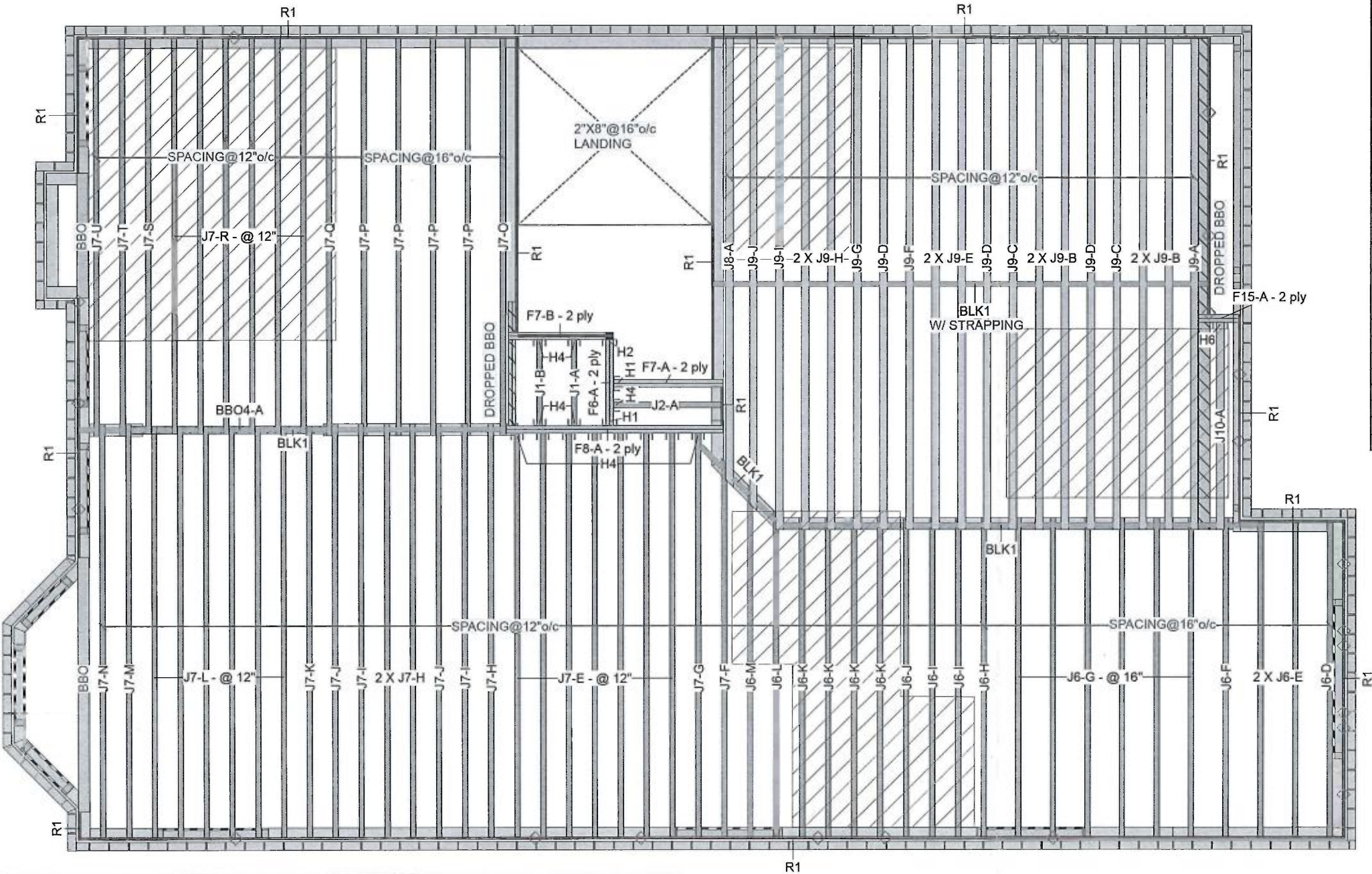






Second Floor



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.

Legend	
PS	Point Load Support
◊	Load from Above
▨	Wall
▧	Wall Opening
▩	Norbord Rimboard Plus 1.125 X 11.875
▪	NJ 11.875
▫	NJ60U 11.875
▬	NJH 11.875
▮	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)
▯	Forex 2.0E-3000Fb LVL 1.75 X 11.875

Second Floor							
LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F8	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	10-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	11.875	2	2	4	6-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	4-0-0
F15	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	2-0-0
LVL/LSL (Dropped)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BBO4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0
I Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J9	NJ60U	3.5	11.875			18	20-0-0
J8	NJ60U	3.5	11.875			1	18-0-0
J10	NJ60U	3.5	11.875			1	8-0-0
J7	NJH	2.5	11.875			40	16-0-0
J6	NJH	2.5	11.875			20	14-0-0
J2	NJH	2.5	11.875			1	6-0-0
J1	NJH	2.5	11.875			2	4-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			14	12
Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	2	HGUS410			46 16d	16 16d	
H2	1	HUC410 (Min)			14 16d	6 10d	
H4	13	LT251188			4 10dx1 1/2	2 10dx1 1/2	
H6	1	LT351188			4 10dx1 1/2	2 10dx1 1/2	
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	11.875	LinFt		Varies	40-0-0

**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 INC. 64 Jardin Dr, Suite 3A Date: Rev. 1, 4/26/2018 Project No: 2645 Model: Millwood 2, Elevation 2	
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)	

Layout Name  
MILLWOOD 2-ELEV 2

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  
MILLWOOD 2\FLOORS\ELEV 2  
MILLWOOD 2-ELEV 2.isl

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

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

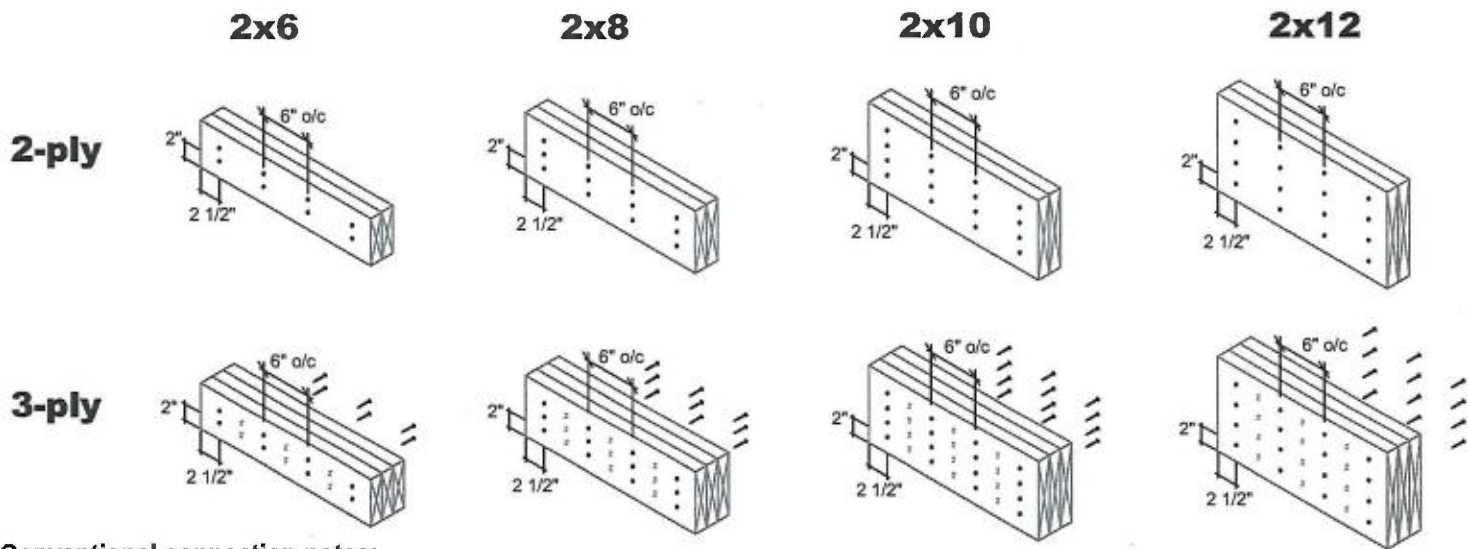
September 13, 2018

LOT 34



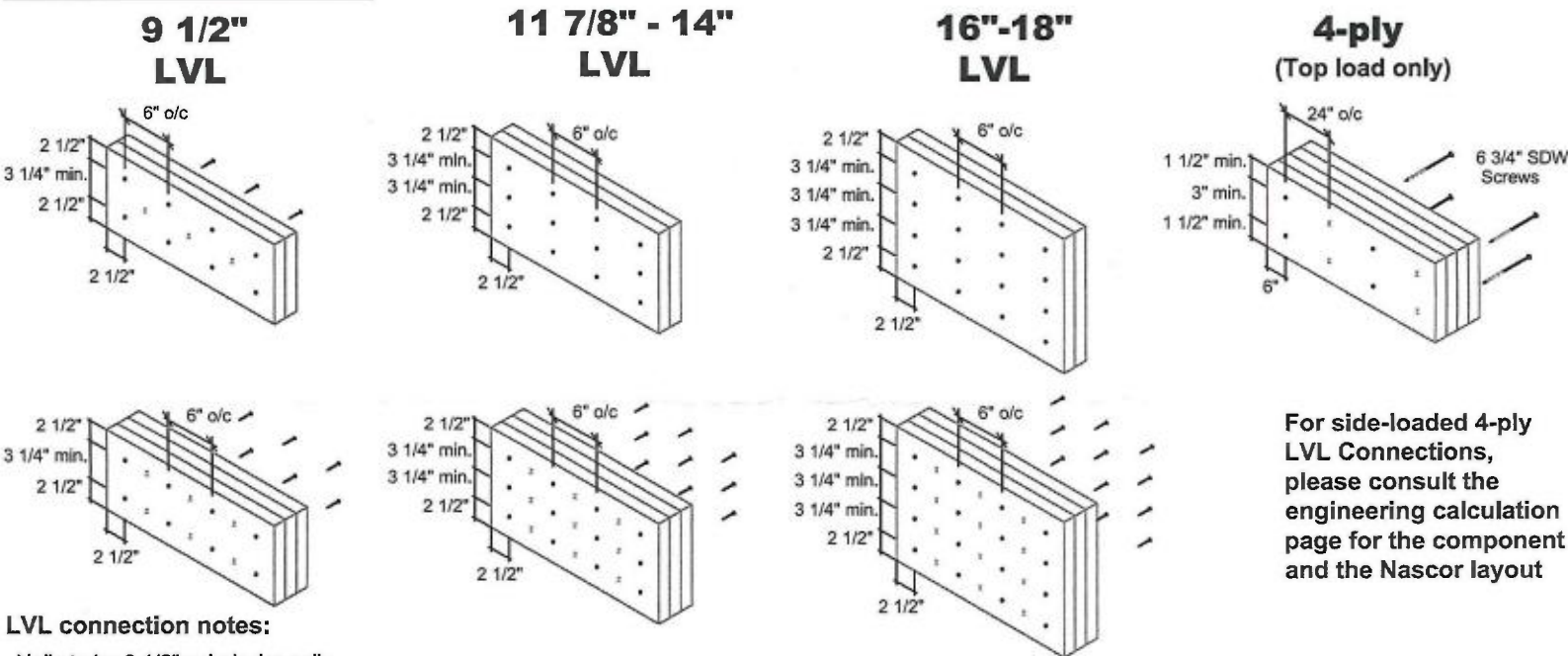
# MULTIPLE MEMBER CONNECTIONS

## 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.

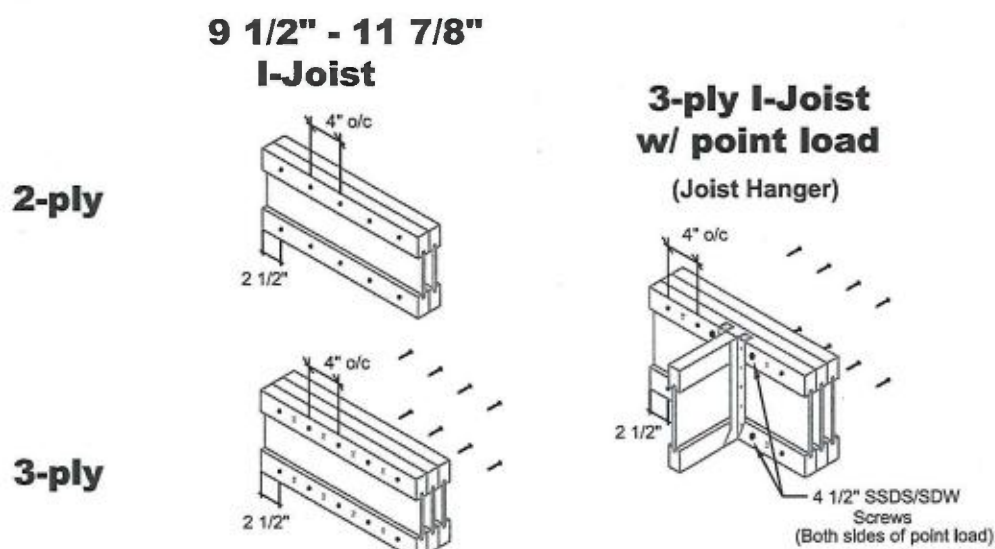
## LVL Connections (for uniform distributed loads)



**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.

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

REVISION 2009-10-09

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

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

The responsibility of the undersigned engineer is 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.

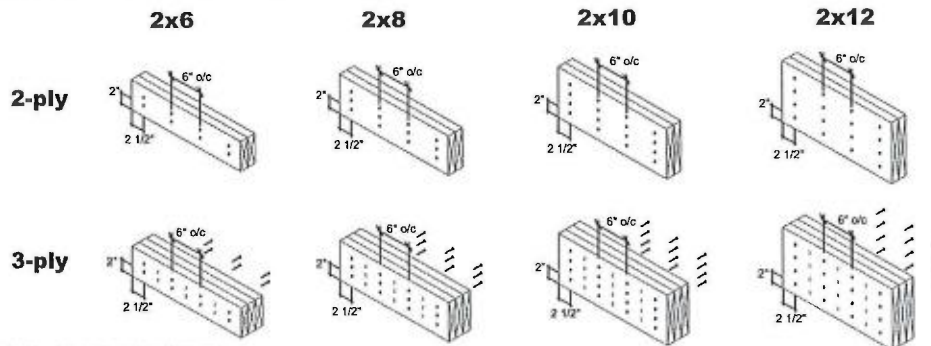
**HANDLING AND INSTALLATION**

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



# MULTIPLE MEMBER CONNECTIONS

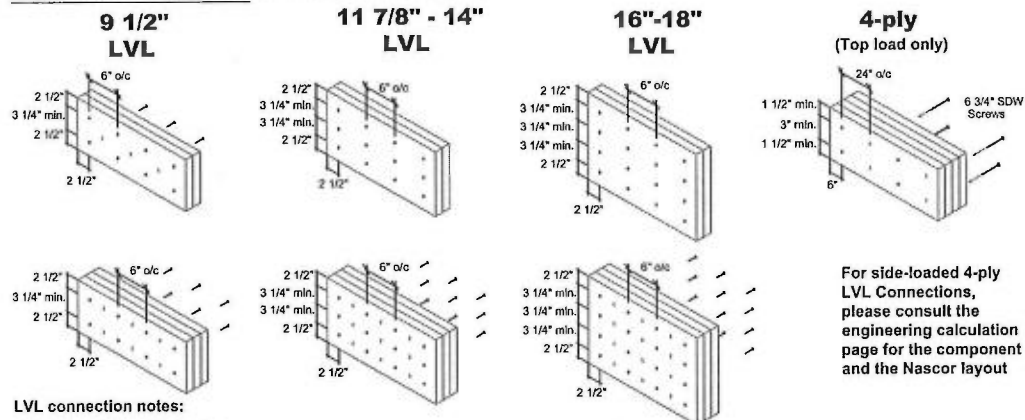
## Conventional Connections (for uniform distributed loads)



### 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)

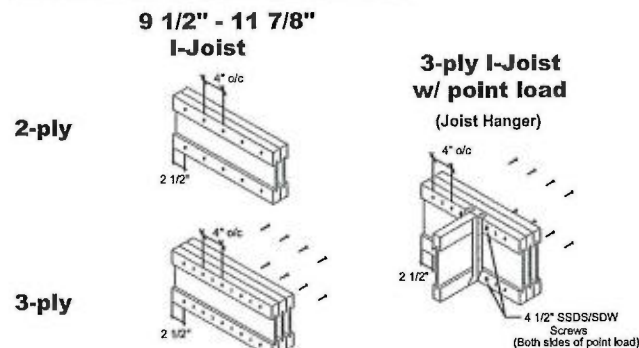


### LVL connection notes:

- 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

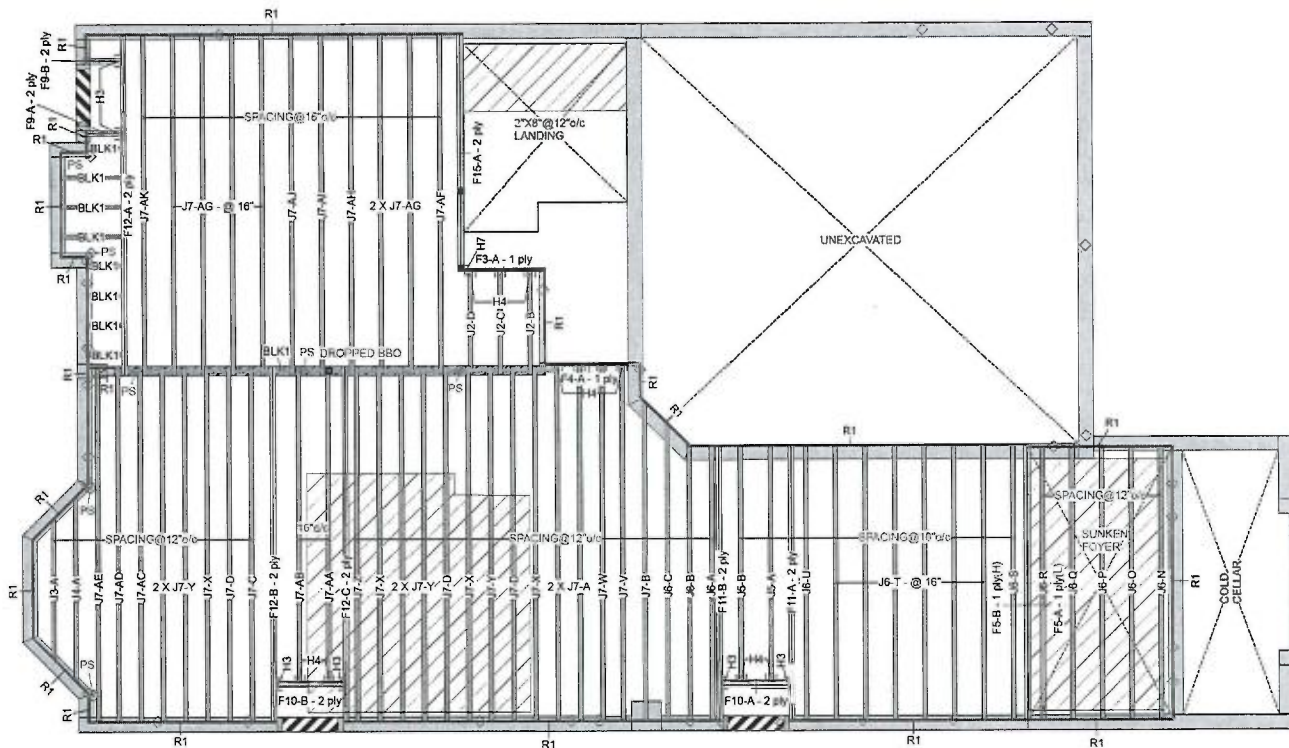
Date: November 30, 2018  
Scale: NTS

# KOTT

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

# KOTT

Ground Floor



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.



September 13, 2018

## Ground Floor

## LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F5	Forex 2.0E-3000Fb LVL	1.75	11.875			2	14-0-0
F15	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	12-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	11.875			1	8-0-0
F3	Forex 2.0E-3000Fb LVL	1.75	11.875			1	4-0-0

## Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F12	NJ	1.5	11.875	3	2	6	16-0-0
F11	NJ	1.5	11.875	2	2	4	14-0-0
F10	NJ	1.5	11.875	2	2	4	4-0-0
F9	NJ	1.5	11.875	2	2	4	2-0-0
J7	NJH	2.5	11.875			35	16-0-0
J6	NJH	2.5	11.875			16	14-0-0
J5	NJH	2.5	11.875			2	12-0-0
J4	NJH	2.5	11.875			1	10-0-0
J3	NJH	2.5	11.875			1	8-0-0
J2	NJH	2.5	11.875			3	6-0-0

## Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			12	12

## Hanger

Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H3	6	LT2-151188			4 10dx1 1/2	2 10dx1 1/2
H4	11	LT251188			4 10dx1 1/2	2 10dx1 1/2
H7	1	HUCQ1.81/9-SDS				

## Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	NJH	2.5	11.875	LinFit		Varies	29-0-0

## 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 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 INC.  
64 Jardin Dr, Suite 3A  
Date: Rev 1, 4/26/2018  
Project No: 2845  
Model: Millwood 2, Elevation 2

## Legend

PS	Point Load Support
○	Load from Above
▬	Wall
▬	Wall Opening
▬	Norbord Rimboard Plus 1.125 X 11.875
▬	NJ 11.875
▬	NJH 11.875
▬	Forex 2.0E-3000Fb LVL 1.75 X 11.875

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)

NASCOR

Layout Name

MILLWOOD 2-ELEV 2

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

905-842-4400

Job Path

S:\CUSTOMERS\GREENPARK

MILLWOOD 2-FLOORS/ELEV 2

MILLWOOD 2-ELEV 2.dwg

Ground Floor

Design Method

Building Code

NASC 2010 / OBC

2012

Floor

Loads

Live

Dead

Deflection Joist

LL Span /

TL Span /

LL Cant 2L/

TL Cant 2L/

Deflection Girder

LL Span /

TL Span /

LL Cant 2L/

TL Cant 2L/

Decking

Deck

Thickness

Fastener

Vibration

SPF Plywood

3/4"

Nailed &amp; Glued

Nailed &amp; Glued

Nailed &amp; Glued

Nailed &amp; Glued

Nailed &amp; Glued

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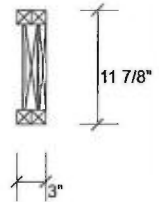
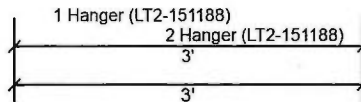
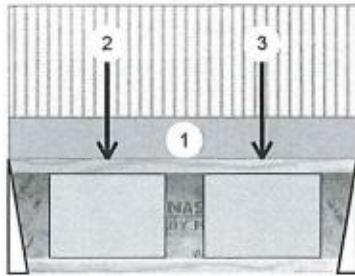
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

**F10-A NJ 11.875" 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	282	106	0	0
2	287	108	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	20% 132 / 423	555 L	1.25D+1.5L
2 - Hanger	2.000"	21% 135 / 431	566 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	401 ft-lb	1'4 1/2"	9020 ft-lb	0.044 (4%)	1.25D+1.5L	L
Unbraced	401 ft-lb	1'4 1/2"	5749 ft-lb	0.070 (7%)	1.25D+1.5L	L
Shear	558 lb	2'10 3/4"	3400 lb	0.164 (16%)	1.25D+1.5L	L
Perm Defl in. (L/38142)	0.001	1'5 9/16"	0.093 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/14284)	0.002	1'5 1/2"	0.093 (L/360)	0.030 (3%)	L	L
TL Defl inch (L/10392)	0.003	1'5 9/16"	0.140 (L/240)	0.020 (2%)	D+L	L

## Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-0	(Span)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-10-4		Far Face	87 lb	233 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
3	Point	2-2-4		Far Face	86 lb	229 lb	0 lb	0 lb	

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

## 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

## 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 ponding

## Manufacturer Info

Nascor by Kott

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

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

This design is

**NASCOR**







isDesign™

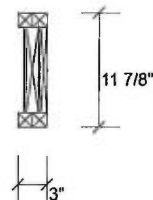
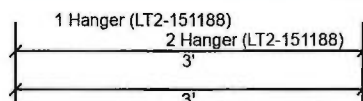
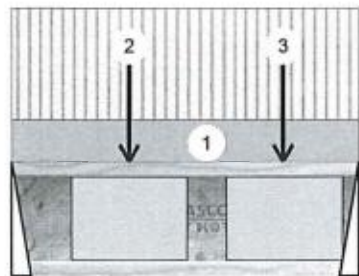
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

**F10-B NJ 11.875" 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	343	129	0	0
2	404	152	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	25%	161 / 514	675	L	1.25D+1.5L
2 - Hanger	2.000"	29%	189 / 606	795	L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	583 ft-lb	1' 1/4"	9020 ft-lb	0.065 (6%)	1.25D+1.5L	L
Unbraced	583 ft-lb	1' 1/4"	5749 ft-lb	0.101 (10%)	1.25D+1.5L	L
Shear	788 lb	2'10 3/4"	3400 lb	0.232 (23%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/27610)	1'1 5/16"	0.093 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/10370)	1'1 5/16"	0.093 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.004 (L/7538)	1'1 5/16"	0.140 (L/240)	0.030 (3%)	D+L	L

**Design Notes**

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-0	(Span)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-0-4		Far Face	130 lb	346 lb	0 lb	0 lb	J7
3	Point	2-4-4		Far Face	110 lb	293 lb	0 lb	0 lb	

Pass thru Framing Squash Block is required at all point loads over bearings

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



September 13, 2018

**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

**Handling & 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 bridging

**Manufacturer Info**

Nascor by Kott

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

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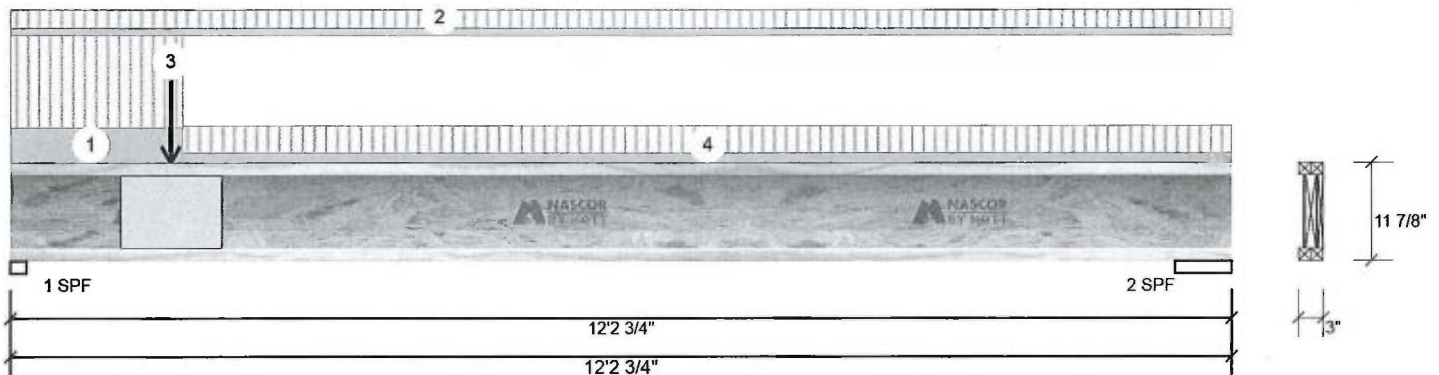
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

F11-A NJ 11.875" 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	512	192	0	0
2	243	91	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	1.875"	38% 240 / 767	1008 L	1.25D+1.5L
2 - SPF	6.875"	14% 114 / 365	479 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1602 ft-lb	4'6 5/8"	9020 ft-lb	0.178 (18%)	1.25D+1.5L	L
Unbraced	1602 ft-lb	4'6 5/8"	1617 ft-lb	0.991 (99%)	1.25D+1.5L	L
Shear	993 lb	1 1/8"	3400 lb	0.292 (29%)	1.25D+1.5L	L
Perm Defl in.	0.018 (L/7877)	5'6 5/16"	0.388 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.047 (L/2957)	5'6 5/16"	0.388 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.065 (L/2150)	5'6 5/16"	0.581 (L/240)	0.110 (11%)	D+L	L

## Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top flange must be laterally braced at a maximum of 5'7" o.c.
- Bottom flange braced at bearings.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-8-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-2-12	(Span)0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-7-6		Far Face	108 lb	287 lb	0 lb	0 lb	F10
4	Tie-In	1-8-14 to 12-2-12	(Span)0-11-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

## 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
- Ljoist not to be treated with fire retardant or corrosive

## chemicals

## Handling &amp; Installation

- Ljoist flanges must not be cut or drilled
- 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
- Damaged Ljoists 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 ponding

## Manufacturer Info

Nascor by Kott

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

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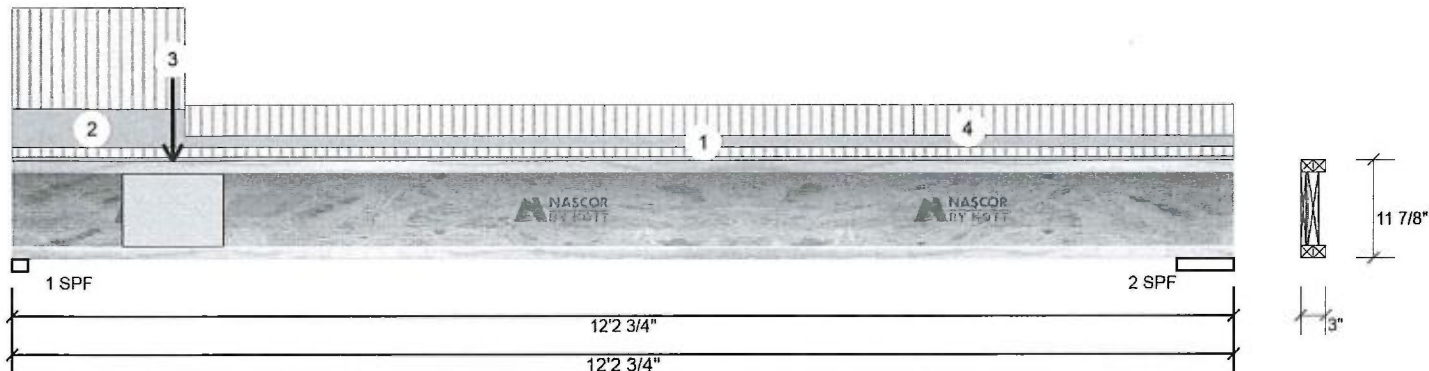
Client: GREENPARK  
Project:  
Address:

Date: 9/7/2018  
Designer: R O  
Job Name: MILLWOOD 2-ELEV 1  
Project #:

Page 1 of 1

**F11-B NJ 11.875" 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	471	177	0	0
2	206	77	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	35%	221 / 707	928 L		1.25D+1.5L
2 - SPF	6.875"	12%	96 / 308	405 L		1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1410 ft-lb	4'3 1/4"	9020 ft-lb	0.156 (16%)	1.25D+1.5L	L
Unbraced	1410 ft-lb	4'3 1/4"	1412 ft-lb	0.998 (100%)	1.25D+1.5L	L
Shear	915 lb	1 1/8"	3400 lb	0.269 (27%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/9004)	5'5 11/16"	0.388 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.041 (L/3379)	5'5 11/16"	0.388 (L/360)	0.110 (11%)	L	
TL Defl inch	0.057 (L/2457)	5'5 11/16"	0.581 (L/240)	0.100 (10%)	D+L	L

**Design Notes**

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top flange must be laterally braced at a maximum of 5'11" o.c.
- Bottom flange braced at bearings.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-2-12	(Span)0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-8-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-7-6		Near Face	106 lb	282 lb	0 lb	0 lb	F10
4	Tie-In	1-8-14 to 12-2-12	(Span)0-11-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	PASS Thru Framing Squash Block is required at all point loads over bearings

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

**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
- Joist not to be treated with fire retardant or corrosive chemicals

**chemicals****Handling & Installation**

- Joist flanges must not be cut or drilled
- 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
- Damaged Joists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

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

**Manufacturer Info**

Nascor by Kott

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

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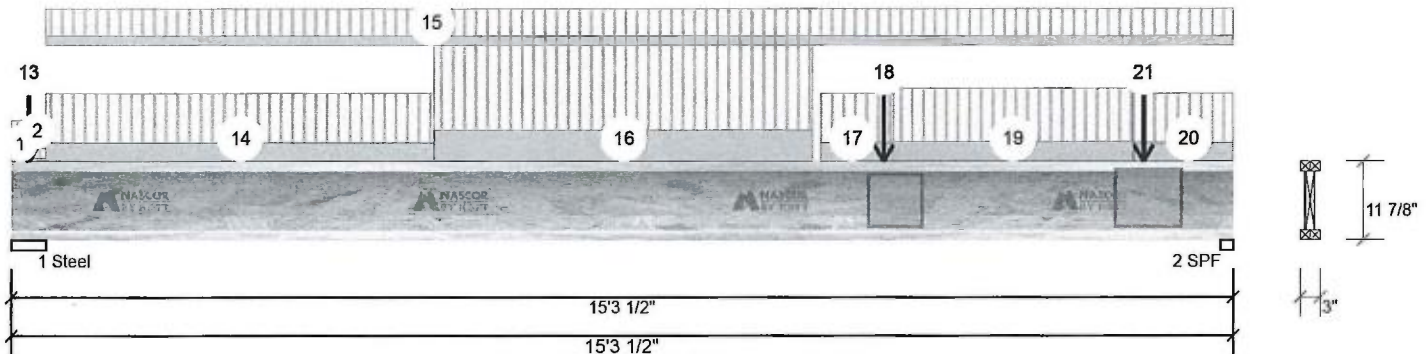
Client: GREENPARK  
Project:  
Address:

Date: 9/7/2018  
Designer: R O  
Job Name: MILLWOOD 2-ELEV 1  
Project #:

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F12-A NJ 11.875" 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	641	269	0	0
2	539	202	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Steel	5.250"	38% 337 / 961	1298 L	1.25D+1.5L
2 - SPF	1.875"	40% 253 / 809	1061 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3724 ft-lb	8' 3/16"	9020 ft-lb	0.413 (41%)	1.25D+1.5L	L
Unbraced	3724 ft-lb	8' 3/16"	3737 ft-lb	0.997 (100%)	1.25D+1.5L	L
Shear	1052 lb	15'2 3/8"	3400 lb	0.309 (31%)	1.25D+1.5L	L
Perm Defl in.	0.062 (L/2891)	7'10 3/8"	0.494 (L/360)	0.120 (12%)	D	Uniform
LL Defl inch	0.164 (L/1083)	7'10 3/8"	0.494 (L/360)	0.330 (33%)	L	L
TL Defl inch	0.226 (L/788)	7'10 3/8"	0.741 (L/240)	0.300 (30%)	D+L	L

## Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-4	(Span)0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-4	(Span)0-8-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-2-10		Top	1 lb	3 lb	0 lb	0 lb	J7
4	Point	0-2-10		Top	1 lb	4 lb	0 lb	0 lb	J7
5	Point	0-2-10		Top	1 lb	3 lb	0 lb	0 lb	J7
6	Point	0-2-10		Top	1 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Point	0-2-10		Top	21 lb	56 lb	0 lb	0 lb	J7

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

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

## Handling &amp; Installation

- Joist flanges must not be cut or drilled
- 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
- Damaged Joists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

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

## Manufacturer Info

Nascor by Kott

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

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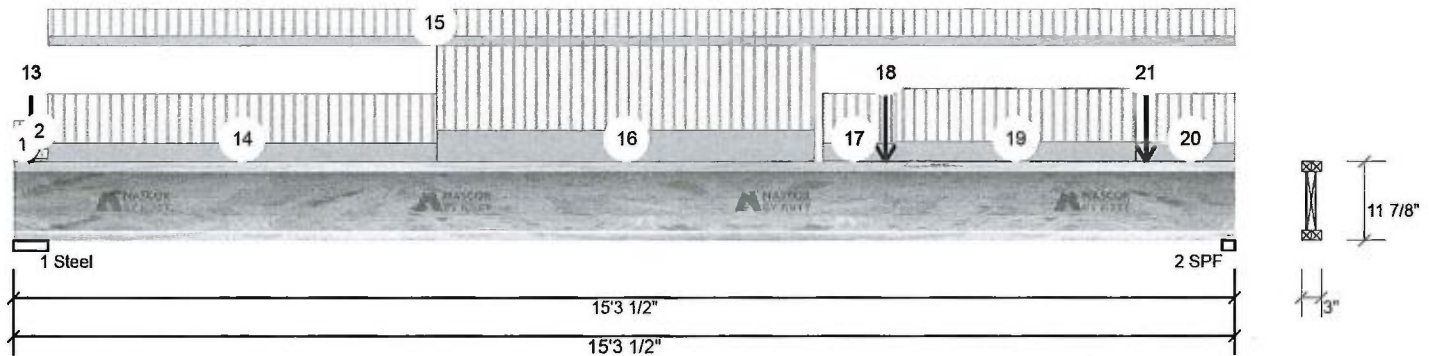
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 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

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**F12-A NJ 11.875" 2-Ply - PASSED**

Level: Ground Floor



Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	0-2-10		Top	22 lb	59 lb	0 lb	0 lb	J7
9	Point	0-2-10		Top	2 lb	5 lb	0 lb	0 lb	J7
10	Point	0-2-10		Top	20 lb	0 lb	0 lb	0 lb	Wall Self Weight
11	Point	0-2-10		Top	9 lb	25 lb	0 lb	0 lb	J7
12	Point	0-2-10		Top	10 lb	26 lb	0 lb	0 lb	J7
13	Point	0-2-10		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
14	Tie-In	0-5-4 to 5-3-10	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
15	Tie-In	0-5-4 to 15-3-8	(Span)0-10-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
16	Tie-In	5-3-10 to 10-0-8	(Span)2-9-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
17	Tie-In	10-1-10 to 11-0-10	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
18	Point	10-11-2		Far Face	18 lb	49 lb	0 lb	0 lb	F9
19	Tie-In	11-0-10 to 14-0-10	(Span)1-9-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
20	Tie-In	14-0-10 to 15-3-8	(Span)1-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
21	Point	14-2-2		Far Face	25 lb	66 lb	0 lb	0 lb	F9

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

## 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. Joist not to be treated with fire retardant or corrosive

## chemicals

## Handling &amp; 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= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

This design is valid until 7/10/2021

## Manufacturer Info

Nascor by Kott

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

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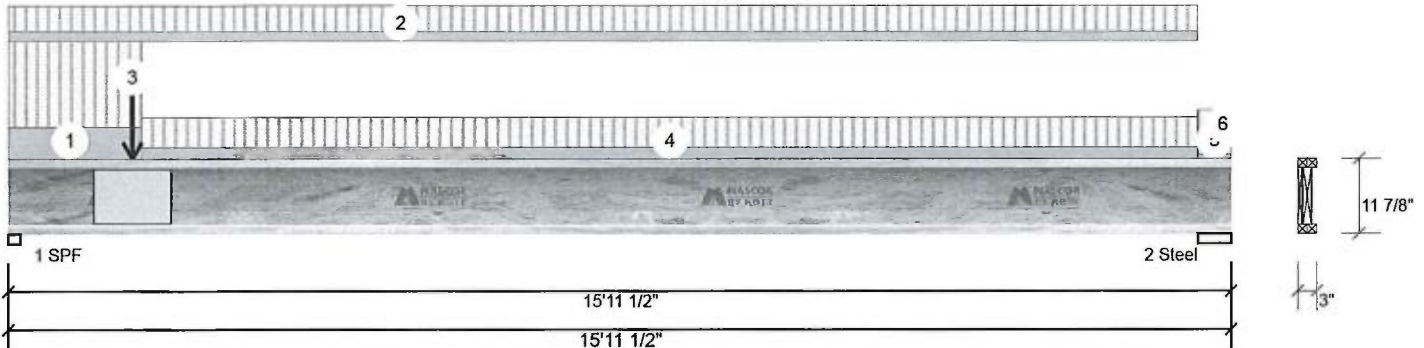
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 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

**F12-B NJ 11.875" 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	712	267	0	0
2	376	141	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	1.875"	53%	334 / 1068	1402 L 1.25D+1.5L
2 - Steel	5.250"	22%	176 / 563	739 L 1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3112 ft-lb	6'11 1/2"	9020 ft-lb	0.345 (34%)	1.25D+1.5L	L
Unbraced	3112 ft-lb	6'11 1/2"	3135 ft-lb	0.993 (99%)	1.25D+1.5L	L
Shear	1386 lb	1 1/8"	3400 lb	0.408 (41%)	1.25D+1.5L	L
Perm Defl in.	0.057 (L/3233)	7'6 13/16"	0.516 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.153 (L/1213)	7'6 13/16"	0.516 (L/360)	0.300 (30%)	L	L
TL Defl inch	0.211 (L/882)	7'6 13/16"	0.774 (L/240)	0.270 (27%)	D+L	L

**Design Notes**

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-8-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 15-6-4	(Span)0-11-12 to 0-11-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-7-6		Near Face	129 lb	343 lb	0 lb	0 lb	F10
4	Tie-In	1-8-14 to 15-6-4	(Span)1-1-12 to 1-1-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	Pass-Thru Framing Squash Block is required at all point loads over bearings
5	Tie-In	15-6-4 to 15-11-8	(Span)0-5-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	Refer to Multiple Member Connection
6	Tie-In	15-6-4 to 15-11-8	(Span)0-10-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	Detail for ply to ply nailing or bolting requirements

**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
- Ljoist not to be treated with fire retardant or corrosive

**chemicals**
**Handling & Installation**

- Ljoist flanges must not be cut or drilled
- 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
- Damaged Ljoists 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 ponding

**Manufacturer Info**

Nascor by Kott

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

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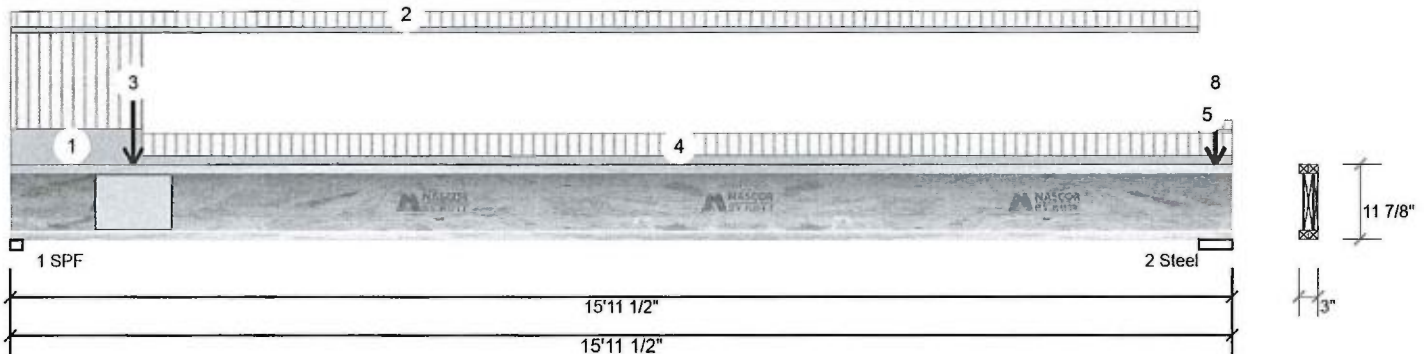
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 2

F12-C NJ 11.875" 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	649	244	0	0
2	417	179	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	1.875"	48% 305 / 973	1278 L	1.25D+1.5L
2 - Steel	5.250"	25% 223 / 625	849 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2271 ft-lb	6'1 5/8"	9020 ft-lb	0.252 (25%)	1.25D+1.5L	L
Unbraced	2271 ft-lb	6'1 5/8"	2271 ft-lb	1.000 (100%)	1.25D+1.5L	L
Shear	1264 lb	1 1/8"	3400 lb	0.372 (37%)	1.25D+1.5L	L
Perm Defl in.	0.042 (L/4432)	7'4 5/8"	0.516 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.112 (L/1664)	7'4 3/4"	0.516 (L/360)	0.220 (22%)	L	
TL Defl inch	0.154 (L/1210)	7'4 3/4"	0.774 (L/240)	0.200 (20%)	D+L	L

## Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-8-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 15-6-4	(Span)0-6-4 to 0-6-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-7-6		Far Face	152 lb	404 lb	0 lb	0 lb	F10
4	Tie-In	1-8-14 to 15-11-8	(Span)0-9-4 to 0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	15-6-4 to 15-11-8	(Span)0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	15-8-14		Top	32 lb	85 lb	0 lb	0 lb	J7

Continued on page 2...

<b>Notes</b> 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. <b>Lumber</b> 1. Dry service conditions, unless noted otherwise 2. Ljoist not to be treated with fire retardant or corrosive chemicals	<b>Handling &amp; Installation</b> 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 ponding	<b>Manufacturer Info</b> Nascor by Kott	Kott Lumber Company 14 Anderson Blvd, Ontario Canada K2H7V1 905-642-4400
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This design is

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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: R O

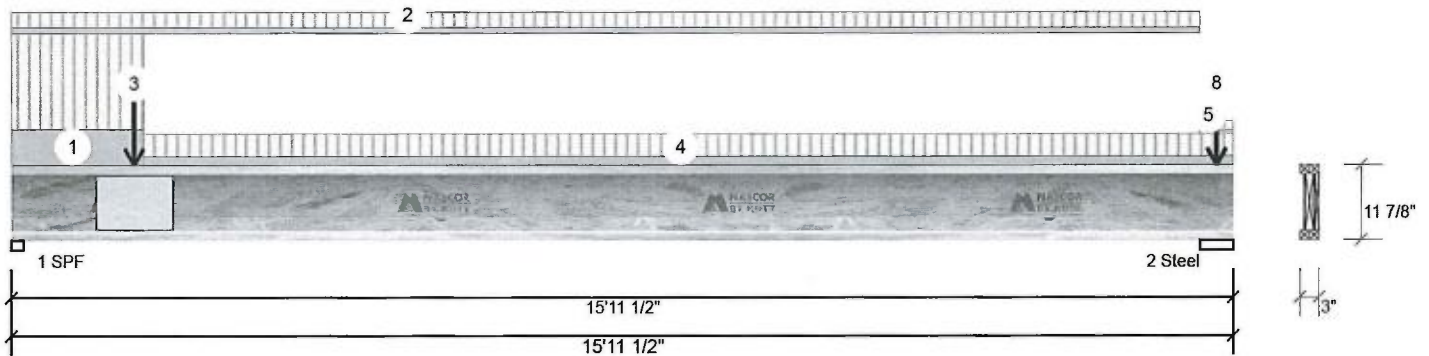
Job Name: MILLWOOD 2-ELEV 1

Project #:

Page 2 of 2

**F12-C NJ 11.875" 2-Ply - PASSED**

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Point	15-8-14		Top	30 lb	80 lb	0 lb	0 lb	J7
8	Point	15-8-14		Top	22 lb	0 lb	0 lb	0 lb	Wall Self Weight

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

**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****Handling & 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

This design is valid until 7/10/2021

**Manufacturer Info**

Nascor by Kott

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

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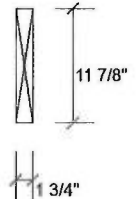
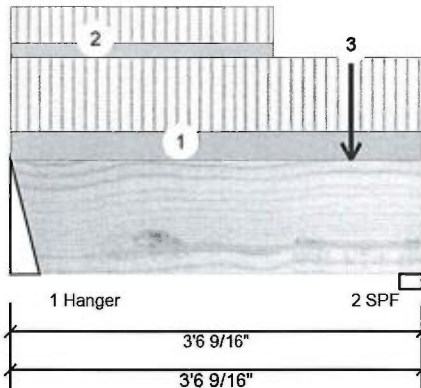
Client: GREENPARK  
 Project:  
 Address:

Date: 9/10/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

**F3-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	555	218	0	0
2	510	201	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	3.000"	28% 272 / 833	1106 L	1.25D+1.5L
2 - SPF	2.375"	40% 251 / 765	1016 L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	785 ft-lb	1'9 5/16"	17130 ft-lb	0.046 (5%)	1.25D+1.5L	L
Unbraced	785 ft-lb	1'9 5/16"	13259 ft-lb	0.059 (6%)	1.25D+1.5L	L
Shear	745 lb	2'5 1/16"	5798 lb	0.129 (13%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/26669)	1'9 7/16"	0.108 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.004 (L/10472)	1'9 3/8"	0.108 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.005 (L/7520)	1'9 3/8"	0.161 (L/240)	0.030 (3%)	D+L	L

**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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-6-9		Top	79 PLF	210 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 2-3-3		Near Face	39 PLF	103 PLF	0 PLF	0 PLF	
3	Point	2-11-3		Near Face	33 lb	87 lb	0 lb	0 lb	J2
	Self Weight				5 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

**Notes**

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

**Lumber**

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

**chemicals****Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

Forex  
 APA: PR-L318

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

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This design is valid

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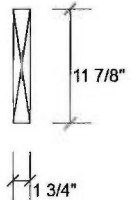
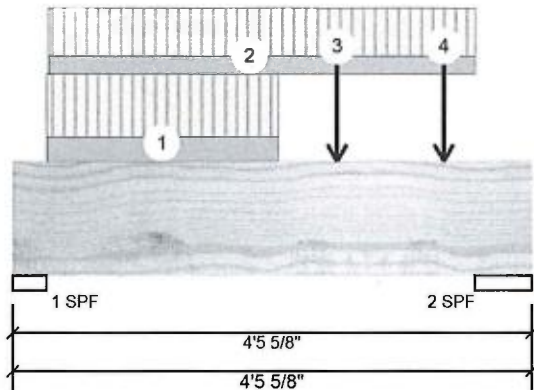
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

**F4-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	1024	395	0	0
2	1099	424	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	54%	493 / 1536	2029	L	1.25D+1.5L
2 - SPF	5.875"	34%	529 / 1649	2178	L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2002 ft-lb	2'1 9/16"	17130 ft-lb	0.117 (12%)	1.25D+1.5L	L
Unbraced	2002 ft-lb	2'1 9/16"	11720 ft-lb	0.171 (17%)	1.25D+1.5L	L
Shear	2314 lb	3' 5/8"	5798 lb	0.399 (40%)	1.25D+1.5L	L
Perm Defl in.	0.004 (L/10769)	2'1 11/16"	0.127 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.011 (L/4138)	2'1 11/16"	0.127 (L/360)	0.090 (9%)	L	L
TL Defl inch	0.015 (L/2989)	2'1 11/16"	0.191 (L/240)	0.080 (8%)	D+L	L

**Design Notes**

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-3-8 to 2-3-8		Near Face	120 PLF	319 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-3-12 to 3-11-12		Top	90 PLF	240 PLF	0 PLF	0 PLF	
3	Point	2-9-8		Near Face	115 lb	305 lb	0 lb	0 lb	J7
4	Point	3-8-8		Near Face	112 lb	300 lb	0 lb	0 lb	J7
	Self Weight				5 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

**Notes**

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

**Lumber**

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

**chemicals****Handling & Installation**

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

- 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

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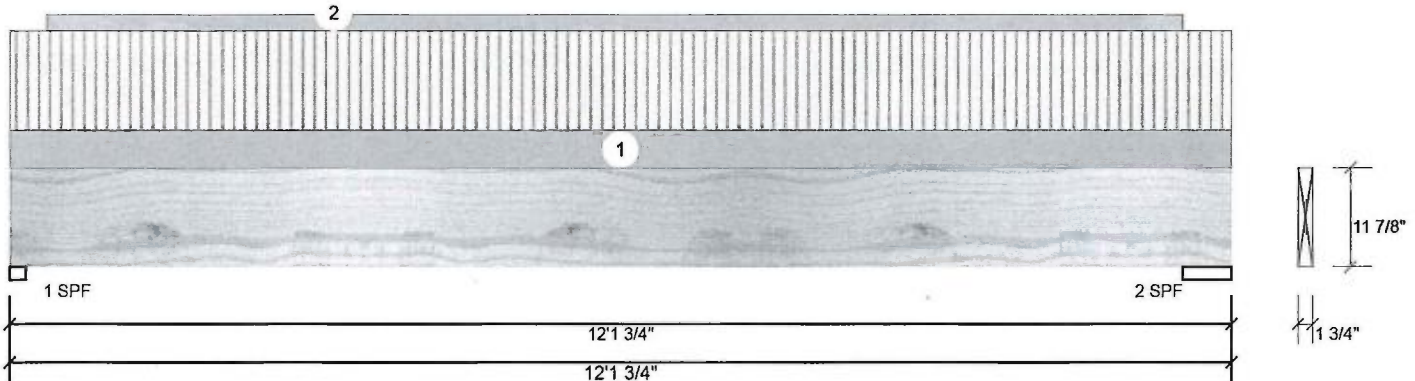
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

F5-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	73	67	0	0
2	77	70	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	1.875"	10%	83 / 109	192 L 1.25D+1.5L
2 - SPF	5.875"	3%	88 / 115	203 L 1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	553 ft-lb	5'10 7/8"	17130 ft-lb	0.032 (3%)	1.25D+1.5L	L
Unbraced	553 ft-lb	5'10 7/8"	3868 ft-lb	0.143 (14%)	1.25D+1.5L	L
Shear	158 lb	1'1"	5798 lb	0.027 (3%)	1.25D+1.5L	L
Perm Defl in.	0.011 (L/13107)	5'10 7/8"	0.388 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.012 (L/12101)	5'10 7/8"	0.388 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.022 (L/6292)	5'10 7/8"	0.581 (L/240)	0.040 (4%)	D+L	L

## Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-1-12	(Span)0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform Self Weight	0-4-6 to 11-7-15		Top	2 PLF 5 PLF	0 PLF	0 PLF	0 PLF	

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

## 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

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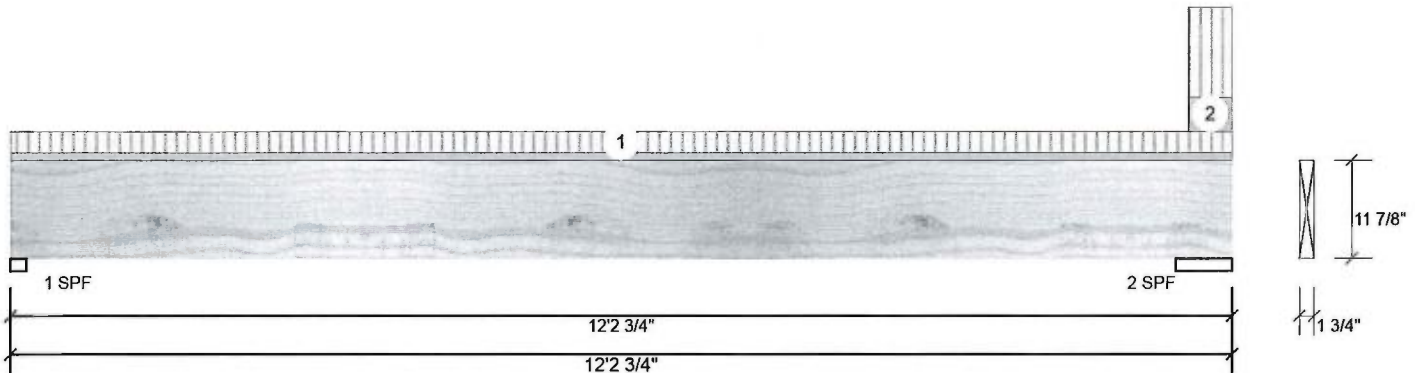
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

**F5-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" - 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	67	53	0	0
2	95	66	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	8%	67 / 101	168	L	1.25D+1.5L
2 - SPF	6.875"	3%	82 / 142	224	L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	480 ft-lb	5'10 7/8"	17130 ft-lb	0.028 (3%)	1.25D+1.5L	L
Unbraced	480 ft-lb	5'10 7/8"	3868 ft-lb	0.124 (12%)	1.25D+1.5L	L
Shear	137 lb	1'1"	5798 lb	0.024 (2%)	1.25D+1.5L	L
Perm Defl in.	0.008 (L/16496)	5'10 7/8"	0.388 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.011 (L/13065)	5'10 7/8"	0.388 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.019 (L/7290)	5'10 7/8"	0.581 (L/240)	0.030 (3%)	D+L	L

**Design Notes**

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-2-12	(Span)0-6-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	11-9-6 to 12-2-12	(Span)2-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

**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

**chemicals****Handling & Installation**

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

- 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

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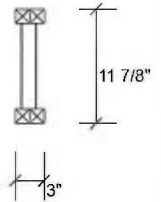
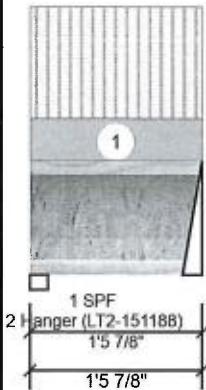
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

**F9-A NJ 11.875" 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	48	18	0	0
2	49	18	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	4%	23 / 72	95 L		1.25D+1.5L
2 - Hanger	2.000"	4%	23 / 73	96 L		1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	27 ft-lb	8 7/8"	9020 ft-lb	0.003 (0%)	1.25D+1.5L	L
Unbraced	27 ft-lb	8 7/8"	8539 ft-lb	0.003 (0%)	1.25D+1.5L	L
Shear	83 lb	1 1/8"	3400 lb	0.024 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

**Design Notes**

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-5-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

**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

**Handling & 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 ponding

**Manufacturer Info**

Nascor by Kolt

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

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This design is v

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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: R O

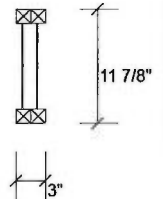
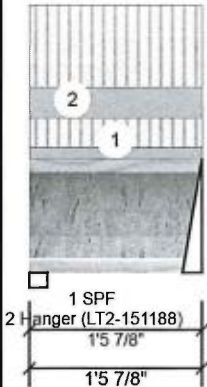
Job Name: MILLWOOD 2-ELEV 1

Project #:

Page 1 of 1

**F9-B NJ 11.875" 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	65	24	0	0
2	66	25	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	1.875"	5%	31 / 98	128	L	1.25D+1.5L
2 - Hanger	2.000"	5%	31 / 99	130	L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	36 ft-lb	8 7/8"	9020 ft-lb	0.004 (0%)	1.25D+1.5L	L
Unbraced	36 ft-lb	8 7/8"	8539 ft-lb	0.004 (0%)	1.25D+1.5L	L
Shear	112 lb	1 1/8"	3400 lb	0.033 (3%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

**Design Notes**

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-5-14	(Span)1-1-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-5-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

**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. Joist not to be treated with fire retardant or corrosive chemicals.

**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= 3.6 inches.
7. For flat roofs provide ponding.

**Manufacturer Info**

Nascor by Kott

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

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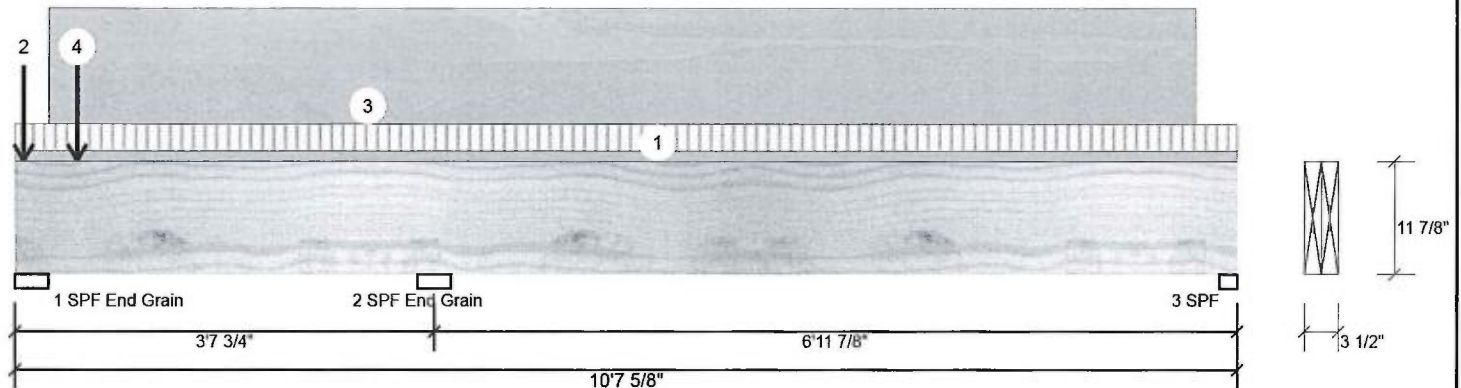
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Client: GREENPARK  
 Project:  
 Address:

Date: 9/10/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 2

F15-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level: Ground Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	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	986	484	0	0
2	176	679	0	0
3	52	259	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	24%	578 / 1504	2082	L	1.25D+1.5L
2 - SPF End Grain	3.500"	17%	995 / 0	995	Uniform	1.4D
3 - SPF	1.875"	13%	348 / 0	348	Uniform	1.4D

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-617 ft-lb	3'7 3/4"	22269 ft-lb	0.028 (3%)	1.4D	Uniform
Unbraced	-617 ft-lb	3'7 3/4"	22269 ft-lb	0.028 (3%)	1.4D	Uniform
Pos Moment	521 ft-lb	7'9"	22269 ft-lb	0.023 (2%)	1.4D	Uniform
Unbraced	521 ft-lb	7'9"	21873 ft-lb	0.024 (2%)	1.4D	Uniform
Shear	421 lb	4'7 5/8"	7537 lb	0.056 (6%)	1.4D	Uniform
Perm Defl in.	0.005 (L/17692)	7'3 7/16"	0.230 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.006 (L/14724)	7'3 3/8"	0.345 (L/240)	0.020 (2%)	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.



September 13, 2018

## 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

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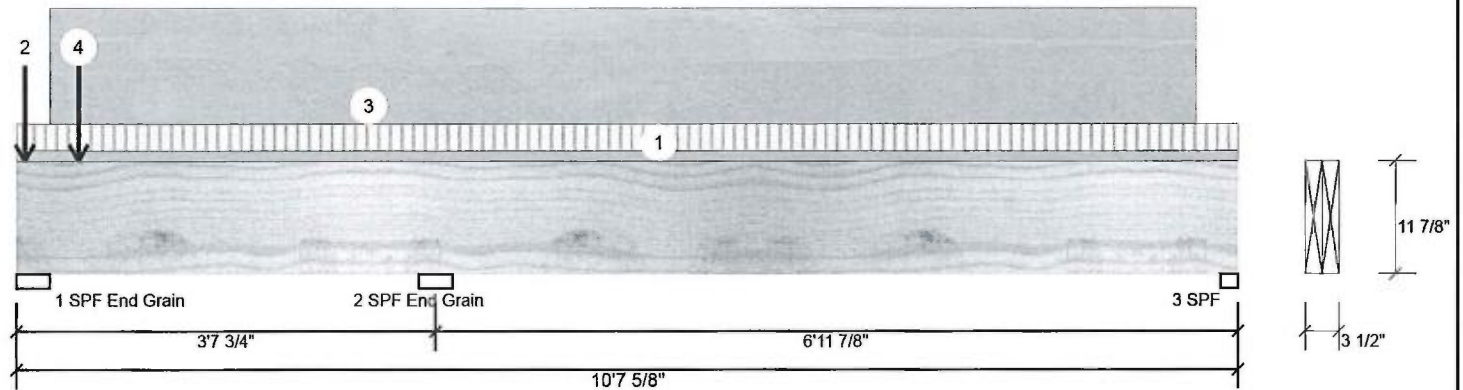
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 Project:  
 Address:

Date: 9/10/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 2 of 2

**F15-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED** Level: Ground Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-7-10	(Span)0-11-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-0-14		Near Face	218 lb	555 lb	0 lb	0 lb	F3
3	Part. Uniform	0-3-8 to 10-3-4		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	0-6-8		Top	231 lb	464 lb	0 lb	0 lb	BBO3 BBO3
	Self Weight				10 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

## 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

This design is valid until 7/10/2021

## Manufacturer Info

Forex  
 APA: PR-L318

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

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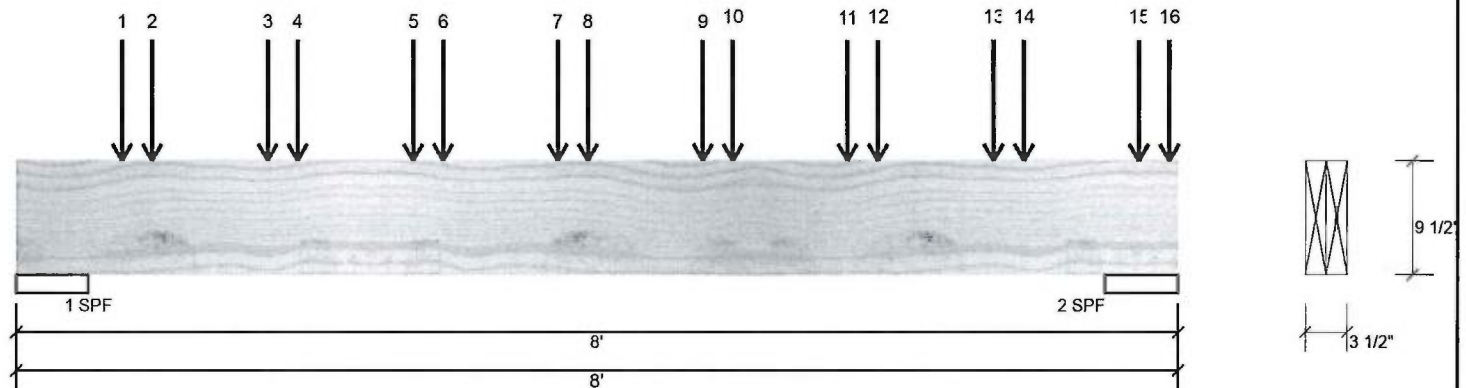
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 2

BBO4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	2221	861	0	0
2	2284	885	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	6.000"	34%	1076 / 3332	4409	L	1.25D+1.5L
2 - SPF	6.000"	35%	1106 / 3425	4531	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7713 ft-lb	3'11 1/4"	22724 ft-lb	0.339 (34%)	1.25D+1.5L	L
Unbraced	7713 ft-lb	3'11 1/4"	21721 ft-lb	0.355 (36%)	1.25D+1.5L	L
Shear	3886 lb	6'9 1/4"	9277 lb	0.419 (42%)	1.25D+1.5L	L
Perm Defl in.	0.033 (L/2630)	3'11 3/8"	0.238 (L/360)	0.140 (14%)	D	Uniform
LL Defl inch	0.084 (L/1016)	3'11 3/8"	0.238 (L/360)	0.350 (35%)	L	L
TL Defl inch	0.117 (L/733)	3'11 3/8"	0.356 (L/240)	0.330 (33%)	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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-8-12		Top	111 lb	297 lb	0 lb	0 lb	J7
2	Point	0-11-4		Top	116 lb	310 lb	0 lb	0 lb	J7
3	Point	1-8-12		Top	111 lb	297 lb	0 lb	0 lb	J7
4	Point	1-11-4		Top	116 lb	310 lb	0 lb	0 lb	J7
5	Point	2-8-12		Top	111 lb	297 lb	0 lb	0 lb	J7

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

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

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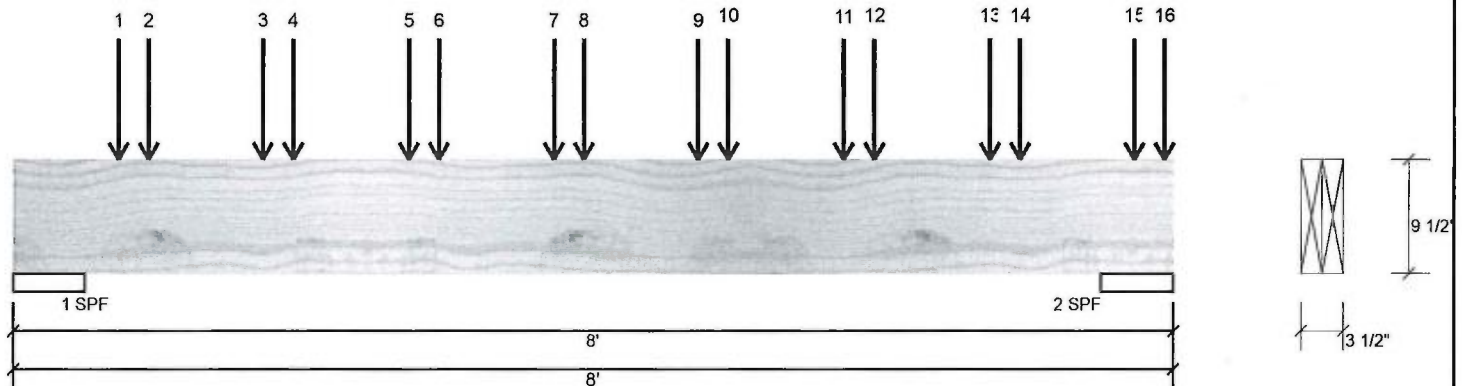
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 2 of 2

BBO4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	2-11-4		Top	116 lb	310 lb	0 lb	0 lb	J7
7	Point	3-8-12		Top	111 lb	297 lb	0 lb	0 lb	J7
8	Point	3-11-4		Top	116 lb	310 lb	0 lb	0 lb	J7
9	Point	4-8-12		Top	111 lb	297 lb	0 lb	0 lb	J7
10	Point	4-11-4		Top	116 lb	310 lb	0 lb	0 lb	J7
11	Point	5-8-12		Top	111 lb	297 lb	0 lb	0 lb	J7
12	Point	5-11-4		Top	116 lb	310 lb	0 lb	0 lb	J7
13	Point	6-8-12		Top	111 lb	297 lb	0 lb	0 lb	J7
14	Point	6-11-4		Top	116 lb	310 lb	0 lb	0 lb	J7
15	Point	7-8-12		Top	50 lb	134 lb	0 lb	0 lb	J7
16	Point	7-11-4		Top	46 lb	122 lb	0 lb	0 lb	J7
	Self Weight				8 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

## 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

This design is valid until 7/10/2021

## Manufacturer Info

Forex  
 APA: PR-L318

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

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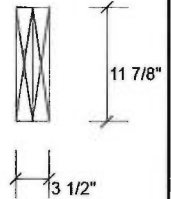
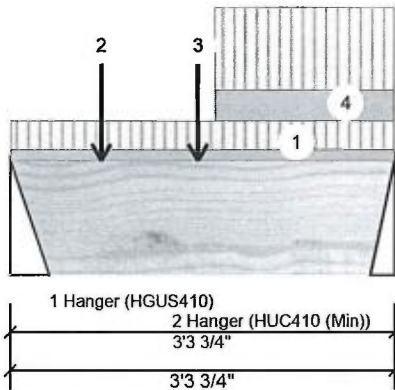
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

**F6-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED**

Level: Second Floor

**Member Information**

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		

**Unfactored Reactions UNPATTERNED lb (Uplift)**

Brg	Live	Dead	Snow	Wind
1	150	83	0	0
2	169	88	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	3%	104 / 225	329	L	1.25D+1.5L
2 - Hanger	2.500"	6%	110 / 253	363	L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	246 ft-lb	1'7 1/2"	34261 ft-lb	0.007 (1%)	1.25D+1.5L	L
Unbraced	246 ft-lb	1'7 1/2"	34261 ft-lb	0.007 (1%)	1.25D+1.5L	L
Shear	246 lb	1'3 1/8"	11596 lb	0.021 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.001 (L/46486)	1'7 3/4"	0.145 (L/240)	0.010 (1%)	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.



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-3-12	(Span)1-4-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-9-7		Near Face	26 lb	70 lb	0 lb	0 lb	J2
3	Point	1-7-8		Near Face	33 lb	35 lb	0 lb	0 lb	J2
4	Tie-In	1-9-4 to 3-3-12	(Span)3-11-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				

Pass Thru Framing Squash Block is required at all point loads over bearings

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

**Notes**

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

**Lumber**

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

**chemicals****Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

Forex  
 APA: PR-L318

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

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

This design is

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Client: GREENPARK

Project:

Address:

Date: 9/7/2018

Designer: R O

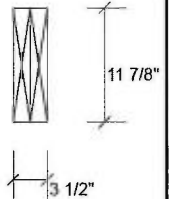
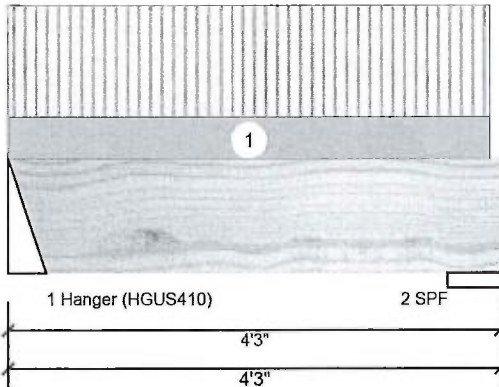
Job Name: MILLWOOD 2-ELEV 1

Project #:

Page 1 of 1

**F7-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 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	35	33	0	0
2	35	34	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	1%	41 / 52	93	L	1.25D+1.5L
2 - SPF	5.500"	1%	43 / 53	95	L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	72 ft-lb	2' 3/4"	34261 ft-lb	0.002 (0%)	1.25D+1.5L	L
Unbraced	72 ft-lb	2' 3/4"	34261 ft-lb	0.002 (0%)	1.25D+1.5L	L
Shear	36 lb	1'3 1/8"	11596 lb	0.003 (0%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

**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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-1-14	(Span)0-10-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

**Notes**

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

**Lumber**

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

**chemicals****Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

Forex  
APA: PR-L318

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

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

This design is

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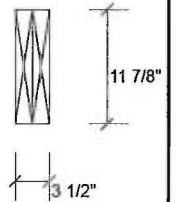
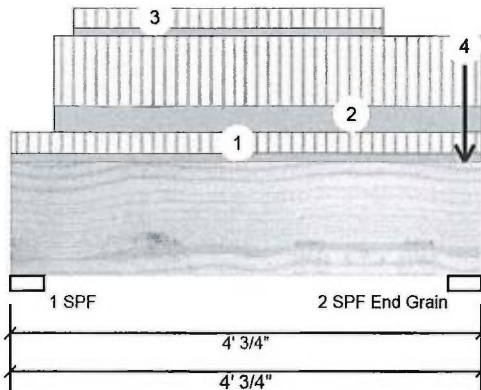
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 1

F7-B Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Second Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	643	260	0	0
2	885	375	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	17%	325 / 965	1289	L	1.25D+1.5L
2 - SPF	3.500"	20%	469 / 1328	1797	L	1.25D+1.5L
End Grain						

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1215 ft-lb	2' 5/16"	34261 ft-lb	0.035 (4%)	1.25D+1.5L	L
Unbraced	1215 ft-lb	2' 5/16"	34261 ft-lb	0.035 (4%)	1.25D+1.5L	L
Shear	711 lb	2'10 1/8"	11596 lb	0.061 (6%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/34561)	2' 5/16"	0.120 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/13799)	2' 5/16"	0.120 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.004 (L/9862)	2' 5/16"	0.180 (L/240)	0.020 (2%)	D+L	L

## Design Notes

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-0-12	(Span)3-7-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-8 to 4-0-12		Top	90 PLF	240 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-6-8 to 3-2-8		Near Face	25 PLF	68 PLF	0 PLF	0 PLF	
4	Point	3-11-0		Near Face	88 lb	169 lb	0 lb	0 lb	
	Self Weight				10 PLF				

Pass Thru Framing Squash Block is required at all point loads over bearings

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

## 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

## 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

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

This design is

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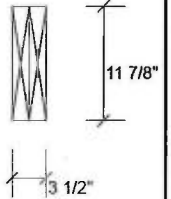
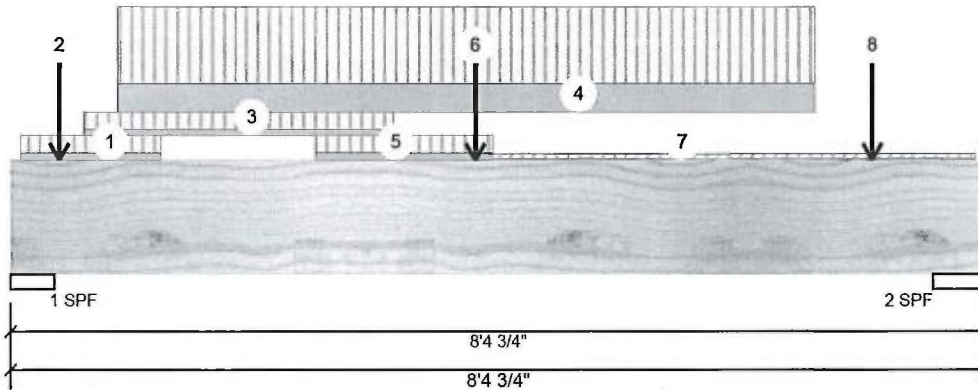
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Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 1 of 2

**F8-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED** Level: Second Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	1594	649	0	0
2	1377	568	0	0

**Bearings and Factored Reactions**

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	4.500"	33% 811 / 2391	3202 L	1.25D+1.5L
2 - SPF	5.500"	23% 710 / 2066	2776 L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5966 ft-lb	4'	34261 ft-lb	0.174 (17%)	1.25D+1.5L	L
Unbraced	5966 ft-lb	4'	31511 ft-lb	0.189 (19%)	1.25D+1.5L	L
Shear	3035 lb	7' 1/8"	11596 lb	0.262 (26%)	1.25D+1.5L	L
Perm Defl in.	0.016 (L/5638)	4' 3/4"	0.256 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.040 (L/2325)	4' 13/16"	0.256 (L/360)	0.150 (15%)	L	L
TL Defl inch	0.056 (L/1646)	4' 13/16"	0.384 (L/240)	0.150 (15%)	D+L	L

**Design Notes**

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



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-1-0 to 1-3-8	(Span)3-7-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-5-0		Near Face	77 lb	205 lb	0 lb	0 lb	J7
3	Part. Uniform	0-7-8 to 3-3-8		Far Face	25 PLF	68 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-11-0 to 6-11-0		Near Face	115 PLF	308 PLF	0 PLF	0 PLF	
5	Tie-In	2-7-8 to 4-1-12	(Span)3-7-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	4-0-0		Far Face	83 lb	150 lb	0 lb	0 lb	F6

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**

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

**chemicals****Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

Forex  
 APA: PR-L318

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

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This design is

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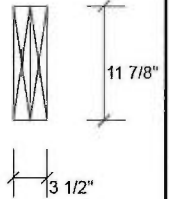
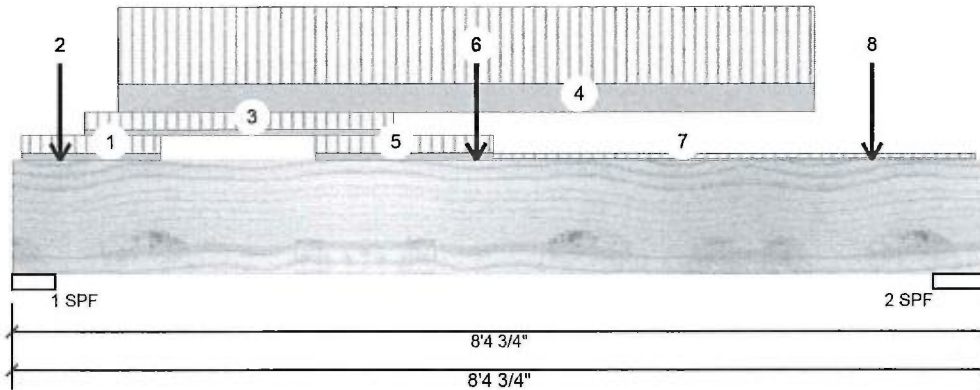
Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 1  
 Project #:

Page 2 of 2

**F8-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED**

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Tie-In	4-1-12 to 8-3-10	(Span)0-11-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Point	7-5-0		Near Face	117 lb	313 lb	0 lb	0 lb	J7
	Self Weight				10 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

**Notes**

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

**Lumber**

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

**chemicals****Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

Forex  
 APA: PR-L318

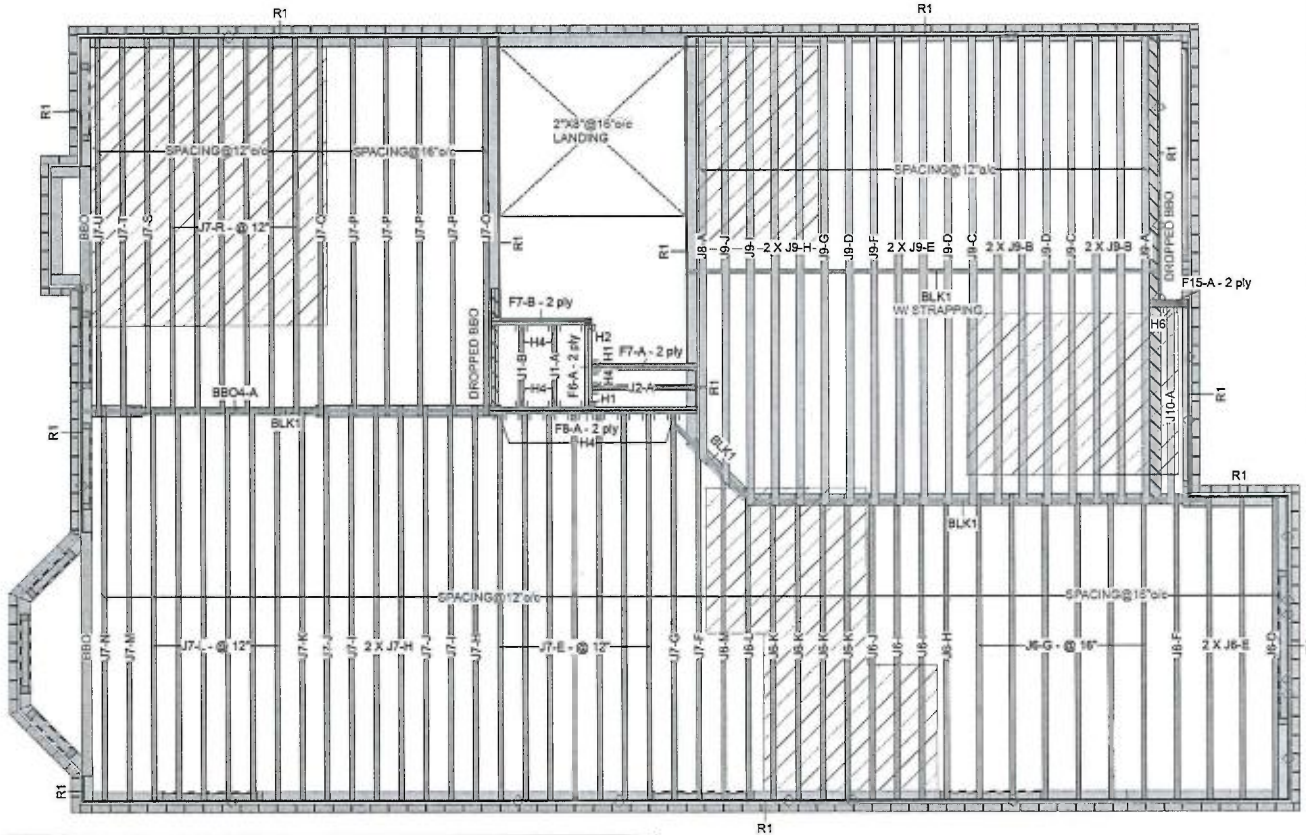
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 14 Anderson Blvd, Ontario  
 Canada  
 K2H7V1  
 905-642-4400

**NASCOR**

This design is valid until 7/10/2021



Second Floor



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.

## Legend

PS	Point Load Support
○	Load from Above
▨	Wall
▨	Wall Opening
▨	Norboard Rimboard Plus 1.125 X 11.875
▨	NJ 11.875
▨	NJ80U 11.875
▨	NJH 11.875
▨	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)
▨	Forex 2.0E-3000Fb LVL 1.75 X 11.875

## Second Floor

## LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F8	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	10-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	11.875	2	2	4	6-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	4-0-0
F15	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	2-0-0

## LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
B804	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0

## Joist (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
J9	NJ80U	3.5	11.875			18	20-0-0
J8	NJ80U	3.5	11.875			1	18-0-0
J10	NJ80U	3.5	11.875			1	8-0-0
J7	NJH	2.5	11.875			40	16-0-0
J6	NJH	2.5	11.875			20	14-0-0
J2	NJH	2.5	11.875			1	8-0-0
J1	NJH	2.5	11.875			2	4-0-0

## Rim Board

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
R1	Norboard Rimboard Plus 1.125 X 11.875	1.125	11.875			14	12

## Hanger

Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	2	HGUS410			46 16d	16 16d
H2	1	HUCA10 (Min)			14 16d	6 10d
H4	13	LT251188			4 10dx1 1/2	2 10dx1 1/2
H6	1	LT351188			4 10dx1 1/2	2 10dx1 1/2

## Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	NJH	2.5	11.875			40-0-0	

## NOTES:

1. Framer to verify dimensions on the architectural drawings.
2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
3. Install 2x4 blocking @ 24"oc 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"oc). 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 INC.  
64 Jardin Dr, Suite 3A  
Date: Rev. 1, 4/26/2018  
Project No: 2945  
Model: Millwood 2, Elevation 2

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CGMC - 13535-R
3. LVL CGMC -14056-R
4. CANCSA-086-09
5. CGMC -12787-R APA PR-1310(C)

NASCOR

Layout Name  
MILLWOOD 2-ELEV 2Design Method  
LSD

Description

Created  
June 25, 2018Builder  
GREENPARKSales Rep  
R MDesigner  
R O

Shipping

Project

Builder's Project

Kott Lumber Company  
14 Anderson Blvd  
Stouffville, Ontario  
Canada  
K2H7V1  
905-642-4400Job Path  
S:\CUSTOMERS\GREENPARK  
WINNSALE HOMES\MODELS  
WILLWOOD 2\FLOORS\LEV 2  
WILLWOOD 2-ELEV 2.sldDesign Method  
LSD  
Building Code  
NBCC 2010 / OBC  
2012Floor  
Loads  
Live  
Dead  
Deflection Joist  
LL Span L/  
TL Span L/  
LL Cant 2L/  
TL Cant 2L/  
Deflection Girder  
LL Span L/  
TL Span L/  
LL Cant 2L/  
TL Cant 2L/  
Decking  
Deck  
Thickness  
Fastener  
Vibration  
Ceiling:SPF Plywood  
5/8"  
Nailed & Glued  
Gypsum 1/2"SPF Plywood  
5/8"  
Nailed & Glued  
Gypsum 1/2"SPF Plywood  
5/8"  
Nailed & Glued  
Gypsum 1/2"SPF Plywood  
5/8"  
Nailed & Glued  
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Gypsum 1/2"SPF Plywood  
5/8"  
Nailed & Glued  
Gypsum 1/2"SPF Plywood  
5/8"  
Nailed & Glued  
Gypsum 1/2"



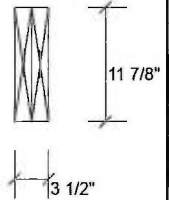
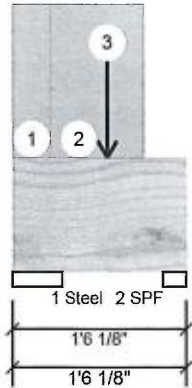
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Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 2  
 Project #:

Page 1 of 1

**F15-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED** Level: Second Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	72	103	0	0
2	61	53	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Steel	5.250"	2%	129 / 108	237 L		1.25D+1.5L
2 - SPF	2.375"	3%	66 / 92	158 L		1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	78 ft-lb	10"	33233 ft-lb	0.002 (0%)	1.25D+1.5L	L
Unbraced	78 ft-lb	10"	33233 ft-lb	0.002 (0%)	1.25D+1.5L	L
Shear	107 lb	1'4 3/8"	11248 lb	0.009 (1%)	0.9D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

## 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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-4-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-4-0 to 1-1-12		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Point	0-10-0		Near Face	50 lb	133 lb	0 lb	0 lb	J10
	Self Weight				10 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

## 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

This design

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

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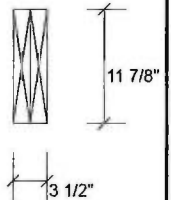
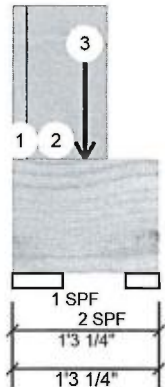
isDesign™

Client: GREENPARK  
 Project:  
 Address:

Date: 9/7/2018  
 Designer: R O  
 Job Name: MILLWOOD 2-ELEV 3  
 Project #:

Page 1 of 1

**F15-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED** Level: Second Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	108	101	0	0
2	65	41	0	0

## Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	3%	126 / 162	288 L	1.25D+1.5L
2 - SPF	3.500"	2%	52 / 98	149 L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	58 ft-lb	7 1/2"	34261 ft-lb	0.002 (0%)	1.25D+1.5L	L
Unbraced	58 ft-lb	7 1/2"	34261 ft-lb	0.002 (0%)	1.25D+1.5L	L
Shear	190 lb	1'4 3/8"	11596 lb	0.016 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

## Design Notes

- 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.



September 13, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-1-8		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-1-8 to 0-9-12		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Point	0-7-8		Far Face	65 lb	173 lb	0 lb	0 lb	J9
	Self Weight				10 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

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

## 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

## 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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

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