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

GREENPARK-MINNISALE HOMES-MODEL HEMLOCK 5C-1 & 5C-2 **REVISION 2009-10-09** 

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

### **DESIGN INFORMATION**

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

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

The responsibility of the undersigned is limited to the verification of the structural capacity of the NASCOR 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 squash blocks. Structural elements such as walls, posts, connectors, and squash 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 NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at <a href="http://www.nascor.ca">http://www.nascor.ca</a>.

### 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 squash block framing is required at all point loads over bearings.

#### HANDLING AND INSTALLATION

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



# ILTIPLE MEMBER CONNECTIONS

GREENPARK-MINNISALE HOMES-MODEL HEMLOCK 5C-1 & 5C-2

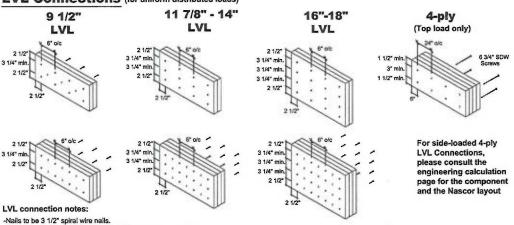
#### Conventional Connections (for uniform distributed loads)

2x6 2x8 2x12 2-ply 3-ply

#### Conventional connection notes:

- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
   "X" represents nall driven from the opposite side.

### LVL Connections (for uniform distributed loads)



- -reals to be 3 //2 spiral write finals.

  \*Asilis to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nalls a minimum of 2 1/2" in from ends.

  -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.

### Vertical I-Joist Connections (for uniform distributed loads)

9 1/2" - 11 7/8" **I-Joist** 3-ply I-Joist w/ point load (Joist Hanger) 2-ply 3-ply 4 1/2" SSDS/SDW (Both sides of point load)

#### Vertical I-Joist connection notes:

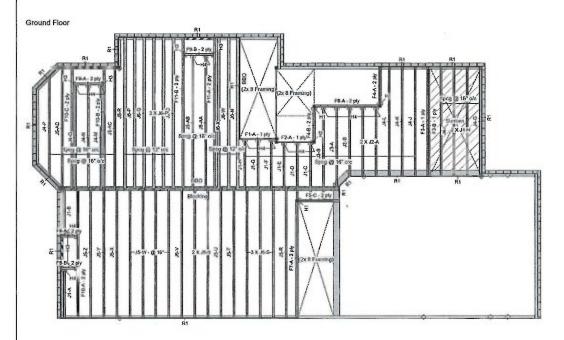
- -Nails to be 3" spiral wire nails.
- -Nalls to be located at centre of top and bottom flanges. Start all nalls a minimum of 2 1/2" in from ends.

  -Number of rows and spacing as per details shown, unless noted otherwise.

   "X" represents nail driven from the opposite side.

котт 3228 Moodle Drive Ottawa, ON K2H 7V1 Ph: 613-838-2775 Fx: 613-838-4751

**MULTI-PLY** CONNECTION DETAILS



THIS CERTIFICATION IS TO CONFIRM THAT:

1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY SHOWN ON THIS LAYOUT.

2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE, MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

ALL OTHER COMPONENTS AND STRUCTURAL ELEMENTS
SUPPORTING THE FLOOR SYSTEM SUCH AS BEAMS, WALLS, COLUMNS AND FOUNDATION WALLS AND FOOTINGS
INCLUDING ANCHORAGE OF COMPONENTS AND BRACING FOR LATERAL STABILITY ARE THE RESPONSIBILITY OF OTHERS.



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. Legend



Load from Above Wall Opening Norbord Rimboard Paus 1.125 X 9.5 NJ 9.5 NJ60U 9.5 NJH 9.5 Forex 2.0E-3000Fb LVL 1.75 X 9.5

- 1. OBC 2012 O.Reg 332/12 as amended
- 2. Nascor CCMC 13535-R
- 3. LVL CCMC -14056-R
- 4. CAN/CSA-086-09
- 5. CCMC -12787-R APA PR-L310(C)

	L (Flush)							NASCOR
	Description	Width	Depth	Qty	Plies	Pcs	Length	INADCUI
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0	
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			2	12-0-0	Layout Name HEMLOCK 5C-1 & 5C-2
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0	Design Method LSD
F5	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0	Revised
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			1	600	August 14, 2018 Description
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	4-0-0	MINNISALE HOMES BRAMPTON, ONT.
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	4-0-0	Builder
Joist (	(Flush)							GREENPARK
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	Sales Rep
F11	NJ	1.5	9.5	2	2	4	16-0-0	RM
F10	NJ	1.5	9.5	3.	2	- 8	14-0-0	Designer
F9	NJ	1.5	9.5	2	2	4	4-0-0	RCO
F8	NJ	1.5	9.5	2	2	4	2-0-0	
J6	NJ60U	3.5	9.5	_		9	16-0-0	Shipping
J5	NJH	2.5	9.5			20	14-0-0	Project
J4	HLM	2.5	9.5			11	12-0-0	Builder's Project
J3	HLN	2.5	9.5			2	10-0-0	Kott Lumber Company
J2	ИЛН	2.5	9.5			3	8-0-0	
J1	NJH	2.5	9.5			8	6-0-0	14 Anderson Blvd
Rim Bo	ard							Stouffville, Ontario
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	Canada
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			11	12	L4A 7X4 905-842-4400
Blockin	g		10					Job Path
Label	Description	Width	Depth	Qty	Plies	Pcs	Length	S.CUSTOMERS/GREENPARK
BLK1	NJH	2.5	9.5	LinFt		Varies		WINNISALE HOMESWOODELS
Hange				Bea	am/Girde	r Su	pported	VHEMLOCK 5CVHEMLOCK 5C-1 VFLOOR/REVHEMLOCK 5C-1.isl

Ground Floor

					Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	3	HUC410 (Min)			14 16d	6 10d
H2	1	HUCQ1.81/9- SDS				
H3	6	LT2-159			4 10dx1 1/2	2 10dx1 1/2
H4	18	LT259			4 10dx1 1/2	2 10dx1 1/2
NOTES:						

. Framer to verify dimensions on the architectural drawings

Framer to Vernij omrenssons on the architecturel utrawings.
 Double jolst only require filiarhacker pty when supporting another member using a face-mounted hanger.
 Instal 224 bloscher @ 24" outer parallel non-load bearing walls.
 Instal's sngle-pty flush window header along inside face of minocardiffinity-lost.

nmboard/imjoist.

Refer to Nascor specifier guide for installation works.

Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding.

two levels floor or roof. 7. Load transfer blocks to be installed under all point loads.
B. It sha'll be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" block (1/16" longer than Num paraett to joists: 1-10 introduct with 2 x = 000ck (1/10 ourget tite mid depth @ 16° d/c). All other components and structural elements supporting the floor system such as beams, walts, columns, and foundation walts and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch area represents ceramic tiled floor with an additional dead load of 5 PSF

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation pnor to construction.

ARCHITECTURAL DRAWINGS:

REGION DESIGN INC. 8700 Dufferin St., Concord, ON Date: May 2018 Project No: Model: Hemlock 5-5C

**PAGE 3 OF 31** 

Building Code NBCC 2010 / OBC

LSD

2012

15

480

360

480

360

360

240

480

360

3/4"

SPF Plywood

Naded & Glued

**Ground Floor** 

Design Method

Floor Loads Live

Dead Deflection Joist

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

LL Span L/

TL Span L/

11 Cant 21/

TI Cant 21/

Decking Deck

Thickness

Fastener

Vibration

Deflection Girden

Version 18.40.162 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



Client:

Project:

**GREENPARK** 

Address:

Date: 8/14/2018

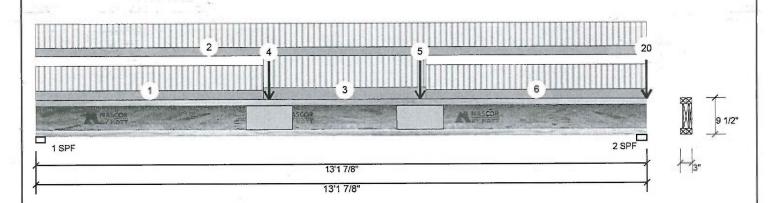
RCO Designer:

Job Name: HEMLOCK 5C-1

Project #:

2-Ply - PASSED 9.500"

Level: Ground Floor



Туре:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition	: Dry	Building Code:	NBCC 2010 / 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	1	

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	424	190	14	0
2	725	364	14	0

Bearings	and Fac	tored F	leactions			
Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	33%	237 / 643	881	L	1.25D+1.5L +0.5S
2-SPF	2.625"	56%	455 / 1094	1549	L	1.25D+1.5L +0.5S

#### **Analysis Results**

Member Information

1	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
1	Vloment	3121 ft-lb	6'6 9/16"	7340 ft-lb	0.425 (43%)	1.25D+1.5L +0.5S	L
1	Jnbraced	3121 ft-lb	6'6 9/16"	3130 ft-lb	0.997 (100%)	1.25D+1.5L +0.5S	L
,	Shear	871 lb	13'	3080 lb	0.283 (28%)	1.25D+1.5L +0.5S	L
	Perm Defl in.	0.081 (L/1904)	6'6 13/16"	0.429 (L/360)	0.190 (19%)	D	Uniform
	L Defl inch	0.175 (L/883)	6'6 13/16"	0.429 (1/360)	0.410 (41%)	L+0.5S	L
	TL Defl inch	0.256 (L/603)	6'6 13/16"	0.643 (L/240)	0.400 (40%)	D+L+0.5S	L

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.



**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 3'9" o.c.

5 Bottom flange braced at bearings

3 BULLUIII	nange praceu at bearin	ys.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-10-14	(Span)1-4-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-1-14	(Span)1-3-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	4-10-14 to 8-4-14	(Span)1-8-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	5-0-6		Far Face	55 lb	62 lb	14 lb	0 lb	F8
5	Point	8-3-6		Far Face	53 lb	62 lb	14 lb	0 lb	F8
6	Tie-In	8-4-14 to 13-1-14	(Span)1-4-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	

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 interest of the intended application, and to verify the dimensions and loads.

#### Lumber

Dry service conditions, unless noted otherwise
 Uoist not to be treated with fire retardant or corrosh

- Handling & Installation

  1. Lioist flanges must not be cut or drilled

  2. Refer to latest copy of the Lioist product information details for framing details, sulfitener tables, web noise chart, bridging details, multi-ply fastening details and handling/erection details of the sused

  3. Design assumes up flange to be laterally restrained by stacched sheathing or as specified in engineering moles.

Manufacturer Info Nascor by Kott







GREENPARK Client:

Project: Address:

Date: Designer: 8/14/2018

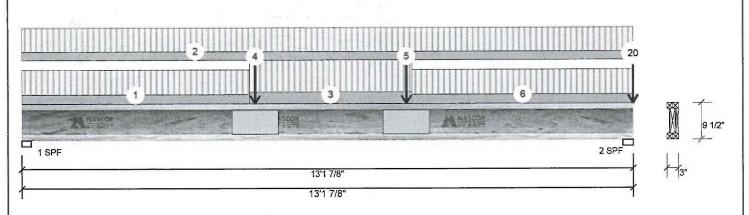
RCO

Page 2 of 2

Job Name: HEMLOCK 5C-1 Project #:

NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Continued	from page 1								
ID	Load Type	Location Tr	rib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	13-1-14		Тор	7 lb	14 lb	0 lb	0 lb	J5
8	Point	13-1-14		Тор	1 lb	2 lb	0 lb	0 lb	J5
9	Point	13-1-14		Тор	7 lb	20 lb	0 lb	0 lb	J5
10	Point	13-1-14		Тор	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
11	Point	13-1-14		Тор	36 lb	77 lb	0 lb	0 lb	J5
12	Point	13-1-14		Тор	13 lb	28 lb	0 lb	0 lb	J5
13	Point	13-1-14		Тор	41 lb	109 lb	0 lb	0 lb	J5
14	Point	13-1-14		Тор	33 lb	0 lb	0 lb	0 lb	Wall Self Weight
15	Point	13-1-14		Тор	5 lb	10 lb	0 lb	0 lb	J5
16	Point	13-1-14		Тор	6 lb	15 lb	0 lb	0 lb	J5
17	Point	13-1-14		Тор	5 lb	0 lb	0 lb	0 lb	Wall Self Weight
18	Point	13-1-14		Тор	4 lb	9 lb	Q lb	0 lb	J5
19	Point	13-1-14		Тор	5 lb	13 lb	0 lb	0 lb	J5
20	Point	13-1-14		Тор	4 lb	0 lb	0 lb	0 lb	Wall Self Weight

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.

#### 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

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

Handling & Installation

landling & Installation

Loist flanges must not be cut or drilled

Refer to latest copy of the IJoist product information defails for framing details, etiffener tables, web hole chart, bridging details, multiply fasterning details and handling/erection details

Demaged Loists must not be used

Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation.
   Web stiffeness for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent pondling.

This design is valid until 7/10/2021





isDesign"

Client: GREENPARK

Project: Address:

8/14/2018

Designer: **RCO** 

Job Name: HEMLOCK 5C-1

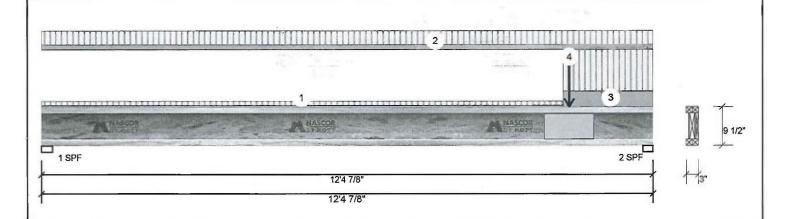
Project #:

Date:

9.500"

2-Ply - PASSED

Level: Ground Floor



Member Infor	mation			Unfactor	red React	ions UN	PATTERN	ED lb (	Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	V	Wind
Plies:	2	Design Method:	LSD	1	229		86		0	0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	589		221		0	0
Deflection LL:	360	Load Sharing:	No	1 -						
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked	1						
General Load										
Floor Live:	40 PSF			Bearings	and Fact	ored Re	actions			
Dead:	15 PSF			Bearing	Length	Cap. R	eact D/L lb	Total	Ld. Case	Ld. Comb.
				1 - SPF	2.625"	16%	108 / 344	452	L	1.25D+1.5L
				2-SPF	2.375"	43%	276 / 883	1159	L	1.25D+1.5L

**Analysis Results** 

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1758 ft-lb	8'1 1/8"	7340 ft-lb	0.239 (24%)	1.25D+1.5L	L
Unbraced	1758 ft-lb	8'1 1/8"	1770 ft-lb	0.993 (99%)	1.25D+1.5L	L
Shear	1136 lb	12'3 1/4"	3080 lb	0.369 (37%)	1.25D+1.5L	L
Perm Defl in.	0.035 (L/4109)	6'7 7/8"	0.404 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.094 (L/1541)	6'7 7/8"	0.404 (L/360)	0.230 (23%)	L	L
TL Defl inch	0.130 (L/1121)	6'7 7/8"	0.606 (L/240)	0.210 (21%)	D+L	L

**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 4'11" o.c.

5 Bottom flange braced at 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.

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

BLOCK IS REQUIRED AT ALL

PASS THRU FRAMING SQUASH POINT LOADS OVER READINGS

					TLOINI FOWT	JO UVER DE	AKINGS.L	
Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
Tie-In	0-0-0 to 10-7-0	(Span)0-3-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
Tie-In	0-0-0 to 12-4-14	(Span)1-1-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
Tie-In	10-7-0 to 12-4-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
Point	10-8-8		Far Face	135 lb	360 lb	0 lb	0 lb	F9
	Tie-In Tie-In Tie-In	Tie-In 0-0-0 to 10-7-0 Tie-In 0-0-0 to 12-4-14 Tie-In 10-7-0 to 12-4-14	Tie-In 0-0-0 to 10-7-0 (Span)0-3-15 Tie-In 0-0-0 to 12-4-14 (Span)1-1-1 Tie-In 10-7-0 to 12-4-14 (Span)3-3-0	Tie-In 0-0-0 to 10-7-0 (Span)0-3-15 Top Tie-In 0-0-0 to 12-4-14 (Span)1-1-1 Top Tie-In 10-7-0 to 12-4-14 (Span)3-3-0 Top	Tie-In         0-0-0 to 10-7-0         (Span)0-3-15         Top         15 PSF           Tie-In         0-0-0 to 12-4-14         (Span)1-1-1         Top         15 PSF           Tie-In         10-7-0 to 12-4-14         (Span)3-3-0         Top         15 PSF	Load Type         Location         Trib Width         Side         Dead         Live           Tie-In         0-0-0 to 10-7-0         (Span)0-3-15         Top         15 PSF         40 PSF           Tie-In         0-0-0 to 12-4-14         (Span)1-1-1         Top         15 PSF         40 PSF           Tie-In         10-7-0 to 12-4-14         (Span)3-3-0         Top         15 PSF         40 PSF	Load Type         Location         Trib Width         Side         Dead         Live         Snow           Tie-In         0-0-0 to 10-7-0         (Span)0-3-15         Top         15 PSF         40 PSF         0 PSF           Tie-In         0-0-0 to 12-4-14         (Span)1-1-1         Top         15 PSF         40 PSF         0 PSF           Tie-In         10-7-0 to 12-4-14         (Span)3-3-0         Top         15 PSF         40 PSF         0 PSF	Tie-In         0-0-0 to 10-7-0         (Span)0-3-15         Top         15 PSF         40 PSF         0 PSF         0 PSF           Tie-In         0-0-0 to 12-4-14         (Span)1-1-1         Top         15 PSF         40 PSF         0 PSF         0 PSF           Tie-In         10-7-0 to 12-4-14         (Span)3-3-0         Top         15 PSF         40 PSF         0 PSF         0 PSF

#### Notes

Calcutated Structured Designs is responsible only of the structural edequacy 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 Inlended application, and to verify the dimensions and loads.

#### Lumber

#### chemicals

#### Handling & Installation

- Handling & Installation

  1. Joist flanges must not be cut or drilled

  2. Refer to latest copy of the Joist product information details for framing details, stiffeen tables, web hole chart, bridging details, multi-ply festening details and handling/erection details

  3. Damaged bolists must not be used

  4. Design assumes top flange to be interally restrained by attached sheathing or as specified in engineering notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
 For flat roofs provide proper drainage to prevent ponding

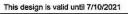
Manufacturer Info Nascor by Kott

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





SOPROFESSIONAL CO



Client:

GREENPARK

Project: Address: Date:

8/14/2018

Designer: **RCO** 

Job Name: HEMLOCK 5C-1

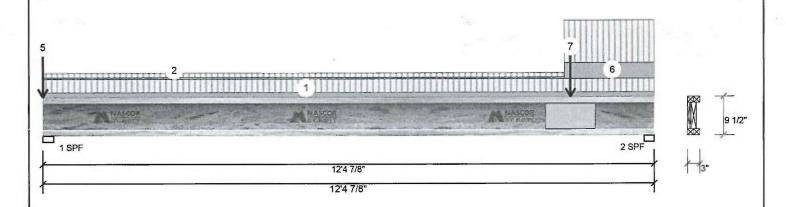
Project #:

F10-C NJ

9.500"

2-Ply - PASSED

Level: Ground Floor



Member Infor	mation			Unfactor	ed Reac	tions U	NPATTERN	ED lb (Upl	lift)	
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snow		Wind
Plies:	2	Design Method:	LSD	1	244		98	0		0
Moisture Conditio	n: Dry	Building Code:	NBCC 2010 / OBC 2012	2	577		217	0		0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored F	Reactions			
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total Ld.	Case	Ld. Comb.
				1-SPF	2.625"	18%	123 / 366	488 L		1.25D+1.5L
				2-SPF	2.375"	42%	271 / 866	1137 L		1.25D+1.5L

**Analysis Results** 

**Design Notes** 

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1702 ft-lb	8'2 1/2"	7340 ft-lb	0.232 (23%)	1.25D+1.5L	L
Unbraced	1702 ft-lb	8'2 1/2"	1720 ft-lb	0.990 (99%)	1.25D+1.5L	L
Shear	1114 lb	12'3 1/4"	3080 lb	0.362 (36%)	1.25D+1.5L	L
Perm Defl in.	0.034 (L/4253)	6'8 1/16"	0.404 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.091 (L/1597)	6'8 1/16"	0.404 (L/360)	0.230 (23%)	L	L
TL Defl inch	0.125 (L/1161)	6'8 1/16"	0.606 (L/240)	0.210 (21%)	D+L	L

1 Girders are designed to be supported on the bottom edge only.

4 Top flange must be laterally braced at a maximum of 5' o.c.

3 Top loads must be supported equally by all plies.

2 Multiple plies must be fastened together as per manufacturer's details.

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.

BLOCK IS REQUIRED AT ALL

PASS THRU FRAMING SQUASH

5 Bottom flange	braced at bearings.					POINT LOAD	S OVER BE	ARINGS.	
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-4-14	(Span) 0-11-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-7-0	(Span)0-4-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-0-0		Тор	5 lb	10 lb	0 lb	0 lb	J5
4	Point	0-0-0		Тор	6 lb	15 lb	0 lb	0 lb	J5
5	Point	0-0-0		Тор	5 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Tie-In	10-7-0 to 12-4-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
7	Point	10-8-8		Near Face	135 lb	359 lb	0 lb	0 lb	F9

#### 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

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

Handling & Installation

andling & Installation

Liest langes must not be cut or drilled

Refer to latest copy of the Liolat product information details for framing details, stiffener tables, web hole chart, bridging details, multiply fastering details and handling/erection details

Damaged Joists must not be used

Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeness for point load as shown Minimum point load bearing length>= 3.5 inches
 For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario 14A7X4 905-642-4400



Client:

**GREENPARK** 

Project: Address:

8/14/2018 Date:

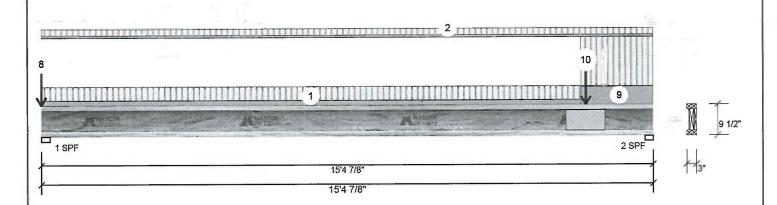
RCO Designer:

Job Name: HEMLOCK 5C-1

Project #:

2-Ply - PASSED 9.500" NJ

Level: Ground Floor



Viember Info	rmation			Unfactore	d Reaction	IS UNPATTERN	ED lb (Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	405	174	0	0
Moisture Conditio	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	618	232	0	0
Deflection LL:	360	Load Sharing:	No	200				
Deflection TL:	240	Deck:	Not Checked					
Importance:	Normal	Vibration:	Not Checked	1				
General Load								
Floor Live:	40 PSF	4		Bearings a	and Factor	ed Reactions		
Dead:	15 PSF		*	Bearing L	ength	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
				1-SPF 2	.625"	30% 218 / 608	826 L	1.25D+1.5L
				2-SPF 2	.375"	45% 290 / 927	1216 L	1.25D+1.5L

**Analysis Results** 

**Design Notes** 

Γ	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
١	Moment	2201 ft-lb	9'3 3/4"	7340 ft-lb	0.300 (30%)	1.25D+1.5L	L
	Unbraced	2201 ft-lb	9'3 3/4"	2202 ft-lb	1.000 (100%)	1.25D+1.5L	L
l	Shear	1197 lb	15'3 1/4"	3080 lb	0.389 (39%)	1.25D+1.5L	L
l	Perm Defl in.	0.068 (L/2685)	8'1 1/2"	0.504 (L/360)	0.130 (13%)	D	Uniform
ı	LL Defl inch	0.180 (L/1008)	8'1 1/2"	0.504 (L/360)	0.360 (36%)	L	L
l	TL Defl inch	0.248 (L/733)	8'1 1/2"	0.756 (L/240)	0.330 (33%)	D+L	L

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.

1 Girders are designed to be supported on the bottom edge only. 2 Multiple plies must be fastened together as per manufacturer's details.

3 Top loads must be supported equally by all plies.

4 Top flange must be laterally braced at a maximum of 4'6" o.c. 5 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-7-0	(Span) 0-10-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 15-4-14	(Span)0-5-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-0-0		Тор	18 lb	48 lb	0 lb	0 lb	J6
4	Point	0-0-0		Тор	16 lb	42 lb	0 lb	0 lb	J5
5	Point	0-0-0		Тор	13 lb	0 lb	0 lb	0 lb	Wall Self Weight

Тор

Continued on page 2...

Notes

Celculated 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

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

Handling & Installation

0-0-0

arruting a Instaliation.

Refer to latest copy of the Lioist product information details for framing details, stiffener tables, web hole chart, bridging details, sufficient tables, web hole chart, bridging details, multi-py fastening details and handling/erection details.

Demaged Lolists must not be used.
Design assumes top flange to be laterally restrained by attached sheething or as specified in engineering notes.

36 lb

13 lb

Provide lateral support at bearing points to avoid lateral displacement and rotation
 Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
 For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Nascor by Kott

0 lb

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



0 lb J6



SPROFESSIONAL ALL



Page 2 of 2

isDesign™

Client:

GREENPARK

Project:

Address:

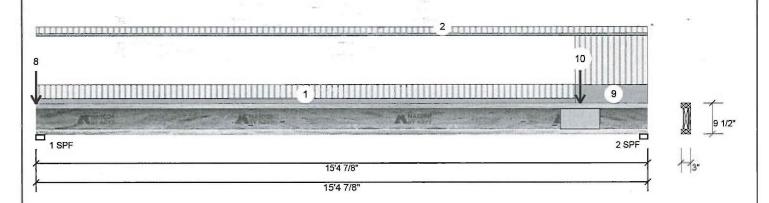
8/14/2018 Date:

RCO Designer:

Job Name: HEMLOCK 5C-1

2-Ply - PASSED 9.500"

Level: Ground Floor



Continue	ed from page 1								
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	0-0-0		Тор	12 lb	31 lb	0 lb	0 lb	J5
8	Point	0-0-0		Тор	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
9	Tie-In	13-7-0 to 15-4-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
10	Point	13-8-8		Far Face	139 lb	370 lb	0 lb	0 lb	F9

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.

#### 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

Dry service conditions, unless noted otherwise
 Uplist not to be treated with fire retardant or continuous.

chemicals

Handling & Installation

- and ling & Installation.

  Noist flanges must not be out or drilled.
  Refer to latest copy of the Lioist product information details for framing details, stiffener tables, web hole chart. bridging details, multi-phy fastening details and handling/erection details.

  Demaged Loists must not be used.
  Design assumes top flange to be laterally restrained by attached shealthing or as specified in engineering notes.
- Provide leteral support at beering points to avoid lateral displacement and rotation
   Wab stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Nascor by Kott





Client: **GREENPARK** 

Project: Address:

8/14/2018

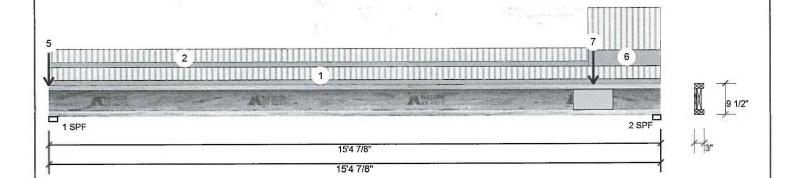
RCO Designer: Job Name: HEMLOCK 5C-1

Project #:

Date:

2-Ply - PASSED 9.500"

Level: Ground Floor



Member Inform	nation			Unfacto	red Reac	ions U	NPATTERNI	ED lb (	Uplift)	
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	V	Wind
Plies:	2	Design Method:	LSD	1	492		204		0	0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	704		264		0	0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearing:	s and Fac	tored F	Reactions			
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1-SPF	2.625"	36%	255 / 739	994	L	1.25D+1.5L
				2-SPF	2.375"	51%	330 / 1055	1385	L	1.25D+1.5L

**Analysis Results** 

An	alysis	Actual	Location	Allowed	Capacity	Comb.	Case
Mc	ment	2899 ft-lb	8'8 13/16"	7340 ft-lb	0.395 (39%)	1.25D+1.5L	L
Un	braced	2899 ft-lb	8'8 13/16"	2911 ft-lb	0.996 (100%)	1.25D+1.5L	L
Sh	ear	1362 lb	15'3 1/4"	3080 lb	0.442 (44%)	1.25D+1.5L	L
Pe	rm Defl in.	0.089 (L/2038)	8' 1/16"	0.504 (L/360)	0.180 (18%)	D	Uniform
LL	Defl inch	0.237 (L/764)	8' 1/16"	0.504 (L/360)	0.470 (47%)	L	L
TL	Defl inch	0.326 (L/556)	8' 1/16"	0.756 (L/240)	0.430 (43%)	D+L	L

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

READ ALL NOTES ON THIS PAGE AND ON

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.



**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 3'10" o.c.

5 Bottom	flange braced at bearing	gs.				I OINT LOAD	OO OVER DE	Pirtintoo.		
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Tie-In	0-0-0 to 15-4-14	(Span) 0-11-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
2	Tie-In	0-0-0 to 13-7-0	(Span)1-0-1	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
3	Point	0-0-0		Тор	28 lb	76 lb	0 lb	0 lb	J6	
4	Point	0-0-0		Тор	25 lb	67 lb	0 lb	0 lb	J5	
5	Point	0-0-0		Тор	20 lb	0 lb	0 lb	0 lb	Wall Self Weight	
6	Tie-In	13-7-0 to 15-4-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
7	Point	13-8-8		Near Face	133 lb	355 lb	0 lb	0 lb	F9	

Notes

Celculated 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

Dry service conditions, unless noted otherwise
 Lipist not to be treated with fire retardant or corre

Handling & Installation

Handling & Installation

1. Jibist flanges must not be cut or drilled

2. Refer to latest copy of the Libist product information defails for framing details, stifferer tables, web hole chart. bridging details, multi-ply fastening details and handling/erection details

3. Demaged bolets must not be used

4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

S. Provide lateral support at bearing points to avoid lateral displacement and rotation
Web stiffeners for point load as shown Minimum point load bearing length> 3.5 Inches
For flat roots provide proper drainage to prevent ponding

Manufacturer Info Nascor by Kott

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





Client:

**GREENPARK** 

Project: Address:

8/14/2018 Date:

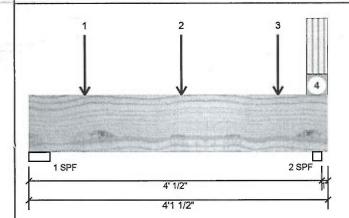
RCO Designer:

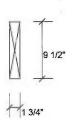
Job Name: HEMLOCK 5C-1

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED Level: Ground Floor





Member Info	rmation		
Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / 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		

Brg	Live	Dead	Snow	Wind
1	172	73	0	0
2	191	79	0	0

Cap. React D/L lb

91/258

99 / 287

Analysis Res	iults					
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	375 ft-lb	2'1 5/16"	11362 ft-lb	0.033 (3%)	1.25D+1.5L	L_
Unbraced	375 ft-lb	2'1 5/16"	9142 ft-lb	0.041 (4%)	1.25D+1.5L	L_
Shear	378 lb	3'2 1/4"	4638 lb	0.081 (8%)	1.25D+1.5L	LL
Perm Defl in.	0.001 (L/35879)	2'1 3/8"	0.125 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/14901)	2'1 3/8"	0.125 (L/360)	0.020 (2%)	L	L_
TL Defl inch	0.004 (L/10528)	2'1 3/8"	0.188 (L/240)	0.020 (2%)	D+L	L_
LL Cant	-0.000 (2L/15940)	Rt Cant	0.200 (2L/480)	0.001 (0%)	L	L_
TI Cant	-0.000	Rt Cant	0.300	0.001 (0%)	D+L	L.

(21/360)

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.

9%

24%

**Bearings and Factored Reactions** 

Bearing Length

1-SPF 3.500"

2-SPF 1.500"

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



Total Ld. Case Ld. Comb.

1.25D+1.5L

1.25D+1.5L

349 L\_

386 LL

#### Design Notes

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

(2L/11273)

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-9-5		Near Face	39 lb	103 lb	0 lb	0 lb	J1
2	Point	2-1-5		Near Face	50 lb	132 lb	0 lb	0 lb	J1
3	Point	3-5-5		Near Face	47 lb	126 lb	0 lb	0 lb	J1
4	Tie-In	3-10-0 to 4-1-8	(Span)0-3-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

#### Notes

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

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

Handling & Installation

- Hallouling & Installation

  1. LVL beams must not be cut or drilled

  2. Refer to manufacturer's product information regarding installation requirements. multi-ply fastering details, beam strength values, and code approvals

  3. Damaged Beams must not be used

  4. Design assumes top edge is laterally restrained

  5. Provide laberal support at bearing points to evoid lateral displacement and rotation

Manufacturer Info APA: PR-L318

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





Client:

GREENPARK

Project: Address:

Date: 8/14/2018

Designer: **RCO** 

Job Name: HEMLOCK 5C-1

Project #:

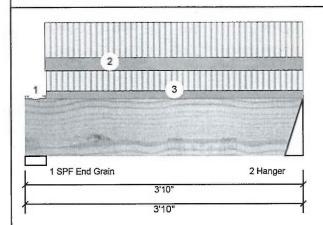
Forex 2.0E-3000Fb LVL

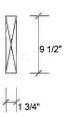
1.750" X 9.500" - PASSED

Brg

2

Level: Ground Floor





Wind

0

0

Member Info	rmation		
Туре:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / 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		

Bearings	and	Factored	Reactions
D			D 100 II

Live

273

311

Unfactored Reactions UNPATTERNED lb (Uplift)

Dead

111

125

Bearing	Length	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	12%	138 / 410	549	L	1.25D+1.5L
2 - Hanger	3.000"	16%	156 / 466	622	L	1.25D+1.5L

Snow

0

0

# **Analysis Results**

Moment         479 ft-lb         1'11 1/4"         11362 ft-lb         0.042 (4%)         1.25D+1.5L         L           Unbraced         479 ft-lb         1'11 1/4"         9518 ft-lb         0.050 (5%)         1.25D+1.5L         L           Shear         463 lb         1' 1/4"         4638 lb         0.100 (10%)         1.25D+1.5L         L								
Unbraced 479 ft-lb 1'11 1/4" 9518 ft-lb 0.050 (5%) 1.25D+1.5L L Shear 463 lb 1' 1/4" 4638 lb 0.100 (10%) 1.25D+1.5L L Perm Defl in. 0.001 (L/27860)  LL Defl inch 0.004 (L/11180)	Г	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Shear 463 lb 1' 1/4" 4638 lb 0.100 (10%) 1.25D+1.5L L  Perm Defl in. 0.001 (L/27860)  LL Defl inch 0.004 (L/11180)  1' 11 5/16" 0.114 (L/360) 0.030 (3%) L L		Moment	479 ft-lb	1'11 1/4"	11362 ft-lb	0.042 (4%)	1.25D+1.5L	L
Perm Defl in. 0.001 (L/27860) 1'11 5/16" 0.114 (L/360) 0.010 (1%) D Unifo (L/27860) LL Defl inch 0.004 (L/11180) 1'11 5/16" 0.114 (L/360) 0.030 (3%) L L		Unbraced	479 ft-lb	1'11 1/4"	9518 ft-lb	0.050 (5%)	1.25D+1.5L	L
(L/27860)  LL Defl inch 0.004 1'11 5/16" 0.114 (L/360) 0.030 (3%) L L (L/11180)		Shear	463 lb	1' 1/4"	4638 lb	0.100 (10%)	1.25D+1.5L	L
(L/11180)		Perm Defl in.		1'11 5/16"	0.114 (L/360)	0.010 (1%)	D	Uniform
TL Defl inch 0.005 (L/7978) 1'11 5/16" 0.171 (L/240) 0.030 (3%) D+L L		LL Defl inch		1'11 5/16"	0.114 (L/360)	0.030 (3%)	L	L
		TL Defl inch	0.005 (L/7978)	1'11 5/16"	0.171 (L/240)	0.030 (3%)	D+L	L

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.



### Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Rottom braced at bearings

4 Dollotti biaced	at bearings.								
D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-3-8	(Span)0-3-14	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-3-5 to 3-10-0		Near Face	39 PLF	104 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-3-8 to 3-10-0		Тор	23 PLF	60 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

#### Notes

Celculated 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

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

Handling & Installation

LVL beams must not be cut or drilled
 Refer to manufacturer's product information regarding installation requirements, mutti-ply fastening details, beam strength values, and code

approvals
Damaged Beams must not be used
Design assumes top adge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info APA: PR-L318







Client:

GREENPARK

Project: Address:

8/14/2018

RCO

Designer: Job Name: HEMLOCK 5C-1

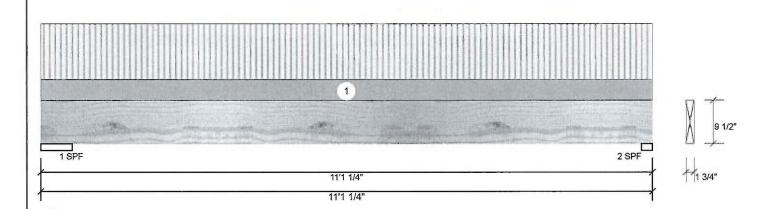
Project #:

Date:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor



Member Infor	rmation -			Unfactore	ed React	tions U	NPATTERN	ED lb (	(Uplift)	
Туре:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Snov	W	Wind
Plies:	1	Design Method:	LSD	1	148		77		0	0
Moisture Conditio	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	138		72		0	0
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal	Vibration:	Not Checked							
General Load										
Floor Live:	40 PSF			Bearings	and Fac	tored I	Reactions			
Dead:	15 PSF			Bearing I	ength	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1-SPF 6	5.875"	4%	97 / 222	318	L	1.25D+1.5L
				2-SPF 2	2.375"	12%	90 / 207	297	L	1.25D+1.5L

#### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	758 ft-lb	5'8 7/8"	11362 ft-lb	0.067 (7%)	1.25D+1.5L	L
Unbraced	758 ft-lb	5'8 7/8"	3564 ft-lb	0.213 (21%)	1.25D+1.5L	L
Shear	246 lb	1'3 5/8"	4638 lb	0.053 (5%)	1.25D+1.5L	L
Perm Defl in.	0.016 (L/7962)	5'8 7/8"	0.349 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.030 (L/4165)	5'8 7/8"	0.349 (L/360)	0.090 (9%)	L	L
TL Defl inch	0.046 (L/2735)	5'8 7/8"	0.523 (L/240)	0.090 (9%)	D+L	L

#### **Design Notes**

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

ID	Load Type	Location	Trib Width	Side	Dead
1	Tie-In	0-0-0 to 11-1-4	(Span)1-3-7	Тор	15 PSF
	Self Weight				4 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.

Comments



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

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

Handling & Installation

andling & Instanceon
LVL beams must not be cut or drilled
Refer to manufacturer's product Information
regarding installation requirements, multi-ply
festening 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

For flat roofs provide proper drainage to prevent ponding

Forex

Manufacturer Info APA: PR-L318





Client:

GREENPARK

Project: Address:

8/14/2018 Date:

Designer: **RCO** 

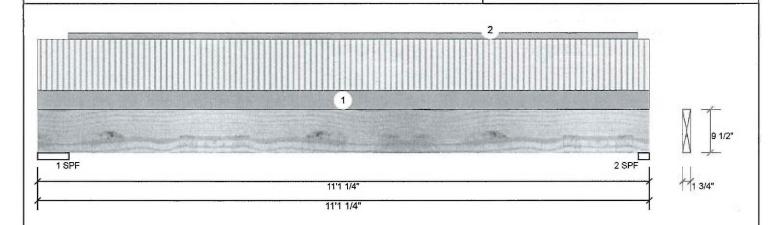
Job Name: HEMLOCK 5C-1

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" - PASSED

Level: Ground Floor



Unfactored Reactions UNPATTERNED Ib (Uplift) Member Information Girder Application: Snow Wind Type: Floor (Residential) Brg Live Dead Plies: Design Method: LSD 1 139 90 0 0 Moisture Condition: Dry **Building Code:** NBCC 2010 / OBC 2012 2 130 85 0 0 Deflection LL: 360 Load Sharing: No Deflection TL: 240 Deck: Not Checked Importance: Normal Vibration: Not Checked General Load Bearings and Factored Reactions Floor Live: 40 PSF Dead: 15 PSF Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 4% 112 / 209 1.25D+1.5L 1 - SPF 6.875" 2-SPF 2.375" 12% 106 / 195 301 L 1.25D+1.5L

Analysis Results

ı	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
l	Moment	770 ft-lb	5'8 7/8"	11362 ft-lb	0.068 (7%)	1.25D+1.5L	L
l	Unbraced	770 ft-lb	5'8 7/8"	3564 ft-lb	0.216 (22%)	1.25D+1.5L	L
l	Shear	250 lb	10'2 1/8"	4638 lb	0.054 (5%)	1.25D+1.5L	L
l	Perm Defl in.	0.019 (L/6735)	5'8 7/8"	0.349 (L/360)	0.050 (5%)	D	Uniform
l	LL Defl inch	0.028 (L/4415)	5'8 7/8"	0.349 (L/360)	0.080 (8%)	L	L
	TL Defl inch	0.047 (L/2667)	5'8 7/8"	0.523 (L/240)	0.090 (9%)	D+L	L
ļ۳							

**Design Notes** 

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

0 00000111	biaboa at boainigo.				
ID	Load Type	Location	Trib Width	Side	Dead
1	Tie-In	0-0-0 to 11-1-4	(Span)1-2-9	Тор	15 PSF
2	Part. Uniform	0-6-12 to 10-10-12		Тор	3 PLF
	Self Weight				4 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.

0 PLF

0 PLF 0 PLF Comments



Notes

Calculated Structured Designs is reaponsible 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 cor

#### Handling & Installation

- LVI, 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

Manufacturer Info APA: PR-L318





isDesign™

Client:

GREENPARK

Project: Address:

8/14/2018

**RCO** 

Designer: Job Name: HEMLOCK 5C-1

Project #:

Date:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

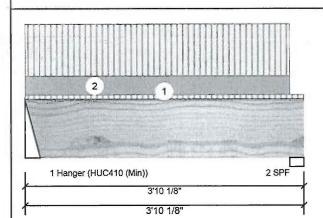
2-Ply - PASSED

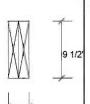
Brg

1

2

Level: Ground Floor





Wind

0

0

Member Information							
Type:	Girder	Application:	Floor (Residential)				
Plies:	2	Design Method:	LSD				
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / 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						

Bearing	s and Fac	tored F	Reactions			
Bearing	Length	Cap.	React D/L ib	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	15%	252 / 747	999	L	1.25D+1.5L
2-SPF	2.375"	18%	228 / 673	901	L	1.25D+1.5L

Snow

0

0

**Unfactored Reactions UNPATTERNED lb (Uplift)** 

Dead

202

183

Live

498

448

Analysis Res	ults					
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	822 ft-lb	1'11 1/8"	22724 ft-lb	0.036 (4%)	1.25D+1.5L	L
Unbraced	822 ft-lb	1'11 1/8"	22724 ft-lb	0.036 (4%)	1.25D+1.5L	L
Shear	514 lb	2'11"	9277 lb	0.055 (6%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/32089)	1'11 3/16"	0.119 (L/360)	0.010 (1%)	D	Uniform
LL Defi inch	0.003 (L/12979)	1'11 3/16"	0.119 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.005 (L/9241)	1'11 3/16"	0.178 (L/240)	0.030 (3%)	D+L	L

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.



**Design Notes** 

- 1 Fill all hanger nailing holes.
- 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

Laterar	ole lide li leco tatle bacca e	it fall occurr, man.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-10-2	(Span)0-11-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-7-12		Тор	90 PLF	240 PLF	0 PLF	0 PLF	
	Self Weight				8 PLF				

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the contractor to ensure the component suitability of the interest the component suitabili

#### Lumber

chemicals

- LVL beams must not be cut or drilled
  Refer to manufacturer's product information
  regarding installation requirements, multi-ply
  festening details, beam strength values, and code
- period by the state of the stat

This design is valid until 7/10/2021

Manufacturer Info For flat roofs provide proper drainage to prevent ponding

APA: PR-L318





Client:

Project:

GREENPARK

Address:

Date:

8/14/2018

Designer: RCO

Job Name: HEMLOCK 5C-1

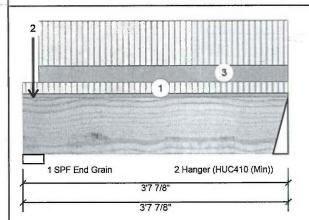
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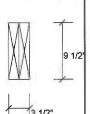
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Ground Floor





Page 1 of 1

Member Inform	nation		
Туре:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			

Unfactored Reactions UNPATTERNED Ib (Uplift)

Live	Dead	Snow	Wind
474	200	0	0
171	78	0	0
	474	474 200	474 200 0

# **Analysis Results**

Floor Live:

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	267 ft-lb	1'10 7/16"	22724 ft-lb	0.012 (1%)	1.25D+1.5L	L
Unbraced	267 ft-lb	1'10 7/16"	22724 ft-lb	0.012 (1%)	1.25D+1.5L	L
Shear	169 lb	1' 1/4"	9277 lb	0.018 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/41508)	1'10 1/2"	0.109 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (1./28539)	1'10 1/2"	0.164 (L/240)	0.010 (1%)	D+L	L

Bearings and Factored Reactions

D-C011115	, and rac					
Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	11%	250 / 710	961	L	1,25D+1.5L
2 - Hanger	2.500"	5%	97 / 257	355	L	1.25D+1.5L

#### **Design Notes**

- 1 Fill all hanger nailing holes.
- 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.

40 PSF

15 PSF

- 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	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-7-14	(Span)0-11-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-1-12		Far Face	125 lb	311 lb	0 lb	0 lb	F2
3	Tie-In	0-2-10 to 3-7-14	(Span)3-10-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

#### Notes

Calculated Structured Designs is responsible only of the structural abequacy of this component based on the design criteria and loadings shown. It is tresponsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to write the different suitability of the intended application, and to write the different suitability.

#### 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
- approves
  Damagad Beams must not be used
  Design assumes top edge is interally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info APA: PR-L318





isDesign'

Client:

Address:

GREENPARK Project:

8/14/2018

RCO

Designer: Job Name: HEMLOCK 5C-1

Project #:

Date:

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Brg

2012

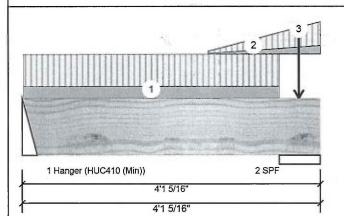
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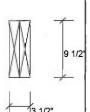
1 -Hanger 2-SPF 6.813"

Bearing Length

2,500"

Level: Ground Floor





Wind

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

nation		
Girder	Application:	Floor (Residential)
2	Design Method:	LSD
Dry	Building Code:	NBCC 2010 / OBC
360	Load Sharing:	No
240	Deck:	Not Checked
Normal	Vibration:	Not Checked
40 PSF	a ( C	
15 PSF		
	Girder 2 Dry 360 240 Normal	Girder Application:  Design Method: Dry Building Code: 360 Load Sharing: 240 Deck: Normal Vibration:

53 / 114

124 / 135

Cap. React D/L lb

3%

2%

Dead

43

Snow

Total Ld. Case

167 L

259 L

Unfactored Reactions UNPATTERNED Ib (Uplift)

Live

76

ŀ	Analysis Results											
	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case					
	Moment	137 ft-lb	1'10 7/8"	22724 ft-lb	0.006 (1%)	1.25D+1.5L	L					
	Unbraced	137 ft-lb	1'10 7/8"	22724 ft-lb	0.006 (1%)	1.25D+1.5L	L					
	Shear	85 lb	11 1/4"	9277 lb	0.009 (1%)	1.25D+1.5L	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%)							
-								_				

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



### **Design Notes**

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
1	Part. Uniform	0-0-3 to 3-6-8		Тор	15 PLF	40 PLF	0 PLF	0 PLF		
2	Tie-In	2-6-13 to 4-1-5	(Span)0-1-12 to 1-5-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
3	Point	3-9-12		Тор	48 lb	0 lb	0 lb	0 lb	Wall Self Weight	
	Self Weight				8 PLF					

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer endfor the contractor to ensure the component suitability of the intended Lumber

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

Handling & Installation

- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply festening 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

For flat roofs provide proper drainage to prevent ponding

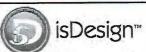
This design is valid until 7/10/2021

Manufacturer Info Forex APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400







Client: **GREENPARK** 

Project: Address:

Date: Designer:

Project #:

8/14/2018

RCO

Job Name: HEMLOCK 5C-1

Page 1 of 1

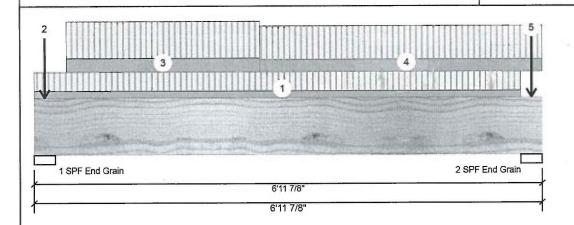
Forex 2.0E-3000Fb LVL

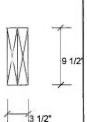
1.750" X 9.500"

2-Ply - PASSED

Brg

Level: Ground Floor





Wind

Member	Information
--------	-------------

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / 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		
Deau.	15 F 51		

### **Unfactored Reactions UNPATTERNED Ib (Uplift)**

1	883	372	0	0
2	1226	502	0	0
100				
1				
1				

Dead

Snow

#### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2336 ft-lb	3'5 7/16"	22724 ft-lb	0.103 (10%)	1.25D+1.5L	L
Unbraced	2336 ft-lb	3'5 7/16"	21881 ft-lb	0.107 (11%)	1.25D+1.5L	L
Shear	1311 lb	1' 1/4"	9277 lb	0.141 (14%)	1.25D+1.5L	L
Perm Defl in.	0.009 (L/8737)	3'5 7/8"	0.218 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.022 (L/3587)	3'5 13/16"	0.218 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.031 (L/2543)	3'5 13/16"	0.327 (L/240)	0.090 (9%)	D+L	L

**Bearings and Factored Reactions** 

Live

Dearing.	bearings and recored reactions								
Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.			
1 - SPF End Grain	3.500"	20%	465 / 1325	1790	L	1.25D+1.5L			
2 - SPF End Grain	3.500"	27%	628 / 1839	2467	L	1.25D+1.5L			

Comments

#### **Design Notes**

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at 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.

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.



6 Lateral slenderness ratio based on full section width. ID Load Type Location Trib Width Dead Wind 0 PSF 15 PSF 40 PSF Tie-In 0-0-0 to 6-8-6 (Span)3-10-4 Top

0 PSF 78 lb 171 lb 0 lb 0 lb F4 0-1-12 Near Face 2 Point Near Face 56 PLF 150 PLF 0 PLF 0 PLF 3 Part. Uniform 0-5-5 to 3-1-5 Part. Uniform 3-1-5 to 6-11-14 Near Face 51 PLF 135 PLF 0 PLF 0 PLF 0 lb 0 lb F4 Far Face 202 lb 498 lb 5 Point 6-10-2 8 PLF Self Weight

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

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

Handling & Installation

- LVL beams must not be cut or drilled Refer to manufacturer's produ-regarding installation requirement fastening details, beam strength va-1.
- 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

This design is valld until 7/10/2021

Manufacturer Info Forex APA: PR-L318





Client:

GREENPARK

Project:

Address:

8/14/2018 Date:

RCO Designer:

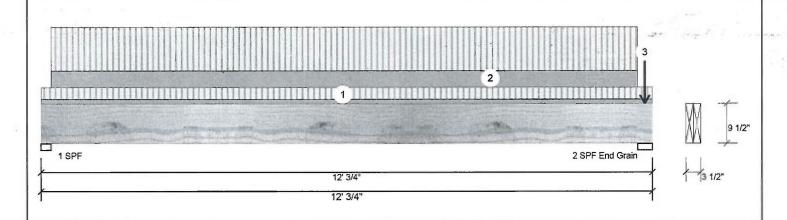
Job Name: HEMLOCK 5C-1

Project #:

Forex 2.0E-3000Fb LVL

1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Inform	nation				Unfacto	red React	ions U	NPATTERN	ED lb (l	Uplift)	
Type:	Girder	Applica	ation:	Floor (Residential)	Brg	Live		Dead	Snow	1	7
Plies:	2	Design	Method:	LSD	1	587		266	(	)	
Moisture Condition	: Dry	Buildin	g Code:	NBCC 2010 / OBC 2012	2	665	774	310	C	)	
Deflection LL:	360	Load S	Sharing:	No							
Deflection TL:	240	Deck:		Not Checked							
Importance:	Normal	Vibratio	on:	Not Checked							
General Load		- 1									
Floor Live:	40 PSF				Bearing	s and Fact	ored	Reactions			
Dead:	15 PSF				Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	
					1-SPF	2.375"	24%	332 / 881	1213	L	

Analysis	Results
Analysis	Actual

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3554 ft-lb	5'11 13/16"	22724 ft-lb	0.156 (16%)	1.25D+1.5L	L
Unbraced	3554 ft-lb	5'11 13/16"	20022 ft-lb	0.178 (18%)	1.25D+1.5L	L
Shear	1051 lb	11 1/8"	9277 lb	0.113 (11%)	1.25D+1.5L	L
Perm Defl in.	0.041 (L/3431)	5'11 13/16"	0.390 (L/360)	0.100 (10%)	D	Uniform
LL Defl inch	0.091 (L/1546)	5'11 13/16"	0.390 (L/360)	0.230 (23%)	L	L
TL Defl inch	0.132 (L/1066)	5'11 13/16"	0.585 (L/240)	0.230 (23%)	D+L	L

**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.
- 6 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.

15%

388 / 998

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.

2-SPF 3.500"

End Grain



Wind 0 0

Ld. Comb. 1.25D+1.5L

1.25D+1.5L

1385 L

· Luiorai Gioriaci		Idii oodidii iiiddii							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-0-12	(Span)1-0-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-2-6 to 11-9-4	(Span)3-11-8	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	11-11-0		Near Face	43 lb	76 lb	0 lb	0 lb	F5
	Self Weight				8 PLF				

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer endfor 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
- approvals
  Damaged Beams must not be used
  Design essumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex APA: PR-L318

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





Client:

GREENPARK

Project:

Address:

Date: 8/14/2018

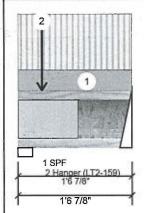
Designer: **RCO** 

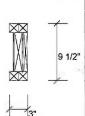
Job Name: HEMLOCK 5C-1

Project #:

2-Ply - PASSED NJ 9.500"

Level: Ground Floor





M	em	ber	Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal
General Load	
Floor Live:	40 PSF

**15 PSF** 

Floor (Residential) Application: Design Method: LSD **Building Code:** NBCC 2010 / OBC 2012

Load Sharing: No Not Checked Deck: Vibration: Not Checked

Unfactored	Reactions	UNPATTERNED	lb	(Uplift)

Brg	Live	Dead	Snow	Wind
1	122	225	80	0
2	62	53	14	0

Cap. React D/L lb

281 / 121

67 / 93

20%

#### Analysis Results

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	76 ft-lb	3 15/16"	5578 ft-lb	0.014 (1%)	1.25D+1.5S	L
Unbraced	76 ft-lb	3 15/16"	5327 ft-lb	0.014 (1%)	1.25D+1.5S	L
Shear	398 lb	1 5/8"	2341 lb	0.170 (17%)	1.25D+1.5S	L
Perm Defl in.	0.000 (L/33964)	3 15/16"	0.044 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.000 (L/46459)	6 13/16"	0.044 (L/360)	0.010 (1%)	L+0.5S	L
TL Defl inch	0.001 (L/20199)	4 3/8"	0.067 (L/240)	0.010 (1%)	D+L+0.5S	L

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.

**Bearings and Factored Reactions** 

Bearing Length

1-SPF 2.375"

2.000"

2 -

Hanger

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



Ld. Comb.

1.25D+1.5S

1.25D+1.5L

Total Ld. Case

402 L

160 L

#### **Design Notes**

- 1 Fill all hanger nailing holes.
- 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 flange braced at bearings.
- 6 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-15		Far Face	240 lb	82 lb	94 lb	0 lb	J1

#### 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 end/or the contractor to ensure the component suitability of the intended Lumber

Dry service conditions, unless noted otherwise
 IJoist not to be treated with fire retardant or continuous.

Handling & Installation

- and III no Stallation

  Libels flags must not be cut or drilled

  Refer to letest copy of the Libels product information
  details for framing details, suttinent tables, web hole
  chert, bridging details, multi-by tastening details and
  handling/erection details

  Design assumes top flange to be leterally restrained
  by attached sheathing or as specified in engineering
  notes. 1.

- Provide lateral support at bearing points to evold lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing lengthre-3.5 inches
   Ten flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott







isDesign™

Client:

Project:

GREENPARK

Address:

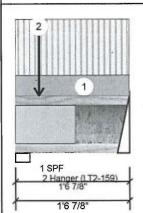
8/14/2018 Date:

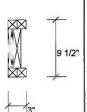
Designer: RCO

Job Name: HEMLOCK 5C-1

2-Ply - PASSED 9.500"

Level: Ground Floor





Wind

0 0

Ld. Comb.

1.25D+1.5S 1.25D+1.5L

Page 1 of 1

Member Info	rmation			Unfacto	red React	ions U	NPATTERNI	ED Ib	(Uplift)
Type:	Girder	Application:	Floor (Residential)	Brg	Live		Dead	Sno	w
Plies:	2	Design Method:	LSD	1	125		233	8	33
Moisture Conditi	on: Dry	Building Code:	NBCC 2010 / OBC 2012	2	62		55	1	4
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal	Vibration:	Not Checked	1					
General Load									
Floor Live:	40 PSF			Bearing:	s and Fact	ored	Reactions		
Dead:	15 PSF			Bearing	Length	Cap.	React D/L lb	Total	Ld. Case
				1-SPF	2.375"	20%	291 / 124	415	L
Analysis Resu	ılts			2 - Hanger	2.000"	7%	68 / 94	162	L

Allalysis ites	uics					
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	79 ft-lb	3 15/16"	5578 ft-lb	0.014 (1%)	1.25D+1.5S	L
Unbraced	79 ft-lb	3 15/16"	5327 ft-lb	0.015 (1%)	1.25D+1.5S	L
Shear	411 lb	1 5/8"	2341 lb	0.176 (18%)	1.25D+1.5S	L
Perm Defl in.	0.000 (L/32816)	3 15/16"	0.044 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.000 (L/45552)	6 11/16"	0.044 (L/360)	0.010 (1%)	L+0.5S	L
TL Defl inch	0.001 (L/19599)	4 1/4"	0.067 (L/240)	0.010 (1%)	D+L+0.5S	L

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



#### Design Notes

- 1 Fill all hanger nailing holes.
- 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 flange braced at bearings.
- 6 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-3-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-15		Near Face	249 lb	85 lb	97 lb	0 lb	J1

Celeulated 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 subtability of the intended application, and to verify the dimensions and loads.

#### Lumber

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

#### chemicals

- landling & Installation

  Loist flenges must not be cut or drilled.
  Refer to latest copy of the 'Loist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details

  Demaged Loists must not be used

  Design assumes top flenge to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to evoid lateral displacement and rotation
   Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Nascor by Kott





Client: **GREENPARK** 

Project: Address:

Date: Designer:

RCO Job Name: HEMLOCK 5C-1

Project #:

Brg

1

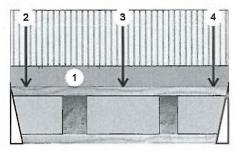
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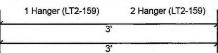
9.500"

2-Ply - PASSED

Level: Ground Floor

8/14/2018







Wind

0

0

Member Info	rmation		
Туре:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / 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		

Bearings and Factored Reactions									
Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.			
1 - Hanger	2.000"	27%	168 / 538	706	L	1.25D+1.5L			
2 - Hanger	2.000"	27%	168 / 540	708	L	1.25D+1.5L			

Snow

0

0

Unfactored Reactions UNPATTERNED lb (Uplift)

Dead

135

135

Live

359

360

#### **Analysis Results** Analysis Actual Location Allowed Capacity Comb. Case Moment 475 ft-lb 1'6 9/16" 7340 ft-lb 0.065 (6%) 1.25D+1.5L L 475 ft-lb 1'6 9/16" 4678 ft-lb 0.102 (10%) 1.25D+1.5L L Unbraced 701 lb 2'10 3/4" 3080 lb 0.228 (23%) 1.25D+1.5L L Shear Perm Defl in. 0.001 1'6 9/16" 0.093 (L/360) 0.010 (1%) D Uniform (L/24755) 1'6 9/16" 0.093 (L/360) 0.040 (4%) L LL Defl inch 0.004 (L/9282) L TL Defl inch 0.005 (L/6751) 1'6 9/16" 0.140 (L/240) 0.040 (4%) D+L L

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.



**Design Notes** 

- 1 Fill all hanger nailing holes.
- 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 flange braced at bearings.
- 6 Bottom flange braced at hearings

O DOLLOIT	indige bidoca at bearing.	,							
D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-0	(Span)1-8-15	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-9		Near Face	66 lb	176 lb	di 0	0 ib	J4
3	Point	1-6-9		Near Face	102 lb	272 lb	0 lb	0 lb	J4
4	Point	2-9-9		Near Face	62 lb	166 lb	0 lb	0 lb	J4

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design critaria 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
 Upist not to be treated with fire retardant or corrosive

Handling & Installation

1.

arrouting a Installation.

Lioist flanges must not be cut or drilled.
Refer to latest copy of the Lioist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-phy fastering details and handling/erection details.

Damaged Loists must not be used.
Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
   Was stiffeness for point load as shown Minimum point load bearing length>= 3.5 inches
   For flat roofs provide proper drainage to prevent ponding

Nascor by Kott

Manufacturer Info

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





Client:

GREENPARK

Project: Address

8/14/2018 Date:

RCO Designer:

Job Name: HEMLOCK 5C-1

Project #:

Brg

1

Bearing Length

Hanger

Hanger

2.000"

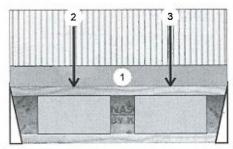
2.000"

2

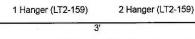
9.500"

2-Ply - PASSED

Level: Ground Floor



3



9 1/2"

Wind

0

0

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

Mambau Information

Member Inform	nation		
Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 20
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		

15 PSF Dead:

**Unfactored Reactions UNPATTERNED lb (Uplift)** 

Live

355

370

Bearings	and Factored	Reactions	

167 / 532

174 / 555

Cap. React D/L lb

Dead 133

139

Snow

0

0

Total Ld. Case

699 L

728 L

Analysis Results

Analysis         Actual         Location         Allowed         Capacity         Comb.           Moment         518 ft-lb         1°1 5/16"         7340 ft-lb         0.071 (7%)         1.25D+1           Unbraced         518 ft-lb         1°1 5/16"         4678 ft-lb         0.111 (11%)         1.25D+1	
	c. Case
Unbraced 518 ft-lb 1'1 5/16" 4678 ft-lb 0.111 (11%) 1.25D+1	+1.5L L
	+1.5L L
Shear 721 lb 2'10 3/4" 3080 lb 0.234 (23%) 1.25D+1	+1.5L L
Perm Defl in. 0.002 1'5 1/16" 0.093 (L/360) 0.020 (2%) D (L/21287)	Uniform
LL Defl inch 0.004 (L/7999) 1'5 1/16" 0.093 (L/360) 0.050 (5%) L	L
TL Defl inch 0.006 (L/5814) 1'5 1/16" 0.140 (L/240) 0.040 (4%) D+L	L

Design Notes

1 Fill all hanger nailing holes.

- 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 flange braced at bearings.

Point

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.

27%

28%

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.



6 Bottom flange braced at bearings. Wind Comments Live ID Trib Width Dead Snow Load Type Location Side 15 PSF 40 PSF 0 PSF 0 PSF Tie-In 0-0-0 to 3-0-0 (Span)1-8-15 Top 1 0 - 10 - 9Near Face 119 lb 316 lb 0 lb 0 lb **J**5 2 Point

Near Face

Notes

3

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 Lumber

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

Handling & Installation

- AIRCHING & INSCALIATION

  Librist flanges must not be cut or drilled

  Refer to latest copy of the Librist product information
  details for framing details, stiffaner tables, web hole
  chart. bridging details, multi-by statening details and
  handling/erection details

  Damaged Librist must not be used

  Design assumes top flange to be laterally restrained
  by attached sheathing or as specified in engineering
  notes.

2-2-9

- Provide lateral support at bearing points to avoid lateral displacement and rotation

114 lb

itateral displacement and rotation

6. Web stiffeners for point load as shown Minimum point load bearing length≻= 3.5 Inches

7. For flat roofs provide proper drainage to prevent ponding

304 lb

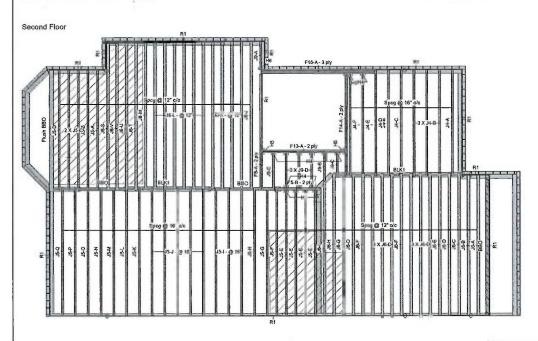
Manufacturer Info Nascor by Kott

Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400

0 lb J5



NE0818-118



Legend

Load from Above Norbord Rimboard Plus 1.125 X 9.5 NJ60U 9.5 NJH 9.5 Forex 2.0E-3000Fb LVL 1.75 X 9.5

- 1. OBC 2012 O.Reg 332/12 as amended
- 2. Nascor CCMC 13535-R
- 3. LVL CCMC -14056-R
- 4. CAN/CSA-086-09
- 5. CCMC -12787-R APA PR-L310(C)

THIS CERTIFICATION IS TO CONFIRM THAT:

1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY SHOWN ON THIS LAYOUT.

2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE, MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

ALL OTHER COMPONENTS AND STRUCTURAL ELEMENTS SUPPORTING THE FLOOR SYSTEM SUCH AS BEAMS, WALLS, COLUMNS AND FOUNDATION WALLS AND FOOTINGS INCLUDING ANCHORAGE OF COMPONENTS AND BRACING FOR LATERAL STABILITY ARE THE RESPONSIBILITY OF OTHERS.



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. PAGE 26 OF 31

LAULLSL (Flush)	20
F15 Forex 1.75 9.5 1 3 3 12-00  1.75 9.5 1 2 12-00  1.75 9.5 1 2 12-00  1.76 Porex 1.75 9.5 1 2 12-00  1.76 Porex 1.75 9.5 1 2 2 10-00  1.77 Porex 1.78 9.5 1 2 2 10-00  1.78 Porex 1.78 Porex 1.78 9.5 1 2 2 10-00  1.78 Porex 1.78 Po	JK
2.0E-3000Fb1VL 1.75 9.5 1 2 2 10-0-0 Design Method	- 10 -
2.0E-3000Fb LVL LSD	
F5 Forex 1.75 9.5 2 2 6-0-0 Description	
I Joist (Flush) MINNISALE HOMES	
Label Description Width Depth Qty Plies Pcs Length BRAMPTON, ONT.	
J6 NJ60U 3.5 9.5 33 16-0-0 Revised	
J5 NJH 25 9.5 27 14-0-0 August 14, 2018	
J4 NJH 25 9.5 9 12-0-0 Builder	
J9 NJH 25 9.5 T 4-0-0 GREENPARK	
Pim Roard	
Label Description Width Depth Oty Plies Pcs Length Sales Rep	
R1 Norbord Rimboard 1.125 9.5 11 12 Pks 1.125 X 9.5 Designer	
Blocking RCO	
Label Description Width Depth Oty Plies Pcs Length Shipping	
BLK1 NJH 2.5 9.5 LinFt Varies 21-0-0 Project	

Member Label Pcs Description Skew Slope fasteners fasteners H4 15 LT259 H5 3 HGUS410 4 10dx1 1/2 2 10dx1 1/2 46 16d 16 16d Н6 Unknown

#### NOTES:

Hanger

- 1. Framer to venify dimensions on the architectural drawings.
  2. Double joist only require filter/backer ply when supporting another member using a face-mounted hanger.
  3. Install 2x4 blocking @ 24\* of a under parallel non-load bearing walls.
  4. Install single-ply thists window header along instde face of

- 4. Install single-ply flush window header along inside face of imboard/injoist.
  5. Refer to Nascor specifier guide for installation works.
  6. Squash blocks recommended to be Installed at end bearing on all first level joists which support loading from above exceeding two levels foor or roof.
  7. Load transfer blocks to be installed under all point loads.
  8. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or bolting requirements.

Rim parallel to joists: 1-1/6° rimboard with 2'x 4" block (1/16" longer then nim depth @ 16" obj. All other components and structural elements supporting the floor system such as beams, wells, columns, and foundation waits and footings including anchorage of components and bracing for letteral stability are the responsibility of Others.

Hatch area represents ceramic tiled floor with an additional dead load of 5 PSF

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation prior to construction.

#### ARCHITECTURAL DRAWINGS:

REGION DESIGN INC. 8700 Dufferin St., Concord, ON Date: May 2018 Project No: Model: Hemlock 5-5C

Ŀ	NAJCOR
1	
	Layout Name
	HEMLOCK 5C-1 & 5C-2
1	Design Method
	LSD
1	Description
	MINNISALE HOMES
1	BRAMPTON, ONT.
)	Revised
)	August 14, 2018
)	Builder
_	GREENPARK
,	Sales Rep
?	RM
_	Designer
_	RCO
1	Shipping
)	Project
ı	Builder's Project
	Kott Lumber Company
	14 Anderson Blvd
	Stouffville, Ontario
_	Canada
	14A 7X4
-	905-642-4400
	Job Path
	S:\CUSTOMERS\GREENPARK VAINNISALE HOMES\MODELS
	WEMLOCK 5CHEMLOCK 5C-1
	VFLOORVREVHEMLOCK 5C-1.isl
	Second Floor
ı	Design Method LSD
	Building Code NBCC 2010 / OBC 2012
	Floor
	Loads
	Live 49
H	Dead 15
	Deflection Joist
	LL Span L/ 480
ı	TLSpan L/ 360
	LL Cant 2L/ 480
	TL Cant 2L/ 360
ŀ	Deflection Girder
	LL Span L/ 360 TL Span L/ 240
H	ra opan a
	LL Cant 2L/ 480 TL Cant 2L/ 360
	Decking 300
	Deck SPF Plywood
	Thickness 5/8"
	Fastener Nailed & Glued

Gypsum 1/2"

Vibration

Ceiling:

Client:

GREENPARK

Project: Address:

8/14/2018 Date:

RCO

Designer: Job Name: HEMLOCK 5C-1

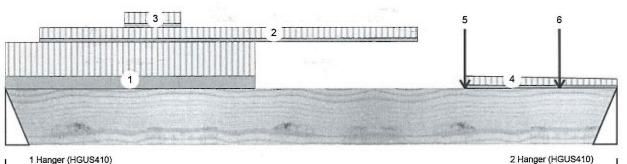
Project #

Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

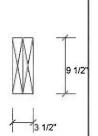
Level: Second Floor



1 Hanger (HGUS410)

8'7 1/2"

8'7 1/2"



Member Information

Туре:	Girder	_
Plies:	2	
Moisture Condition:	Dry	
Deflection LL:	360	
Deflection TL:	240	
Importance:	Normal	
General Load	E-maket Art	
Floor Live:	40 PSF	

15 PSF

Application: Floor (Residential) Design Method: LSD **Building Code:** NBCC 2010 / OBC 2012 Load Sharing: Deck:

Not Checked Not Checked

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	1021	414	0	0
2	520	227	0	0

Cap. React D/L lb

518 / 1531

284 / 780

**Analysis Results** 

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2887 ft-lb	3'2 5/16"	22724 ft-lb	0.127 (13%)	1.25D+1.5L	L
Unbraced	2887 ft-lb	3'2 5/16"	21433 ft-lb	0.135 (13%)	1.25D+1.5L	L
Shear	1454 lb	1' 3/4"	9277 lb	0.157 (16%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/6305)	4' 1/8"	0.269 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.037 (L/2638)	3'11 11/16"	0.269 (L/360)	0.140 (14%)	L	L
TL Defl inch	0.052 (L/1860)	3'11 7/8"	0.404 (L/240)	0.130 (13%)	D+L	L

Vibration:

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.

20%

10%

**Bearings and Factored Reactions** 

Bearing Length

4.000"

4.000"

1 -

Hanger

Hanger

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.



Ld. Comb.

1.25D+1.5L

1.25D+1.5L

Total Ld. Case

2049 1

1063 L

**Design Notes** 

1 Fill all hanger nailing holes.

- 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.

ľ	ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
	1	Part. Uniform	0-0-0 to 3-6-5		Тор	90 PLF	240 PLF	0 PLF	0 PLF		
١	2	Part, Uniform	0-5-13 to 5-9-13		Near Face	27 PLF	73 PLF	0 PLF	0 PLF		
l	3	Tie-In	1-8-4 to 2-5-13	(Span)3-11-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
	4	Tie-In	6-5-13 to 8-7-8	(Span)3-1-11 to 2-4-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF		
	5	Point	6-5-13		Near Face	28 lb	75 lb	0 lb	0 lb	J9	

Continued on page 2...

Calculated Str structural ade Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design critisnia and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the Intended

Lumber

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

Handling & Installation

- LVL beams must not be cut or drilled
  Refer to manufacturer's product information
  regarding installation requirements, multi-ply
  ficstenting details, beam strength values, and code
  approvals
- 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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

Manufacturer Info Forex APA: PR-L318

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



Version 18.40.162 Powered by iStruct™



8'7 1/2"

8 PLF

.Continued from page 1 ID Load Type Location Trib Width Side Dead Live Snow 6 Point 7-9-13 Near Face 19 lb 51 lb 0 lb

> 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.

Wind Comments

0 lb

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.

Self Weight

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

Handling & Installation

Handling & Installation

1. LVL beams must not be cut or drilled

2. Refer to manufacturer's product information regarding installation requirements, multi-py 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

Manufacturer info APA: PR-L318



isDesign™

Client: Project:

Address:

GREENPARK

Date: 8/14/2018

Designer: RCO

Job Name: HEMLOCK 5C-1

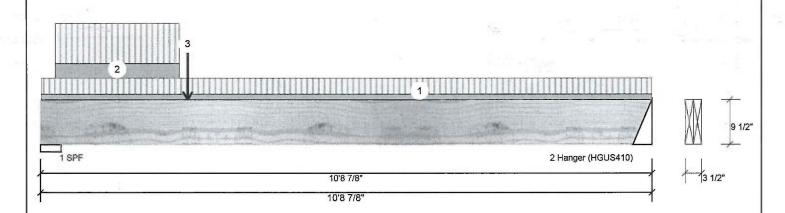
Project #:

F14-A Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor



Member Inform	nation			Unfactored
Туре:	Girder	Application:	Floor (Residential)	Brg
Plies:	2	Design Method:	LSD	1
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2
Deflection LL:	360	Load Sharing:	No	
Deflection TL:	240	Deck:	Not Checked	
Importance:	Normal	Vibration:	Not Checked	
General Load				
Floor Live:	40 PSF			Bearings ar
Dead:	15 PSF			Bearing Le

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	481	246	0	0
2	162	109	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	11%	308 / 722	1029	L	1.25D+1.5L
2 - Hanger	4.000"	4%	136 / 243	379	L	1.25D+1.5L

**Analysis Results** 

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2176 ft-lb	2'7 1/8"	22724 ft-lb	0.096 (10%)	1.25D+1.5L	L
Unbraced	2176 ft-lb	2'7 1/8"	20683 ft-lb	0.105 (11%)	1.25D+1.5L	L
Shear	971 lb	1'1 1/8"	9277 lb	0.105 (10%)	1.25D+1.5L	L
Perm Defl in.	0.018 (L/6840)	4'10 1/16"	0.339 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.033 (L/3748)	4'8 3/16"	0.339 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.050 (L/2422)	4'8 13/16"	0.508 (L/240)	0.100 (10%)	D+L	L

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.



Design Notes

- 1 Fill all hanger nailing holes.
- 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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-2 to 10-8-14	(Span)0-4-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-3-2 to 2-5-6	(Span)0-11-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	2-7-2		Far Face	227 lb	520 lb	0 lb	0 ib	F13
	Self Weight				8 PLF				

Notes

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

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

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
3. Damaged Beams must not be used

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

For flat roofs provide proper drainage to prevent ponding Manufacturer Info Forex APA: PR-L318





isDesign"

Client: Project:

Address:

GREENPARK

Date:

8/14/2018

Designer: RCO

Job Name: HEMLOCK 5C-1

Project #:

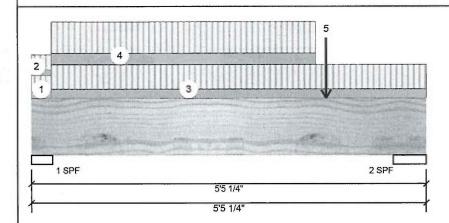
Forex 2.0E-3000Fb LVL

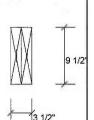
1.750" X 9.500"

2-Ply - PASSED

1

Level: Second Floor





Wind

0

Member Info	rmation		
Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / 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	Ib (Uplift)
Brg	Live	Dead	Snow

2	908	908 387	0	0

147

**Bearings and Factored Reactions** 

322

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1-SPF	3.500"	9%	184 / 483	667	L	1.25D+1.5L
2-SPF	5.500"	16%	483 / 1362	1845	L	1.25D+1.5L

**Analysis Results** 

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1763 ft-lb	4' 3/4"	22724 ft-lb	0.078 (8%)	1.25D+1.5L	L
Unbraced	1763 ft-lb	4' 3/4"	22724 ft-lb	0.078 (8%)	1.25D+1.5L	L
Shear	1786 lb	4'3"	9277 lb	0.192 (19%)	1.25D+1.5L	L
Perm Defl in.	0.004 (L/16219)	3'1 5/16"	0.160 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.008 (L/6979)	3'1 3/4"	0.160 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.012 (L/4880)	3'1 5/8"	0.241 (L/240)	0.050 (5%)	D+L	L

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.



**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.

6	Lateral	slenderness	ratio	based	on '	full	section	width.
			-	,				

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-3-4	(Span)0-8-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-3-4	(Span)0-7-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-3-4 to 5-5-4	(Span)1-0-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-3-4 to 3-11-0	(Span)1-3-9	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	4-0-12		Near Face	414 lb	1021 lb	0 lb	0 lb	F13
	Self Weight				8 PLF				

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

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

Handling & Installation

LIVL 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 restroined Provide lateral support at bearing points to avoid lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info Forex APA: PR-L318

Kott Lumber Company 14 Anderson Blvd, Ontario 905-642-4400







Client: GREENPARK

Project: Address:

8/14/2018

RCO

Designer: Job Name: HEMLOCK 5C-1

Project #:

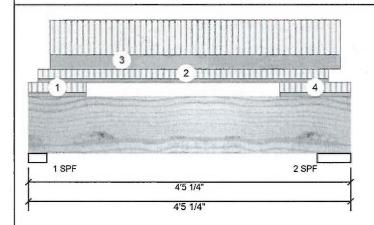
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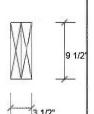
Forex 2.0E-3000Fb LVL

1.750" X 9.500"

2-Ply - PASSED

Level: Second Floor





0

Member Info	rmation		
Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition	on: Dry	Building Code:	NBCC 2010 / 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		

Unfacto	red Reaction	S UNPATTER	NED lb (Uplif	t)
Brg	Live	Dead	Snow	Wind
1	680	291	0	0
2	791	339	n	0

#### Bearings and Factored Reactions Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.000" 21% 364 / 1020 1.25D+1.5L 2-SPF 5.500" 14% 423 / 1186 1609 L 1.25D+1.5L

**Analysis Results** 

	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
ı	Moment	1286 ft-lb	2'1 3/8"	22724 ft-lb	0.057 (6%)	1.25D+1.5L	L
ı	Unbraced	1286 ft-lb	2'1 3/8"	22724 ft-lb	0.057 (6%)	1.25D+1.5L	L
ı	Shear	1301 lb	11 3/4"	9277 lb	0.140 (14%)	1.25D+1.5L	L
	Perm Defl in.	0.002 (L/19294)	2'1 7/16"	0.128 (L/360)	0.020 (2%)	D	Uniform
ı	LL Defl inch	0.006 (L/8295)	2'1 7/16"	0.128 (L/360)	0.040 (4%)	L	L
ı	TL Defl inch	0.008 (L/5801)	2'1 7/16"	0.193 (L/240)	0.040 (4%)	D+L	L

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.



**Design Notes** 

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.

o Lateral sien	iderness ratio based or	i tuli section wiath.							
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-9-9	(Span)3-11-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-1-9 to 4-1-9		Far Face	27 PLF	73 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-3-9 to 4-3-9		Near Face	109 PLF	260 PLF	0 PLF	0 PLF	
4	Tie-In	3-5-9 to 4-5-4	(Span)3-11-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

Notes

Celculated 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

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

Handling & Installation

LVL beams must not be cut or drilled Refer to menufacturer's product information regerding installation requirements, multi-pty fastening details, beam strength values, and code 1.

approvals

Damaged Beams must not be used

Design essumes top edge is laterally restrained

Provide lateral support at bearing points to avoid

lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Manufacturer Info APA- PR-I 318





HEMLOCK 5C-1 & 5C-2

BRAMPTON, ONT.

Stouffville Ontario

905-642-4400

**Ground Floor** 

Design Method

Floor

Loads

Live

Dead Deflection Joist

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

LL Span L/

TL Span L/

LL Cant 2L/

TL Cant 2L/

Decking Deck

Thickness

Fastener

Vibration

Deflection Girder

MINNISALE HOMES\MODELS

**HEMLOCK 5CHEMLOCK 5C-1** \FLOOR\REV\HEMLOCK 5C-1.isl

Building Code NBCC 2010 / OBC

LSD

2012

40

15

480

360

480

360

360

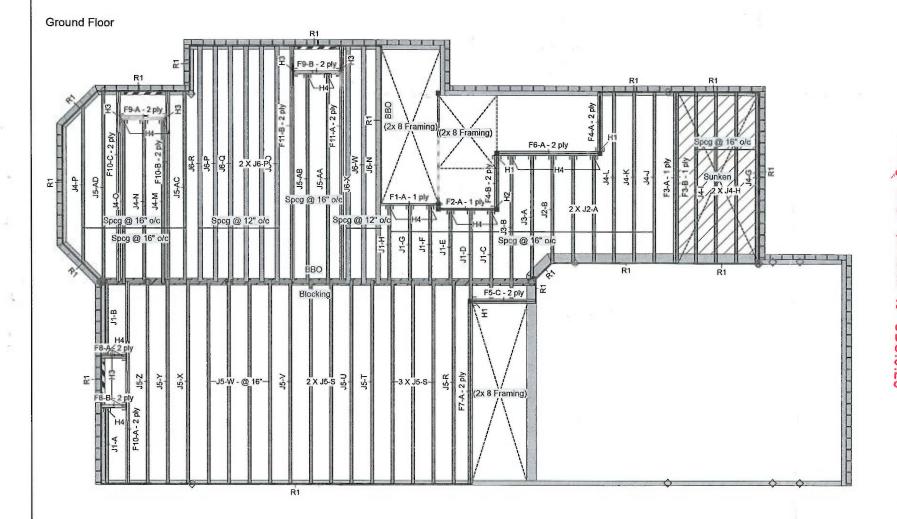
240

480

360

SPF Plywood

Nailed & Glued



conventional conform Wood framing OBC.9.20

0 332/12 o e Ontario

THIS CERTIFICATION IS TO CONFIRM THAT:

1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY SHOWN ON THIS LAYOUT.

2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE, MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

ALL OTHER COMPONENTS AND STRUCTURAL ELEMENTS SUPPORTING THE FLOOR SYSTEM SUCH AS BEAMS, WALLS, **COLUMNS AND FOUNDATION WALLS AND FOOTINGS** INCLUDING ANCHORAGE OF COMPONENTS AND BRACING FOR LATERAL STABILITY ARE THE RESPONSIBILITY OF OTHERS.



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

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

Legend



Load from Above Wall Opening Norbord Rimboard Plus 1.125 X 9.5 NJ 9.5 NJ60U 9.5 NJH 9.5 Forex 2.0E-3000Fb LVL 1.75 X 9.5

1. OBC 2012 O.Reg 332/12 as amended

2. Nascor CCMC - 13535-R

3. LVL CCMC -14056-R

4. CAN/CSA-O86-09

5. CCMC -12787-R APA PR-L310(C)

CITY OF BRAMPTON BUILDING DIVISION REVIEWED

MARK DERKSEN

Forex 1.75 9.5 2 14-0-0 2.0E-3000Fb LVL Layout Name F3 Forex 175 12-0-0 2 2.0E-3000Fb LVL F6 Forex 2.0E-3000Fb LVL 1.75 9.5 8-0-0 Design Method 1.75 9.5 6-0-0 Revised 2.0E-3000Fb LVL August 14, 2018 Forex 1.75 6-0-0 2.0E-3000Fb LVL Description F4 Forex 1.75 9.5 2 2 4-0-0 MINNISALE HOMES 2.0E-3000Fb LVL F2 Forex 1.75 4-0-0 Builder 2.0E-3000Fb LVL **GREENPARK** Joist (Flush) Label Description Width Pcs Length Depth Qty Plies Sales Rep F11 NJ 15 9.5 16-0-0 RM F10 NJ 1.5 9.5 14-0-0 6 Designer F9 NJ 1.5 9.5 4 4-0-0 RCO F8 NJ 1.5 9.5 4 2-0-0 Shipping J6 NJ60U 3.5 9.5 9 16-0-0 J5 NJH 2.5 9.5 20 14-0-0 Project J4 NJH 2.5 9.5 11 12-0-0 Builder's Project J3 NJH 2.5 9.5 2 10-0-0 **Kott Lumber Company** J2 NJH 2.5 9.5 8-0-0 3 14 Anderson Blvd J1 NJH 2.5 9.5 8 6-0-0 Rim Board Canada Label Description Width Depth Qty Plies Pcs Length R1 Norbord Rimboard 1.125 9.5 11 L4A 7X4 Plus 1.125 X 9.5 Blocking Job Path Label Description Width Depth 2.5 9.5 Qty Plies Pcs Length S:\CUSTOMERS\GREENPARK BLK1 NJH LinFt Varies 16-0-0

Width Depth Qty Plies

Pcs Length

Beam/Girder Supported Member Label Pcs Description Skew Slope fasteners fasteners H1 3 HUC410 (Min) 14 16d 6 10d H2 HUCQ1.81/9-1 6 LT2-159 Н3 4 10dx1 1/2 2 10dx1 1/2 H4 18 LT259 4 10dx1 1/2 2 10dx1 1/2

NOTES:

Hanger

Ground Floor LVL/LSL (Flush)

Label Description

Framer to verify dimensions on the architectural drawings.

2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.

3. Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls. 4. Install single-ply flush window header along inside face of

rimboard/rimjoist

Refer to Nascor specifier guide for installation works.
 Squash blocks recommended to be installed at end bearing on.

all first level joists which support loading from above exceeding two levels floor or roof.

. Load transfer blocks to be installed under all point loads.

It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards

Refer to Multiple Member Connection Detail to ply to ply nailing or

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" block (1/16" longer than rim depth @ 16" o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch area represents ceramic tiled floor with an additional dead load

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation prior to construction.

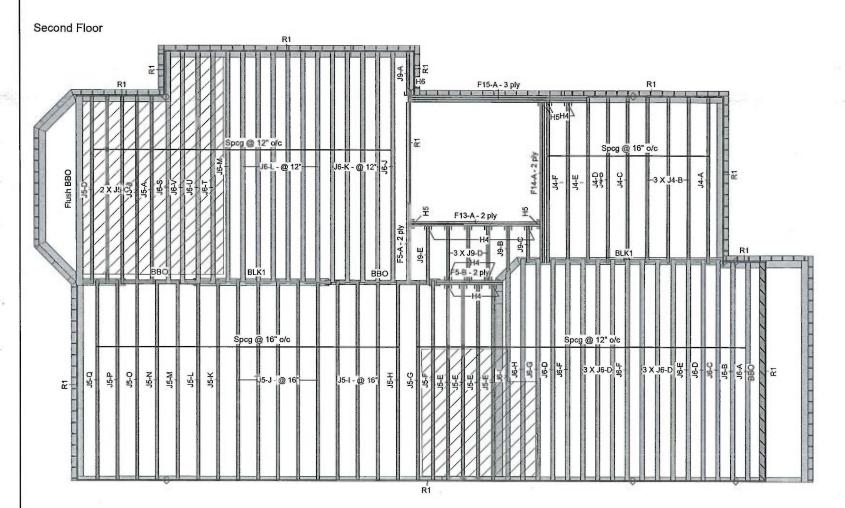
ARCHITECTURAL DRAWINGS:

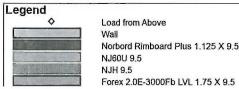
REGION DESIGN INC. 8700 Dufferin St., Concord, ON Date: May 2018 Project No: Model: Hemlock 5-5C

JAN 08-2019

18-411388 DOD DOER

Version 18.40.162 Powered by iStruct<sup>TM</sup>





Load from Above Norbord Rimboard Plus 1.125 X 9.5 NJ60U 9.5 NJH 9.5

- 1. OBC 2012 O.Reg 332/12 as amended 2. Nascor CCMC - 13535-R
- 3. LVL CCMC -14056-R
- 4. CAN/CSA-086-09
- 5. CCMC -12787-R APA PR-L310(C)

#### THIS CERTIFICATION IS TO CONFIRM THAT:

- 1. THE LOADS USED IN THE CALCULATION OF THE ATTACHED APPROVED COMPONENTS CONFORM TO THE FLOOR ASSEMBLY SHOWN ON THIS LAYOUT.
- 2. THE FLOOR JOISTS COMPLY WITH THE NASCOR SPAN TABLE FOR THE LOADS AND SPACING SHOWN ON THIS LAYOUT.

THE FLOOR SYSTEM MUST BE ASSEMBLED IN ACCORDANCE TO THE NASCOR SPECIFIER GUIDE, MULTI-PLY MEMBERS MUST BE ATTACHED TOGETHER AS PER THE INCLUDED MULTIPLE MEMBER CONNECTION DETAIL.

ALL OTHER COMPONENTS AND STRUCTURAL ELEMENTS SUPPORTING THE FLOOR SYSTEM SUCH AS BEAMS, WALLS, COLUMNS AND FOUNDATION WALLS AND FOOTINGS INCLUDING ANCHORAGE OF COMPONENTS AND BRACING FOR LATERAL STABILITY ARE THE RESPONSIBILITY OF OTHERS.



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. **PAGE 26 OF 31** 

Second LVI/LS	l Floor L (Flush)						
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F15	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	12-0-0
F14	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F13	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	6-0-0
I Joist (	Flush)						•
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J6	NJ60U	3.5	9.5			33	16-0-0
J5	NJH	2.5	9.5			27	14-0-0
J4	NJH	2.5	9.5			9	12-0-0
J9	NJH	2.5	9.5			7	4-0-0
Rim Bo	ard					-	
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			11	12
Blockin	g						A
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	21-0-0

Hanger

					Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H4	15	LT259		1	4 10dx1 1/2	2 10dx1 1/2
H5	3	HGUS410			46 16d	16 16d
Н6	1	Unknown Hanger				50-95 Taren 140.

#### NOTES:

- Framer to verify dimensions on the architectural drawings.
- 2. Double joist only require filler/backer ply when supporting
- another member using a face-mounted hanger.

  3. Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls.
- 4. Install single-ply flush window header along inside face of rimboard/rimjoist.
- 5. Refer to Nascor specifier guide for installation works.
- 6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
- 7. Load transfer blocks to be installed under all point loads.
- 3. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or polting requirements.

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" block (1/16" longer than rim depth @ 16" o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch area represents ceramic tiled floor with an additional dead load of 5 PSF

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation pri to construction.

ARCHITECTURAL DRAWINGS:

REGION DESIGN INC. 8700 Dufferin St., Concord, ON Date: May 2018 Project No: Model: Hemlock 5-5C

1.	2					
	Designer					
	RCO					
ngt		Shipping				
1-0-	Project	Project				
rted	Builder's Projec	Builder's Project				
ber		Kott Lumber Company				
ers		14 Anderson Blvd				
1 1/2		Stouffville, Ontario				
3d		Canada				
	L4A 7X4					
	905-642-4400					
	Job Path					
	S:\CUSTOMERS\GREENPARK					
	\MINNISALE HOMES\MODELS					
	\HEMLOCK 5C\HEMLOCK 5C-1 \FLOOR\REV\HEMLOCK 5C-1.isl					
	Second Floor					
	Design Method	LSD				
	Building Code	2010 / OBC				
	Floor	100				
	Loads	1				
	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				
or	Decking					
	Deck	SPF Plywood				
	Thickness	5/8"				
	Fastener	Nailed & Glued				
	Vibration					
	Ceiling:	Gypsum 1/2"				

Layout Name HEMLOCK 5C-1 & 5C-2 Design Method

LSD Description MINNISALE HOMES BRAMPTON, ONT.

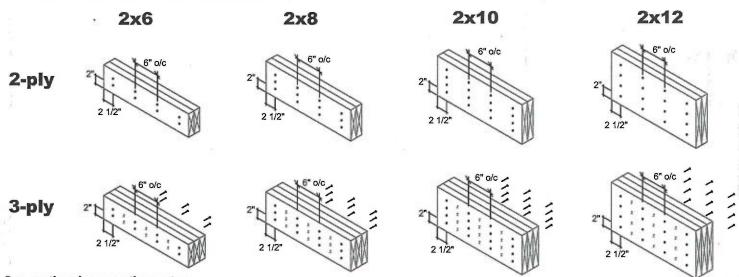
Revised August 14, 2018 Builder GREENPARK Sales Rep RM



# ULTIPLE MEMBER CONNECTIONS

**GREENPARK-MINNISALE HOMES-**MODEL HEMLOCK 5C-1 & 5C-2

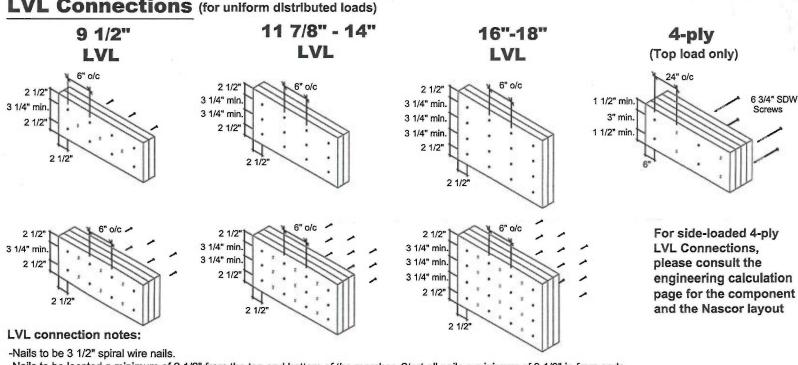
# Conventional Connections (for uniform distributed loads)



#### Conventional connection notes:

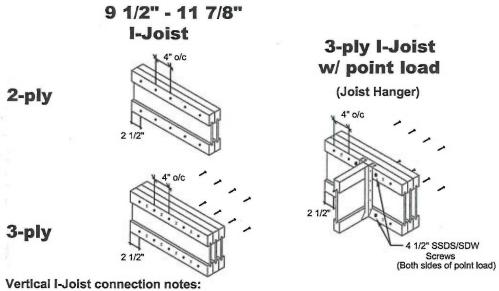
- -Nails to be 3" 10d spiral wire nails.
- -Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

# LVL Connections (for uniform distributed loads)



- -Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
- -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.

# Vertical I-Joist Connections (for uniform distributed loads)



- -Nails to be 3" spiral wire nails.
- -Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
- -Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

**MULTI-PLY** CONNECTION **DETAILS** 

Scale: NTS

Date: November 30, 2016

Fx: 613-838-4751

3228 Moodie Drive Ottawa, ON K2H 7V1 Ph: 613-838-2775