

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

LOT 14

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 only limited to the calculation of this building component for the loads and conditions shown on this drawing.

The responsibility of the undersigned is limited to the verification of the structural capacity of the 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 <http://www.nascor.ca>.

**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.

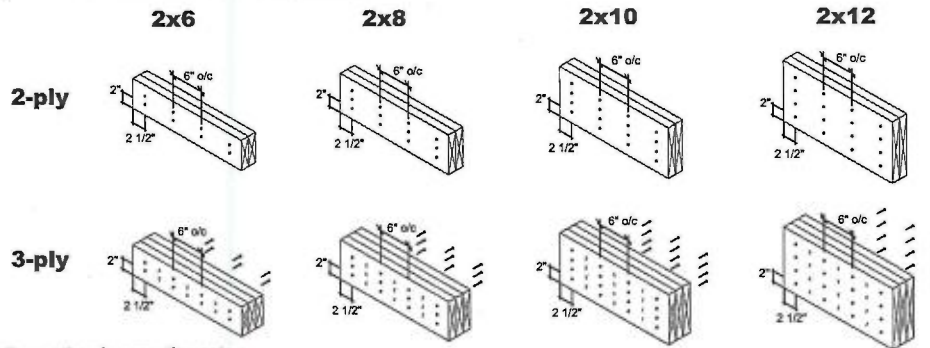
**HANDLING AND INSTALLATION**

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



# MULTIPLE MEMBER CONNECTIONS

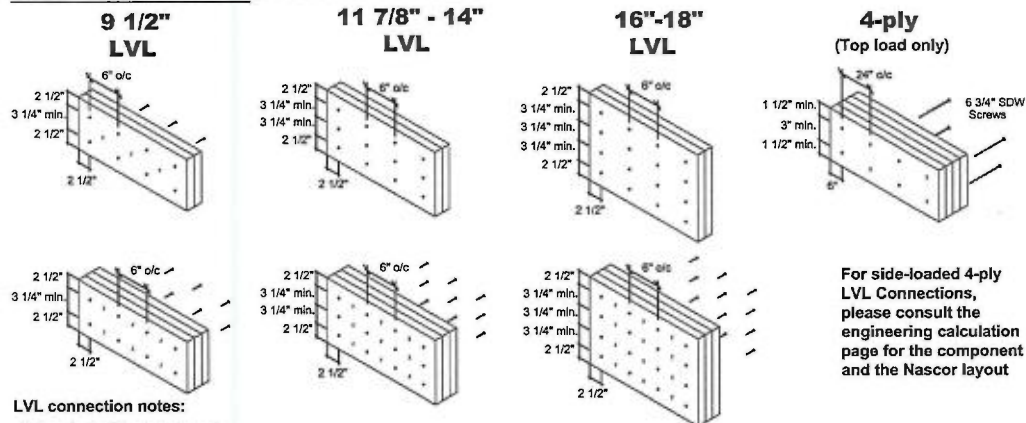
## Conventional Connections (for uniform distributed loads)



### 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)

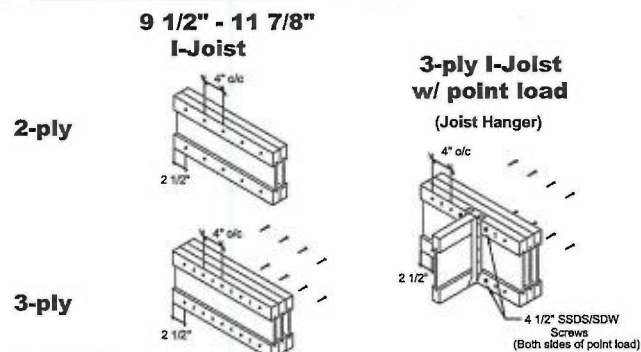


### LVL connection notes:

- Nails to be 3 1/2" spiral wire nails.
- 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.

For side-loaded 4-ply LVL Connections, please consult the engineering calculation page for the component and the Nascor layout

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



### Vertical I-Joist connection notes:

- 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.

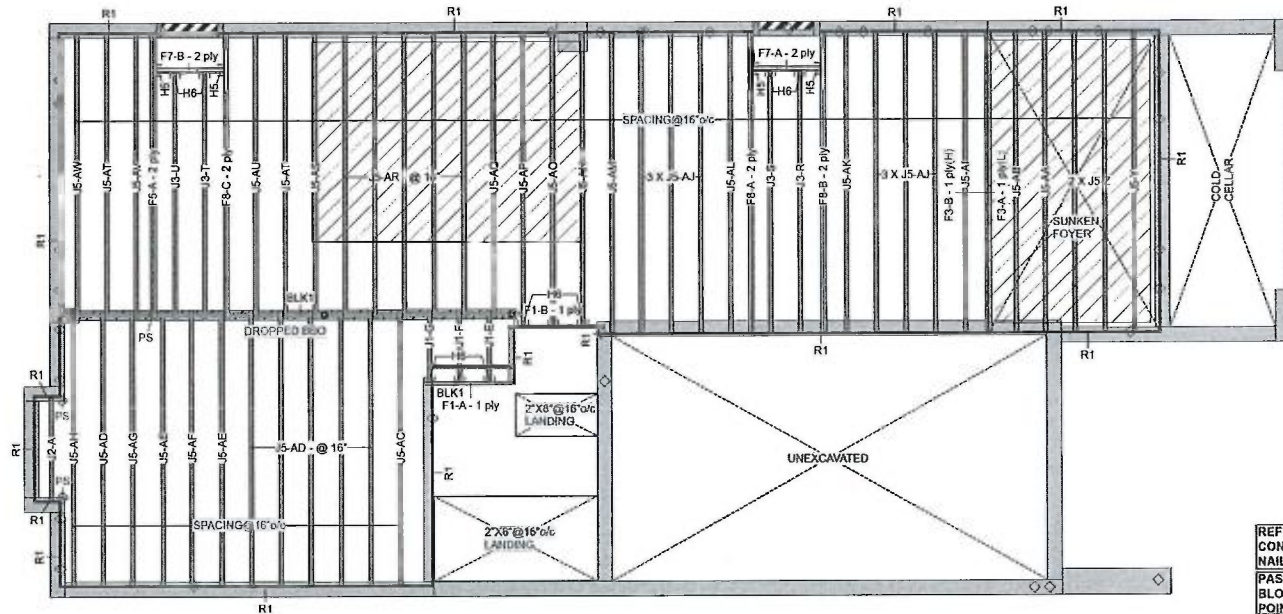
MULTI-PLY  
CONNECTION  
DETAILS

Date: November 30, 2016  
Scale: NTS

# KOTT

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

Ground Floor



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.

Ground Floor LVL/SL (Flush)							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			2	14-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			2	6-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F8	NJ	1.5	9.5	3	2	6	14-0-0
F7	NJ	1.5	9.5	2	2	4	4-0-0
J5	NJH	2.5	9.5			42	14-0-0
J3	NJH	2.5	9.5			4	12-0-0
J2	NJH	2.5	9.5			1	6-0-0
J1	NJH	2.5	9.5			3	4-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			12	12
Hanger							
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H5	4	LT2-159			4 10dx1 1/2	2 10dx1 1/2	
H6	10	LT259			4 10dx1 1/2	2 10dx1 1/2	
Blocking							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	NJH	2.5	9.5	UnFt		Varies	18-0-0

## NOTES:

1. Framers 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/joist.
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.
8. It shall be the frame'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: 1-1/8" rimboard with 2"x4" 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 prior to construction.

## ARCHITECTURAL DRAWINGS:

## JARDIN DESIGN GROUP

64 Jardin Dr., Suite 3A

Date: Rev. 1, 5/22/2018

Project No: 18-24

Model: Grandbrooke 1, Elevation 1

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 -12767-R APA PR-L310(C)

## Legend

PS	Point Load Support
○	Load from Above
▨	Wall
▩	Wall Opening
▧	Norbord Rimboard Plus 1.125 X 9.5
NJ 9.5	NJ 9.5
NJH 9.5	NJH 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5	

## 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.



NASCOR

Layout Name  
GRANDBROOKE 1-ELEV 1

Design Method  
LSD

Description

Created  
June 25, 2018

Builder  
GREENPARK

Sales Rep  
R M

Designer  
R O

Shipping

Project

Builder's Project

Kott Lumber Company  
14 Anderson Blvd  
Stouffville, Ontario  
Canada  
K2H7V1  
905-642-4400

Job Path  
S:\CUSTOMERS\GREENPARK  
MINNISALE HOMES\MODELS  
GRANDBROOKE 1FLOORS  
GRANDBROOKE 1-ELEV 1.lai

Ground Floor

Design Method LSD

Building Code NBCC 2010 / OBC 2012

Floor

Live 40

Dead 15

Deflection Joist

LL Span L/ 480

TL Span L/ 360

LL Cant 2L/ 480

TL Cant 2L/ 360

Deflection Girder

LL Span L/ 360

TL Span L/ 240

LL Cant 2L/ 480

TL Cant 2L/ 240

Decking

Deck OSB

Thickness 3/4"

Fastener Nailed & Glued

Vibration





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

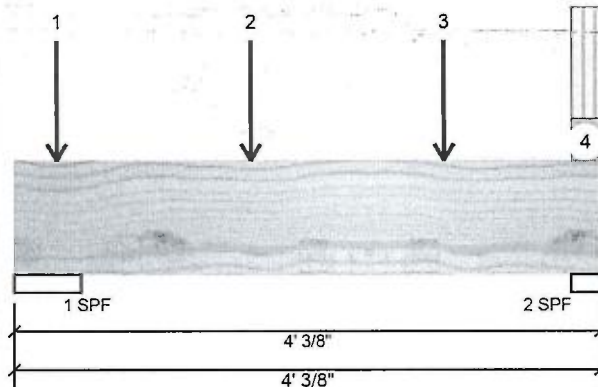
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

## F1-A Forex 2.0E-3000Fb LVL 1-750" X 9.500" - PASSED

Level: Ground Floor



## Member Information

## Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)
Plies:	1	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		

Brg	Live	Dead	Snow	Wind
1	320	128	0	0
2	333	132	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	11%	160 / 480	640 L	1.25D+1.5L
2 - SPF	2.375"	26%	165 / 500	664 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	690 ft-lb	1'7 1/2"	11362 ft-lb	0.061 (6%)	1.25D+1.5L	L
Unbraced	690 ft-lb	1'7 1/2"	9427 ft-lb	0.073 (7%)	1.25D+1.5L	L
Shear	640 lb	3'1 1/4"	4638 lb	0.138 (14%)	1.25D+1.5L	L
Perm Defl in. (L/20141)	0.002	2' 5/8"	0.117 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/7912)	2' 9/16"	0.117 (L/360)	0.050 (5%)	L	L
TL Defl inch	0.007 (L/5681)	2' 9/16"	0.175 (L/240)	0.040 (4%)	D+L	L

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.



## Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-3-8		Far Face	14 lb	38 lb	0 lb	0 lb	J1
2	Point	1-7-8		Far Face	119 lb	315 lb	0 lb	0 lb	J1
3	Point	2-11-8		Far Face	108 lb	290 lb	0 lb	0 lb	J1
4	Tie-In	3-10-0 to 4-0-6	(Span)2-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

- For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

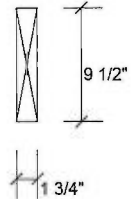
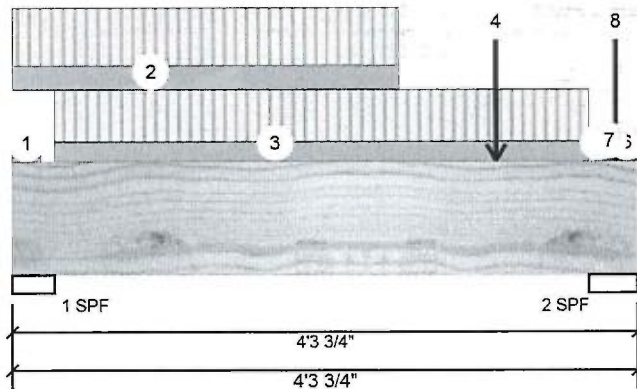
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 2

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

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1009	417	0	0
2	1987	854	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	54%	522 / 1514	2035	L	1.25D+1.5L
2 - SPF	4.000"	94%	1068 / 2980	4048	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1825 ft-lb	2'1 1/2"	11362 ft-lb	0.161 (16%)	1.25D+1.5L	L
Unbraced	1825 ft-lb	2'1 1/2"	9065 ft-lb	0.201 (20%)	1.25D+1.5L	L
Shear	1922 lb	3'3"	4638 lb	0.414 (41%)	1.25D+1.5L	L
Perm Defl in.	0.006 (L/7071)	2'1 9/16"	0.127 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.016 (L/2890)	2'1 11/16"	0.127 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.022 (L/2052)	2'1 9/16"	0.191 (L/240)	0.120 (12%)	D+L	L

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.



## Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-6	(Span)2-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-1 to 2-8-1		Far Face	114 PLF	263 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-3-8 to 3-11-12		Top	90 PLF	240 PLF	0 PLF	0 PLF	
4	Point	3-4-1		Far Face	134 lb	333 lb	0 lb	0 lb	J5
5	Part. Uniform	4-0-4 to 4-0-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Tie-In	4-0-14 to 4-3-12	(Span)0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	4-0-14 to 4-3-12		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

Continued on page 2...

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

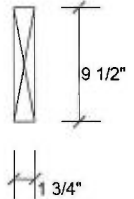
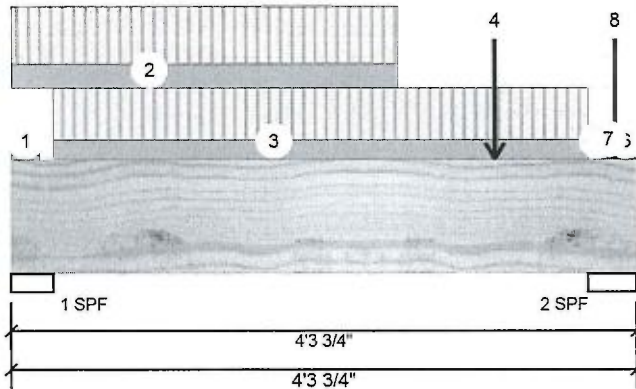
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 2 of 2

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

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	4-2-0		Top	467 lb	1065 lb	0 lb	0 lb	F5 F5
	Self Weight				4 PLF				

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

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**KOTT NASCOR**

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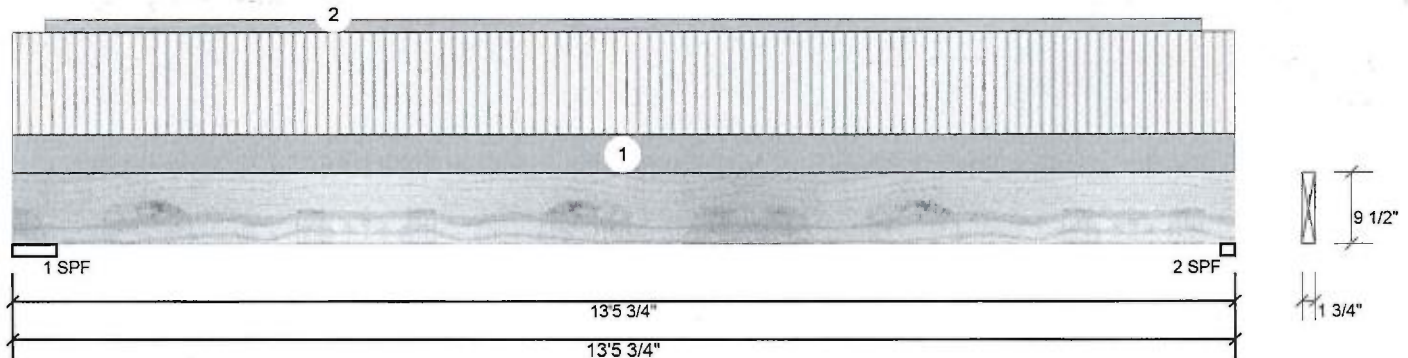
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

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

Level: Ground Floor



## Member Information

## Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)
Plies:	1	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		

Brg	Live	Dead	Snow	Wind
1	165	108	0	0
2	157	102	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.875"	6%	135 / 247	381	L	1.25D+1.5L
2 - SPF	1.875"	18%	128 / 235	363	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1163 ft-lb	6'10 7/8"	11362 ft-lb	0.102 (10%)	1.25D+1.5L	L
Unbraced	1163 ft-lb	6'10 7/8"	2877 ft-lb	0.404 (40%)	1.25D+1.5L	L
Shear	315 lb	12'7 1/8"	4638 lb	0.068 (7%)	1.25D+1.5L	L
Perm Defl in.	0.042 (L/3683)	6'10 7/8"	0.432 (L/360)	0.100 (10%)	D	Uniform
LL Defl inch	0.064 (L/2434)	6'10 7/8"	0.432 (L/360)	0.150 (15%)	L	L
TL Defl inch	0.106 (L/1465)	6'10 7/8"	0.648 (L/240)	0.160 (16%)	D+L	L

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.



## 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	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-5-12	(Span)1-2-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-6 to 13-1-6		Top	3 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

**KOTT NASCOR**

Kott Lumber Company  
14 Anderson Blvd, Ontario  
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Date: 8/10/2018

Designer: R O

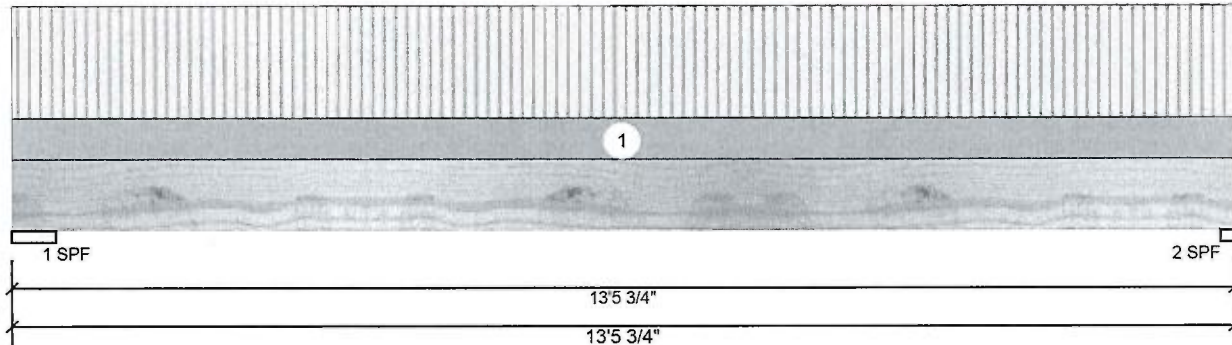
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

F3-B Forex 2.0E-3000Fb LVL 13'5 3/4" X 9.500" - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	132	76	0	0
2	126	72	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.875"	5%	95 / 198	293 L	1.25D+1.5L
2 - SPF	1.875"	14%	90 / 188	278 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	889 ft-lb	6'10 7/8"	11362 ft-lb	0.078 (8%)	1.25D+1.5L	L
Unbraced	889 ft-lb	6'10 7/8"	2877 ft-lb	0.309 (31%)	1.25D+1.5L	L
Shear	241 lb	1'2 5/8"	4638 lb	0.052 (5%)	1.25D+1.5L	L
Perm Defl in.	0.029 (L/5284)	6'10 7/8"	0.432 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.051 (L/3036)	6'10 7/8"	0.432 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.081 (L/1928)	6'10 7/8"	0.648 (L/240)	0.120 (12%)	D+L	L

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.



## 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	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-5-12	(Span)0-11-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021







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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

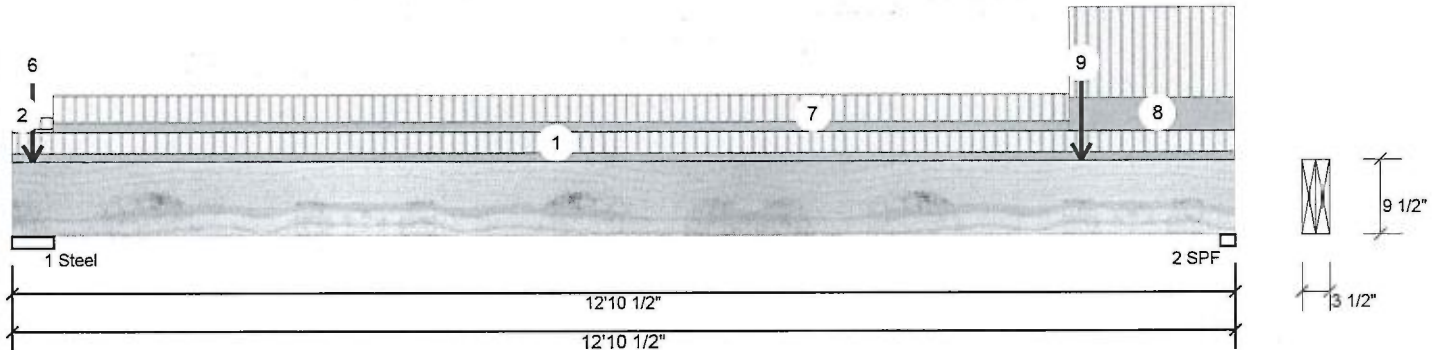
Designer: R O

Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 2

F5-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED - Level Ground Floor



## Member Information

## Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	1293	600	0	0
2	514	240	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Steel	5.250"	26%	750 / 1939	2689 L	1.25D+1.5L
2 - SPF	1.875"	27%	300 / 771	1072 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1975 ft-lb	7'5 5/8"	22724 ft-lb	0.087 (9%)	1.25D+1.5L	L
Unbraced	1975 ft-lb	7'5 5/8"	19684 ft-lb	0.100 (10%)	1.25D+1.5L	L
Shear	922 lb	11'11 7/8"	9277 lb	0.099 (10%)	1.25D+1.5L	L
Perm Defl in.	0.029 (L/5103)	6'9 3/16"	0.414 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.055 (L/2710)	6'10 3/16"	0.414 (L/360)	0.130 (13%)	L	L
TL Defl inch	0.084 (L/1770)	6'9 13/16"	0.620 (L/240)	0.140 (14%)	D+L	L

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.



## Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-10-8	(Span)0-9-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	(Span)0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-10		Top	388 lb	932 lb	0 lb	0 lb	BBO4 BBO4
4	Point	0-2-10		Top	29 lb	70 lb	0 lb	0 lb	J5
5	Point	0-2-10		Top	11 lb	30 lb	0 lb	0 lb	J5

Continued on page 2...

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

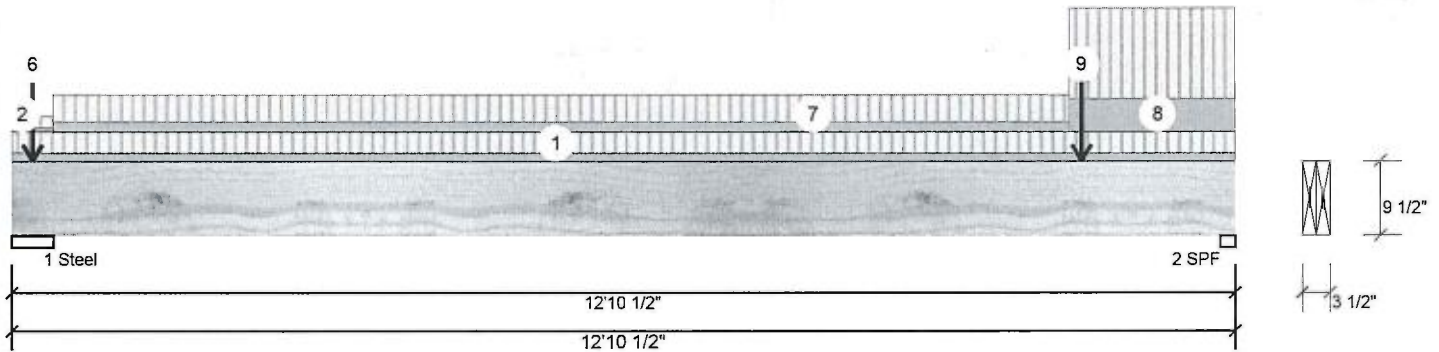
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 2 of 2

F5-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	0-2-10		Top	24 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Tie-In	0-5-4 to 11-1-10	(Span) 0-11-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Tie-In	11-1-10 to 12-10-8	(Span)3-3-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Point	11-3-2		Near Face	93 lb	250 lb	0 lb	0 lb	F7
	Self Weight				8 PLF				

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.



## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

5. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

**KOTT NASCOR**

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

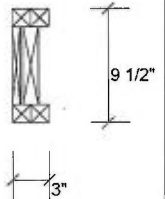
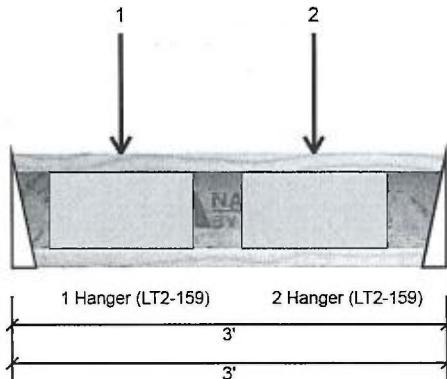
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

F7-A NJ 9.500 2-Ply - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plyes:	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		

## Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	272	102	0	0
2	251	94	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	21% 127 / 408	535 L	1.25D+1.5L
2 - Hanger	2.000"	19% 118 / 377	494 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	398 ft-lb	2'1 1/16"	7340 ft-lb	0.054 (5%)	1.25D+1.5L	L
Unbraced	398 ft-lb	2'1 1/16"	4678 ft-lb	0.085 (9%)	1.25D+1.5L	L
Shear	535 lb	1 1/4"	3080 lb	0.174 (17%)	1.25D+1.5L	L
Perm Defl in. (L/28832)	0.001	1'8 1/8"	0.093 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/10801)	0.003	1'8 3/16"	0.093 (L/360)	0.030 (3%)	L	L
TL Defl inch (L/7858)	0.004	1'8 3/16"	0.140 (L/240)	0.030 (3%)	D+L	L

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.



## 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 flange braced at bearings.
- 5 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-9-1		Near Face	95 lb	253 lb	0 lb	0 lb	J3
2	Point	2-1-1		Near Face	101 lb	270 lb	0 lb	0 lb	J3

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral 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

## Manufacturer Info

Nascor by Kott

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021







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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

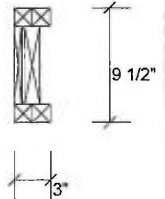
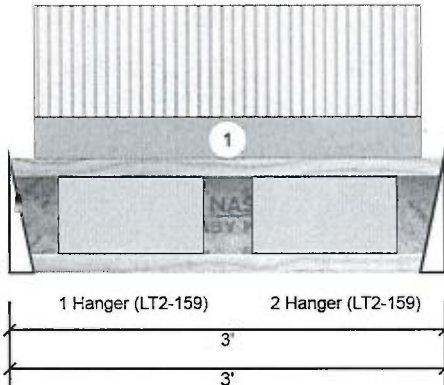
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

F7-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	250	93	0	0
2	252	94	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	19%	116 / 374	491	L	1.25D+1.5L
2 - Hanger	2.000"	19%	117 / 378	495	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	359 ft-lb	1'6"	7340 ft-lb	0.049 (5%)	1.25D+1.5L	L
Unbraced	359 ft-lb	1'6"	4678 ft-lb	0.077 (8%)	1.25D+1.5L	L
Shear	495 lb	2'10 3/4"	3080 lb	0.161 (16%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/31404)	1'6"	0.093 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/11693)	1'6"	0.093 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.004 (L/8521)	1'6"	0.140 (L/240)	0.030 (3%)	D+L	L

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.



## 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 flange braced at bearings.
- 5 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-2-1 to 2-10-1		Near Face	70 PLF	188 PLF	0 PLF	0 PLF	

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral 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

## Manufacturer Info

Nascor by Kott

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

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Designer: R O

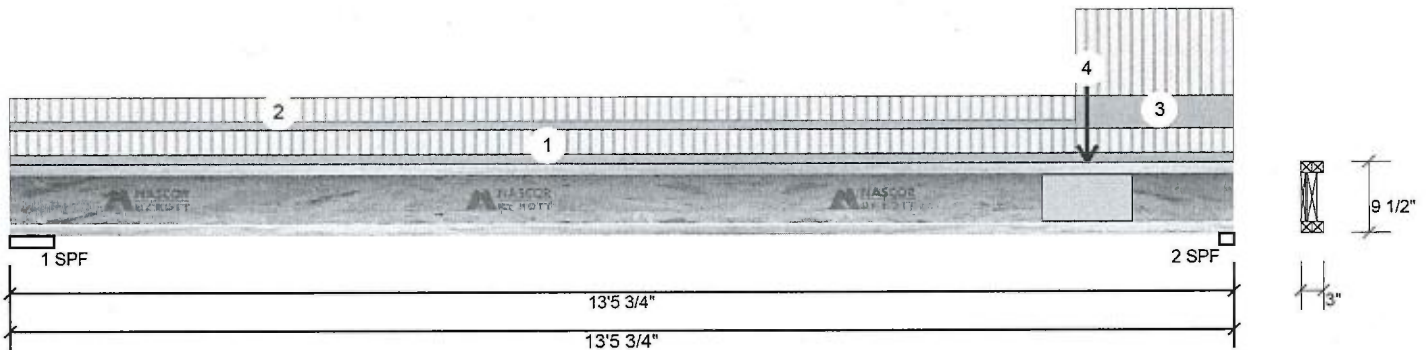
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

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F8-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



## Member Information

## Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)	Brg	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	287	108	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012	2	556	208	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							
Dead:	15 PSF							

Bearings and Factored Reactions							
Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.	
1 - SPF	5.875"	18%	135 / 431	565	L	1.25D+1.5L	
2 - SPF	1.875"	43%	261 / 834	1094	L	1.25D+1.5L	

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.875"	18%	135 / 431	565 L	1.25D+1.5L
2 - SPF	1.875"	43%	261 / 834	1094 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2005 ft-lb	7'11 1/16"	7340 ft-lb	0.273 (27%)	1.25D+1.5L	L
Unbraced	2005 ft-lb	7'11 1/16"	2017 ft-lb	0.994 (99%)	1.25D+1.5L	L
Shear	1079 lb	13'4 5/8"	3080 lb	0.350 (35%)	1.25D+1.5L	L
Perm Defl in.	0.046 (L/3358)	7'2 3/8"	0.432 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.123 (L/1259)	7'2 3/8"	0.432 (L/360)	0.290 (29%)	L	L
TL Defl inch	0.170 (L/916)	7'2 3/8"	0.648 (L/240)	0.260 (26%)	D+L	L

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.



## 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 4'8" 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 13-5-12	(Span)0-11-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 11-8-14	(Span)0-10-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	11-8-14 to 13-5-12	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	11-10-6		Near Face	102 lb	272 lb	0 lb	0 lb	F7

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral 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

## Manufacturer Info

Nascor by Kott

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400



This design is valid until 7/10/2021







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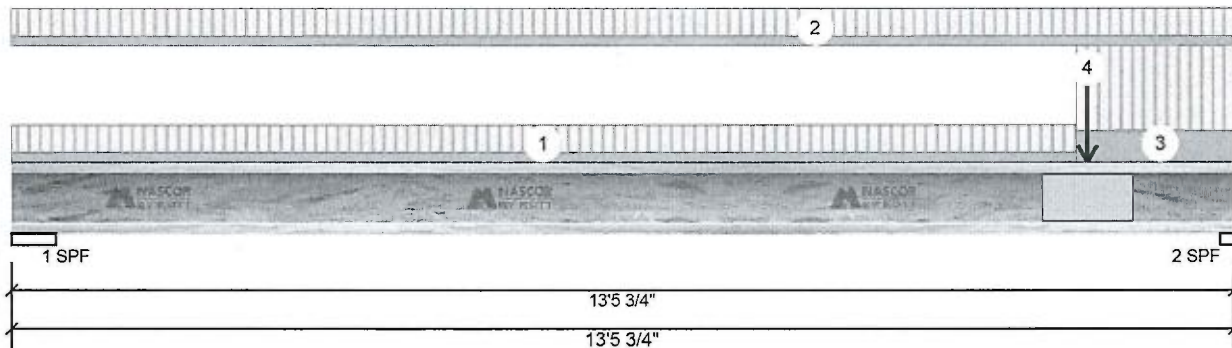
Client: GREENPARK  
 Project:  
 Address:

Date: 8/10/2018  
 Designer: R O  
 Job Name: GRANDBROOKE 1-ELEV 1  
 Project #:

Page 1 of 1

F8-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	322	121	0	0
2	568	213	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.875"	21%	151 / 483	634 L 1.25D+1.5L
2 - SPF	1.875"	44%	266 / 852	1118 L 1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2184 ft-lb	7'8 11/16"	7340 ft-lb	0.298 (30%)	1.25D+1.5L	L
Unbraced	2184 ft-lb	7'8 11/16"	2202 ft-lb	0.992 (99%)	1.25D+1.5L	L
Shear	1102 lb	13'4 5/8"	3080 lb	0.358 (36%)	1.25D+1.5L	L
Perm Defl in.	0.050 (L/3086)	7'1 13/16"	0.432 (L/360)	0.120 (12%)	D	Uniform
LL Defl inch	0.134 (L/1157)	7'1 13/16"	0.432 (L/360)	0.310 (31%)	L	L
TL Defl inch	0.185 (L/841)	7'1 13/16"	0.648 (L/240)	0.290 (29%)	D+L	L

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.



## Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top flange must be laterally braced at a maximum of 4'6" o.c.
- Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-8-14	(Span)1-0-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-5-12	(Span)1-0-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	11-8-14 to 13-5-12	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	11-10-6		Far Face	94 lb	251 lb	0 lb	0 lb	F7

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

- Uolst flanges must not be cut or drilled
- Refer to latest copy of the Uolst product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Uolsts 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 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  
 K2H7V1  
 905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021







isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

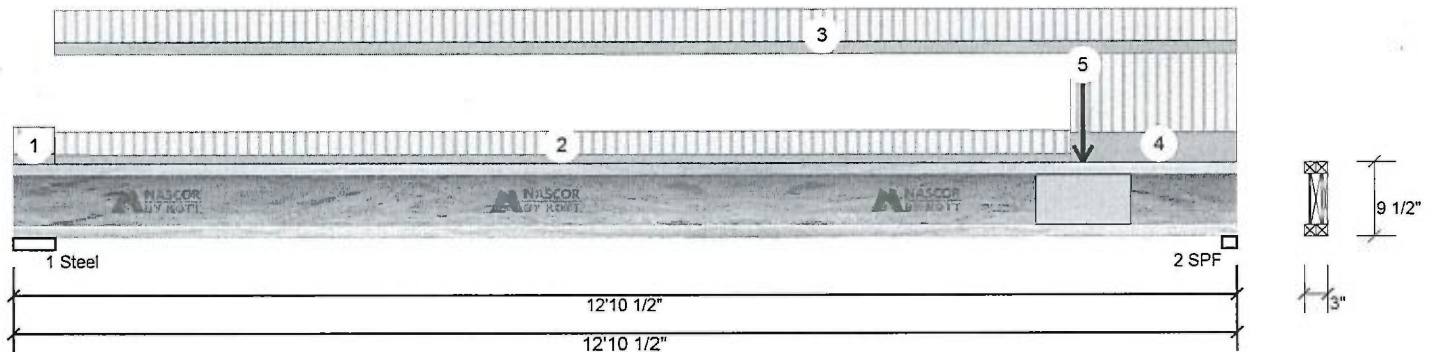
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

F8-C NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	Wind
1	325	122	0	0
2	583	218	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Steel	5.250"	21%	152 / 487	639	L	1.25D+1.5L
2 - SPF	1.875"	45%	273 / 874	1147	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2187 ft-lb	7'4 7/16"	7340 ft-lb	0.298 (30%)	1.25D+1.5L	L
Unbraced	2187 ft-lb	7'4 7/16"	2202 ft-lb	0.993 (99%)	1.25D+1.5L	L
Shear	1130 lb	12'9 3/8"	3080 lb	0.367 (37%)	1.25D+1.5L	L
Perm Defl in.	0.047 (L/3196)	6'9 3/4"	0.414 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.124 (L/1197)	6'9 13/16"	0.414 (L/360)	0.300 (30%)	L	L
TL Defl inch	0.171 (L/871)	6'9 13/16"	0.620 (L/240)	0.280 (28%)	D+L	L

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.**



## 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 4'6" 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 0-5-4	(Span)1-1-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-4 to 11-1-10	(Span)0-11-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-4 to 12-10-8	(Span)1-3-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	11-1-10 to 12-10-8	(Span)3-3-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	11-3-2		Far Face	94 lb	252 lb	0 lb	0 lb	F7

## Notes

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

## Lumber

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

## chemicals

## 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, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Joists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length  $\geq 3.5$  inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info
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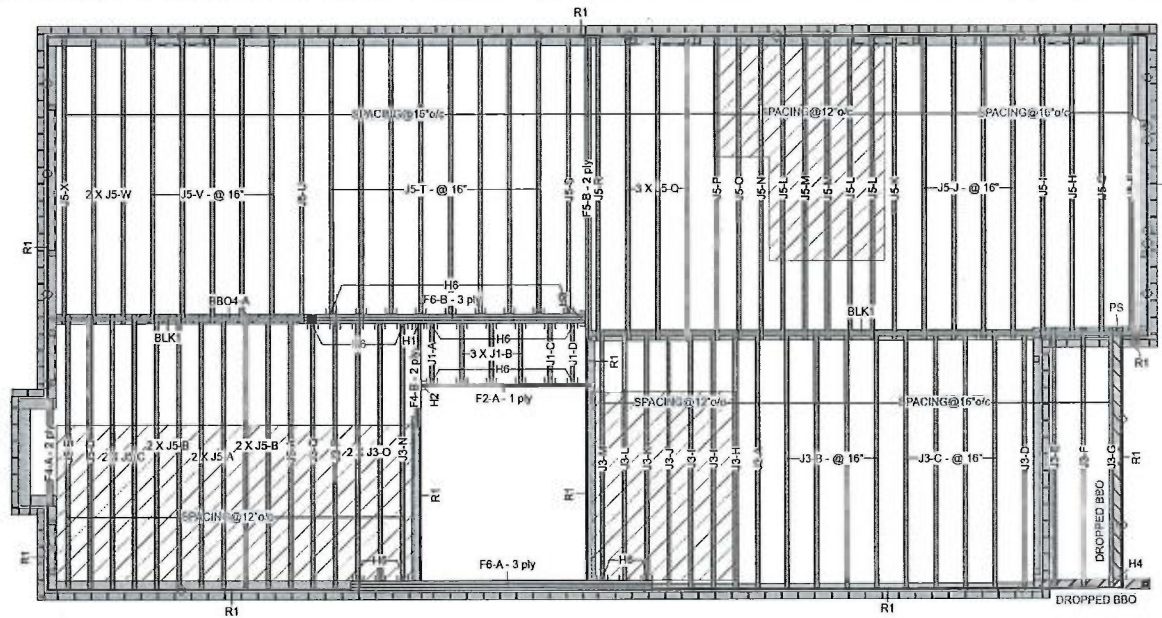
Nascor by Kott

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400



This design is valid until 7/10/2021





### Second Floor LVL/SL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F2	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	6-0-0

### LVL/SL (Dropped)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BBO4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	10-0-0

### I Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J5	NJH	2.5	9.5			50	14-0-0
J3	NJH	2.5	9.5			25	12-0-0
J1	NJH	2.5	9.5			6	4-0-0

### Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			13	12

### Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	1	HGU8410			46 16d	16 16d
H2	1	LF179			10 10d	1 #8x1 1/4WS
H3	1	HGU55.50/10			46 16d	16 16d
H4	1	Unknown Hanger				
H6	32	LT259			4 10dx1 1/2	2 10dx1 1/2

### Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	25-0-0

### NOTES:

1. Framers 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.
8. It shall be the frame'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: 1-1/8" rimboard with 2"x4" 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 are 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:

JARDIN DESIGN GROUP  
64 Jardin Dr., Suite 3A  
Date: Rev. 1, 5/22/2018  
Project No. 18-24  
Model: Grandbrooke 1, Elevation 1

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 PRL310(C)

### Legend

PS	Point Load Support
◇	Load from Above
Wall	Wall
Wall Opening	Wall Opening
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
NJH 9.5	NJH 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5	Forex 2.0E-3000Fb LVL 1.75 X 9.5
Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)

### 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.

# NASCOR

Layout Name  
GRANDBROOKE 1-ELEV 1  
Design Method  
LSD  
Description  
Created  
June 25, 2018  
Builder  
GREENPARK  
Sales Rep  
R M  
Designer  
R O  
Shipping  
Project  
Builder's Project

**Kott Lumber Company**  
14 Anderson Blvd  
Stouffville, Ontario  
Canada  
K2H7V1  
905-642-4400

Job Path  
S:\CUSTOMERS\GREENPARK  
MINNISALE HOMES\MODELS  
GRANDBROOKE 1\FLOORS  
GRANDBROOKE 1-ELEV 1.dwg

Second Floor  
Design Method  
Building Code  
LSD  
NBCC 2010 / OBC  
2012

Floor Loads	
Live	40
Dead	15
Deflection Joist	
LL Span /	480
TL Span /	360
TL Cant 2L/	480
TL Cant 2L/	360
Deflection Girder	
LL Span /	360
TL Span /	240
LL Cant 2L/	480
TL Cant 2L/	240
Decking	
Deck	OSB
Thickness	5/8"
Fastener	Nailed & Glued
Vibration	
Ceiling	Gypsum 1/2"







isDesign™

Client: GREENPARK

Date: 8/10/2018

Page 1 of 2

Project:

Designer: R O

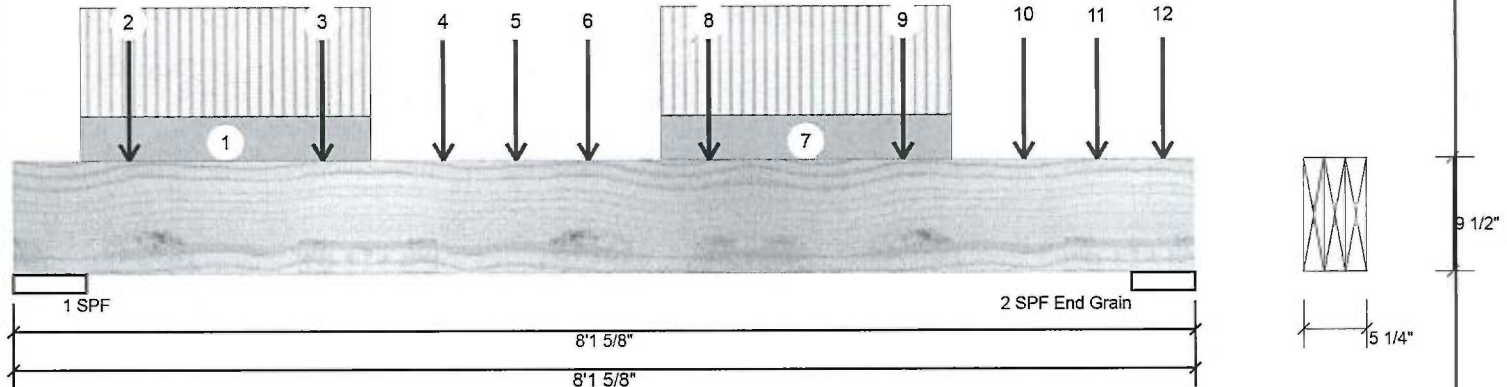
Address:

Job Name: GRANDBROOKE 1-ELEV 1

Project #:

BBO4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply ~~PASSED~~

Level: Second Floor



## Member Information

## Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
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	1863	776	0	0
2	4492	1880	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.000"	19%	970 / 2795	3765 L	1.25D+1.5L
2 - SPF	5.250"	50%	2350 / 6737	9087 L	1.25D+1.5L
End Grain					

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6662 ft-lb	3'11 9/16"	35449 ft-lb	0.188 (19%)	1.25D+1.5L	L
Unbraced	6662 ft-lb	3'11 9/16"	35449 ft-lb	0.188 (19%)	1.25D+1.5L	L
Shear	3247 lb	6'11 5/8"	13915 lb	0.233 (23%)	1.25D+1.5L	L
Perm Defl in.	0.021 (L/4233)	4' 13/16"	0.244 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.050 (L/1759)	4' 13/16"	0.244 (L/360)	0.200 (20%)	L	L
TL Defl inch	0.071 (L/1243)	4' 13/16"	0.366 (L/240)	0.190 (19%)	D+L	L

## Design Notes

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

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.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-5-9 to 2-5-9		Top	99 PLF	242 PLF	0 PLF	0 PLF	
2	Point	0-9-9		Top	124 lb	331 lb	0 lb	0 lb	J5
3	Point	2-1-9		Top	124 lb	331 lb	0 lb	0 lb	J5
4	Point	2-11-9		Top	100 lb	243 lb	0 lb	0 lb	J5
5	Point	3-5-9		Top	124 lb	331 lb	0 lb	0 lb	J5

Continued on page 2...

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021







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Client: GREENPARK

Date: 8/10/2018

Page 2 of 2

Project:

Designer: R O

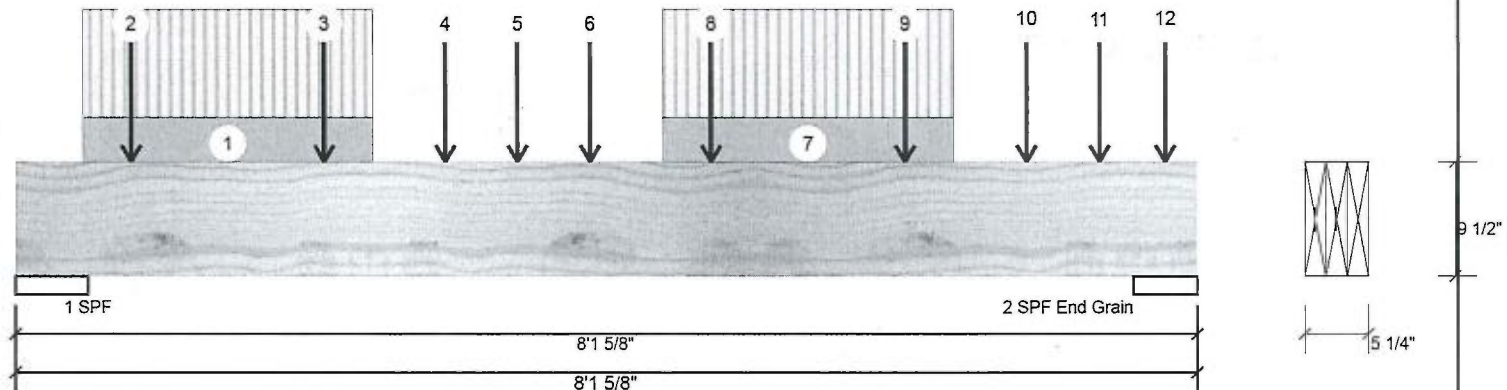
Address:

Job Name: GRANDBROOKE 1-ELEV 1

Project #:

BBO4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	3-11-9		Top	100 lb	243 lb	0 lb	0 lb	J5
7	Part. Uniform	4-5-9 to 6-5-9		Top	99 PLF	242 PLF	0 PLF	0 PLF	
8	Point	4-9-9		Top	124 lb	331 lb	0 lb	0 lb	J5
9	Point	6-1-9		Top	124 lb	331 lb	0 lb	0 lb	J5
10	Point	6-11-9		Top	100 lb	243 lb	0 lb	0 lb	J5
11	Point	7-5-9		Top	122 lb	326 lb	0 lb	0 lb	J5
12	Point	7-11-0		Top	1125 lb	2677 lb	0 lb	0 lb	F6
	Self Weight				11 PLF				

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318



KOTT

NASCOR

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

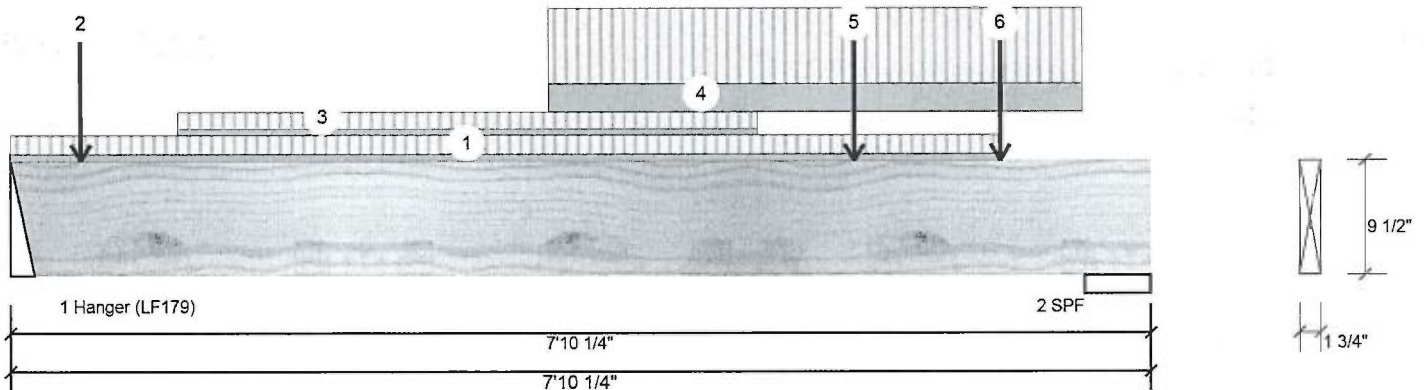
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

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

Level: Second Floor



## Member Information

## Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)
Plies:	1	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		

Brg	Live	Dead	Snow	Wind
1	649	258	0	0
2	1017	397	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	50%	322 / 974	1296 L
2 - SPF	5.500"	34%	497 / 1526	2022 L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3295 ft-lb	4'4 7/16"	11362 ft-lb	0.290 (29%)	1.25D+1.5L	L
Unbraced	3295 ft-lb	4'4 7/16"	5069 ft-lb	0.650 (65%)	1.25D+1.5L	L
Shear	1662 lb	6'8"	4638 lb	0.358 (36%)	1.25D+1.5L	L
Perm Defl in.	0.029 (L/3084)	4' 1/8"	0.245 (L/360)	0.120 (12%)	D	Uniform
LL Defl inch	0.073 (L/1205)	4' 3/16"	0.245 (L/360)	0.300 (30%)	L	L
TL Defl inch	0.102 (L/866)	4' 3/16"	0.368 (L/240)	0.280 (28%)	D+L	L

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.



## 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 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 6-9-13	(Span)3-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-5-13		Far Face	20 lb	53 lb	0 lb	0 lb	J1
3	Part. Uniform	1-1-13 to 5-1-13		Far Face	20 PLF	54 PLF	0 PLF	0 PLF	
4	Part. Uniform	3-8-9 to 7-4-9		Top	90 PLF	240 PLF	0 PLF	0 PLF	
5	Point	5-9-13		Far Face	24 lb	63 lb	0 lb	0 lb	J1
6	Point	6-9-13		Far Face	17 lb	44 lb	0 lb	0 lb	J1
	Self Weight				4 PLF				

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

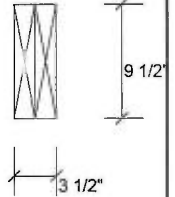
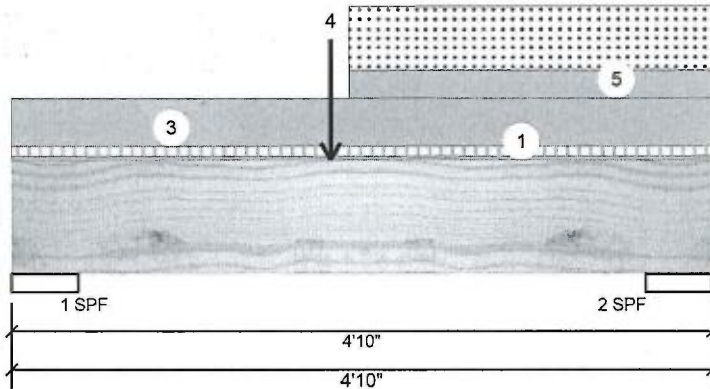
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

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

Level: Second Floor



## Member Information

## Unfactored Reactions UNPATTERNED lb (Uplift)

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		

Brg	Live	Dead	Snow	Wind
1	40	326	185	0
2	40	376	310	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	5.500"	6%	407 / 297	704 L
2 - SPF	5.500"	9%	471 / 465	936 L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	964 ft-lb	2'2 1/2"	20906 ft-lb	0.046 (5%)	1.25D+1.5S	L
Unbraced	964 ft-lb	2'2 1/2"	20906 ft-lb	0.046 (5%)	1.25D+1.5S	L
Shear	545 lb	1'2 1/4"	8535 lb	0.064 (6%)	1.25D+1.5S	L
Perm Defl in.	0.003 (L/14644)	2'4 1/16"	0.135 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.003 (L/15915)	2'3 5/8"	0.135 (L/360)	0.020 (2%)	S+0.5L	L
TL Defl inch	0.006 (L/7627)	2'3 7/8"	0.202 (L/240)	0.030 (3%)	D+S+0.5L	L

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.



## Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-10-0	(Span)0-9-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 4-10-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	2-2-8		Top	134 lb	0 lb	230 lb	0 lb	Header Column
5	Part. Uniform	2-4-0 to 4-10-0		Top	46 PLF	0 PLF	106 PLF	0 PLF	
	Self Weight				8 PLF				

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

- For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021







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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

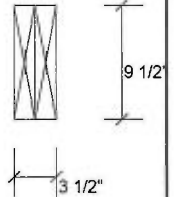
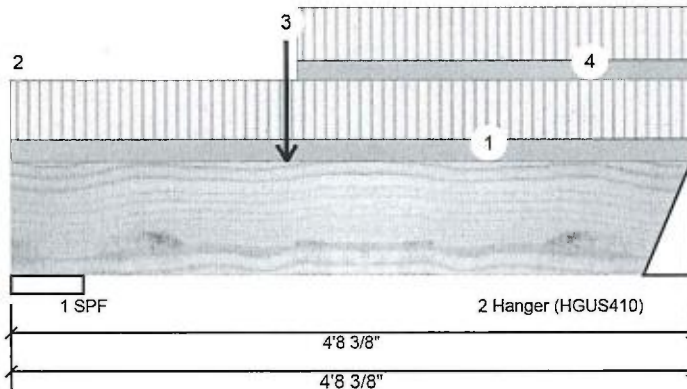
Designer: R O

Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

F4-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply PASSED Level: Second Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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 lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	454	198	0	0
2	296	133	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.000"	7%	248 / 681	928 L	1.25D+1.5L
2 - Hanger	4.000"	6%	167 / 443	610 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1299 ft-lb	1'10 7/8"	22724 ft-lb	0.057 (6%)	1.25D+1.5L	L
Unbraced	1299 ft-lb	1'10 7/8"	22724 ft-lb	0.057 (6%)	1.25D+1.5L	L
Shear	882 lb	1'2 3/4"	9277 lb	0.095 (10%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/22583)	1'11 9/16"	0.133 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.005 (L/9524)	1'11 1/16"	0.133 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.007 (L/6699)	1'11 1/4"	0.199 (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 braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on full section width.

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.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-8-6	(Span)0-8-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-1-4		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-10-14		Near Face	258 lb	649 lb	0 lb	0 lb	F2
4	Tie-In	1-11-12 to 4-8-6	(Span)0-7-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400



This design is valid until 7/10/2021





isDesign™

Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

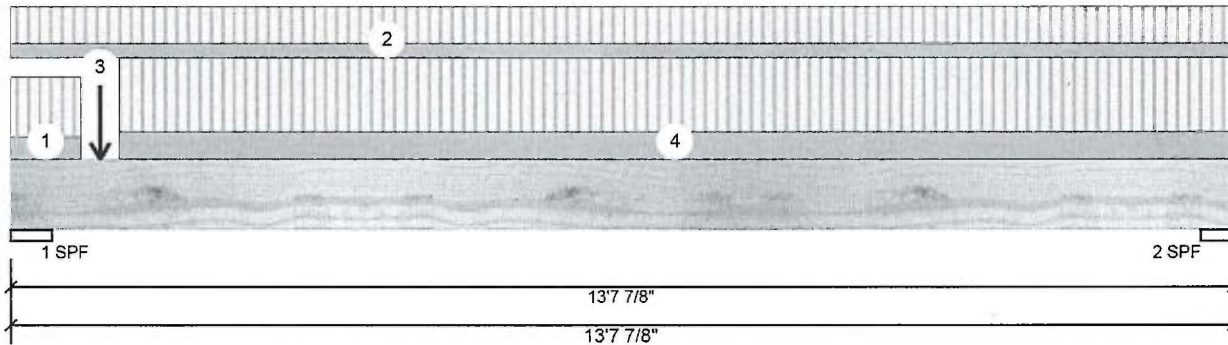
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 1

F5-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



## Member Information

## Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)
Piles:	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		

Brg	Live	Dead	Snow	Wind
1	2130	933	0	0
2	276	159	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	37%	1167 / 3194	4361 L	1.25D+1.5L
2 - SPF	4.375"	7%	199 / 414	613 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2849 ft-lb	3'9 1/4"	22724 ft-lb	0.125 (13%)	1.25D+1.5L	L
Unbraced	2849 ft-lb	3'9 1/4"	19408 ft-lb	0.147 (15%)	1.25D+1.5L	L
Shear	4307 lb	1'2 1/4"	9277 lb	0.464 (46%)	1.25D+1.5L	L
Perm Defl in.	0.043 (L/3581)	6'4 11/16"	0.432 (L/360)	0.100 (10%)	D	Uniform
LL Defl inch	0.083 (L/1865)	6'3 1/8"	0.432 (L/360)	0.190 (19%)	L	L
TL Defl inch	0.127 (L/1227)	6'3 11/16"	0.648 (L/240)	0.200 (20%)	D+L	L

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.



## 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 0-9-6	(Span)0-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-7-14	(Span)0-5-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-0-0		Far Face	856 lb	2052 lb	0 lb	0 lb	F6
4	Tie-In	1-2-10 to 13-7-14	(Span)0-10-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021







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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

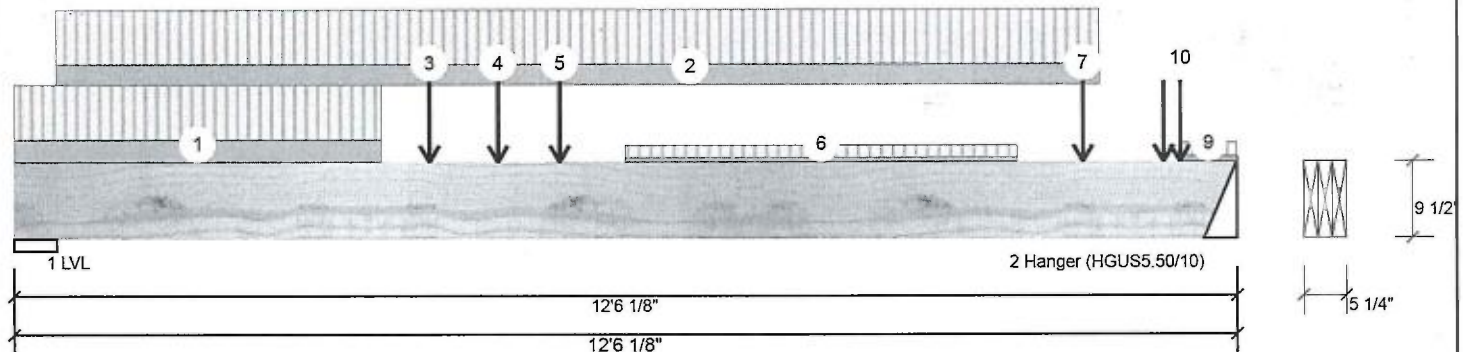
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 1 of 2

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

## Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	2677	1125	0	0
2	2052	856	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL	5.250"	27% 1407 / 4016	5423	L	1.25D+1.5L
2 - Hanger	4.000"	27% 1070 / 3078	4148	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	13788 ft-lb	5'6"	35449 ft-lb	0.389 (39%)	1.25D+1.5L	L
Unbraced	13788 ft-lb	5'6"	35449 ft-lb	0.389 (39%)	1.25D+1.5L	L
Shear	4814 lb	11'5 3/8"	13915 lb	0.346 (35%)	1.25D+1.5L	L
Perm Defl in.	0.102 (L/1393)	6'1 11/16"	0.395 (L/360)	0.260 (26%)	D	Uniform
LL Defl inch	0.244 (L/584)	6'1 11/16"	0.395 (L/360)	0.620 (62%)	L	L
TL Defl inch	0.346 (L/411)	6'1 11/16"	0.593 (L/240)	0.580 (58%)	D+L	L

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.



## 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	Part. Uniform	0-0-0 to 3-9-3		Near Face	102 PLF	248 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-5-3 to 11-1-3		Far Face	92 PLF	245 PLF	0 PLF	0 PLF	
3	Point	4-3-3		Near Face	84 lb	201 lb	0 lb	0 lb	J3
4	Point	4-11-10		Near Face	133 lb	296 lb	0 lb	0 lb	F4
5	Point	5-7-3		Near Face	20 lb	53 lb	0 lb	0 lb	J1
6	Part. Uniform	6-3-3 to 10-3-3		Near Face	20 PLF	54 PLF	0 PLF	0 PLF	

Continued on page 2...

## Notes

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

## Lumber

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

## chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

Kott Lumber Company  
14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

**KOTT NASCOR**

This design is valid until 7/10/2021





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Client: GREENPARK

Project:

Address:

Date: 8/10/2018

Designer: R O

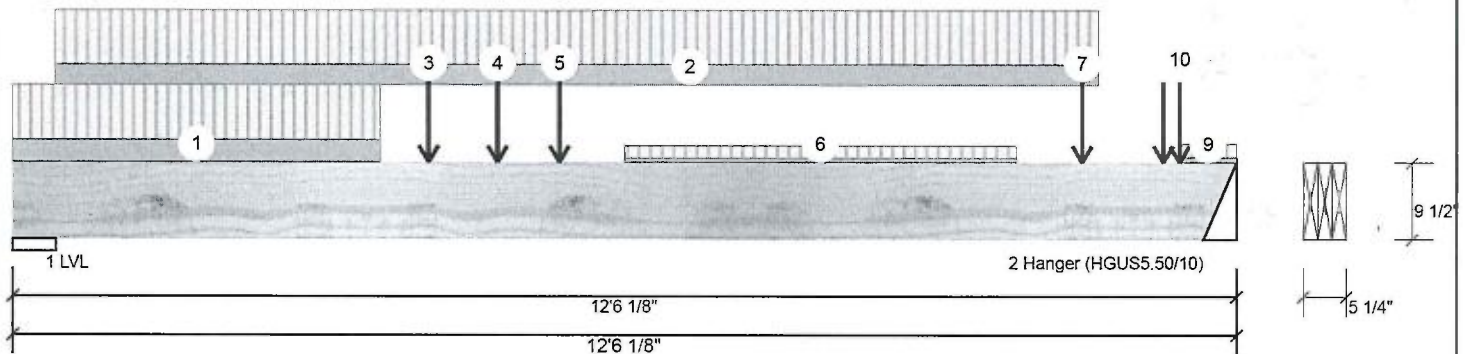
Job Name: GRANDBROOKE 1-ELEV 1

Project #:

Page 2 of 2

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 3-Ply - PASSED

Level: Second Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	10-11-3		Near Face	24 lb	63 lb	0 lb	0 lb	J1
8	Point	11-9-3		Far Face	102 lb	272 lb	0 lb	0 lb	J5
9	Tie-In	11-11-3 to 12-6-2	(Span)3-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Point	11-11-3		Near Face	17 lb	46 lb	0 lb	0 lb	J1
	Self Weight				11 PLF				

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

## Lumber

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

## chemicals

## Handling &amp; Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
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6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Forex  
APA: PR-L318

**KOTT NASCOR**

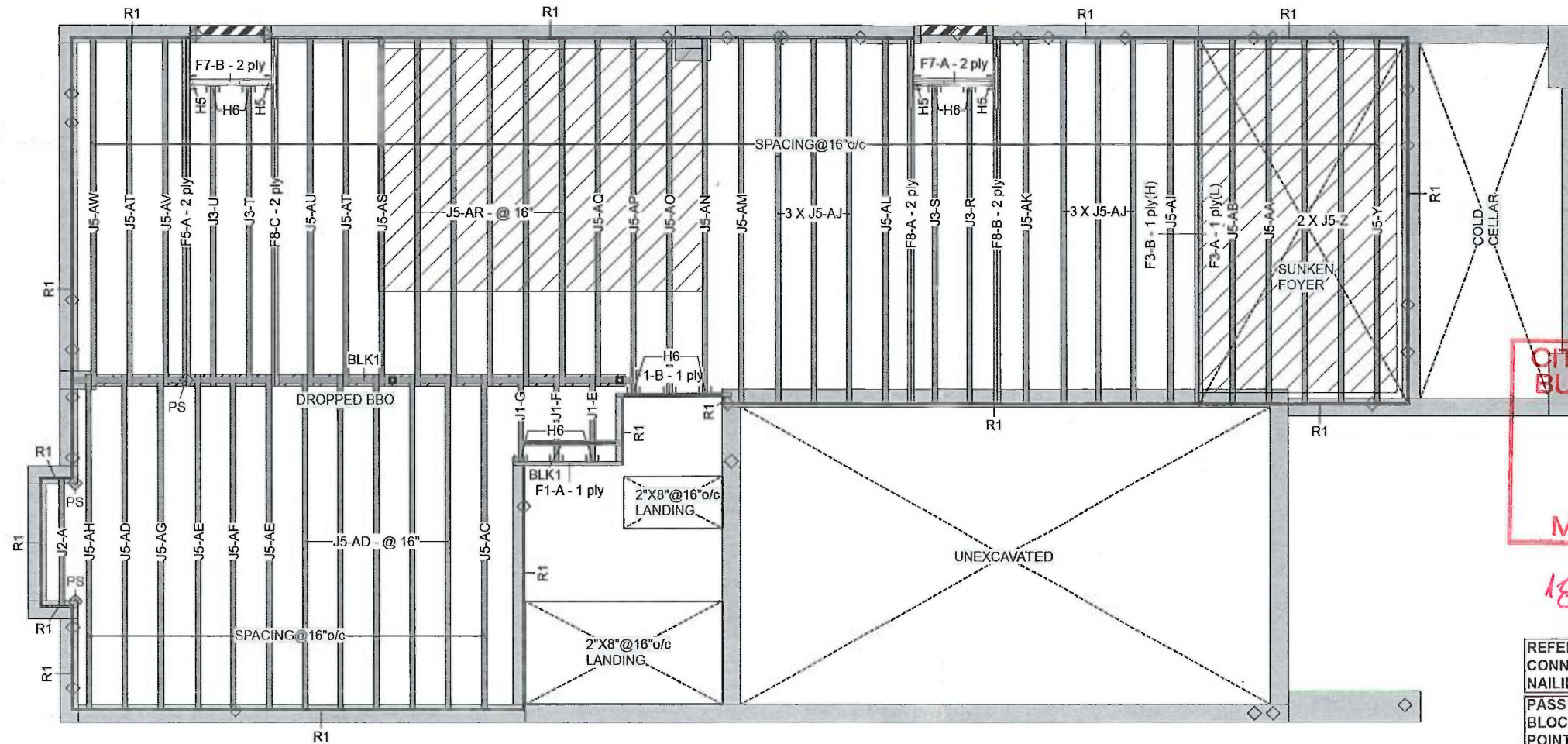
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14 Anderson Blvd, Ontario  
Canada  
K2H7V1  
905-642-4400

This design is valid until 7/10/2021





Ground Floor



CITY OF BRAMPTON  
BUILDING DIVISION  
REVIEWED  
JAN 8 2018  
BY  
MARK DERKSEN

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.



All work shall conform to the Ontario  
Building Code O. Reg. 332/12 as amended

**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.



Ground Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F3	Forex 2.0E-3000Fb LVL	1.75	9.5			2	14-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			2	6-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F8	NJ	1.5	9.5	3	2	6	14-0-0
F7	NJ	1.5	9.5	2	2	4	4-0-0
J5	NJH	2.5	9.5			42	14-0-0
J3	NJH	2.5	9.5			4	12-0-0
J2	NJH	2.5	9.5			1	6-0-0
J1	NJH	2.5	9.5			3	4-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			12	12
Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H5	4	LT2-159			4 10dx1 1/2	2 10dx1 1/2	
H6	10	LT259			4 10dx1 1/2	2 10dx1 1/2	
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	18-0-0

**NOTES:**

1. Framers 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.
8. It shall be the frame'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: 1-1/8" rimboard with 2"x4" 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 are 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:**

JARDIN DESIGN GROUP  
64 Jardin Dr., Suite 3A  
Date: Rev. 1, 5/22/2018  
Project No: 18-24  
Model: Grandbrooke 1, Elevation 1

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)

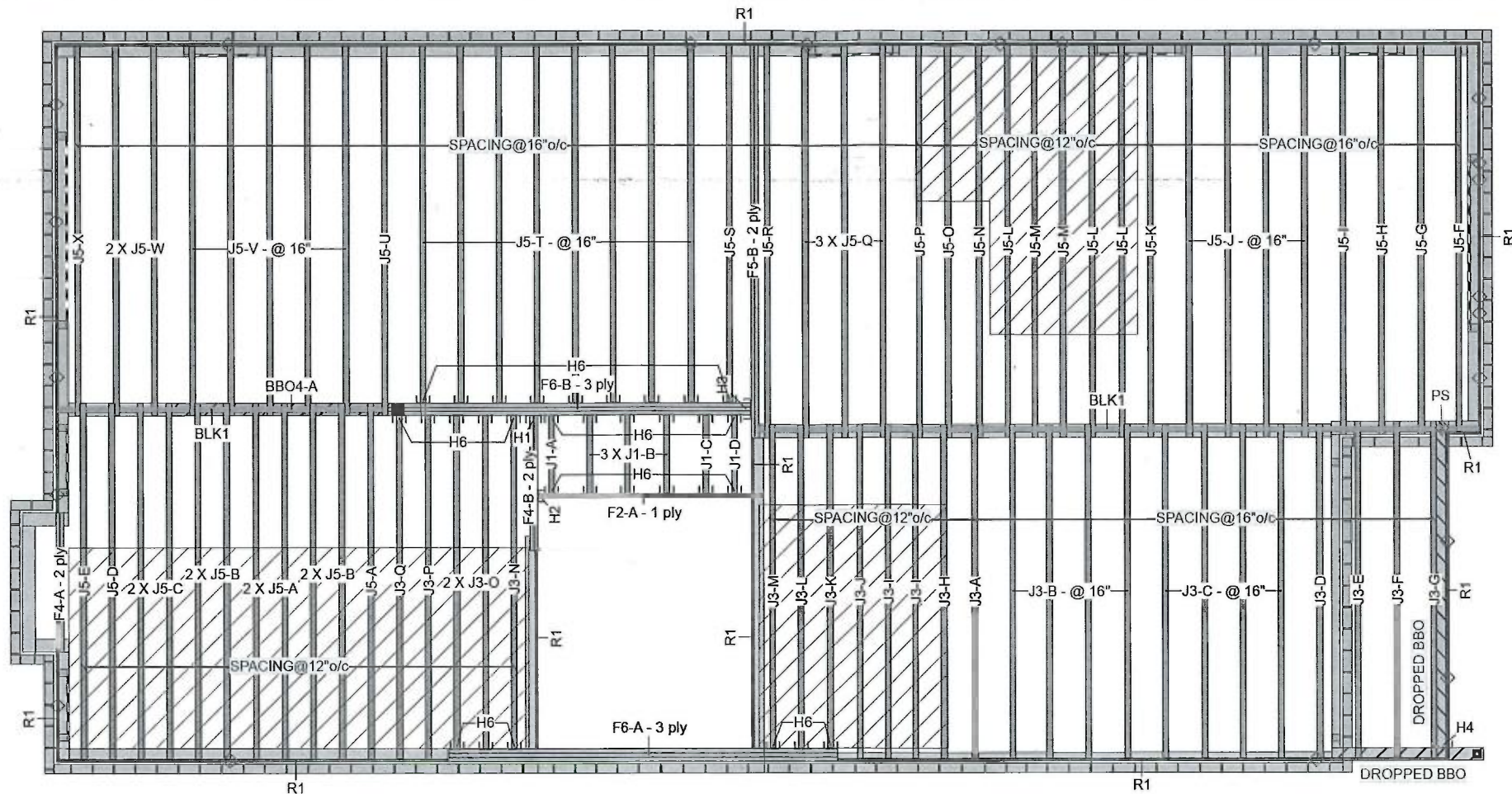
**Legend**

PS	Point Load Support
◇	Load from Above
▨	Wall
▩	Wall Opening
▧	Norbord Rimboard Plus 1.125 X 9.5
▦	NJ 9.5
▥	NJH 9.5
▤	Forex 2.0E-3000Fb LVL 1.75 X 9.5

Engineered floor joists shall be installed  
in accordance with the supplier's layout and  
specifications forming part of the permit drawings.



Second Floor



Second Floor							
LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	2	3	6	14-0-0
F5	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	14-0-0
F2	Forex 2.0E-3000Fb LVL	1.75	9.5			1	8-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	6-0-0
LVL/LSL (Dropped)							
BBO4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	10-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J5	NJH	2.5	9.5			50	14-0-0
J3	NJH	2.5	9.5			25	12-0-0
J1	NJH	2.5	9.5			6	4-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			13	12
Hanger							
				Beam/Girder	Supported Member		
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	1	HGUS410			46 16d	16 16d	
H2	1	LF179			10 10d	1 #8x1 1/4WS	
H3	1	HGUS5.50/10			46 16d	16 16d	
H4	1	Unknown Hanger					
H6	32	LT259			4 10dx1 1/2	2 10dx1 1/2	
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	25-0-0

## NOTES:

1. Framers 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.
8. It shall be the frame'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: 1-1/8" rimboard with 2"x4" 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 are 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:

JARDIN DESIGN GROUP  
64 Jardin Dr., Suite 3A  
Date: Rev. 1, 5/22/2018  
Project No: 18-24  
Model: Grandbrooke 1, Elevation 1

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)

## Legend

PS	Point Load Support
◇	Load from Above
▬	Wall
▬	Wall Opening
▬	Norbord Rimboard Plus 1.125 X 9.5
▬	NJH 9.5
▬	Forex 2.0E-3000Fb LVL 1.75 X 9.5
▬	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)

## 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.

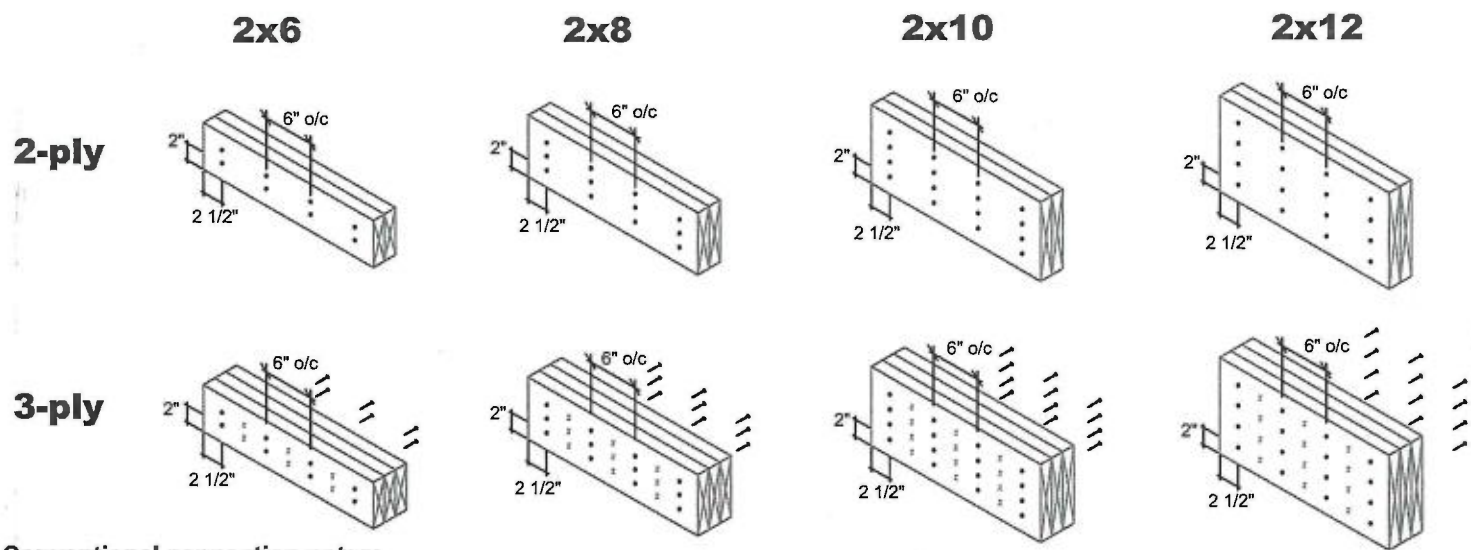
LOT 14

**KOTT**



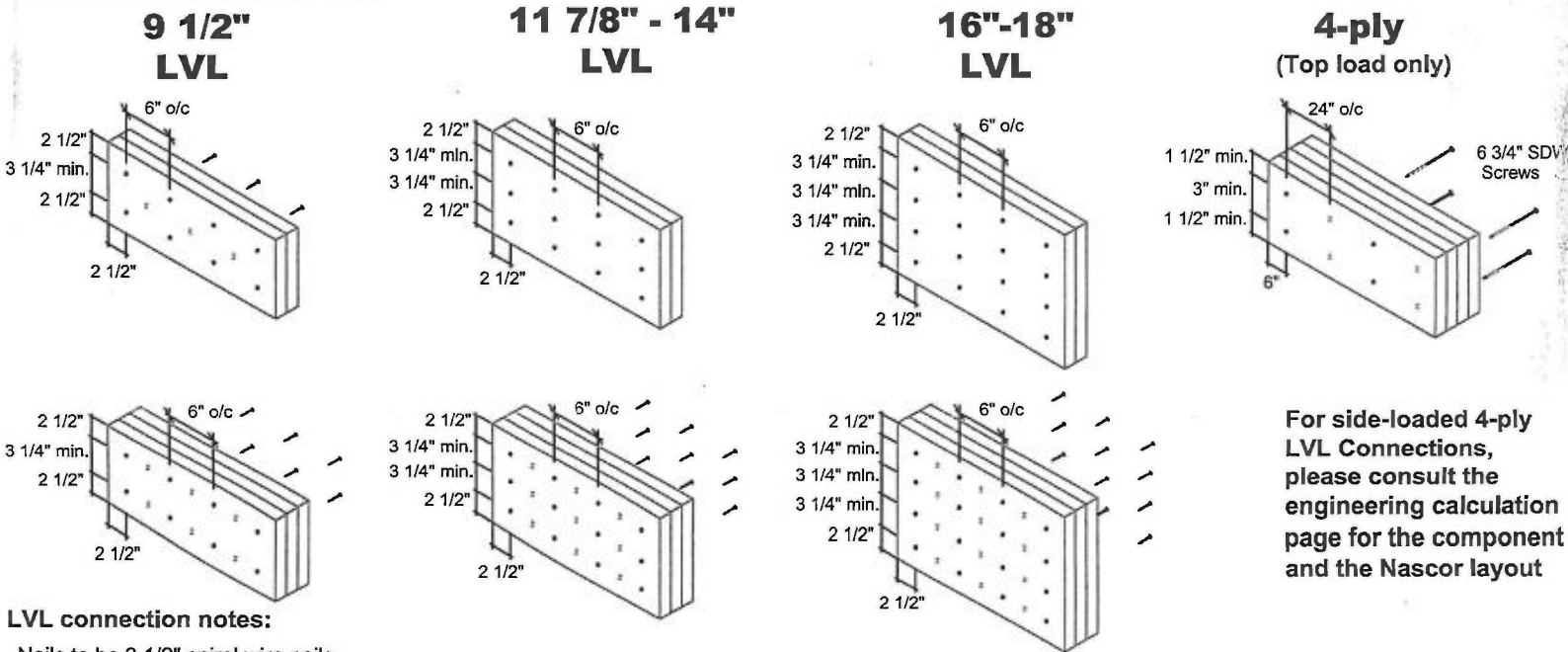
# MULTIPLE MEMBER CONNECTIONS

## Conventional Connections (for uniform distributed loads)



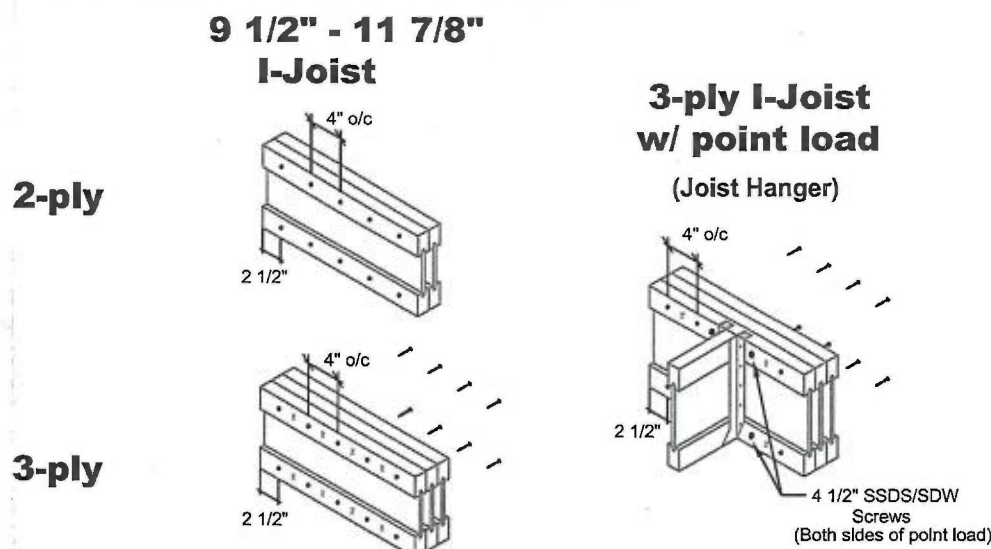
- Conventional connection notes:**
- Nails to be 3" 10d spiral wire nails.
  - Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
  - Number of rows and spacing as per details shown, unless noted otherwise.
  - "X" represents nail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

## LVL Connections (for uniform distributed loads)



- LVL connection notes:**
- Nails to be 3 1/2" spiral wire nails.
  - 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)



- Vertical I-Joist connection notes:**
- 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

Date: November 30, 2016  
Scale: NTS

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