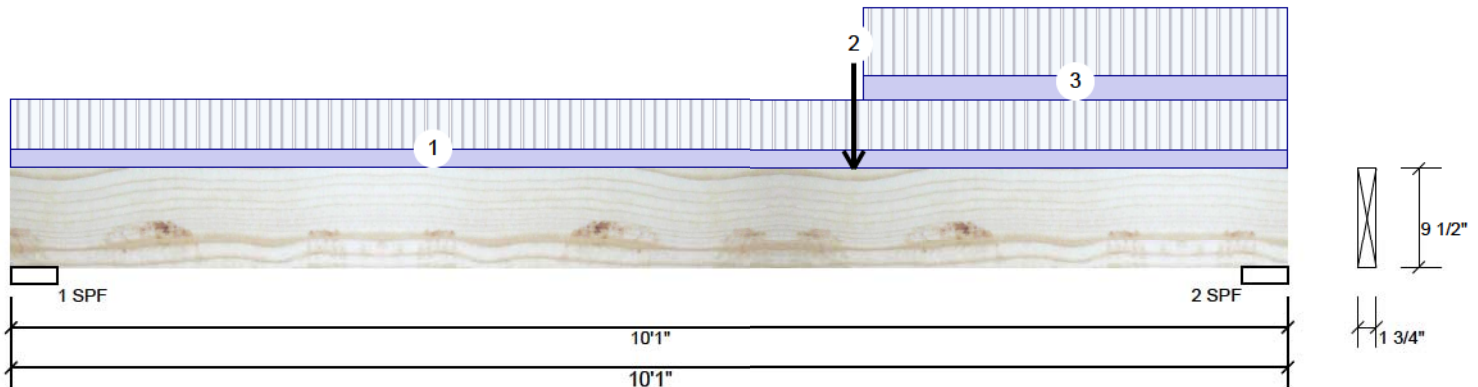


Client: GREENPARK  
Project: TRINAL HALL  
Address: EAST GWILLIMBURY, ON.

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

## F2-B 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				
	Self Weight				4 PLF				



Town of  
**East Gwillimbury**<sup>F</sup>  
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



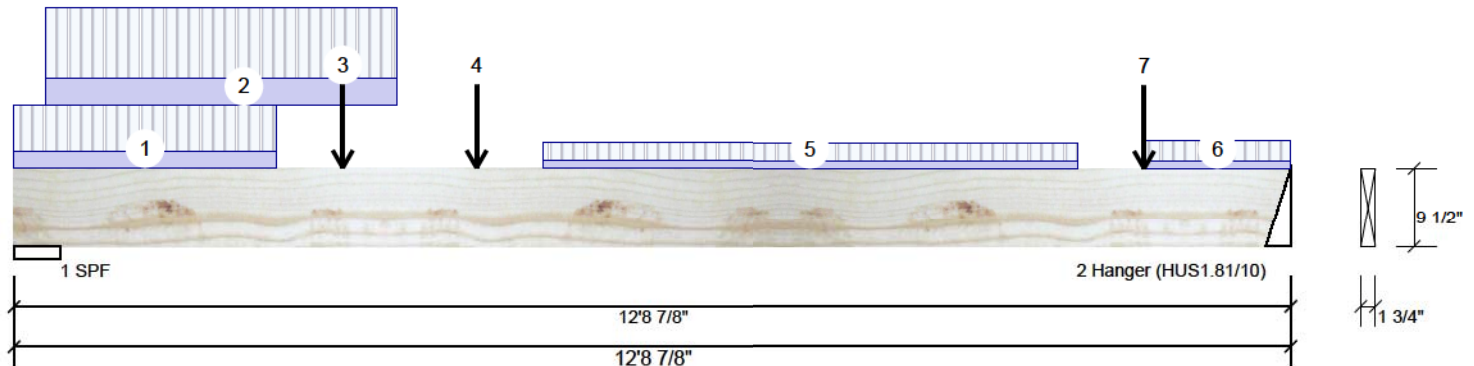


Client: GREENPARK  
Project: TRINAL HALL  
Address: EAST GWILLIMBURY, ON.

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

# 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

## 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.

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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	0-0-0 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			b	J3
4	Point	4-7-5		Far Face	41 lb			b	J2
5	Part. Uniform	5-3-5 to 10-7-5		Far Face	24 PLF			F	
6	Tie-In	11-3-5 to 12-8-14	1-8-13	Top	15 PSF			F	
7	Point	11-3-5		Far Face	34 lb			b	J1
	Self Weight				4 PLF				



Town of 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			

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



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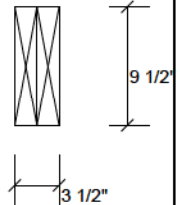
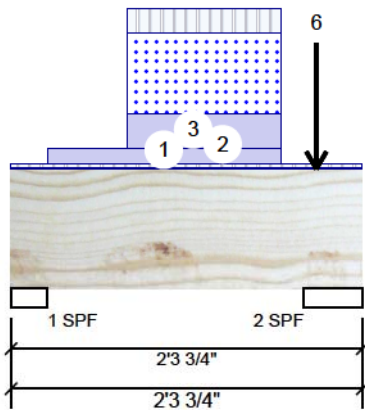


Client: GREENPARK  
 Project:  
 Address: TRINAL HALL  
 EAST GWILLIMBURY, ON.

Date: 12/17/2020  
 Input by: RCO  
 Job Name: BRENTWOOD 3 (ELEV. 3)  
 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	76	160	174	0
2	115	259	293	0

### Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.875"	9%	200 / 337	537 L	1.25D+1.5S +L
2 - SPF	4.625"	9%	324 / 554	878 L	1.25D+1.5S +L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	380 ft-lb	1'1 7/8"	22724 ft-lb	0.017 (2%)	1.25D+1.5S +L	L
Unbraced	380 ft-lb	1'1 7/8"	22724 ft-lb	0.017 (2%)	1.25D+1.5S +L	L
Shear	218 lb	1'1 5/8"	9277 lb	0.023 (2%)	1.25D+1.5S +L	L
Perm Defl in.	0.000 (L/47891)	1'1 1/2"	0.060 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.001 (L/29131)	1'1 7/8"	0.060 (L/360)	0.010 (1%)	S+0.5L	L
TL Defl inch	0.001 (L/18117)	1'1 11/16"	0.091 (L/240)	0.010 (1%)	D+S+0.5L	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.

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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

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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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 14 Anderson Blvd, Ontario  
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 L4A 7X4  
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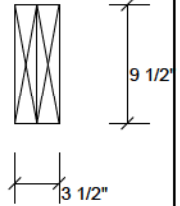
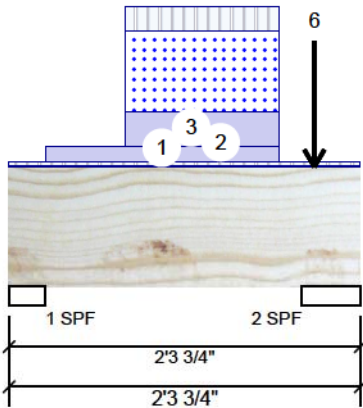


Client: GREENPARK  
 Project:  
 Address: TRINAL HALL  
 EAST GWILLIMBURY, ON.

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

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

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-3-12	0-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-14 to 1-9-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-9-3 to 1-9-6		Top	191 PLF	131 PLF	435 PLF	0 PLF	
4	Point	2-0-2		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
5	Point	2-0-2		Top	11 lb	8 lb	26 lb	0 lb	
6	Point	2-0-2		Top	43 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Self Weight				8 PLF				

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Town of  
**East Gwillimbury**

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#### Lumber

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chemicals

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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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