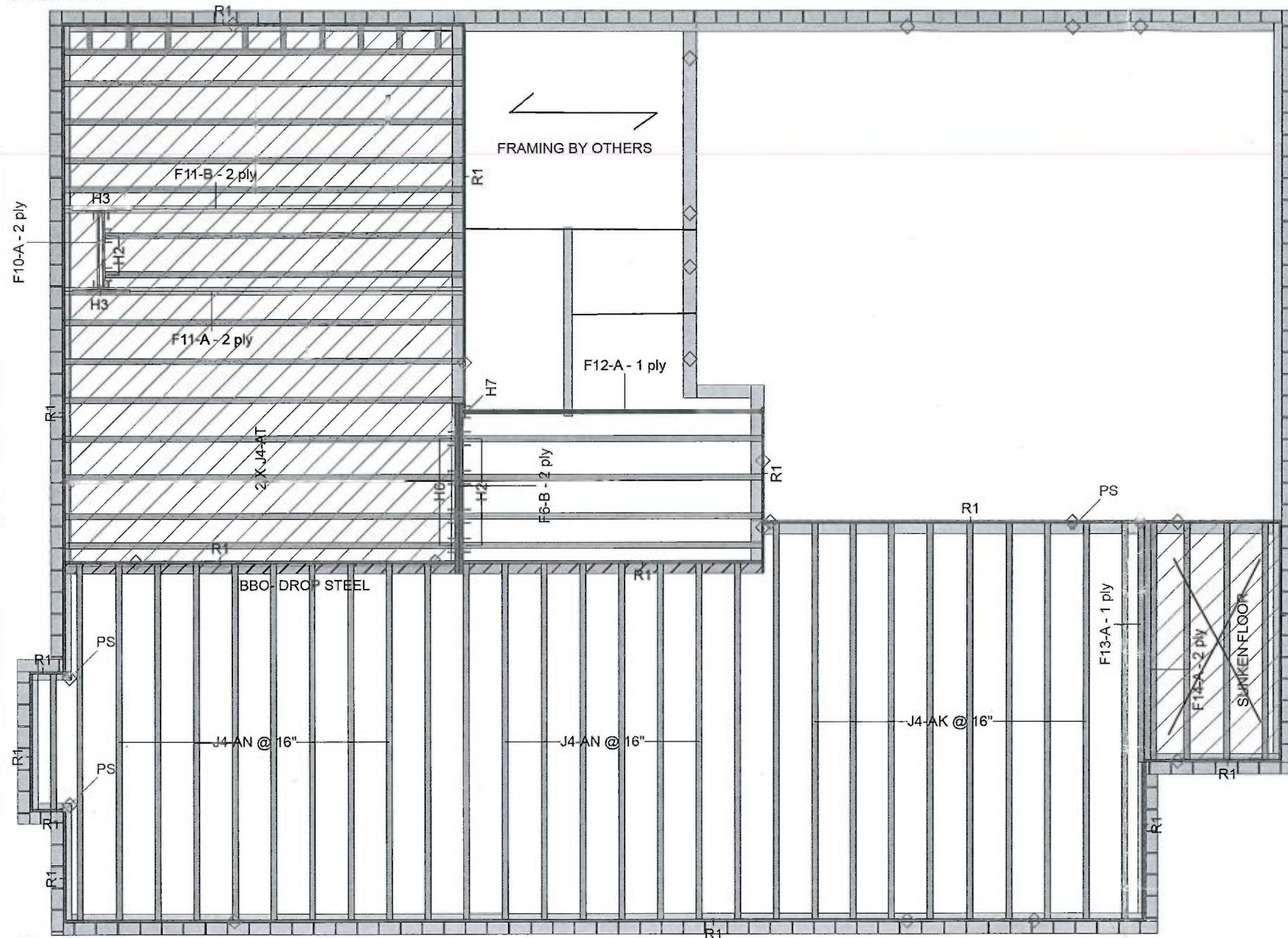


Ground Floor



Architectural Drawing Info

JARDIN DESIGN GROUP
64 JARDIN DR, SUITE 3A
VAUGHAN, ON L4K 3P3

Project # 18-24
Model: Millwood 1 EL-3
Date: AUGUST 09 2018

JOISTS SPACING 16\"/>

Legend

PS	Point Load Support
◇	Load from Above
▨	Wall
▩	Norbord Rimboard Plus 1.125 X 9.5
▧	NJ 9.5
▦	NJH 9.5
▤	Forex 2.0E-3000Fb LVL 1.75 X 9.5
▥	5.25 X 10.25 (Dropped)

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -12904-R
4. CAN/CSA-O86-09
5. CCMC -12787-R APA PR-L310(C)

This certification is to confirm that:

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
2. The floor joists comply with the Nascor span table for the loads and spacing shown on this layout.

The floor system must be assembled in accordance to the Nascor Specifier Guide. Multi-ply members must be attached together as per the included multiple member connection detail.

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.



September 17, 2018

Ground Floor
LVL/LSL

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F12	Forex 2.0E-3000Fb LVL	1.75	9.5			1	12-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0

Joist

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F11	NJ	1.5	9.5	2	2	4	14-0-0
F10	NJ	1.5	9.5	1	2	2	4-0-0
J4	NJH	2.5	9.5			42	14-0-0
J3	NJH	2.5	9.5			4	12-0-0
J2	NJH	2.5	9.5			3	10-0-0
J7	NJH	2.5	9.5			1	6-0-0
F14	NJH	2.5	9.5	1	2	2	10-0-0
F13	NJH	2.5	9.5			1	10-0-0

Rim Board

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

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	8-0-0

Hanger

		Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners
H2	6	LT259			4 10d
H3	2	LT2-159			4 10d
H6	4	LF259			10 10d
H7	1	HUS1.81/10			30 16d

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-loadbearing walls.
4. Install single-ply flush window header along inside face of rimboard/rimjoist.
5. Refer to Nascor specifier guide for installation details.
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 framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

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

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth) @ 16" o/c. All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.

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

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

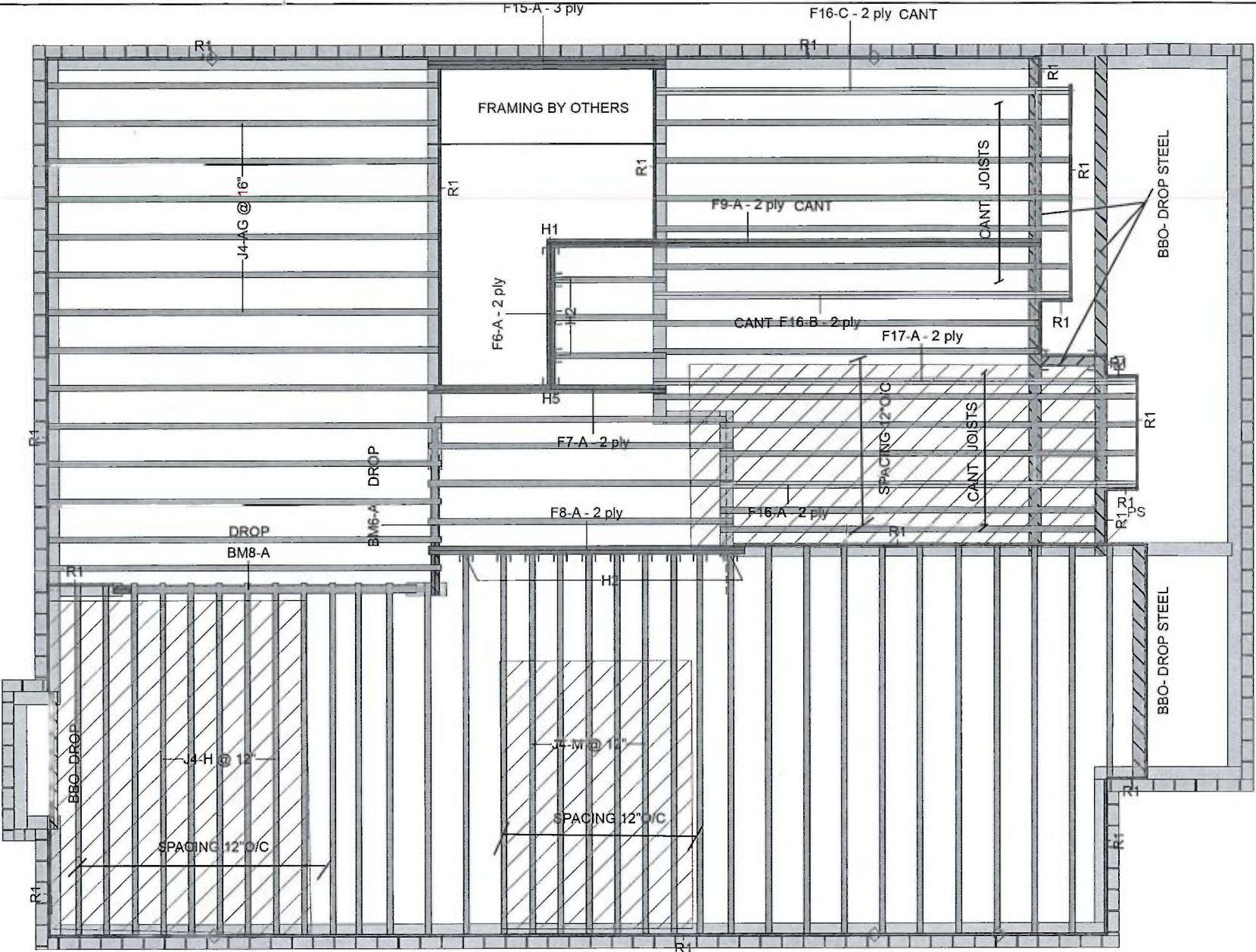
Engineered floor joists shall be installed in accordance with the supplier's layout and specifications forming part of the permit drawings.

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



18-413518-000-00RR

KOTT



Legend

PS

◊

Point Load Support

Load from Above

Wall

Norbord Rimboard Plus 1.125 X 9.5

NJ 9.5

NJH 9.5

Forex 2.0E-3000Fb LVL 1.75 X 9.5

Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)

1.75 X 9.5 (Dropped)

5.25 X 10.25 (Dropped)

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -12904-R
4. CAN/CSA-O86-09
5. CCMC -12787-R APA PR-L310(C)

JOISTS SPACING 16"O/C
UNLESS
NOTED OTHERWISE

Architectural Drawing Info

JARDIN DESIGN GROUP
64 JARDIN DR, SUITE 3A
VAUGHAN, ON L4K 3P3

Project # 18-24
Model: Millwood 1 EL-3
Date: AUGUST 09 2018

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 17, 2018

Second Floor

LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	18-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F15	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	10-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0

LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BM8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
BM6	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0

Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F17	NJ	1.5	9.5	1	2	2	18-0-0
F16	NJ	1.5	9.5	3	2	6	16-0-0
J5	NJH	2.5	9.5			1	18-0-0
J6	NJH	2.5	9.5			7	16-0-0
J4	NJH	2.5	9.5			50	14-0-0
J3	NJH	2.5	9.5			4	12-0-0
J2	NJH	2.5	9.5			1	10-0-0
J1	NJH	2.5	9.5			3	4-0-0

Rim Board

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

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJ	1.5	9.5	LinFt		Varies	1-0-0
BLK2	NJ	1.5	9.5	LinFt		Varies	2-0-0
BLK1	NJH	2.5	9.5	LinFt		Varies	15-0-0
BLK2	NJH	2.5	9.5	LinFt		Varies	8-0-0

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	1	HUC410 (Min)			14 16d	6 10d
H2	13	LT259			4 10d	2 10dx1 1/2
H4	2	Unknown Hanger				
H5	1	HGUS410			46 16d	16 16d

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-loadbearing walls.

4. Install single-ply flush window header along inside face of rimboard/rimjoist

5. Refer to Nascor specifier guide for installation details.

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

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

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth) @ 16" o/c.

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.

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

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



Layout Name

MILLWOOD 1 EL-3 STD 3BEDRM

Design Method

LSO

Description

GREENPARK HOMES
MINNISALE HOME
CORP.,BRAMPTON,ON

Created

June 26, 2018

Builder

Sales Rep

Designer

S B

Shipping

Project

Builder's Project

Kott Lumber Company

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

Second Floor

Design Method

LSO

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/

360

Decking

Deck

OSB

Thickness

5/8"

Fastener

Nailed & Glued

Vibration

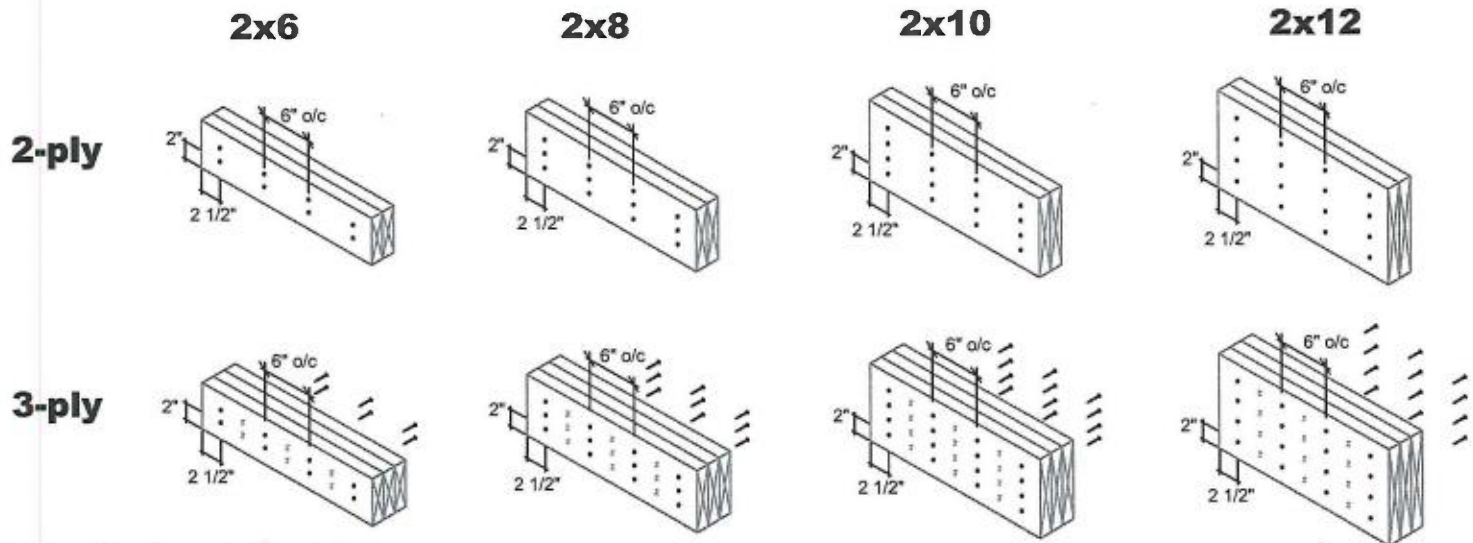
Ceiling:

Gypsum 1/2"

LOT 8

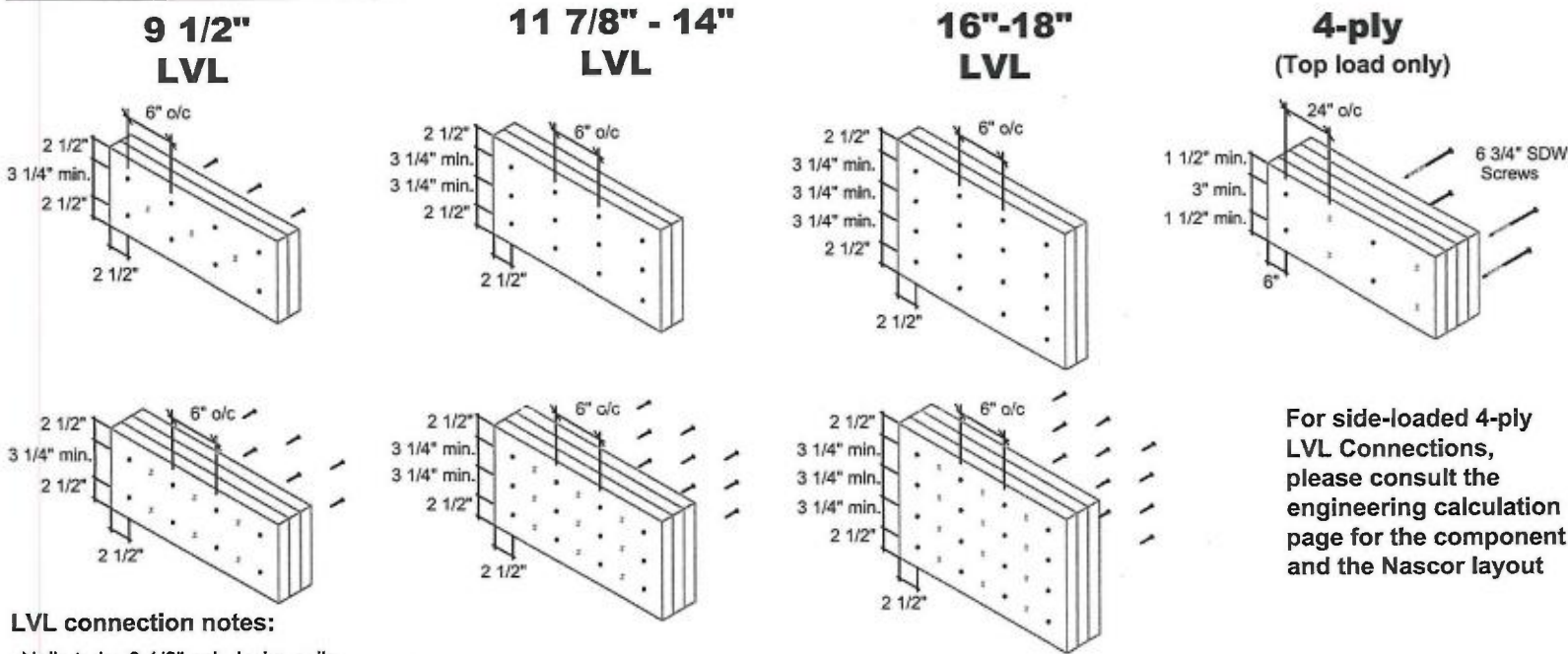
MULTIPLE MEMBER CONNECTIONS

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.

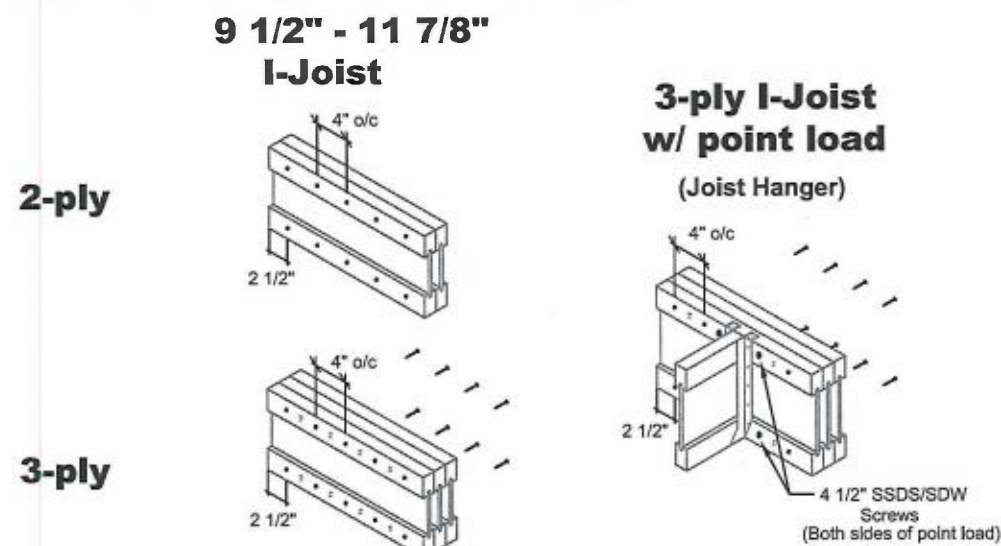
LVL Connections (for uniform distributed loads)



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

LVL connection notes:
-Nails to be 3 1/2" spiral wire nails.
-Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
-Minimum 3 1/4" spacing between rows.
-Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail or screw driven from the opposite side.

Vertical I-Joist Connections (for uniform distributed loads)



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

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

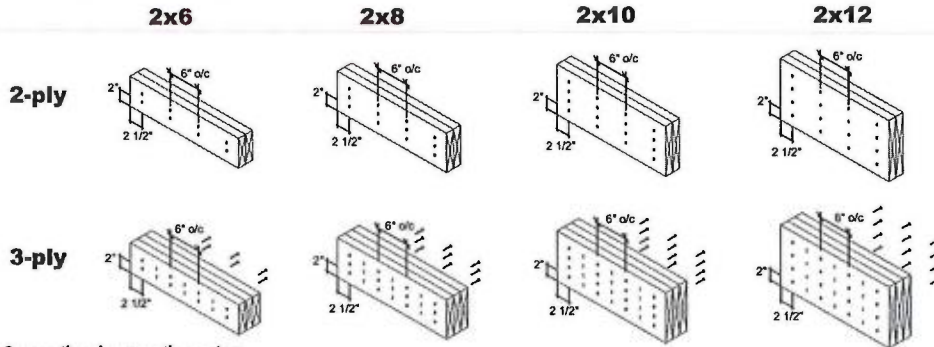
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies 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

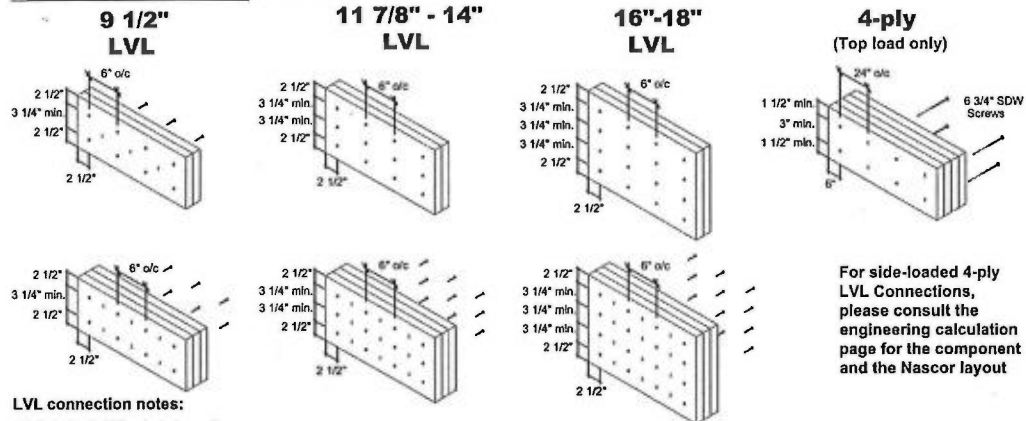
Conventional Connections (for uniform distributed loads)



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)

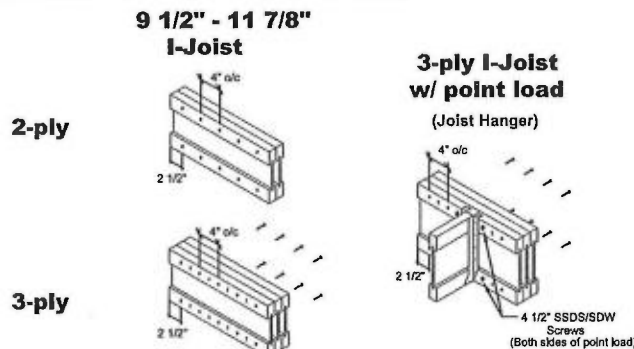


LVL connection notes:

- 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, 2016

Scale: NTS

KOTT

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

KOTT



isDesign™

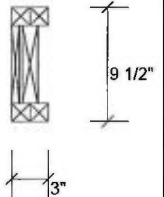
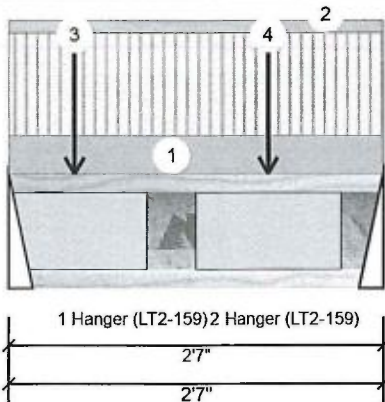
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 1 of 1

F10-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	311	150	0	0
2	262	127	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	25% 187 / 466	653 L	1.25D+1.5L
2 - Hanger	2.000"	21% 159 / 393	552 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	364 ft-lb	1'9 7/16"	7340 ft-lb	0.050 (5%)	1.25D+1.5L	L
Unbraced	364 ft-lb	1'9 7/16"	5436 ft-lb	0.067 (7%)	1.25D+1.5L	L
Shear	647 lb	1 1/4"	3080 lb	0.210 (21%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/25061)	1'8 7/16"	0.079 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.002 (L/12149)	1'8 3/8"	0.079 (L/360)	0.030 (3%)	L	L
TL Defl inch	0.003 (L/8182)	1'8 3/8"	0.119 (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 2-7-0	(Span)1-3-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 2-7-0		Top	3 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-5-7		Near Face	111 lb	232 lb	0 lb		Pass-Through Framing Squash Block is required at all point loads over bearings
4	Point	1-9-7		Near Face	133 lb	274 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

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 ponding****Manufacturer Info**

Nascor by Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
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

NASCOR



isDesign™

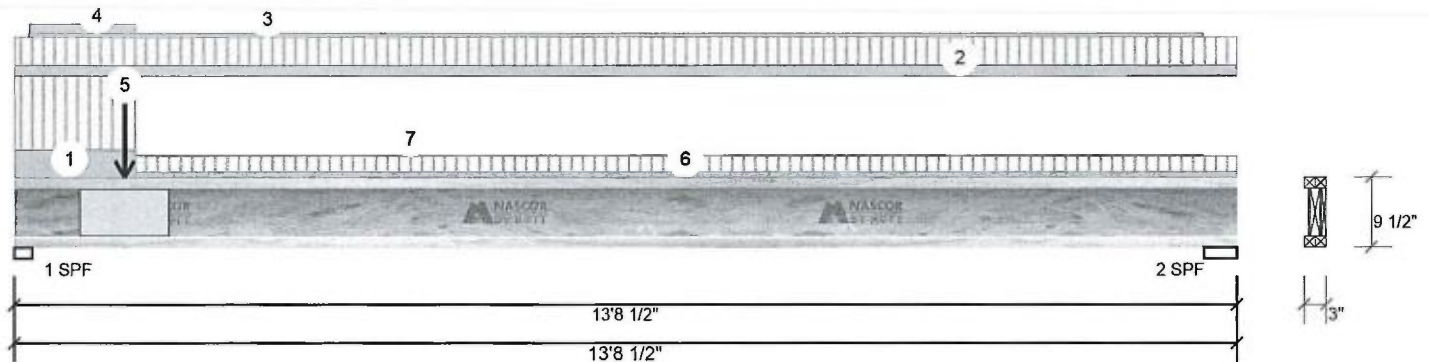
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 1 of 1

F11-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	570	278	0	0
2	260	127	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	45%	347 / 855	1202	L	1.25D+1.5L
2 - SPF	4.375"	18%	158 / 390	546	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1978 ft-lb	5'11 1/16"	7340 ft-lb	0.269 (27%)	1.25D+1.5L	L
Unbraced	1978 ft-lb	5'11 1/16"	1987 ft-lb	0.995 (100%)	1.25D+1.5L	L
Shear	1181 lb	1 5/8"	3080 lb	0.383 (38%)	1.25D+1.5L	L
Perm Defl in.	0.058 (L/2728)	6'6 1/4"	0.442 (L/360)	0.130 (13%)	D	Uniform
LL Defl inch	0.119 (L/1344)	6'6 3/16"	0.442 (L/360)	0.270 (27%)	L	L
TL Defl inch	0.177 (L/900)	6'6 3/16"	0.664 (L/240)	0.270 (27%)	D+L	L

Design Notes

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 4'8" o.c.
- 5 Bottom flange braced at bearings.



September 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-6	(Span)2-10-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-8-8	(Span)1-1-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-1-15 to 13-4-0		Top	3 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-1 to 1-4-6		Top	7 PLF	0 PLF	0 PLF	0 PLF	Pass-Thru Framing Squash Block is required at all point loads over bearings
5	Point	1-2-14		Far Face	150 lb	311 lb	0 lb	0 lb	
6	Tie-In	1-4-6 to 13-8-8	(Span)0-6-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
7	Part. Uniform	1-4-6 to 13-4-0		Top	1 PLF	0 PLF	0 PLF	0 PLF	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

Manufacturer Info

Nascor by Kott

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

**READ ALL NOTES ON THIS PAGE AND ON THE
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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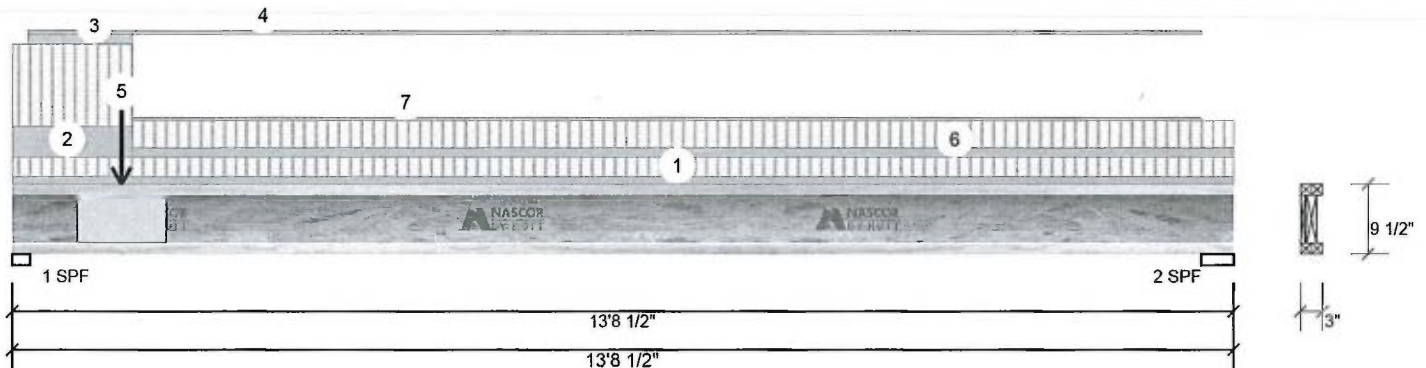
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 1

F11-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Ply:	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	505	248	0	0
2	244	120	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	40%	310 / 757	1067 L	1.25D+1.5L
2 - SPF	4.375"	17%	150 / 365	516 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1837 ft-lb	6' 1/4"	7340 ft-lb	0.250 (25%)	1.25D+1.5L	L
Unbraced	1837 ft-lb	6' 1/4"	1848 ft-lb	0.994 (99%)	1.25D+1.5L	L
Shear	1048 lb	1 5/8"	3080 lb	0.340 (34%)	1.25D+1.5L	L
Perm Defl in.	0.055 (L/2916)	6'6 9/16"	0.442 (L/360)	0.120 (12%)	D	Uniform
LL Defl inch	0.110 (L/1453)	6'6 1/2"	0.442 (L/360)	0.250 (25%)	L	L
TL Defl inch	0.164 (L/970)	6'6 1/2"	0.664 (L/240)	0.250 (25%)	D+L	L

Design Notes

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



September 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-8-8	(Span)0-7-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-4-6	(Span)2-10-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-2-2 to 1-4-6		Top	7 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-2-2 to 13-4-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-2-14		Near Face	127 lb	262 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
6	Tie-In	1-4-6 to 13-8-8	(Span)0-11-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-4-6 to 13-4-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	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

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/direction 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 water drainage to prevent ponding

Manufacturer Info

Nascor by Kott

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

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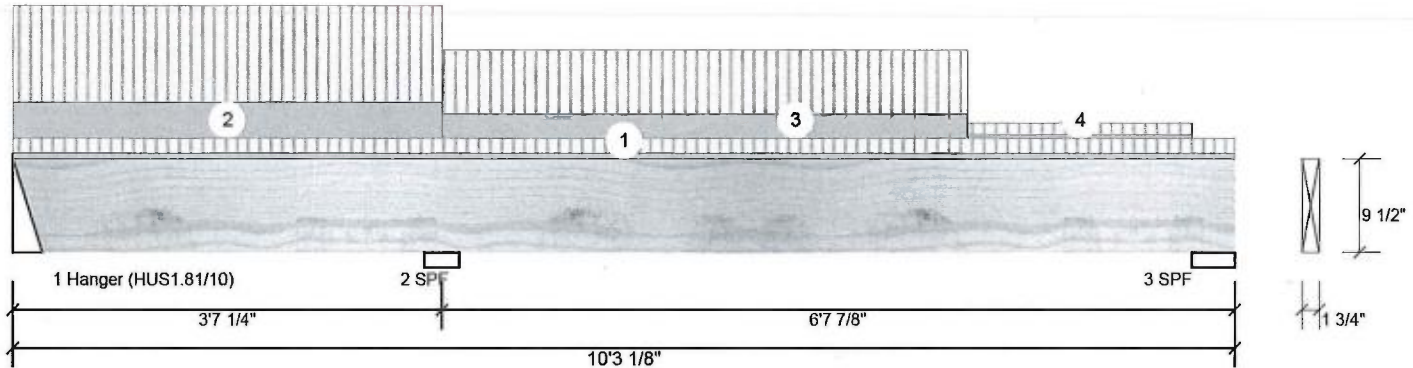
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 1

F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	171	68	0	0
2	670	276	0	0
3	159	71	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	3.000"	11%	78 / 363 441 (-30)	1.25D+1.5L
2 - SPF	3.500"	37%	354 / 1034	1388 LL 1.25D+1.5L
3 - SPF	4.375"	7%	85 / 246	331 _L 1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-717 ft-lb	3'7 1/4"	11362 ft-lb	0.063 (6%)	1.25D+1.5L	LL
Unbraced	-717 ft-lb	3'7 1/4"	10999 ft-lb	0.065 (7%)	1.25D+1.5L	LL
Pos Moment	582 ft-lb	7' 7/8"	11362 ft-lb	0.051 (5%)	1.25D+1.5L	_L
Unbraced	582 ft-lb	7' 7/8"	7023 ft-lb	0.083 (8%)	1.25D+1.5L	_L
Shear	548 lb	4'4 3/4"	4638 lb	0.118 (12%)	1.25D+1.5L	LL
Perm Defl in.	0.004 (L/18084)	6'10 5/8"	0.212 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.011 (L/6896)	6'9 15/16"	0.212 (L/360)	0.050 (5%)	L	_L
TL Defl inch	0.015 (L/4993)	6'10 3/16"	0.318 (L/240)	0.050 (5%)	D+L	_L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Tie-down connection required at bearing 1 for uplift 30 lb (Combination 0.9D+1.5L, Load Case _L).
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-3-2	(Span)0-11-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 3-7-4		Top	45 PLF	120 PLF	0 PLF	0 PLF	Base-Thru Framing Squash Block is required at all point loads over bearings
3	Part. Uniform	3-7-4 to 8-0-4		Top	30 PLF	80 PLF	0 PLF	0 PLF	
4	Tie-In	8-0-4 to 9-10-12	(Span)0-8-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
	Self Weight				4 PLF				

Notes

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

Lumber

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

Handling & 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
 L4A 7X4
 905-642-4400

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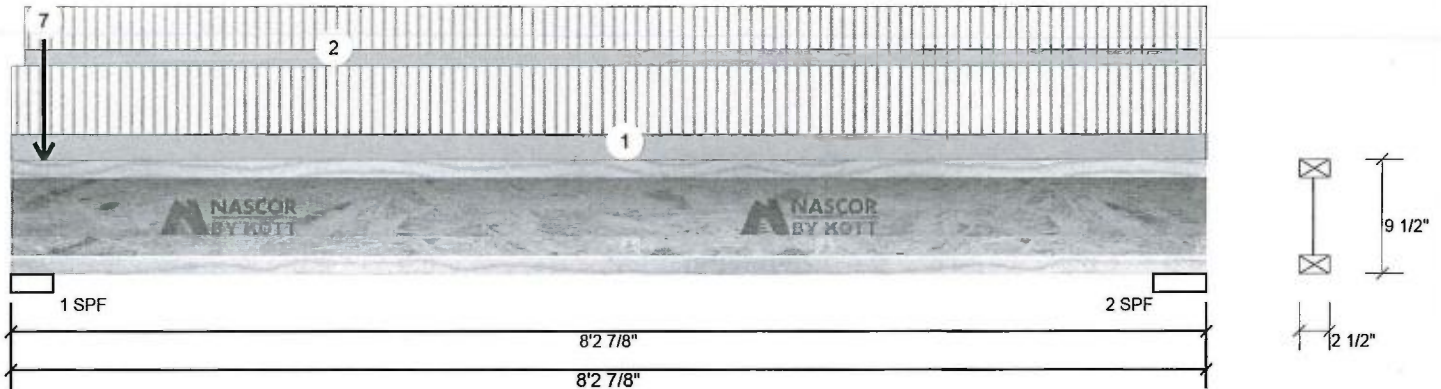
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 1

F13-A NJH 9.500" - PASSED

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	137	87	0	0
2	76	29	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	3.500"	20% 109 / 206	314 L	1.25D+1.5L
2 - SPF	4.375"	9% 36 / 114	150 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	268 ft-lb	4'1"	3830 ft-lb	0.070 (7%)	1.25D+1.5L	L
Unbraced	268 ft-lb	4'1"	1068 ft-lb	0.251 (25%)	1.25D+1.5L	L
Shear	139 lb	2 3/4"	1580 lb	0.088 (9%)	1.25D+1.5L	L
Perm Defl in.	0.004 (L/22525)	4'1 1/16"	0.257 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.011 (L/8447)	4'1 1/16"	0.257 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.015 (L/6143)	4'1 1/16"	0.385 (L/240)	0.040 (4%)	D+L	L

Design Notes

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-2-14	(Span)0-6-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-2 to 8-2-14	(Span)0-4-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	0-2-12		Top	1 lb	2 lb	0 lb	0 lb	J2
5	Point	0-2-12		Top	1 lb	0 lb	0 lb	0 lb	Wall Self Weight
6	Point	0-2-12		Top	23 lb	61 lb	0 lb	0 lb	J2
7	Point	0-2-12		Top	34 lb	0 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

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 ≥ 3.6 inches
- For flat roofs provide ponding

Manufacturer Info

Nascor by Kott

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

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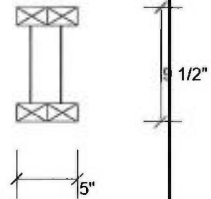
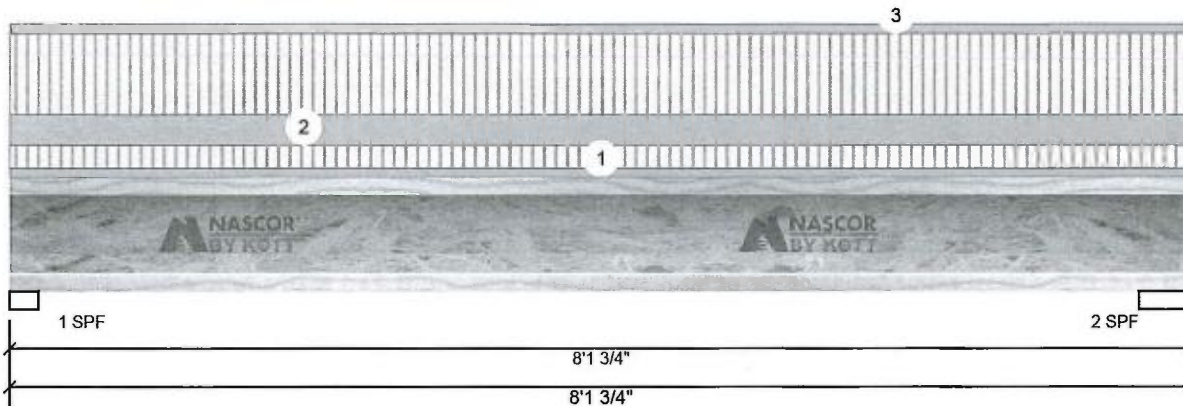
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 1 of 1

F14-A NJH 9.500" 2-Ply - PASSED

Level: Ground Floor

**Member Information**

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	128	60	0	0
2	133	62	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	8%	75 / 192	267 L	1.25D+1.5L
2 - SPF	4.375"	9%	78 / 200	278 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	497 ft-lb	3'11 7/8"	7660 ft-lb	0.065 (6%)	1.25D+1.5L	L
Unbraced	497 ft-lb	3'11 7/8"	2136 ft-lb	0.233 (23%)	1.25D+1.5L	L
Shear	258 lb	1 5/8"	3160 lb	0.082 (8%)	1.25D+1.5L	L
Perm Defl in.	0.004 (L/20605)	3'11 15/16"	0.257 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch	0.010 (L/9653)	3'11 15/16"	0.257 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.014 (L/6574)	3'11 15/16"	0.385 (L/240)	0.040 (4%)	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 braced at bearings.
- Bottom flange braced at bearings.



September 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 8-1-12	(Span)0-4-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 8-1-12	(Span)1-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-1 to 8-1-12		Top	3 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

- 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 3.6 inches
- For flat roofs provide ponding

Manufacturer Info

Nascor by Kott

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

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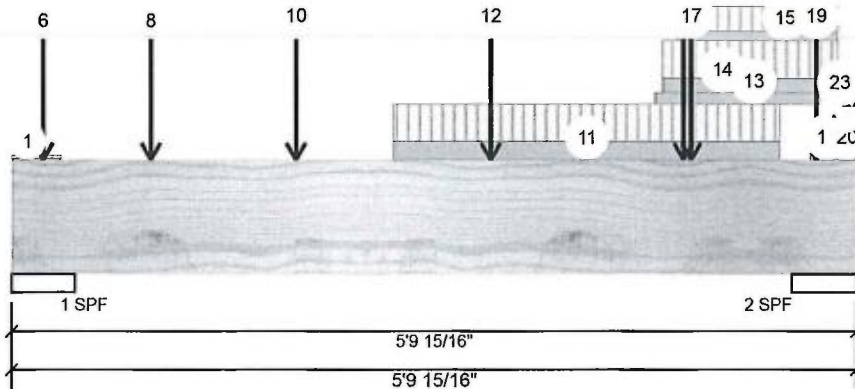
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 1 of 2

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	2962	1324	0	0
2	2826	1291	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	54%	1655 / 4444	6099	L	1.25D+1.5L
2 - SPF	5.313"	51%	1614 / 4240	5853	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4369 ft-lb	3'3 9/16"	22724 ft-lb	0.192 (19%)	1.25D+1.5L	L
Unbraced	4369 ft-lb	3'3 9/16"	22724 ft-lb	0.192 (19%)	1.25D+1.5L	L
Shear	3973 lb	4'7 7/8"	9277 lb	0.428 (43%)	1.25D+1.5L	L
Perm Defl in.	0.012 (L/5025)	3'1 1/2"	0.169 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.027 (L/2256)	3'1 11/16"	0.169 (L/360)	0.160 (16%)	L	L
TL Defl inch	0.039 (L/1557)	3'1 5/8"	0.254 (L/240)	0.150 (15%)	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 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	(Span)1-1-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-10		Top	19 lb	49 lb	0 lb	0 lb	J4
3	Point	0-2-10		Top	16 lb	0 lb	0 lb	0 lb	Wall Self Weight
4	Point	0-2-10		Top	656 lb	1548 lb	0 lb	0 lb	BM6 BM6
5	Point	0-2-10		Top	25 lb	68 lb	0 lb	0 lb	J4

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 & 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
L4A 7X4
905-642-4400

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This design





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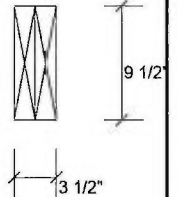
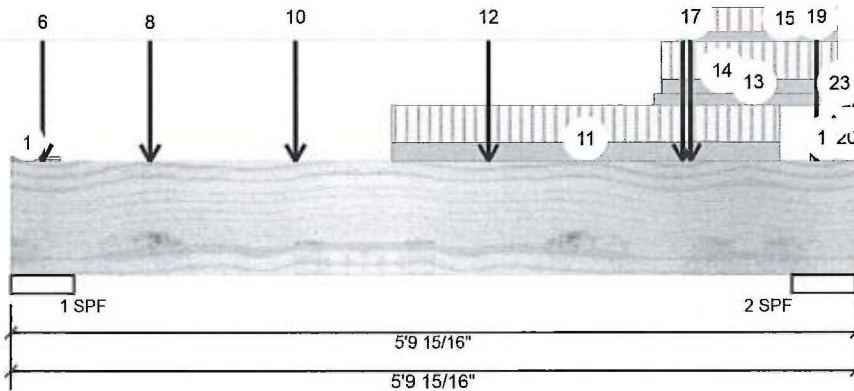
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 2 of 2

F6-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	0-2-10		Top	22 lb	0 lb	0 lb	0 lb	Wall Self Weight
7	Point	0-11-9		Far Face	99 lb	211 lb	0 lb	0 lb	J4
8	Point	0-11-9		Near Face	59 lb	158 lb	0 lb	0 lb	J3
9	Point	1-11-9		Far Face	150 lb	313 lb	0 lb	0 lb	J4
10	Point	1-11-9		Near Face	88 lb	235 lb	0 lb	0 lb	J3
11	Part. Uniform	2-7-9 to 5-3-9		Far Face	130 PLF	268 PLF	0 PLF	0 PLF	
12	Point	3-3-9		Near Face	101 lb	268 lb	0 lb	0 lb	J3
13	Part. Uniform	4-5-3 to 5-8-6		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
14	Part. Uniform	4-5-13 to 5-8-6		Top	102 PLF	272 PLF	0 PLF	0 PLF	J4
15	Part. Uniform	4-7-1 to 5-8-6		Top	66 PLF	175 PLF	0 PLF	0 PLF	J3
16	Point	4-7-9		Near Face	85 lb	227 lb	0 lb	0 lb	J3
17	Point	4-8-4		Top	523 lb	1280 lb	0 lb	0 lb	BM6 BM6
18	Part. Uniform	5-6-1 to 5-8-6		Top	43 PLF	116 PLF	0 PLF	0 PLF	J3
19	Point	5-6-10		Near Face	51 lb	128 lb	0 lb	0 lb	F12
20	Part. Uniform	5-8-6 to 5-9-15		Top	51 PLF	136 PLF	0 PLF	0 PLF	J4
21	Part. Uniform	5-8-6 to 5-9-15		Top	22 PLF	58 PLF	0 PLF	0 PLF	J3
22	Part. Uniform	5-8-6 to 5-9-15		Top	33 PLF	87 PLF	0 PLF	0 PLF	J3
23	Part. Uniform	5-8-6 to 5-9-15		Top	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	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 & 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

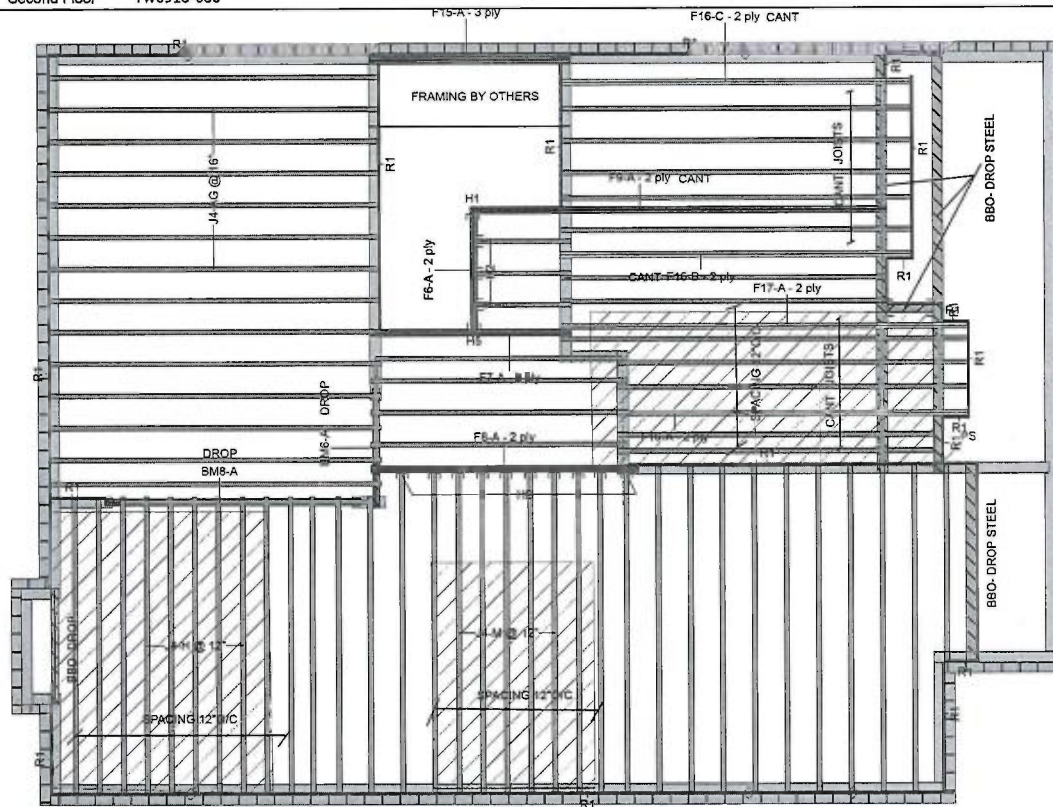
Manufacturer Info

Forex
APA: PR-L318

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

NASCOR

This design is valid until 7/10/2021



Legend

PS	Point Load Support
○	Load from Above
■	Wall
■	Norbord Rimboard Plus 1.125 X 9.5
■	NJ 9.5
■	NJH 9.5
■	Forex 2.0E-3000Fb LVL 1.75 X 9.5
■	Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped)
■	1.75 X 9.5 (Dropped)
■	5.25 X 10.25 (Dropped)

- OBC 2012 O.Reg 332/12 as amended
- Nascor CCMC - 13535-R
- LVL CCMC -12904-R
- CAN/CSA-Q88-09
- CCMC -12787-R APA PR-L310(C)

JOISTS SPACING 16"O/C
UNLESS
NOTED OTHERWISE

Architectural Drawing Info
JARDIN DESIGN GROUP
64 JARDIN DR. SUITE 3A
VAUGHAN, ON L4K 3P3

Project # 18-24
Model: Millwood 1 EL-3
Date: AUGUST 09 2018

This certification is to confirm that:

- The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
- 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 17, 2018

Second Floor
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F9	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	18-0-0
F8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F15	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	10-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0
F6	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0

LVL/LSL (Dropped)

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BM8	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
BM6	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
F17	NJ	1.5	9.5	1	2	2	18-0-0
F16	NJ	1.5	9.5	3	2	6	16-0-0
J5	NJH	2.5	9.5			1	18-0-0
J6	NJH	2.5	9.5			7	16-0-0
J4	NJH	2.5	9.5			50	14-0-0
J3	NJH	2.5	9.5			4	12-0-0
J2	NJH	2.5	9.5			1	10-0-0
J1	NJH	2.5	9.5			3	4-0-0

Rim Board

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

Blocking

Label	Description	Width	Depth	Qty	Piles	Pcs	Length
BLK1	NJ	1.5	9.5	LinFt		Varies	1-0-0
BLK2	NJ	1.5	9.5	LinFt		Varies	2-0-0
BLK1	NJH	2.5	9.5	LinFt		Varies	15-0-0
BLK2	NJH	2.5	9.5	LinFt		Varies	8-0-0

Hanger

Label	Pcs	Description	Skew	Slope	fasteners	Supported Member
H1	1	HUC410 (Min)			14 16d	6 10d
H2	13	LT259			4 10d	2 10d x 1 1/2
H4	2	Unknown Hanger				
H5	1	HGUS410			46 16d	16 16d

NOTES:

- Framer to verify dimensions on the architectural drawings.
- Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist
- Refer to Nascor specifier guide for installation details.
- Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
- Load transfer blocks to be installed under all point loads.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

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

Rim parallel to joists: 1-1/8" rimboard with 2"x4" block (1/16" longer than rim depth) @ 16" o/c. All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.

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

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

NASCOR

Layout Name
MILLWOOD 1 EL-3 STD 3BEDRM

Design Method
LSD

Description
GREENPARK HOMES
MINNISALE HOME
CORP. BRAMPTON, ON

Created
June 26, 2018

Builder
Sales Rep

Designer
S B

Shipping
Project

Builder's Project
Kott Lumber Company

14 Anderson Blvd
Stouffville, Ontario
Canada

L4A 7X4
905-642-4400

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/ 360

Decking

Deck OSB

Thickness 5/8"

Fastener Nailed & Glued

Vibration

Ceiling: Gypsum 1/2"

KOTT



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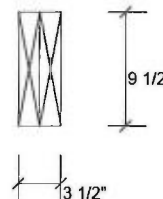
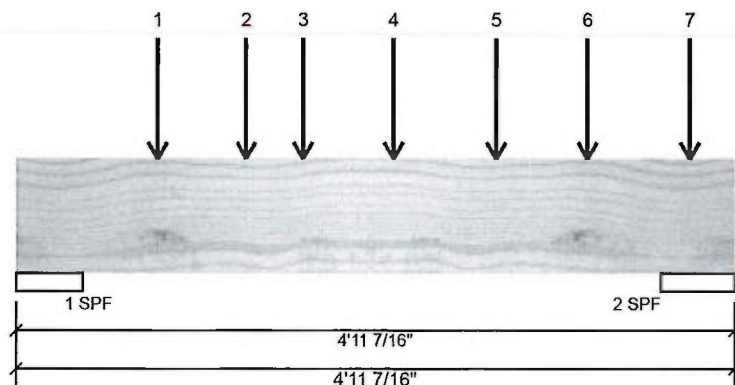
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 2

BM6-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	1548	656	0	0
2	1280	523	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	27%	820 / 2322	3142 L	1.25D+1.5L
2 - SPF	6.094"	20%	653 / 1920	2573 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3495 ft-lb	1'11 11/16"	22724 ft-lb	0.154 (15%)	1.25D+1.5L	L
Unbraced	3495 ft-lb	1'11 11/16"	22724 ft-lb	0.154 (15%)	1.25D+1.5L	L
Shear	3023 lb	1'2 1/4"	9277 lb	0.326 (33%)	1.25D+1.5L	L
Perm Defl in.	0.007 (L/7527)	2'2 1/8"	0.137 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.016 (L/3135)	2'2 3/8"	0.137 (L/360)	0.110 (11%)	L	L
TL Defl inch	0.022 (L/2213)	2'2 5/16"	0.205 (L/240)	0.110 (11%)	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 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-11-11		Top	77 lb	206 lb	0 lb	0 lb	J4
2	Point	1-7-0		Top	569 lb	1304 lb	0 lb	0 lb	F8
3	Point	1-11-11		Top	116 lb	310 lb	0 lb	0 lb	J4
4	Point	2-7-3		Top	91 lb	241 lb	0 lb	0 lb	J3
5	Point	3-3-11		Top	134 lb	356 lb	0 lb	0 lb	J4

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 & 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
 L4A 7X4
 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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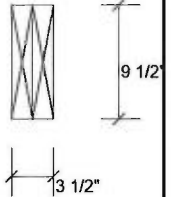
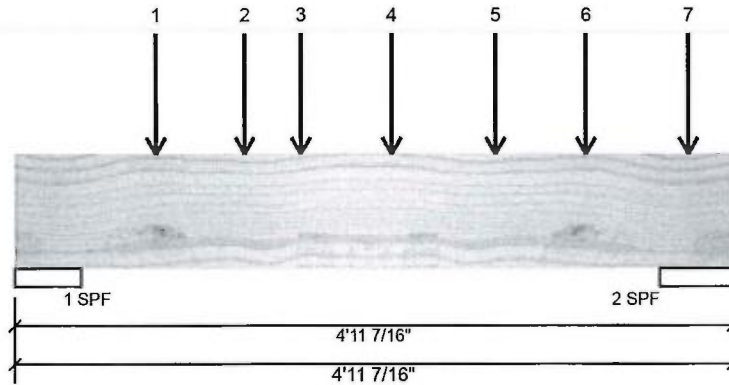
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 2 of 2

BM6-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	3-11-3		Top	102 lb	272 lb	0 lb	0 lb	J3
7	Point	4-7-11		Top	52 lb	139 lb	0 lb	0 lb	J4
	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 & 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
L4A 7X4
905-642-4400

NASCOR

This design is valid until 7/10/2021





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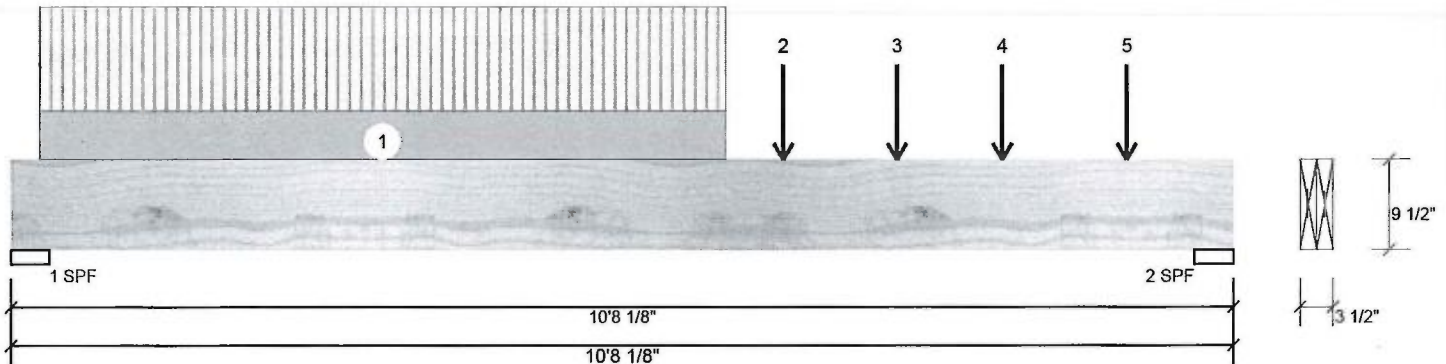
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 1

BM8-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	1263	612	0	0
2	1259	559	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.000"	31%	765 / 1895	2660	L	1.25D+1.5L
2 - SPF	4.188"	29%	699 / 1888	2587	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6663 ft-lb	5'3 11/16"	22724 ft-lb	0.293 (29%)	1.25D+1.5L	L
Unbraced	6663 ft-lb	5'3 11/16"	20700 ft-lb	0.322 (32%)	1.25D+1.5L	L
Shear	2468 lb	9'7 3/16"	9277 lb	0.266 (27%)	1.25D+1.5L	L
Perm Defl in.	0.061 (L/2007)	5'3 5/8"	0.337 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.129 (L/942)	5'4 1/16"	0.337 (L/360)	0.380 (38%)	L	L
TL Defl inch	0.189 (L/641)	5'3 15/16"	0.506 (L/240)	0.370 (37%)	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 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-3-0 to 6-3-0		Top	115 PLF	248 PLF	0 PLF	0 PLF	
2	Point	6-9-0		Top	106 lb	248 lb	0 lb	0 lb	J4
3	Point	7-9-0		Top	89 lb	238 lb	0 lb	0 lb	J4
4	Point	8-8-0		Top	93 lb	248 lb	0 lb	0 lb	J4
5	Point	9-9-0		Top	112 lb	300 lb	0 lb	0 lb	J4
	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

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
 L4A 7X4
 905-642-4400

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This design

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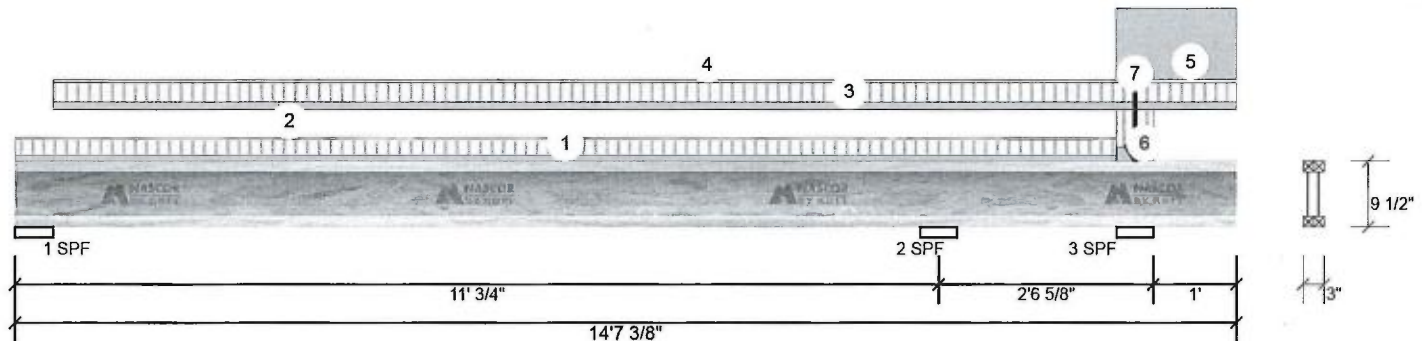
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 1 of 2

F16-A NJ 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	182	91	0	0
2	460	216	0	0
3	74	197	87	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	13%	114 / 274	388	L__	1.25D+1.5L
2 - SPF	5.250"	21%	270 / 696	966	LL__	1.25D+1.5L
3 - SPF	5.250"	16%	246 / 403	649	_LL	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-835 ft-lb	11' 3/4"	7340 ft-lb	0.114 (11%)	1.25D+1.5L	LLL
Unbraced	-835 ft-lb	11' 3/4"	5510 ft-lb	0.151 (15%)	1.25D+1.5L	LLL
Pos Moment	831 ft-lb	4'9 13/16"	7340 ft-lb	0.113 (11%)	1.25D+1.5L	L__
Unbraced	831 ft-lb	4'9 13/16"	832 ft-lb	0.998 (100%)	1.25D+1.5L	L__
Shear	532 lb	11' 3/4"	3080 lb	0.173 (17%)	1.25D+1.5L	LLL
Perm Defl in.	0.015 (L/8397)	5'4"	0.356 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.031 (L/4139)	5'4 3/16"	0.356 (L/360)	0.090 (9%)	L+0.5S	L__
TL Defl inch	0.046 (L/2772)	5'4 1/8"	0.533 (L/240)	0.090 (9%)	D+L+0.5S	L__
LL Cant	-0.001 (2L/24468)	Rt Cant	0.200 (2L/480)	0.005 (0%)	L+0.5S	LL__
TL Cant	0.001 (2L/35150)	Rt Cant	0.300 (2L/360)	0.002 (0%)	D+L+0.5S	_L

Design Notes

- Warning Note: right cant exceeds 1/3 of back span, wind uplift may need to be checked.
- 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 6'8" o.c.
- Bottom flange must be laterally braced at a maximum of 6'3" o.c.



September 17, 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

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

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 note 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
L4A 7X4
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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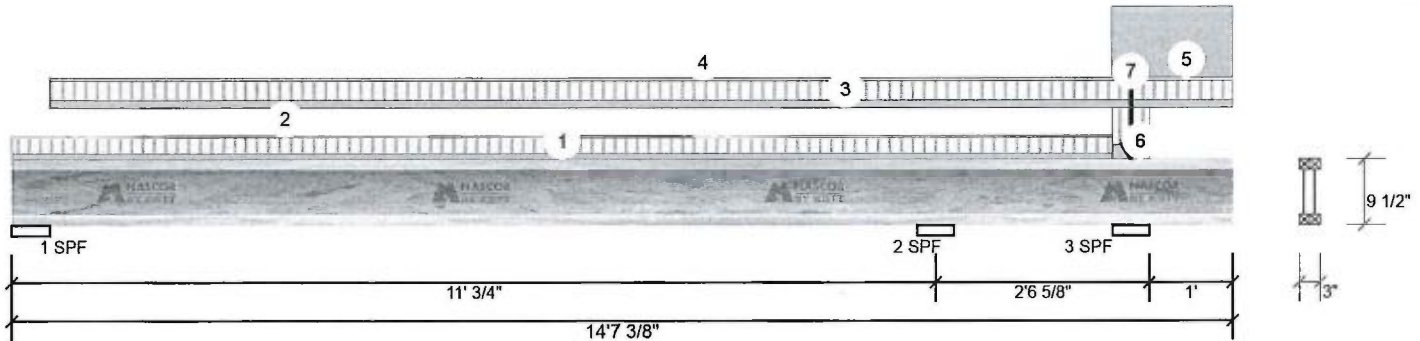
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 2 of 2

F16-A NJ 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-2-2	(Span) 0-10-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 13-2-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	
3	Tie-In	0-5-8 to 14-7-6	(Span) 1-1-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	0-5-8 to 13-2-10		Top	3 PLF	0 PLF	0 PLF	0 PLF	
5	Part. Uniform	13-2-0 to 14-7-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Tie-In	13-2-2 to 13-7-8	(Span) 2-1-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Point	13-4-12		Top	110 lb	149 lb	87 lb	0 lb	F2 F2

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
L4A 7X4
905-642-4400

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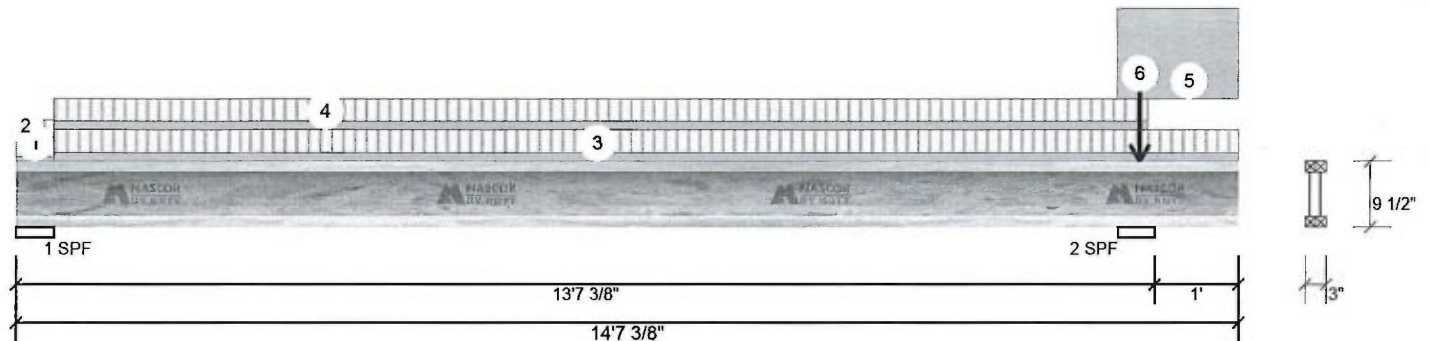
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 1 of 2

F16-B	NJ	9.500"	2-Ply - PASSED
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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 Ib (Uplift)

Brg	Live	Dead	Snow	Wind
1	269	98	0	0
2	288	372	264	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/Lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	17%	122 / 405	527	L_	1.25D+1.5L
2 - SPF	5.250"	23%	465 / 564	1029	LL	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-70 ft-lb	13'7 3/8"	4771 ft-lb	0.015 (1%)	1.25D+1.5L	L
Unbraced	-70 ft-lb	13'7 3/8"	4691 ft-lb	0.015 (1%)	1.25D+1.5L	L
Pos Moment	1638 ft-lb	6'10 1/8"	7340 ft-lb	0.223 (22%)	1.25D+1.5L	L
Unbraced	1638 ft-lb	6'10 1/8"	1647 ft-lb	0.994 (99%)	1.25D+1.5L	L
Shear	540 lb	13'4 3/4"	3080 lb	0.175 (18%)	1.25D+1.5L	LL
Perm Defl in.	0.035 (L/4444)	6'9 15/16"	0.433 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.101 (L/1547)	6'10 3/4"	0.433 (L/360)	0.230 (23%)	L+0.5S	L
TL Defl inch	0.136 (L/1148)	6'10 9/16"	0.650 (L/240)	0.210 (21%)	D+L+0.5S	L
LL Cant	-0.023 (2L/1062)	Rt Cant	0.200 (2L/480)	0.113 (11%)	L+0.5S	L
TL Cant	-0.029 (2L/817)	Rt Cant	0.300 (2L/360)	0.098 (10%)	D+L+0.5S	L



September 17, 2018

Design Notes

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

Notes

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

Lumber

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

chemicals

Handling & Installation

1. Joist flanges must not be cut or drilled
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multiply 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 ponding
- READ ALL NOTES ON**

Manufacturer Info

Nascor by Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
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 v

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Client:

Project:

Address:

Date: 9/10/2018

Designer: S B

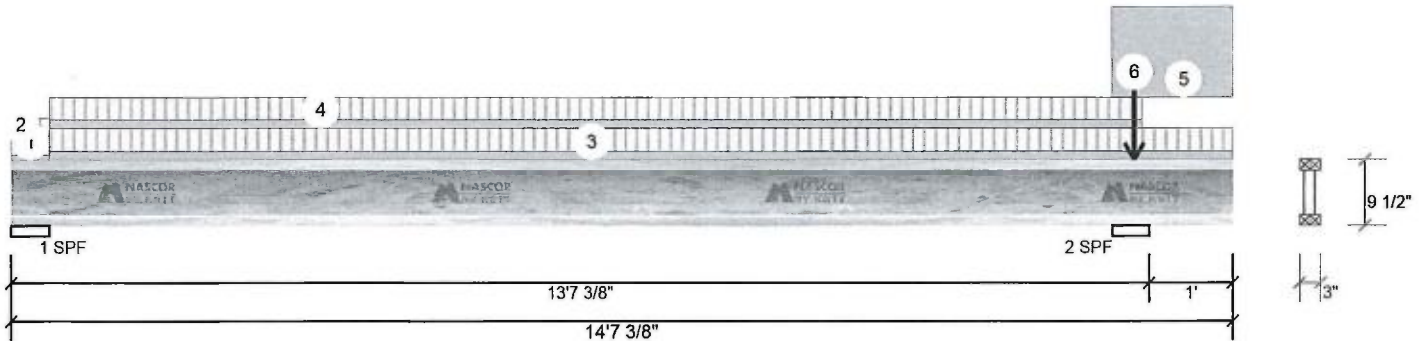
Job Name: MILLWOOD 1 EL-3

Project #:

Page 2 of 2

F16-B NJ 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-8	(Span)0-6-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-8	(Span)0-9-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-8 to 14-7-6	(Span)1-0-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-5-8 to 13-6-6	(Span)0-11-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Part. Uniform	13-2-0 to 14-7-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Point	13-5-4		Top	145 lb	0 lb	264 lb	0 lb	F3 F3

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
L4A 7X4
905-642-4400

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Client:

Project:

Address:

Date: 9/10/2018

Designer: S B

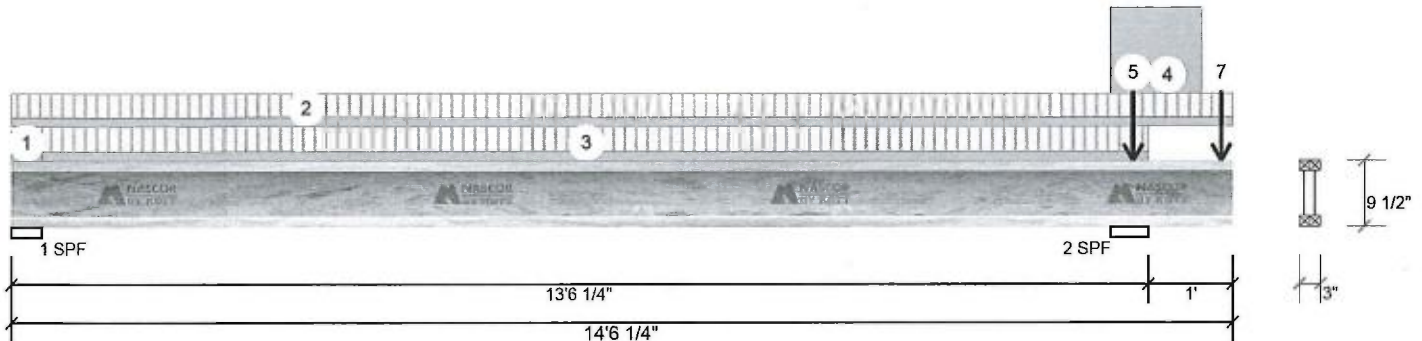
Job Name: MILLWOOD 1 EL-3

Project #:

Page 1 of 2

F16-C NJ 9.500" 2-Ply - PASSED

Level: Second Floor

**Member Information****Unfactored Reactions UNPATTERNED lb (Uplift)**

Type:	Girder	Application:	Floor (Residential)
Piles:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Brg	Live	Dead	Snow	Wind
1	309	111	0 (-1)	0
2	331	428	319	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	20%	139 / 465	604	L	1.25D+1.5L
2 - SPF	5.250"	26%	536 / 656	1191	LL	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-102 ft-lb	13'6 1/4"	4771 ft-lb	0.021 (2%)	1.25D+1.5L	L
Unbraced	-102 ft-lb	13'6 1/4"	4691 ft-lb	0.022 (2%)	1.25D+1.5L	L
Pos Moment	1863 ft-lb	6'8 3/4"	7340 ft-lb	0.254 (25%)	1.25D+1.5L	L
Unbraced	1863 ft-lb	6'8 3/4"	1875 ft-lb	0.994 (99%)	1.25D+1.5L	L
Shear	617 lb	13'3 5/8"	3080 lb	0.200 (20%)	1.25D+1.5L	LL
					+0.5S	
Perm Defl in.	0.039 (L/4002)	6'8 7/16"	0.433 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.115 (L/1352)	6'9 5/8"	0.433 (L/360)	0.270 (27%)	L	L
TL Defl inch	0.154 (L/1010)	6'9 3/8"	0.650 (L/240)	0.240 (24%)	D+L	L
LL Cant	-0.026 (2L/928)	Rt Cant	0.200 (2L/480)	0.129 (13%)	L	L
TL Cant	-0.033 (2L/730)	Rt Cant	0.300 (2L/360)	0.110 (11%)	D+L	L



September 17, 2018

Design Notes

- 1 Girders are designed to be supported on the bottom edge only.
- 2 Multiple plies must be fastened together as per manufacturer's details.
- 3 Top loads must be supported equally by all plies.
- 4 Top flange must be laterally braced at a maximum of 4'10" o.c.
- 5 Bottom flange must be laterally braced at a maximum of 6'3" o.c.

Notes

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

Lumber

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

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 Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
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 valid

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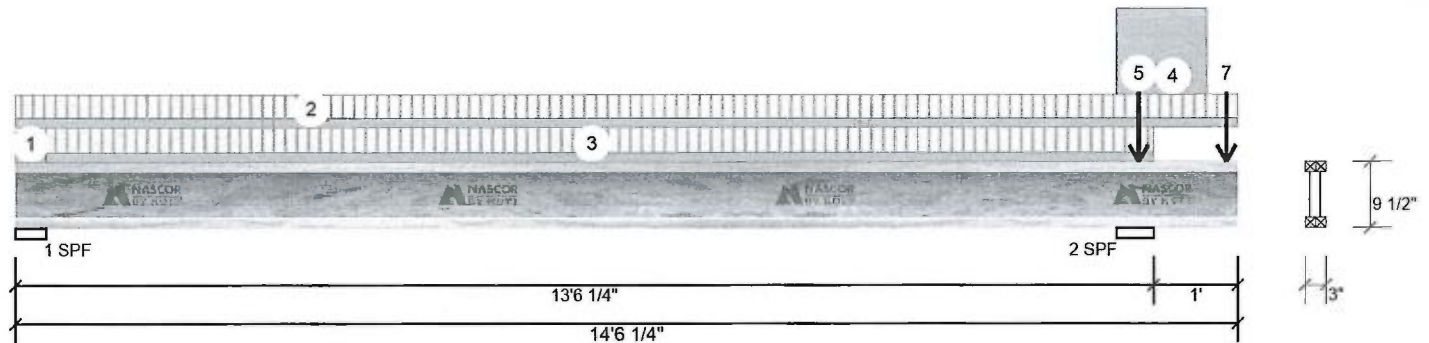
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 2 of 2

F16-C NJ 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-6	(Span)1-0-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 14-6-4	(Span)1-1-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-4-6 to 13-6-4	(Span)1-2-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	13-0-14 to 14-1-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Point	13-4-2		Top	161 lb	0 lb	299 lb	0 lb	F3 F3
6	Point	14-4-10		Top	8 lb	0 lb	19 lb	0 lb	
7	Point	14-4-10		Top	44 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 Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. 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
 L4A 7X4
 905-642-4400

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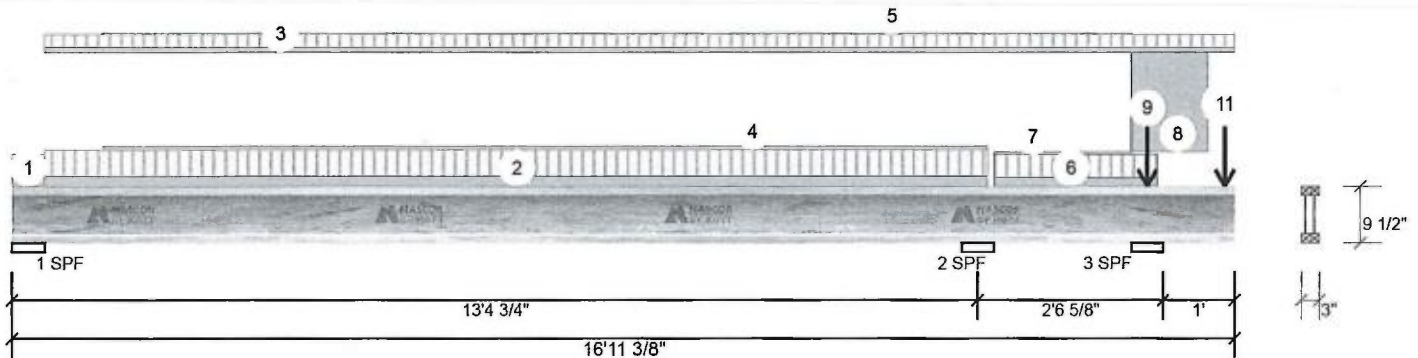
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 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 2

F17-A NJ 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	175	83	0 (0)	0
2	482	223	0 (-4)	0
3	0 (-9)	176	128	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	12%	104 / 263	367 L__	1.25D+1.5L
2 - SPF	5.250"	22%	279 / 727	1006 LL_	1.25D+1.5L
3 - SPF	5.250"	14%	220 / 363	583 _LL	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1039 ft-lb	13'4 3/4"	7340 ft-lb	0.142 (14%)	1.25D+1.5L +0.5S	LLL
Unbraced	-1039 ft-lb	13'4 3/4"	5435 ft-lb	0.191 (19%)	1.25D+1.5L +0.5S	LLL
Pos Moment	951 ft-lb	5'8 5/8"	7340 ft-lb	0.130 (13%)	1.25D+1.5L	L__
Unbraced	951 ft-lb	5'8 5/8"	956 ft-lb	0.995 (99%)	1.25D+1.5L	L__
Shear	518 lb	13'4 3/4"	3080 lb	0.168 (17%)	1.25D+1.5L +0.5S	LLL
Perm Defl in.	0.024 (L/6483)	6'4 3/16"	0.433 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.049 (L/3205)	6'4 5/16"	0.433 (L/360)	0.110 (11%)	L	L__
TL Defl inch	0.073 (L/2145)	6'4 5/16"	0.650 (L/240)	0.110 (11%)	D+L	L__
LL Cant	-0.001 (2L/20851)	Rt Cant	0.200 (2L/480)	0.006 (1%)	L	LL_
TL Cant	0.001 (2L/31246)	Rt Cant	0.300 (2L/360)	0.003 (0%)	D+S+0.5L	_L

Design Notes

- Warning Note: right cant exceeds 1/3 of back span, wind uplift may need to be checked.
- 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 6'4" o.c.
- Bottom flange must be laterally braced at a maximum of 6'3" o.c.



September 17, 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

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

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
 L4A 7X4
 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 v



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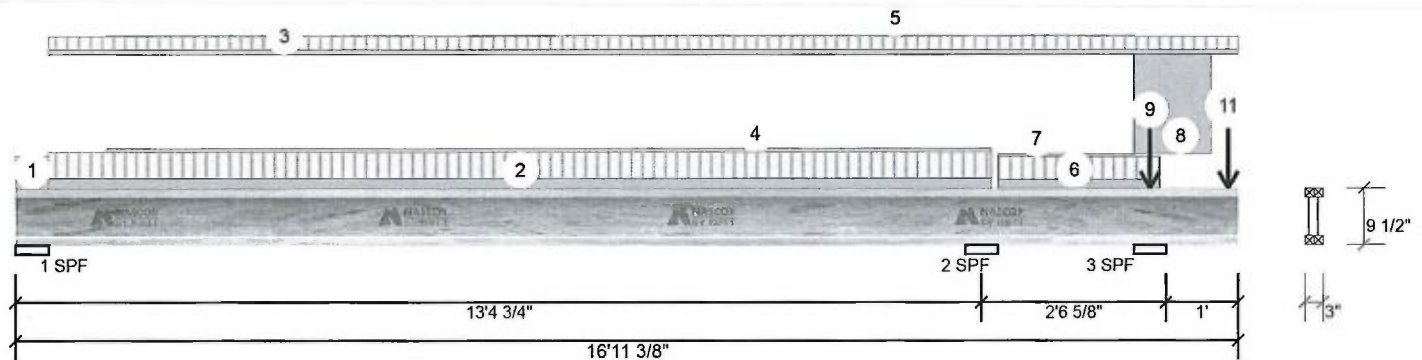
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 2 of 2

F17-A NJ 9.500" 2-Ply - PASSED

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-8	(Span)0-11-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-5-8 to 13-6-6	(Span)1-0-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-8 to 16-11-6	(Span)0-6-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	1-3-1 to 13-6-6		Top	3 PLF	0 PLF	0 PLF	0 PLF	
5	Part. Uniform	1-3-2 to 15-6-3		Top	1 PLF	0 PLF	0 PLF	0 PLF	
6	Tie-In	13-7-8 to 15-10-6	(Span)0-11-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	13-7-8 to 15-6-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	
8	Part. Uniform	15-6-0 to 16-7-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Point	15-8-12		Top	121 lb	149 lb	112 lb	0 lb	F2 F2
10	Point	16-9-12		Top	5 lb	0 lb	12 lb	0 lb	
11	Point	16-9-12		Top	28 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/reaction 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
L4A 7X4
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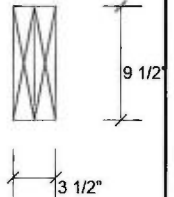
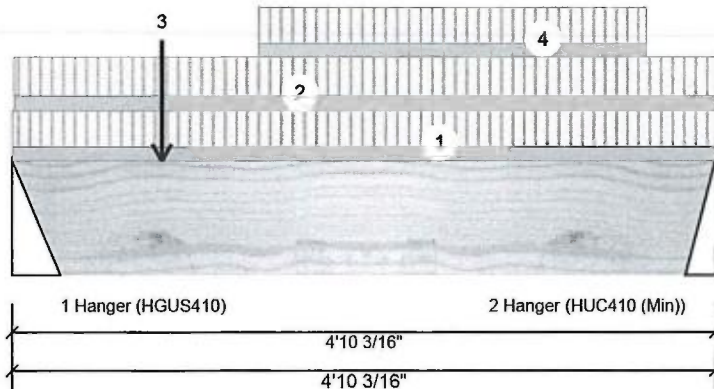
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 1 of 1

F6-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	521	214	0	0
2	491	202	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	10%	268 / 781	1049 L	1.25D+1.5L
2 - Hanger	2.500"	15%	253 / 736	989 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1091 ft-lb	2'5 13/16"	22724 ft-lb	0.048 (5%)	1.25D+1.5L	L
Unbraced	1091 ft-lb	2'5 13/16"	22724 ft-lb	0.048 (5%)	1.25D+1.5L	L
Shear	791 lb	1' 3/4"	9277 lb	0.085 (9%)	1.25D+1.5L	L
Perm Defl in. (L/22723)	0.002	2'5 13/16"	0.148 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch (L/9302)	0.006	2'5 13/16"	0.148 (L/360)	0.040 (4%)	L	L
TL Defl inch (L/6600)	0.008	2'5 13/16"	0.222 (L/240)	0.040 (4%)	D+L	L

Design Notes

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



September 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-10-3	(Span)3-7-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-3 to 4-10-3	(Span)3-10-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-0-7		Near Face	34 lb	91 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
4	Part. Uniform Self Weight	1-8-7 to 4-4-7		Near Face	27 PLF	72 PLF	0 PLF	0 PLF	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-1318

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

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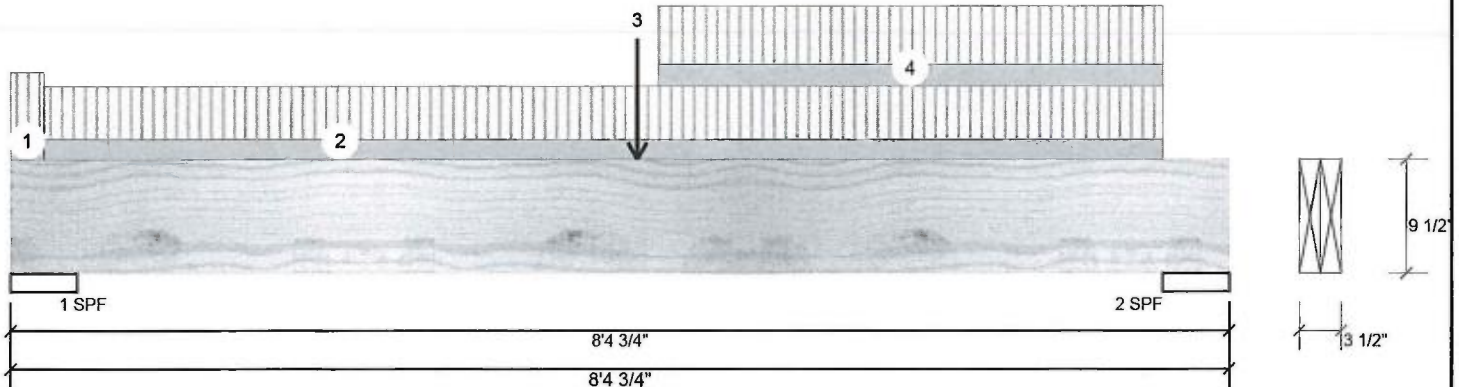
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 1

F7-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	362	177	0	0
2	411	196	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	6%	221 / 543	764 L	1.25D+1.5L
2 - SPF	5.500"	7%	245 / 617	862 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2515 ft-lb	4'3 13/16"	22724 ft-lb	0.111 (11%)	1.25D+1.5L	L
Unbraced	2515 ft-lb	4'3 13/16"	21582 ft-lb	0.117 (12%)	1.25D+1.5L	L
Shear	786 lb	7'2 1/2"	9277 lb	0.085 (8%)	1.25D+1.5L	L
Perm Defl in.	0.012 (L/7866)	4'3 13/16"	0.253 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.025 (L/3582)	4'3 13/16"	0.253 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.037 (L/2461)	4'3 13/16"	0.380 (L/240)	0.100 (10%)	D+L	L

Design Notes

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



September 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-12	(Span)1-3-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-2-12 to 7-11-4	(Span)1-0-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	4-3-13		Far Face	214 lb	521 lb	0 lb	0 lb	F6
4	Tie-In	4-5-9 to 7-11-4	(Span)1-2-3	Top	15 PSF	40 PSF	0 PSF		Pass - The Framing Squash Block is required at all point loads over bearings
	Self Weight				8 PLF				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
 L4A 7X4
 905-642-4400

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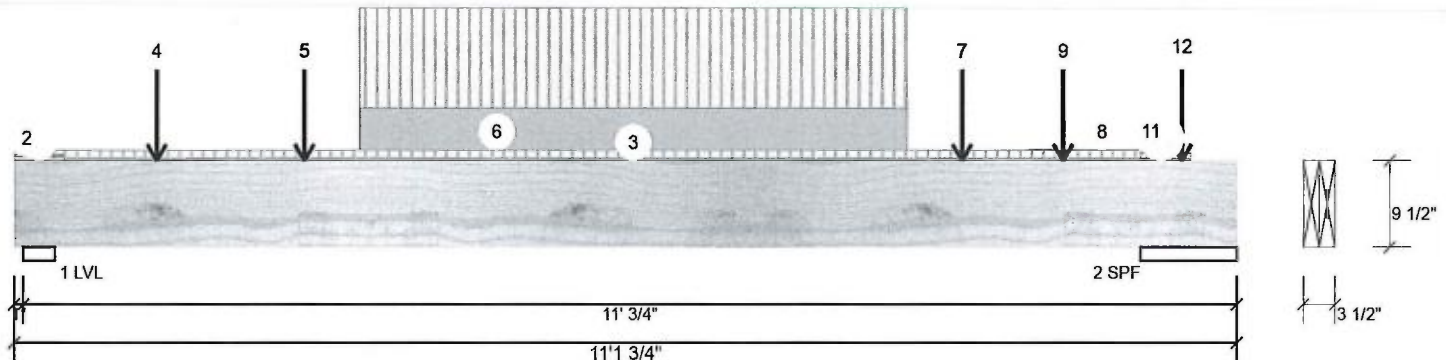
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 2

F8-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	1304	569	0	0
2	1586	695	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - LVL	3.500"	29%	712 / 1956	2668	LL	1.25D+1.5L
2 - SPF	10.502"	14%	868 / 2380	3248	_L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7404 ft-lb	5'3 9/16"	22724 ft-lb	0.326 (33%)	1.25D+1.5L	_L
Unbraced	7404 ft-lb	5'3 9/16"	20708 ft-lb	0.358 (36%)	1.25D+1.5L	_L
Shear	2770 lb	9'6 1/2"	9277 lb	0.299 (30%)	1.25D+1.5L	_L
Perm Defl in.	0.064 (L/1890)	5'3 9/16"	0.337 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.145 (L/837)	5'3 7/16"	0.337 (L/360)	0.430 (43%)	L	_L
TL Defl inch	0.209 (L/580)	5'3 7/16"	0.505 (L/240)	0.410 (41%)	D+L	_L
LL Cant	-0.003 (2L/574)	Lt Cant	0.200 (2L/480)	0.017 (2%)	L	_L
TL Cant	-0.005 (2L/398)	Lt Cant	0.300 (2L/360)	0.017 (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 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-8	(Span)0-4-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-8	(Span)0-7-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-5-8 to 10-3-4	(Span)1-0-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	1-3-12		Near Face	122 lb	326 lb	0 lb	0 lb	J4

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 & 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 L4A 7X4 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.	NASCOR

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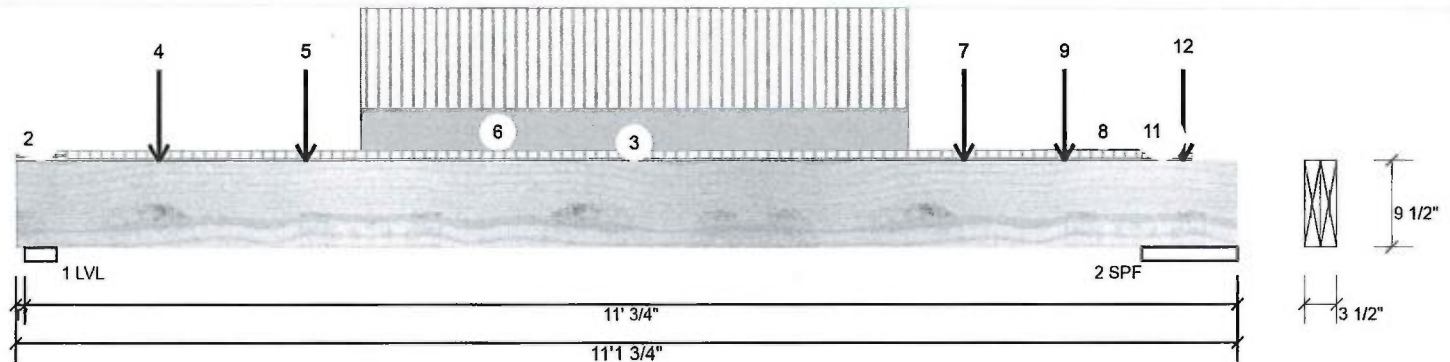
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 2 of 2

F8-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	2-7-12		Near Face	124 lb	307 lb	0 lb	0 lb	J4
6	Part. Uniform	3-1-12 to 8-1-12		Near Face	112 PLF	263 PLF	0 PLF	0 PLF	
7	Point	8-7-12		Near Face	108 lb	252 lb	0 lb	0 lb	J4
8	Part. Uniform	9-3-0 to 10-3-4		Top	2 PLF	0 PLF	0 PLF	0 PLF	
9	Point	9-6-12		Near Face	102 lb	263 lb	0 lb	0 lb	J4
10	Tie-In	10-3-4 to 10-8-12	(Span)0-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
11	Part. Uniform	10-3-4 to 10-8-12		Top	1 PLF	0 PLF	0 PLF	0 PLF	
12	Point	10-7-12		Near Face	80 lb	212 lb	0 lb	0 lb	J4
	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 & 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
L4A 7X4
905-642-4400

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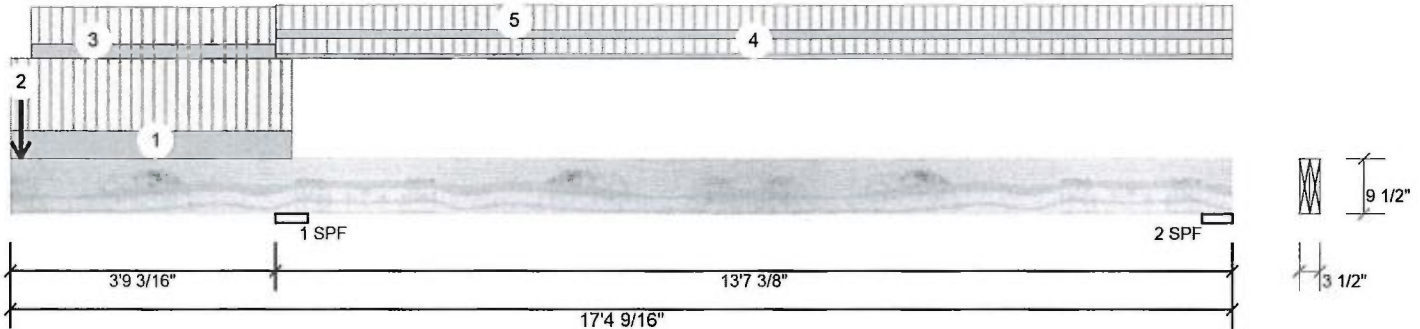
 Client:
 Project:
 Address:

 Date: 9/10/2018
 Designer: S B
 Job Name: MILLWOOD 1 EL-3
 Project #:

Page 1 of 2

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

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 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	1136	534	0	0
2	8	46	0	0

Bearings and Factored Reactions

Bearing	Length	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	20%	667 / 1704	2371	LL	1.25D+1.5L
2 - SPF	5.250"	3%	58 / 275	333	_L	1.25D+1.5L
				(-207)		

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-4651 ft-lb	3'11 15/16"	22724 ft-lb	0.205 (20%)	1.25D+1.5L	L_
Unbraced	-4651 ft-lb	3'11 15/16"	19381 ft-lb	0.240 (24%)	1.25D+1.5L	L_
Pos Moment	783 ft-lb	11'8 1/2"	20451 ft-lb	0.038 (4%)	0.9D+1.5L	_L
Unbraced	783 ft-lb	11'8 1/2"	18837 ft-lb	0.042 (4%)	0.9D+1.5L	_L
Shear	1447 lb	2'11 11/16"	9277 lb	0.156 (16%)	1.25D+1.5L	L_
Perm Defl in.	0.014 (L/10786)	7'11 7/8"	0.434 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.086 (L/1820)	9'5 15/16"	0.434 (L/360)	0.200 (20%)	L	L_
TL Defl inch	0.099 (L/1572)	9'2 7/8"	0.651 (L/240)	0.150 (15%)	D+L	L_
LL Cant	0.174 (2L/520)	Lt Cant	0.200 (2L/480)	0.868 (87%)	L	L_
TL Cant	0.227 (2L/398)	Lt Cant	0.300 (2L/360)	0.756 (76%)	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.
- Tie-down connection required at bearing 2 for uplift 207 lb (Combination 0.9D+1.5L, Load Case L_).
- Top braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.

Notes

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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
 L4A 7X4
 905-642-4400

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September 17, 2018



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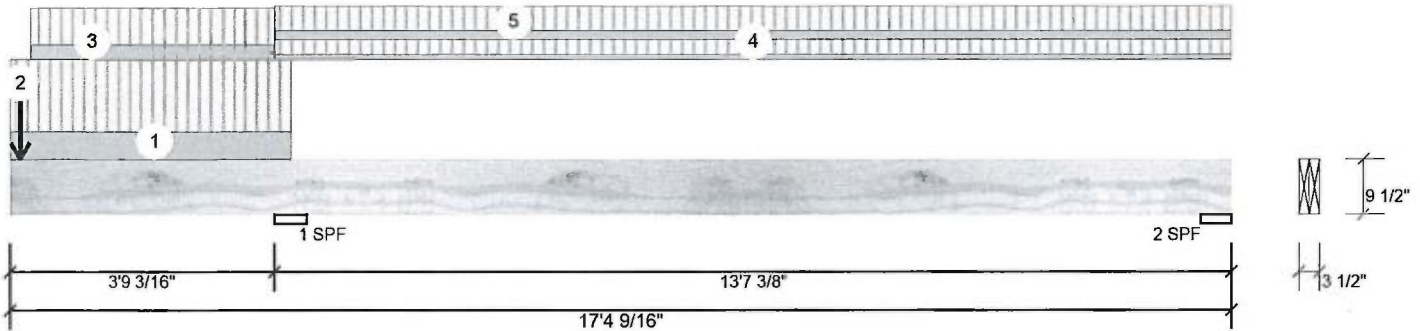
Client:
Project:
Address:

Date: 9/10/2018
Designer: S B
Job Name: MILLWOOD 1 EL-3
Project #:

Page 2 of 2

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

Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-11-15		Top	19 PLF	50 PLF	0 PLF	0 PLF	
2	Point	0-1-12		Near Face	202 lb	491 lb	0 lb	0 lb	F6
3	Tie-In	0-3-8 to 3-9-3	(Span)1-3-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	3-9-3 to 17-4-9	(Span)0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	3-9-3 to 17-4-9	(Span)0-10-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	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

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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

This design is valid until 7/10/2021

Manufacturer Info

Forex
APA: PR-L318

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

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