

Engineering Note Page (ENP-2)

REVISION 2021-10-04

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

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

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

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

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

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

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

CODE

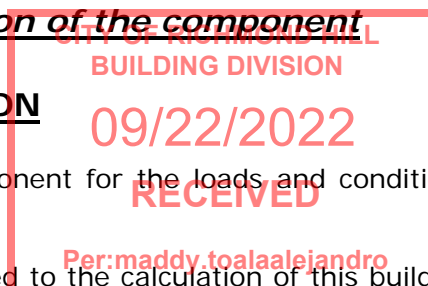
This building component is designed in accordance with the National Building Code of Canada, the Ontario Building Code, CCMC and Canadian Standards Association guidelines.

COMPONENT

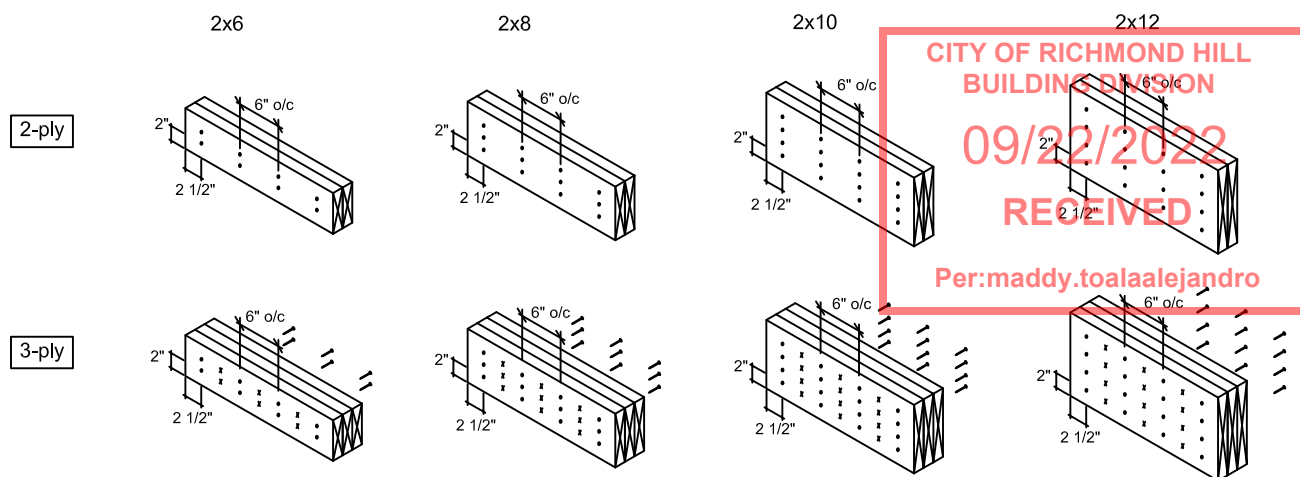
1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies must be connected as per the document "Multi-ply Connection Details".
4. Pass-thru transfer block framing is required at all point loads over bearings.
5. It is assumed that each LVL beam where not seated in a hanger is attached using (4) four 3-1/4" common spiral nails for up to 5.5" long bearings and using (6) six 3-1/4" common spiral nails for bearings equal to or longer than 5.5", unless indicated otherwise.

HANDLING AND INSTALLATION

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



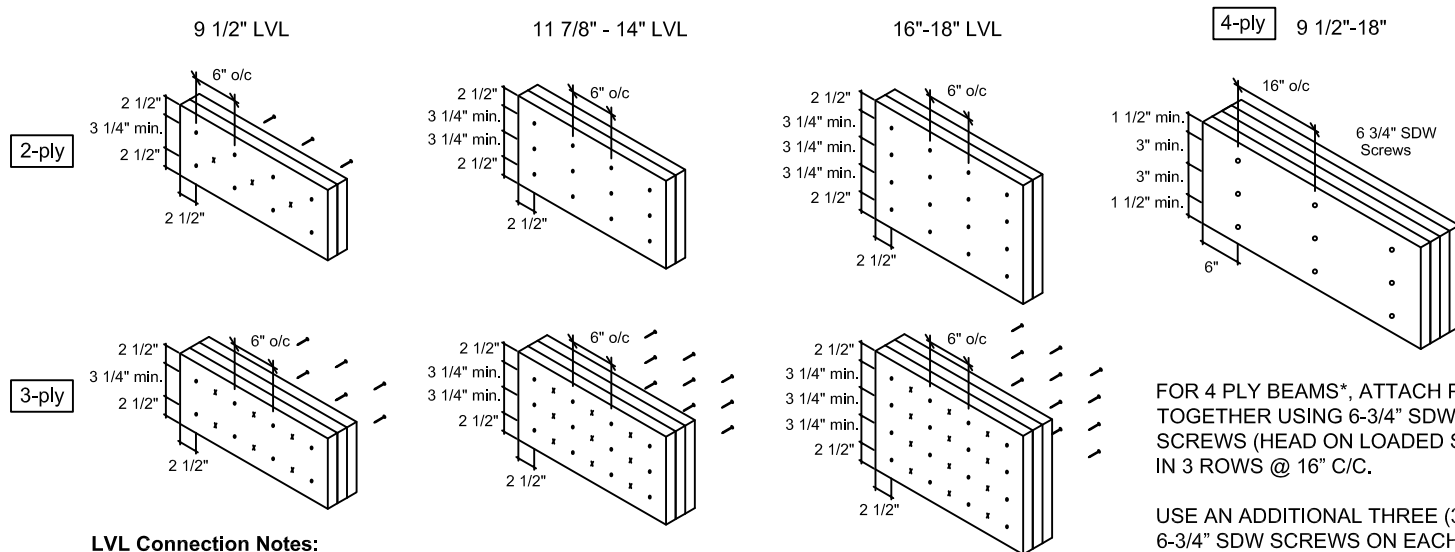
Conventional Connections



Conventional Connection Notes:

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

LVL Connections



LVL Connection Notes:

- LVL ply width is 1-3/4"
- Nails to be 3 1/2" common wire nails.
- Nails to be located 2 1/2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
- Minimum 3 1/4" spacing between rows.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.
- Head of all specified screws must be on the loaded side.

FOR 4 PLY BEAMS*, ATTACH PLYS TOGETHER USING 6-3/4" SDW SCREWS (HEAD ON LOADED SIDE) IN 3 ROWS @ 16" C/C.

USE AN ADDITIONAL THREE (3) 6-3/4" SDW SCREWS ON EACH SIDE (OF EACH FACE) AT POINT LOAD LOCATIONS @ 1/2 SPACING, WHERE APPLICABLE.

*UNLESS NOTED OTHERWISE ON LAYOUT OR CALCULATION SHEET OF BEAM IN THE FLOOR PACKAGE

Multiple Member Connections

All connections are for uniformly distributed loads.

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

Last revised: February 19, 2021



KOTT Inc.
3228 Moodie Drive
Ottawa, ON
K2H 7V1
613-838-2775

AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.









JOB INFORMATION		
Builder		
GREENPARK		
Project		
ROUNDEL HOMES INC		
Shipping		
TERRACOTA 2S-2-1 RICHMOND HILL, ON		
Sales Rep		
RALPH MIRIGELLO		
Designer		
W C		
Plotted		
September 22, 2021		
Layout Name		
TC2S-2-1 STANDARD		
Job Path		
DESIGN CRITERIA		
Ground Floor		
Design Method	LSD (Canada)	
Building Code	NBCC 2015 / OBC 2012	
Floor		
Loads		
Live		40
Dead		15
Deflection Joist		
LL Span L/		360
TL Span L/		240
Deflection Flush Girder		
LL Span L/		360
TL Span L/		240
Deflection Dropped Girder		
LL Span L/		360
TL Span L/		240
Deflection Header		
LL Span L/		360
TL Span L/		240
Decking		
Decking		OSB
Thickness		5/8"

CCMC References

Boise - 12472-R , 12787-R
 LP - 12412-R
 Forex - 14056-R

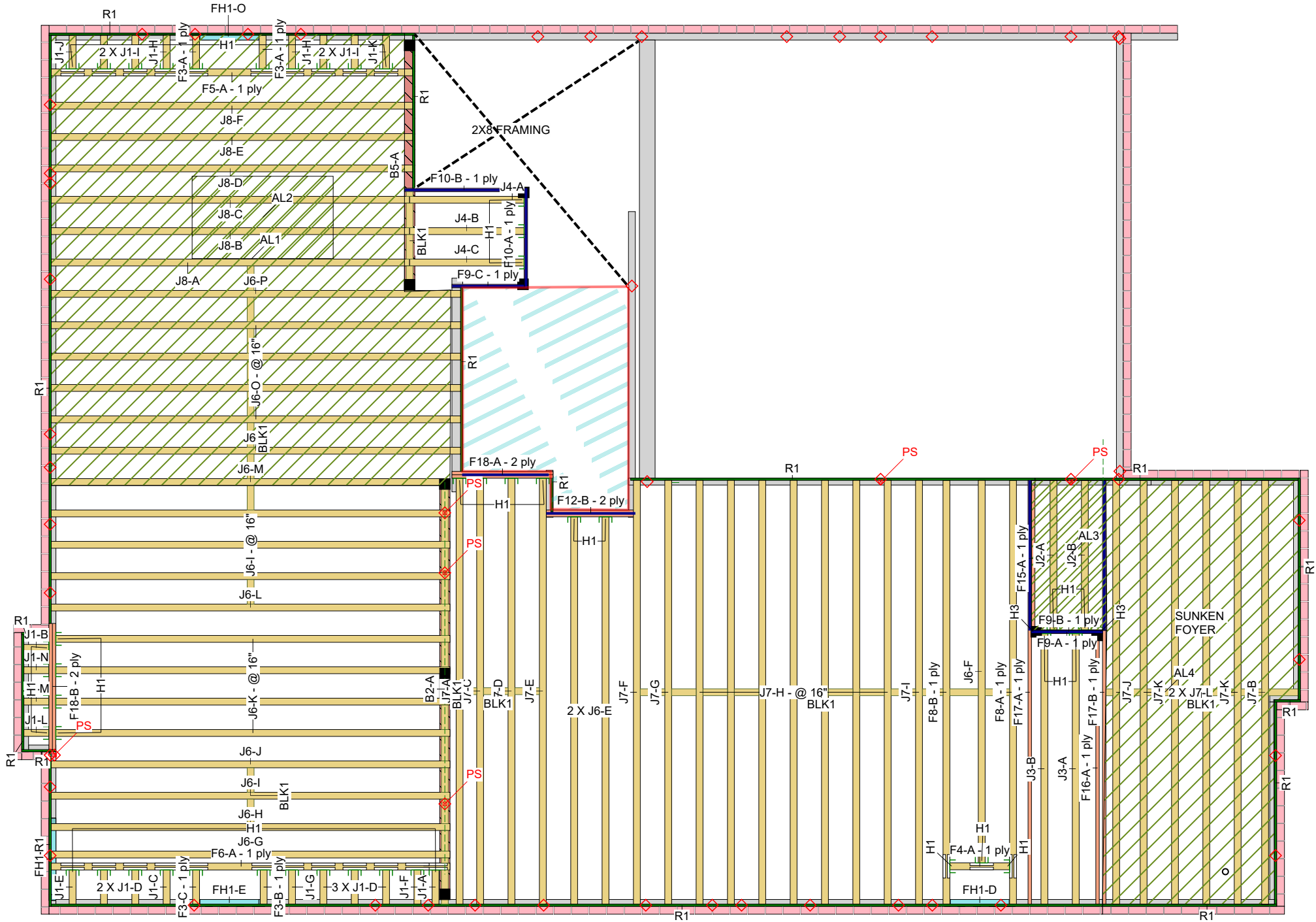
Kott Inc. 3228 Moodie Dr, Ottawa 14 Anderson Blvd, Uxbridge Ontario 613-838-2775 / 905-642-4400	
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CITY OF RICHMOND HILL
BUILDING DIVISION
09/22/2022
RECEIVED
Per:maddy.toalaalejandro

Legend	
PS	Point Load Support
	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 9.5
	AJS 24 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5
	1.75 X 9.5 (Dropped)
	5.25 X 8 (Dropped)


1. All blocking to be cut from 12" joists
2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
3. Ends of joists to be laterally supported
4. Packing of Steel beams and attachment by others
5. Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
6. Beams identified as "B" are dropped and supplied by others
7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
8. Load transfer blocks to be installed under all point loads
9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
10. Hangers and Fasteners to be installed as per manufacturer
11. Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.

Ground Floor



Architectural floor plan showing structural framing details. The plan includes various rooms and structural elements labeled as follows:

- Rooms and Areas:** SUNKEN FOYER, J1-B, J1-C, J1-D, J1-E, J1-F, J1-G, J1-H, J1-I, J1-J, J1-K, J1-L, J1-M, J1-N, J2-A, J2-B, J2-C, J2-D, J2-E, J2-F, J2-G, J2-H, J2-I, J2-J, J2-K, J2-L, J2-M, J2-N, J3-A, J3-B, J3-C, J3-D, J3-E, J3-F, J3-G, J3-H, J3-I, J3-J, J3-K, J3-L, J3-M, J3-N, J4-A, J4-B, J4-C, J4-D, J4-E, J4-F, J4-G, J4-H, J4-I, J4-J, J4-K, J4-L, J4-M, J4-N, J5-A, J5-B, J5-C, J5-D, J5-E, J5-F, J5-G, J5-H, J5-I, J5-J, J5-K, J5-L, J5-M, J5-N, J6-A, J6-B, J6-C, J6-D, J6-E, J6-F, J6-G, J6-H, J6-I, J6-J, J6-K, J6-L, J6-M, J6-N, J7-A, J7-B, J7-C, J7-D, J7-E, J7-F, J7-G, J7-H, J7-I, J7-J, J7-K, J7-L, J7-M, J7-N, J8-A, J8-B, J8-C, J8-D, J8-E, J8-F, J8-G, J8-H, J8-I, J8-J, J8-K, J8-L, J8-M, J8-N, J9-A, J9-B, J9-C, J9-D, J9-E, J9-F, J9-G, J9-H, J9-I, J9-J, J9-K, J9-L, J9-M, J9-N, J10-A, J10-B, J10-C, J10-D, J10-E, J10-F, J10-G, J10-H, J10-I, J10-J, J10-K, J10-L, J10-M, J10-N, J11-A, J11-B, J11-C, J11-D, J11-E, J11-F, J11-G, J11-H, J11-I, J11-J, J11-K, J11-L, J11-M, J11-N, J12-A, J12-B, J12-C, J12-D, J12-E, J12-F, J12-G, J12-H, J12-I, J12-J, J12-K, J12-L, J12-M, J12-N, J13-A, J13-B, J13-C, J13-D, J13-E, J13-F, J13-G, J13-H, J13-I, J13-J, J13-K, J13-L, J13-M, J13-N, J14-A, J14-B, J14-C, J14-D, J14-E, J14-F, J14-G, J14-H, J14-I, J14-J, J14-K, J14-L, J14-M, J14-N, J15-A, J15-B, J15-C, J15-D, J15-E, J15-F, J15-G, J15-H, J15-I, J15-J, J15-K, J15-L, J15-M, J15-N, J16-A, J16-B, J16-C, J16-D, J16-E, J16-F, J16-G, J16-H, J16-I, J16-J, J16-K, J16-L, J16-M, J16-N, J17-A, J17-B, J17-C, J17-D, J17-E, J17-F, J17-G, J17-H, J17-I, J17-J, J17-K, J17-L, J17-M, J17-N, J18-A, J18-B, J18-C, J18-D, J18-E, J18-F, J18-G, J18-H, J18-I, J18-J, J18-K, J18-L, J18-M, J18-N.
- Beams and Joists:** F3-A - 1 ply, F3-B - 1 ply, F3-C - 1 ply, F4-A - 1 ply, F4-B - 1 ply, F4-C - 1 ply, F4-D - 1 ply, F4-E - 1 ply, F4-F - 1 ply, F4-G - 1 ply, F4-H - 1 ply, F4-I - 1 ply, F4-J - 1 ply, F4-K - 1 ply, F4-L - 1 ply, F4-M - 1 ply, F4-N - 1 ply, F5-A - 1 ply, F5-B - 1 ply, F5-C - 1 ply, F5-D - 1 ply, F5-E - 1 ply, F5-F - 1 ply, F5-G - 1 ply, F5-H - 1 ply, F5-I - 1 ply, F5-J - 1 ply, F5-K - 1 ply, F5-L - 1 ply, F5-M - 1 ply, F5-N - 1 ply, F6-A - 1 ply, F6-B - 1 ply, F6-C - 1 ply, F6-D - 1 ply, F6-E - 1 ply, F6-F - 1 ply, F6-G - 1 ply, F6-H - 1 ply, F6-I - 1 ply, F6-J - 1 ply, F6-K - 1 ply, F6-L - 1 ply, F6-M - 1 ply, F6-N - 1 ply, F7-A - 1 ply, F7-B - 1 ply, F7-C - 1 ply, F7-D - 1 ply, F7-E - 1 ply, F7-F - 1 ply, F7-G - 1 ply, F7-H - 1 ply, F7-I - 1 ply, F7-J - 1 ply, F7-K - 1 ply, F7-L - 1 ply, F7-M - 1 ply, F7-N - 1 ply, F8-A - 1 ply, F8-B - 1 ply, F8-C - 1 ply, F8-D - 1 ply, F8-E - 1 ply, F8-F - 1 ply, F8-G - 1 ply, F8-H - 1 ply, F8-I - 1 ply, F8-J - 1 ply, F8-K - 1 ply, F8-L - 1 ply, F8-M - 1 ply, F8-N - 1 ply, F9-A - 1 ply, F9-B - 1 ply, F9-C - 1 ply, F9-D - 1 ply, F9-E - 1 ply, F9-F - 1 ply, F9-G - 1 ply, F9-H - 1 ply, F9-I - 1 ply, F9-J - 1 ply, F9-K - 1 ply, F9-L - 1 ply, F9-M - 1 ply, F9-N - 1 ply, F10-A - 1 ply, F10-B - 1 ply, F10-C - 1 ply, F10-D - 1 ply, F10-E - 1 ply, F10-F - 1 ply, F10-G - 1 ply, F10-H - 1 ply, F10-I - 1 ply, F10-J - 1 ply, F10-K - 1 ply, F10-L - 1 ply, F10-M - 1 ply, F10-N - 1 ply, F11-A - 1 ply, F11-B - 1 ply, F11-C - 1 ply, F11-D - 1 ply, F11-E - 1 ply, F11-F - 1 ply, F11-G - 1 ply, F11-H - 1 ply, F11-I - 1 ply, F11-J - 1 ply, F11-K - 1 ply, F11-L - 1 ply, F11-M - 1 ply, F11-N - 1 ply, F12-A - 1 ply, F12-B - 1 ply, F12-C - 1 ply, F12-D - 1 ply, F12-E - 1 ply, F12-F - 1 ply, F12-G - 1 ply, F12-H - 1 ply, F12-I - 1 ply, F12-J - 1 ply, F12-K - 1 ply, F12-L - 1 ply, F12-M - 1 ply, F12-N - 1 ply, F13-A - 1 ply, F13-B - 1 ply, F13-C - 1 ply, F13-D - 1 ply, F13-E - 1 ply, F13-F - 1 ply, F13-G - 1 ply, F13-H - 1 ply, F13-I - 1 ply, F13-J - 1 ply, F13-K - 1 ply, F13-L - 1 ply, F13-M - 1 ply, F13-N - 1 ply, F14-A - 1 ply, F14-B - 1 ply, F14-C - 1 ply, F14-D - 1 ply, F14-E - 1 ply, F14-F - 1 ply, F14-G - 1 ply, F14-H - 1 ply, F14-I - 1 ply, F14-J - 1 ply, F14-K - 1 ply, F14-L - 1 ply, F14-M - 1 ply, F14-N - 1 ply, F15-A - 1 ply, F15-B - 1 ply, F15-C - 1 ply, F15-D - 1 ply, F15-E - 1 ply, F15-F - 1 ply, F15-G - 1 ply, F15-H - 1 ply, F15-I - 1 ply, F15-J - 1 ply, F15-K - 1 ply, F15-L - 1 ply, F15-M - 1 ply, F15-N - 1 ply, F16-A - 1 ply, F16-B - 1 ply, F16-C - 1 ply, F16-D - 1 ply, F16-E - 1 ply, F16-F - 1 ply, F16-G - 1 ply, F16-H - 1 ply, F16-I - 1 ply, F16-J - 1 ply, F16-K - 1 ply, F16-L - 1 ply, F16-M - 1 ply, F16-N - 1 ply, F17-A - 1 ply, F17-B - 1 ply, F17-C - 1 ply, F17-D - 1 ply, F17-E - 1 ply, F17-F - 1 ply, F17-G - 1 ply, F17-H - 1 ply, F17-I - 1 ply, F17-J - 1 ply, F17-K - 1 ply, F17-L - 1 ply, F17-M - 1 ply, F17-N - 1 ply, F18-A - 2 ply, F18-B - 2 ply, F18-C - 2 ply, F18-D - 2 ply, F18-E - 2 ply, F18-F - 2 ply, F18-G - 2 ply, F18-H - 2 ply, F18-I - 2 ply, F18-J - 2 ply, F18-K - 2 ply, F18-L - 2 ply, F18-M - 2 ply, F18-N - 2 ply.
- Other Labels:** 2 X J1-D, 2 X J1-E, 2 X J1-F, 2 X J1-G, 2 X J1-H, 2 X J1-I, 2 X J1-J, 2 X J1-K, 2 X J1-L, 2 X J1-M, 2 X J1-N, 2 X J2-D, 2 X J2-E, 2 X J2-F, 2 X J2-G, 2 X J2-H, 2 X J2-I, 2 X J2-J, 2 X J2-K, 2 X J2-L, 2 X J2-M, 2 X J2-N, 2 X J3-D, 2 X J3-E, 2 X J3-F, 2 X J3-G, 2 X J3-H, 2 X J3-I, 2 X J3-J, 2 X J3-K, 2 X J3-L, 2 X J3-M, 2 X J3-N, 2 X J4-D, 2 X J4-E, 2 X J4-F, 2 X J4-G, 2 X J4-H, 2 X J4-I, 2 X J4-J, 2 X J4-K, 2 X J4-L, 2 X J4-M, 2 X J4-N, 2 X J5-D, 2 X J5-E, 2 X J5-F, 2 X J5-G, 2 X J5-H, 2 X J5-I, 2 X J5-J, 2 X J5-K, 2 X J5-L, 2 X J5-M, 2 X J5-N, 2 X J6-D, 2 X J6-E, 2 X J6-F, 2 X J6-G, 2 X J6-H, 2 X J6-I, 2 X J6-J, 2 X J6-K, 2 X J6-L, 2 X J6-M, 2 X J6-N, 2 X J7-D, 2 X J7-E, 2 X J7-F, 2 X J7-G, 2 X J7-H, 2 X J7-I, 2 X J7-J, 2 X J7-K, 2 X J7-L, 2 X J7-M, 2 X J7-N, 2 X J8-D, 2 X J8-E, 2 X J8-F, 2 X J8-G, 2 X J8-H, 2 X J8-I, 2 X J8-J, 2 X J8-K, 2 X J8-L, 2 X J8-M, 2 X J8-N, 2 X J9-D, 2 X J9-E, 2 X J9-F, 2 X J9-G, 2 X J9-H, 2 X J9-I, 2 X J9-J, 2 X J9-K, 2 X J9-L, 2 X J9-M, 2 X J9-N, 2 X J10-D, 2 X J10-E, 2 X J10-F, 2 X J10-G, 2 X J10-H, 2 X J10-I, 2 X J10-J, 2 X J10-K, 2 X J10-L, 2 X J10-M, 2 X J10-N, 2 X J11-D, 2 X J11-E, 2 X J11-F, 2 X J11-G, 2 X J11-H, 2 X J11-I, 2 X J11-J, 2 X J11-K, 2 X J11-L, 2 X J11-M, 2 X J11-N, 2 X J12-D, 2 X J12-E, 2 X J12-F, 2 X J12-G, 2 X J12-H, 2 X J12-I, 2 X J12-J, 2 X J12-K, 2 X J12-L, 2 X J12-M, 2 X J12-N, 2 X J13-D, 2 X J13-E, 2 X J

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

AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F17	Forex 2.0E-3000Fb LVL	1.75	9.5			2	20-0-0
F16	Forex 2.0E-3000Fb LVL	1.75	9.5			1	12-0-0
F15	Forex 2.0E-3000Fb LVL	1.75	9.5			1	8-0-0
F18	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	6-0-0
F10	Forex 2.0E-3000Fb LVL	1.75	9.5			2	6-0-0
FH4	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	4-0-0
F9	Forex 2.0E-3000Fb LVL	1.75	9.5			3	4-0-0
F12	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0

Joist							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F8	AJS 24	3.5	9.5			2	20-0-0
F6	AJS 24	3.5	9.5			1	18-0-0
F5	AJS 24	3.5	9.5			1	16-0-0
F4	AJS 24	3.5	9.5			1	4-0-0
F3	AJS 24	3.5	9.5			4	2-0-0
J7	AJS 24	3.5	9.5			20	20-0-0
J6	AJS 24	3.5	9.5			22	18-0-0
J8	AJS 24	3.5	9.5			6	16-0-0
J3	AJS 24	3.5	9.5			2	12-0-0
J2	AJS 24	3.5	9.5			2	8-0-0
J4	AJS 24	3.5	9.5			3	6-0-0
J1	AJS 24	3.5	9.5			22	2-0-0


Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norboard Rimboard Plus 1.125 X 9.5	1.125	9.5			15	12-0-0

Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 24	3.5	9.5	LinFt		Varies	53-0-0

Hanger					Beam/Girder	Supported Member
Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	52	LF359			10 10d	2 #8x1 1/4WS
H3	2	HUS1.81/10			30 10dX1 1/2	10 16d

JOB INFORMATION	
Builder	GREENPARK
Project	ROUNDEL HOMES INC
Shipping	27/2/2022 TERRACOTA 2S-2-1 RICHMOND HILL, ON
Sales Rep	RALPH MIRIGELLO
Designer	W.C
Plotted	September 29, 2021
Layout Name	TC2S-2-1 DECK CONDITION

Job Path	
DESIGN CRITERIA	
Ground Floor	
Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012
Floor	
Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	360
TL Span L/	240
Deflection Flush Girder	
LL Span L/	360
TL Span L/	240
Deflection Dropped Girder	
LL Span L/	360
TL Span L/	240
Deflection Header	
LL Span L/	360
TL Span L/	240
Decking	
Decking	OSB
Thickness	5/8"

CCMC References Boise - 12472-R , 12787-R LP - 12412-R Forex - 14056-R	
Kott Inc. 3228 Moodie Dr, Ottawa 14 Anderson Blvd, Uxbridge Ontario 613-838-2775 / 905-642-4400	

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2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
3. Ends of joists to be laterally supported
4. Packing of Steel beams and attachment by others
5. Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
6. Beams identified as "B" are dropped and supplied by others
7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
8. Load transfer blocks to be installed under all point loads
9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
10. Hangers and Fasteners to be installed as per manufacturer
11. Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.

	<p>PS Point Load Support</p> <p>Load from Above</p> <p>Wall</p> <p>Wall Opening</p> <p>Norbord Rimboard Plus 1.125 X 9.5</p> <p>AJS 24 9.5</p> <p>Forex 2.0E-3000Fb LVL 1.75 X 9.5</p> <p>1.75 X 9.5 (Dropped)</p> <p>5.25 X 8 (Dropped)</p>
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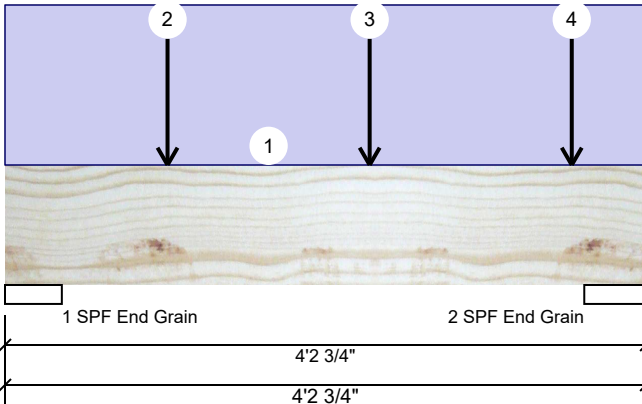
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 1 of 27

F10-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

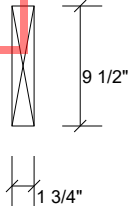


CITY OF RICHMOND HILL
BUILDING DIVISION

09/22/2022

RECEIVED

Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	146	273	0	0
2	Vertical	180	289	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	4.500"	Vert	11%	341 / 219	560	L	1.25D+1.5L
2 - SPF End Grain	4.896"	Vert	11%	362 / 270	631	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	504 ft-lb	2'4 7/8"	9998 ft-lb	0.050 (5%)	1.25D+1.5L	L
Unbraced	504 ft-lb	2'4 7/8"	9998 ft-lb	0.050 (5%)	1.25D+1.5L	L
Shear	479 lb	3' 3/8"	4082 lb	0.117 (12%)	1.25D+1.5L	L
Perm Defl in. (L/12107)	0.004	2'1 5/8"	0.119 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch (L/18295)	0.002	2'3 13/16"	0.119 (L/360)	0.020 (2%)	L	L
TL Defl inch (L/7300)	0.006	2'2 3/8"	0.179 (L/240)	0.033 (3%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must have sheathing attached or be continuously braced.



October 12, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 4-2-12		Top	100 PLF	0 PLF	0 PLF	0 PLF	
2	Point	1-0-14		Far Face	43 lb	114 lb	0 lb	0 lb	J4
3	Point	2-4-14		Far Face	48 lb	128 lb	0 lb	0 lb	J4
4	Point	3-8-14		Far Face	32 lb	84 lb	0 lb	0 lb	J4
	Self Weight				4 PLF				

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.

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 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





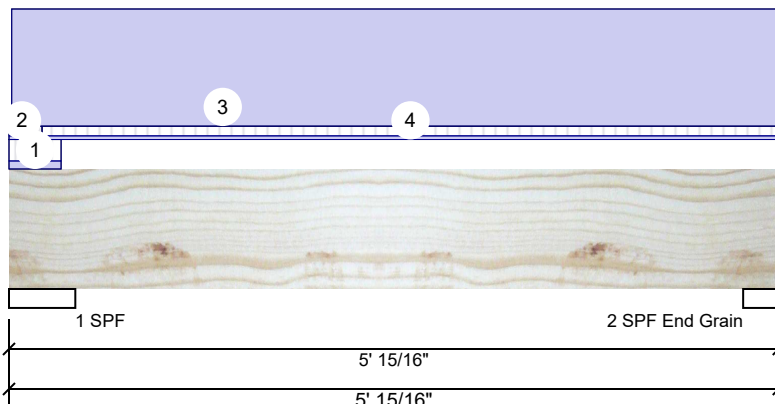
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 2 of 27

F10-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

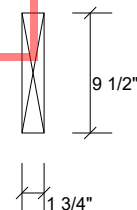


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BUILDING DIVISION

09/22/2022

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Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	28	283	0	0
2	Vertical	20	261	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	11%	354 / 43	396	L	1.25D+1.5L
2 - SPF	2.820"	Vert	15%	365 / 0	365	Uniform	1.4D
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	384 ft-lb	2'7 11/16"	7385 ft-lb	0.052 (5%)	1.4D	Uniform
Unbraced	384 ft-lb	2'7 11/16"	7385 ft-lb	0.052 (5%)	1.4D	Uniform
Shear	216 lb	1'2 3/4"	3015 lb	0.071 (7%)	1.4D	Uniform
Perm Defl in.	0.006 (L/9128)	2'7 11/16"	0.151 (L/360)	0.039 (4%)	D	Uniform
LL Defl inch	0.000 (L/116840)	2'7 11/16"	0.151 (L/360)	0.003 (0%)	L	L
TL Defl inch	0.006 (L/8466)	2'7 11/16"	0.227 (L/240)	0.028 (3%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at bearings.



October 12, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-10	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-3 to 5-0-15		Top	100 PLF	0 PLF	0 PLF	0 PLF	
4	Tie-In	0-2-10 to 5-0-15	0-2-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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IN THE DESIGN OF THIS COMPONENT.

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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



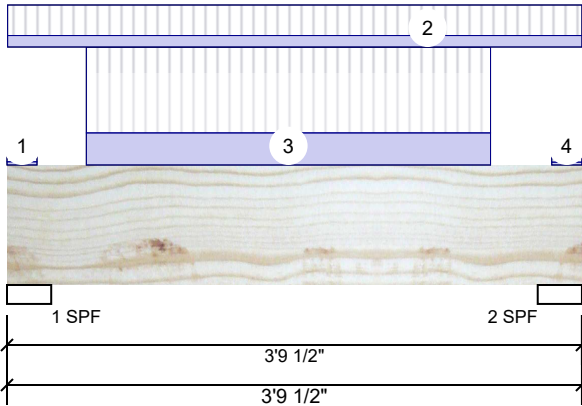
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 3 of 27

F12-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

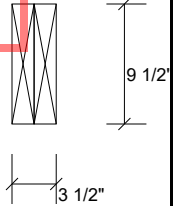


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BUILDING DIVISION**

09/22/2022

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Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	677	268	0	0
2	Vertical	656	260	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	18%	335 / 1016	1351	L	1.25D+1.5L
2 - SPF	3.500"	Vert	17%	325 / 984	1309	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1197 ft-lb	1'10 11/16"	22724 ft-lb	0.053 (5%)	1.25D+1.5L	L
Unbraced	1197 ft-lb	1'10 11/16"	22724 ft-lb	0.053 (5%)	1.25D+1.5L	L
Shear	1056 lb	2'8 1/2"	9277 lb	0.114 (11%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/22801)	1'10 3/4"	0.111 (L/360)	0.016 (2%)	D	Uniform
LL Defl inch	0.004 (L/8941)	1'10 3/4"	0.111 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.006 (L/6422)	1'10 3/4"	0.167 (L/240)	0.037 (4%)	D+L	L



October 12, 2021

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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 must be continuously laterally braced.
- 6 Bottom must have sheathing attached or be continuously braced.
- 7 Lateral slenderness ratio based on full section width.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-6	0-9-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-1 to 3-9-8		Top	44 PLF	117 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-6-4 to 3-2-4		Near Face	123 PLF	329 PLF	0 PLF	0 PLF	
4	Tie-In	3-7-2 to 3-9-8	0-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				

Notes

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

Lumber

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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



Client: GREENPARK
 Project:
 Address: TERRACOTA 2S-2-1
 RICHMOND HILL, ON

Date: 9/29/2021
 Input by: W C
 Job Name: TC2S-2-1 DECK CONDITION
 Project #: ROUNDEL HOMES INC

Page 4 of 27

F15-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

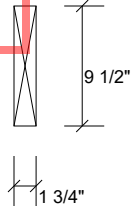
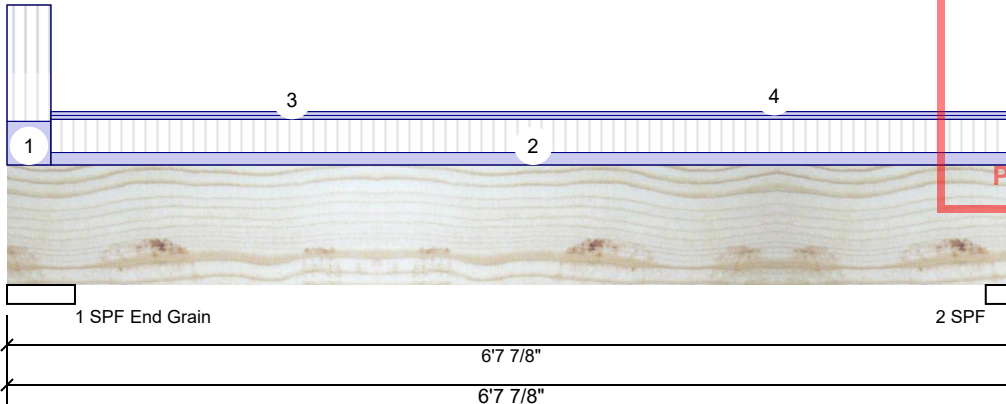
Level: Ground Floor

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 BUILDING DIVISION

09/22/2022

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Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

READ ALL NOTES ON THIS PAGE AND ON THE
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Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	72	53	0	0
2	Vertical	55	46	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.381"	Vert	2%	66 / 108	174	L	1.25D+1.5L
2 - SPF	2.375"	Vert	5%	57 / 83	140	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	206 ft-lb	3'5 7/16"	11362 ft-lb	0.018 (2%)	1.25D+1.5L	L
Unbraced	206 ft-lb	3'5 7/16"	11362 ft-lb	0.018 (2%)	1.25D+1.5L	L
Shear	100 lb	1'2 7/8"	4638 lb	0.022 (2%)	1.25D+1.5L	L
Perm Defl in. (L/32237)	0.002	3'5 7/16"	0.204 (L/360)	0.011 (1%)	D	Uniform
LL Defl inch (L/26691)	0.003	3'5 7/16"	0.204 (L/360)	0.013 (1%)	L	L
TL Defl inch (L/14602)	0.005	3'5 7/16"	0.307 (L/240)	0.016 (2%)	D+L	L



October 12, 2021

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-3-8	1-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-3-8 to 6-7-13	0-5-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-3-8 to 6-7-13		Top	2 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-3-8 to 6-7-13		Top	2 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

Notes

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

Lumber

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

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 Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



Client: GREENPARK
Project: TERRACOTA 2S-2-1
Address: RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 5 of 27

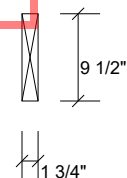
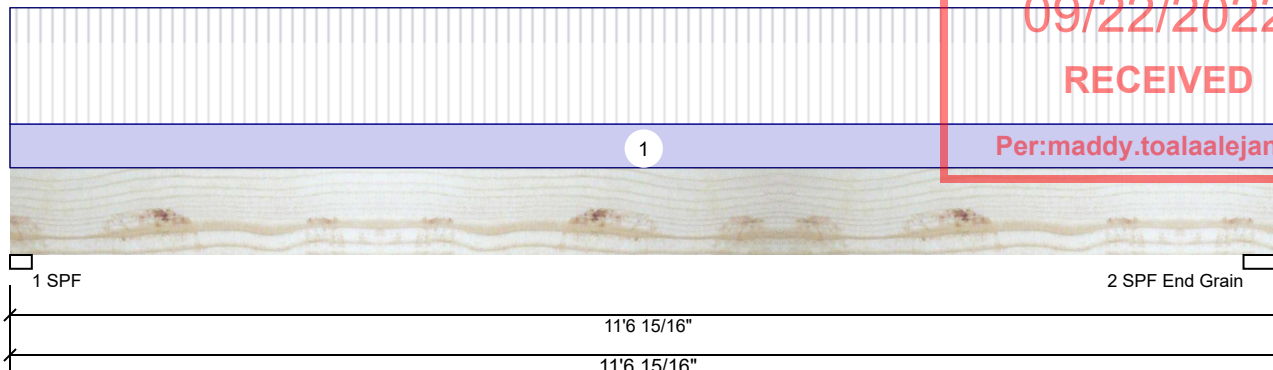
F16-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

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BUILDING DIVISION**

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Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	106	61	0	0
2	Vertical	108	63	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	9%	77 / 158	235	L	1.25D+1.5L
2 - SPF	4.625"	Vert	4%	78 / 161	240	L	1.25D+1.5L
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	638 ft-lb	5'8 3/8"	11362 ft-lb	0.056 (6%)	1.25D+1.5L	L
Unbraced	638 ft-lb	5'8 3/8"	11362 ft-lb	0.056 (6%)	1.25D+1.5L	L
Shear	198 lb	10'4 13/16"	4638 lb	0.043 (4%)	1.25D+1.5L	L
Perm Defl in.	0.016 (L/8363)	5'8 3/8"	0.371 (L/360)	0.043 (4%)	D	Uniform
LL Defl inch	0.027 (L/4855)	5'8 3/8"	0.371 (L/360)	0.074 (7%)	L	L
TL Defl inch	0.043 (L/3072)	5'8 3/8"	0.556 (L/240)	0.078 (8%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at bearings.



October 12, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-6-0	0-5-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 6 of 27

F17-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

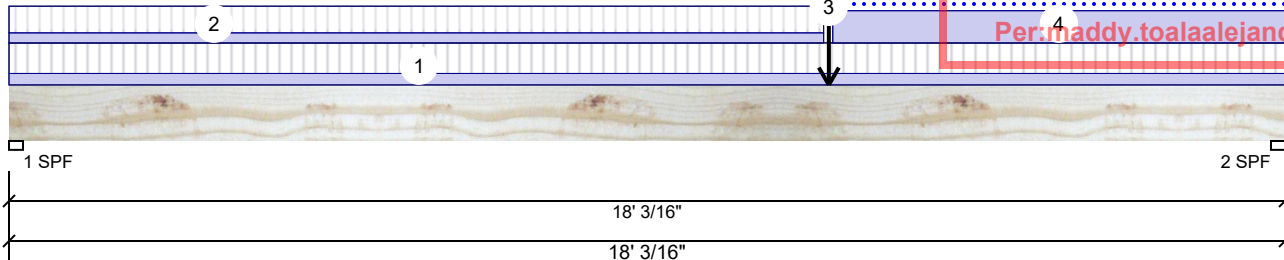
Level: Ground Floor

CITY OF RICHMOND HILL
BUILDING DIVISION

09/22/2022

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Per: maddy.toalaalejandro



9 1/2"

1 3/4"

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

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Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	322	223	44	0
2	Vertical	348	338	211	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	32%	279 / 527	806	L	1.25D+1.5L +S
2 - SPF	2.375"	Vert	45%	422 / 733	1155	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5386 ft-lb	11'6 7/8"	11362 ft-lb	0.474 (47%)	1.25D+1.5L +S	L
Unbraced	5386 ft-lb	11'6 7/8"	11362 ft-lb	0.474 (47%)	1.25D+1.5L +S	L
Shear	1069 lb	17' 5/16"	4638 lb	0.230 (23%)	1.25D+1.5L +S	L
Perm Defl in.	0.335 (L/635)	9'6 1/2"	0.591 (L/360)	0.567 (57%)	D	Uniform
LL Defl inch	0.463 (L/460)	9'4 7/8"	0.591 (L/360)	0.782 (78%)	L+0.5S	L
TL Defl inch	0.798 (L/267)	9'5 9/16"	0.887 (L/240)	0.899 (90%)	D+L+0.5S	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at a maximum of 11'6 7/8" o.c.



October 12, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 18-0-3	0-4-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 11-6-0	0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	11-6-14		Near Face	247 lb	270 lb	0 lb	0 lb	F9
4	Part. Uniform	11-7-9 to 18-0-3		Top	15 PLF	0 PLF	40 PLF	0 PLF	
	Self Weight				4 PLF				

Notes

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Lumber

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

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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 7 of 27

F17-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

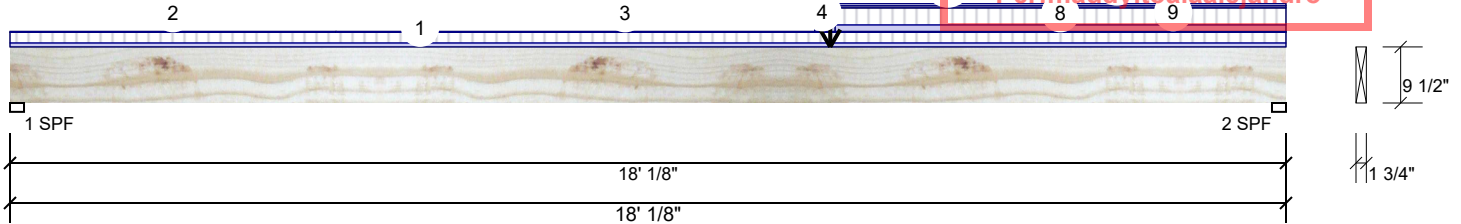
Level: Ground Floor

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BUILDING DIVISION

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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

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Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	165	140	44	0
2	Vertical	278	275	212	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	18%	175 / 291	466	L	1.25D+1.5L +S
2 - SPF	2.375"	Vert	38%	343 / 629	972	L	1.25D+1.5L +S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3585 ft-lb	11'6 15/16"	11362 ft-lb	0.316 (32%)	1.25D+1.5L +S	L
Unbraced	3585 ft-lb	11'6 15/16"	11362 ft-lb	0.316 (32%)	1.25D+1.5L +S	L
Shear	855 lb	17' 1/4"	4638 lb	0.184 (18%)	1.25D+1.5L +S	L
Perm Defl in.	0.215 (L/989)	9'7 7/16"	0.591 (L/360)	0.364 (36%)	D	Uniform
LL Defl inch	0.300 (L/709)	9'8"	0.591 (L/360)	0.507 (51%)	L+0.5S	L
TL Defl inch	0.515 (L/413)	9'7 3/4"	0.887 (L/240)	0.581 (58%)	D+L+0.5S	L



October 12, 2021

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at a maximum of 11'6 15/16" o.c.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 18-0-2	0-3-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 4-7-4		Top	1 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	4-7-4 to 11-7-11		Top	1 PLF	0 PLF	0 PLF	0 PLF	
4	Tie-In	11-4-5 to 11-7-13	1-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	11-6-15		Far Face	89 lb	137 lb	0 lb	0 lb	F9
6	Part. Uniform	11-7-7 to 18-0-2		Top	15 PLF	0 PLF	40 PLF	0 PLF	

Continued on page 2...

Notes

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

Lumber

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

chemicals

Handling & 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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



Client: GREENPARK
 Project:
 Address: TERRACOTA 2S-2-1
 RICHMOND HILL, ON

Date: 9/29/2021
 Input by: W C
 Job Name: TC2S-2-1 DECK CONDITION
 Project #: ROUNDEL HOMES INC

Page 8 of 27

F17-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

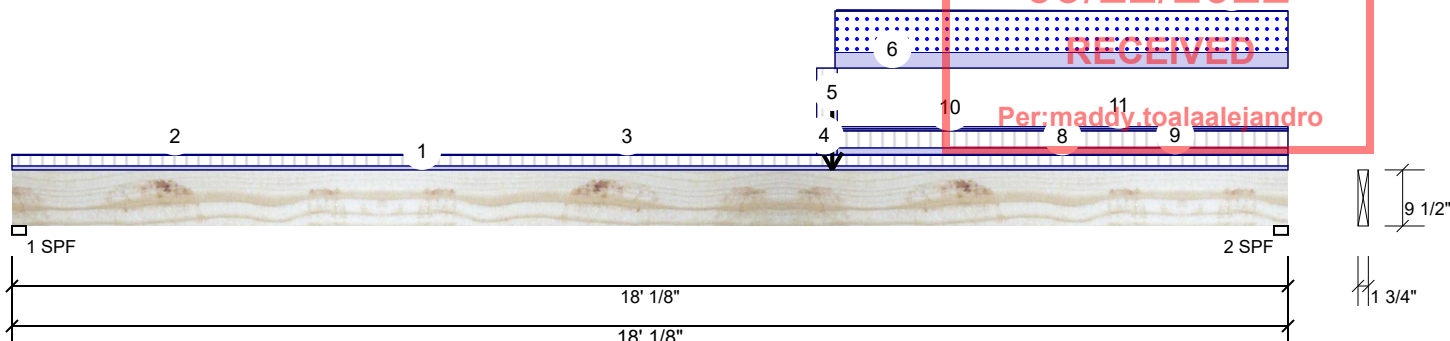
Level: Ground Floor

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...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Tapered Start	11-7-11		Top	1 PLF	0 PLF	0 PLF	0 PLF	
	End	18-0-2			0 PLF	0 PLF	0 PLF	0 PLF	
8	Part. Uniform	11-7-11 to 18-0-2		Top	1 PLF	0 PLF	0 PLF	0 PLF	
9	Tie-In	11-7-13 to 18-0-2	0-4-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
10	Part. Uniform	11-7-13 to 18-0-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	
11	Part. Uniform	11-7-13 to 18-0-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				



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6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

Kott Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



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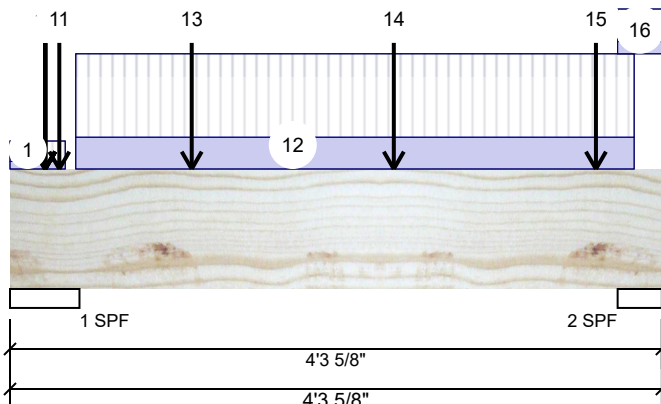
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 9 of 27

F18-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

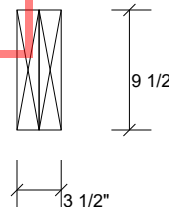


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BUILDING DIVISION**

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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	917	406	0	0
2	Vertical	975	383	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	16%	508 / 1376	1884	L	1.25D+1.5L
2 - SPF	3.500"	Vert	26%	478 / 1463	1941	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1512 ft-lb	2'6 3/8"	22724 ft-lb	0.067 (7%)	1.25D+1.5L	L
Unbraced	1512 ft-lb	2'6 3/8"	22724 ft-lb	0.067 (7%)	1.25D+1.5L	L
Shear	1770 lb	3'2 5/8"	9277 lb	0.191 (19%)	1.25D+1.5L	L
Perm Defl in. (L/18503)	0.002	2'4 13/16"	0.123 (L/360)	0.019 (2%)	D	Uniform
LL Defl inch	0.006 (L/7294)	2'5 1/16"	0.123 (L/360)	0.049 (5%)	L	L
TL Defl inch	0.008 (L/5232)	2'5"	0.184 (L/240)	0.046 (5%)	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 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be continuously laterally braced.
- 7 Bottom must have sheathing attached or be continuously braced.
- 8 Lateral slenderness ratio based on full section width.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-6	0-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-13		Top	29 lb	77 lb	0 lb	0 lb	J6
	Bearing Length	0-5-8							

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



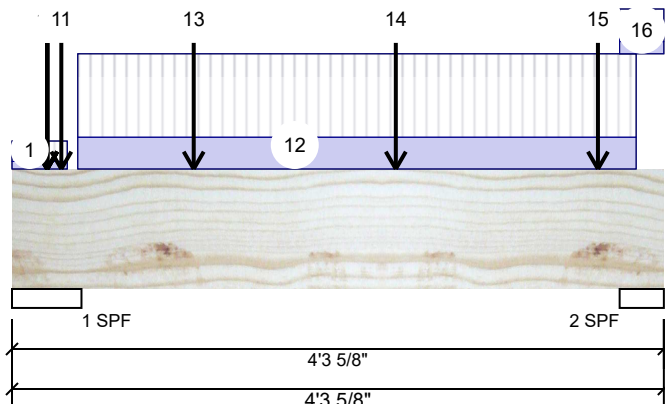
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 10 of 27

F18-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

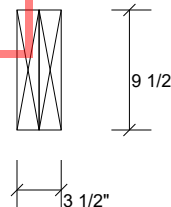


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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Point	0-2-13		Top	18 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
5	Point	0-2-13		Top	11 lb	30 lb	0 lb	0 lb	J6
	Bearing Length	0-5-8							
7	Point	0-2-13		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Point	0-2-13		Top	11 lb	28 lb	0 lb	0 lb	J6
	Bearing Length	0-5-8							
10	Point	0-2-13		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Point	0-3-14		Near Face	43 lb	84 lb	0 lb	0 lb	J7
12	Part. Uniform	0-5-3 to 4-1-7		Top	32 PLF	84 PLF	0 PLF	0 PLF	
13	Point	1-2-6		Near Face	150 lb	399 lb	0 lb	0 lb	J7
14	Point	2-6-6		Near Face	181 lb	482 lb	0 lb	0 lb	J7
15	Point	3-10-6		Near Face	175 lb	466 lb	0 lb	0 lb	J7
16	Tie-In	4-0-2 to 4-3-10	0-9-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				



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Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



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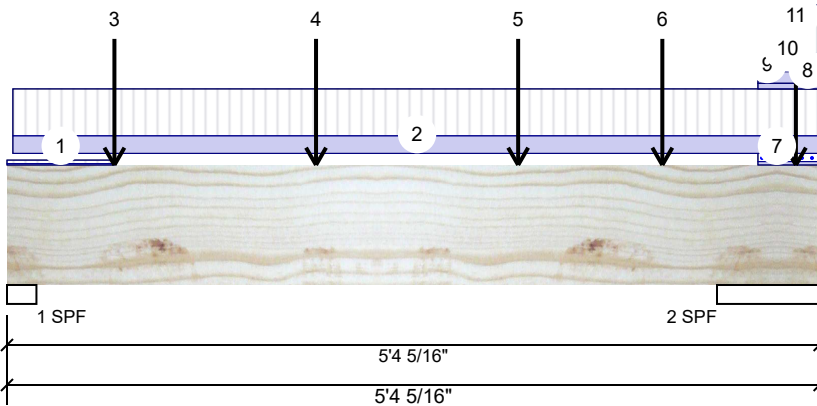
Client: GREENPARK
Project: TERRACOTA 2S-2-1
Address: RICHMOND HILL, ON

Date: 9/29/2021
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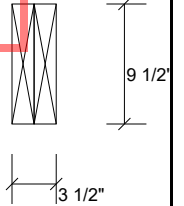
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F18-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor


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BUILDING DIVISION**
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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	856	339	0	0
2	Vertical	2026	1241	341	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.331"	Vert	34%	423 / 1284	1707	L	1.25D+1.5L
2 - SPF	8.125"	Vert	28%	1551 / 3380	4931	L	1.25D+1.5L+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1867 ft-lb	2'5 1/16"	22724 ft-lb	0.082 (8%)	1.25D+1.5L	L
Unbraced	1867 ft-lb	2'5 1/16"	22724 ft-lb	0.082 (8%)	1.25D+1.5L	L
Shear	1575 lb	3'10 11/16"	9277 lb	0.170 (17%)	1.25D+1.5L	L
Perm Defl in.	0.004 (L/13421)	2'5 3/16"	0.154 (L/360)	0.027 (3%)	D	Uniform
LL Defl inch	0.010 (L/5311)	2'5 3/16"	0.154 (L/360)	0.068 (7%)	L+0.5S	L
TL Defl inch	0.015 (L/3805)	2'5 3/16"	0.231 (L/240)	0.063 (6%)	D+L+0.5S	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
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- 5 Top must be continuously laterally braced.
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- 7 Lateral slenderness ratio based on full section width.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-8-8	0-7-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-7 to 5-4-5		Near Face	124 PLF	331 PLF	0 PLF	0 PLF	
3	Point	0-8-8		Far Face	8 lb	22 lb	0 lb	0 lb	J1
4	Point	2-0-7		Far Face	10 lb	28 lb	0 lb	0 lb	J1
5	Point	3-4-7		Far Face	9 lb	24 lb	0 lb	0 lb	J1

Continued on page 2...

Notes

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Lumber

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

Handling & Installation

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

Forex
APA: PR-L318

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3228 Moodie Dr, Ottawa, Ontario
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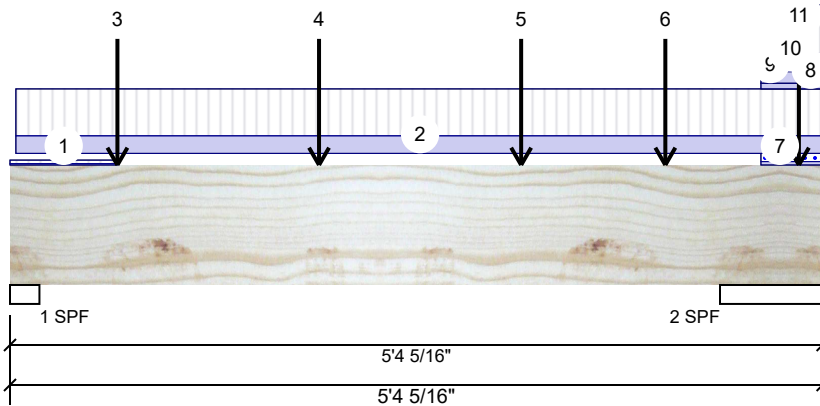
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Page 12 of 27

F18-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

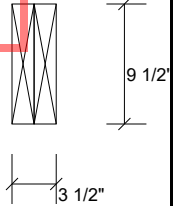


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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	4-3-14		Far Face	6 lb	16 lb	0 lb	0 lb	J1
7	Part. Uniform	4-11-7 to 5-4-5		Top	24 PLF	0 PLF	58 PLF	0 PLF	
8	Part. Uniform	4-11-7 to 5-4-5		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Part. Uniform	4-11-7 to 5-4-5		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Part. Uniform	5-1-2 to 5-4-5		Top	128 PLF	342 PLF	0 PLF	0 PLF	J6
11	Point	5-2-7		Top	745 lb	921 lb	317 lb	0 lb	B3 B3
	Bearing Length	0-5-8							
	Self Weight				8 PLF				



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613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



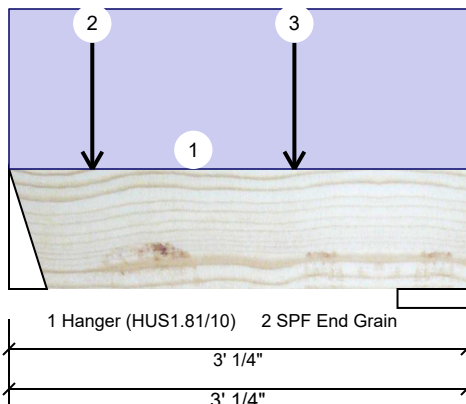
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 13 of 27

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

Level: Ground Floor

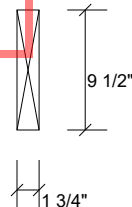


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BUILDING DIVISION

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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

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Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	270	247	0	0
2	Vertical	213	248	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	18%	309 / 404	713	L	1.25D+1.5L
2 - SPF End Grain	5.500"	Vert	9%	309 / 320	629	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	394 ft-lb	1'10 9/16"	11248 ft-lb	0.035 (3%)	1.25D+1.5L	L
Unbraced	394 ft-lb	1'10 9/16"	11248 ft-lb	0.035 (3%)	1.25D+1.5L	L
Shear	582 lb	1' 1/2"	4592 lb	0.127 (13%)	1.25D+1.5L	L
Perm Defl in. (L/20002)	0.001	1'5 7/8"	0.081 (L/360)	0.018 (2%)	D	Uniform
LL Defl inch (L/17791)	0.002	1'9 1/16"	0.081 (L/360)	0.020 (2%)	L	L
TL Defl inch (L/9485)	0.003	1'7 1/8"	0.122 (L/240)	0.025 (3%)	D+L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.



October 12, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-0-4		Top	100 PLF	0 PLF	0 PLF	0 PLF	
2	Point	0-6-10		Near Face	84 lb	224 lb	0 lb	0 lb	J3
3	Point	1-10-10		Near Face	97 lb	259 lb	0 lb	0 lb	J3
	Self Weight				4 PLF				

Notes

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

Lumber

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

chemicals

Handling & 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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



Client: GREENPARK
 Project:
 Address: TERRACOTA 2S-2-1
 RICHMOND HILL, ON

Date: 9/29/2021
 Input by: W C
 Job Name: TC2S-2-1 DECK CONDITION
 Project #: ROUNDEL HOMES INC

Page 14 of 27

F9-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

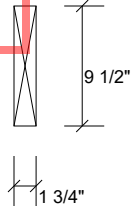
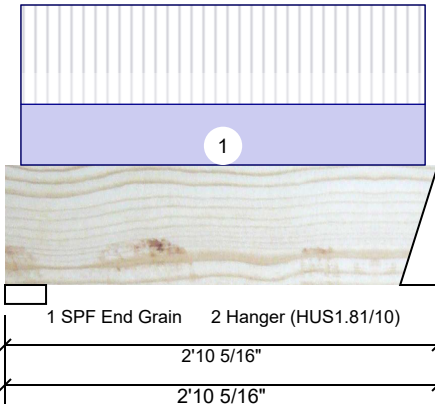
Level: Ground Floor

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 BUILDING DIVISION

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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	137	90	0	0
2	Vertical	137	89	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.250"	Vert	8%	112 / 206	318	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	8%	112 / 206	318	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	180 ft-lb	1'5 1/4"	11362 ft-lb	0.016 (2%)	1.25D+1.5L	L
Unbraced	180 ft-lb	1'5 1/4"	11362 ft-lb	0.016 (2%)	1.25D+1.5L	L
Shear	278 lb	1' 3/4"	4638 lb	0.060 (6%)	1.25D+1.5L	L
Perm Defl in. (L/51713)	0.001	1'5 5/16"	0.082 (L/360)	0.007 (1%)	D	Uniform
LL Defl inch (L/33543)	0.001	1'5 5/16"	0.082 (L/360)	0.011 (1%)	L	L
TL Defl inch (L/20346)	0.001	1'5 5/16"	0.123 (L/240)	0.012 (1%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top must be continuously laterally braced.
- 5 Bottom must have sheathing attached or be continuously braced.



October 12, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-1-4 to 2-9-4		Far Face	63 PLF	103 PLF	0 PLF	0 PLF	
	Self Weight				4 PLF				

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Notes

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

Lumber

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

chemicals

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 5/24/2024

Manufacturer Info

Forex
 APA: PR-L318

Kott Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400





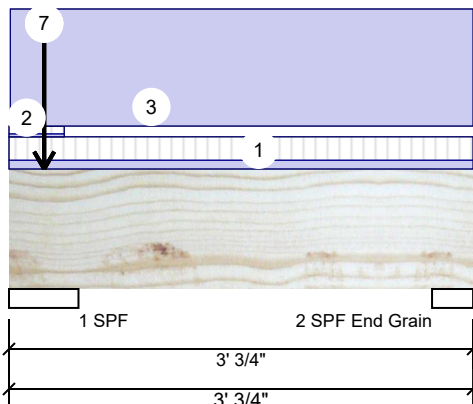
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 15 of 27

F9-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

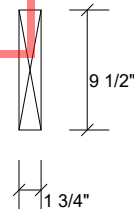


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BUILDING DIVISION

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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	297	319	0	0
2	Vertical	29	160	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	15%	399 / 445	844	L	1.25D+1.5L
2 - SPF	3.250"	Vert	8%	224 / 0	224	Uniform	1.4D
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	118 ft-lb	1'7 1/2"	7385 ft-lb	0.016 (2%)	1.4D	Uniform
Unbraced	118 ft-lb	1'7 1/2"	7385 ft-lb	0.016 (2%)	1.4D	Uniform
Shear	63 lb	2'	3015 lb	0.021 (2%)	1.4D	Uniform
Perm Defl in.	0.001 (L/31121)	1'7 1/2"	0.082 (L/360)	0.012 (1%)	D	Uniform
LL Defl inch	0.000 (L/173293)	1'7 1/2"	0.082 (L/360)	0.002 (0%)	L	L
TL Defl inch	0.001 (L/26383)	1'7 1/2"	0.123 (L/240)	0.009 (1%)	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 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top must be continuously laterally braced.
- 5 Bottom must be laterally braced at bearings.



October 12, 2021

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-12	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-6	0-2-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-2 to 3-0-12		Top	100 PLF	0 PLF	0 PLF	0 PLF	
4	Point	0-2-13		Top	115 lb	262 lb	0 lb	0 lb	F11 F11

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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



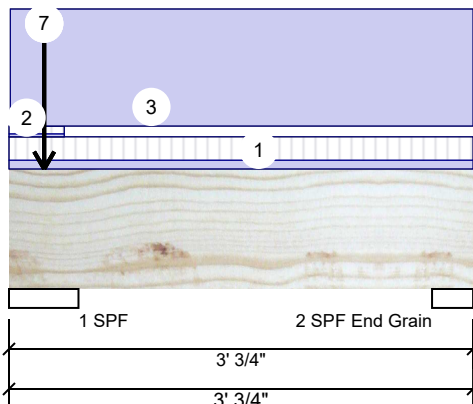
Client: GREENPARK
 Project:
 Address: TERRACOTA 2S-2-1
 RICHMOND HILL, ON

Date: 9/29/2021
 Input by: W C
 Job Name: TC2S-2-1 DECK CONDITION
 Project #: ROUNDEL HOMES INC

Page 16 of 27

F9-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor

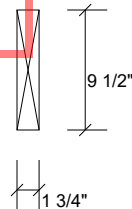


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...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-5-8							
5	Point	0-2-13		Top	19 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
7	Point	0-2-13		Top	4 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				4 PLF				



October 12, 2021

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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

Kott Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



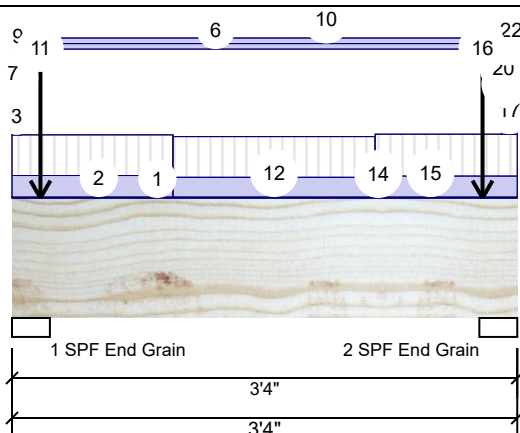
Client: GREENPARK
 Project:
 Address: TERRACOTA 2S-2-1
 RICHMOND HILL, ON

Date: 9/29/2021
 Input by: W C
 Job Name: TC2S-2-1 DECK CONDITION
 Project #: ROUNDEL HOMES INC

Page 17 of 27

FH4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

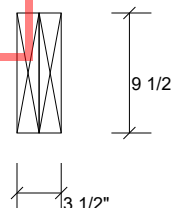


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 BUILDING DIVISION**

09/22/2022

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Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	933	849	191	0
2	Vertical	951	856	196	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	34%	1061 / 1591	2652	L	1.25D+1.5L+S
2 - SPF End Grain	3.000"	Vert	35%	1070 / 1622	2692	L	1.25D+1.5L+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	832 ft-lb	1'8"	22724 ft-lb	0.037 (4%)	1.25D+1.5L	L
Unbraced	832 ft-lb	1'8"	22724 ft-lb	0.037 (4%)	1.25D+1.5L	L
Shear	1047 lb	1' 1/2"	9277 lb	0.113 (11%)	1.25D+1.5L	L
Perm Defl in. (L/20334)	0.002	1'8"	0.099 (L/360)	0.018 (2%)	D	Uniform
LL Defl inch (L/16020)	0.002	1'8"	0.099 (L/360)	0.022 (2%)	L+0.5S	L
TL Defl inch (L/8961)	0.004	1'8"	0.148 (L/240)	0.027 (3%)	D+L+0.5S	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Multiple plies must be fastened together as per manufacturer's details.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be laterally braced at a maximum of 3'4" o.c.
- 8 Bottom must be laterally braced at a maximum of 3'4" o.c.
- 9 Lateral slenderness ratio based on full section width.



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Notes

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Lumber

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

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 Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



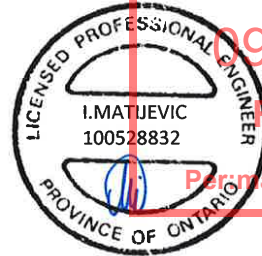
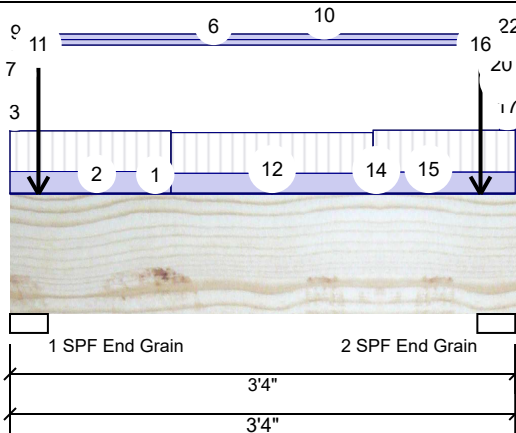
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Project: TERRACOTA 2S-2-1
Address: RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 18 of 27

FH4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



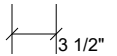
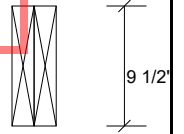
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BUILDING DIVISION**

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tapered Start	0-0-0		Near Face	2 PLF	5 PLF	0 PLF	0 PLF	
	End	1-8-12			2 PLF	5 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 1-0-12		Near Face	159 PLF	300 PLF	0 PLF	0 PLF	J8
3	Part. Uniform	0-0-0 to 0-0-12		Top	63 PLF	129 PLF	0 PLF	0 PLF	J9
4	Part. Uniform	0-0-0 to 0-0-12		Top	24 PLF	0 PLF	58 PLF	0 PLF	
5	Part. Uniform	0-0-0 to 0-0-12		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Part. Uniform	0-0-0 to 3-4-0		Top	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Part. Uniform	0-0-0 to 0-0-12		Near Face	63 PLF	129 PLF	0 PLF	0 PLF	J9
8	Part. Uniform	0-0-0 to 0-0-12		Near Face	24 PLF	0 PLF	58 PLF	0 PLF	
9	Part. Uniform	0-0-0 to 0-0-12		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Part. Uniform	0-0-0 to 3-4-0		Near Face	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Point	0-2-4		Top	424 lb	408 lb	184 lb	0 lb	Header Column Header Column
	Bearing Length	0-3-8							
12	Part. Uniform	1-0-12 to 2-4-12		Near Face	146 PLF	300 PLF	0 PLF	0 PLF	J8
14	Tapered Start	1-8-12		Near Face	2 PLF	5 PLF	0 PLF	0 PLF	
	End	3-4-0			2 PLF	5 PLF	0 PLF	0 PLF	
15	Part. Uniform	2-4-12 to 3-4-0		Near Face	155 PLF	309 PLF	0 PLF	0 PLF	J8
16	Point	3-1-4		Top	424 lb	408 lb	184 lb	0 lb	Header Column Header Column
	Bearing Length	0-3-8							
17	Part. Uniform	3-2-12 to 3-4-0		Top	63 PLF	129 PLF	0 PLF	0 PLF	J9
18	Part. Uniform	3-2-12 to 3-4-0		Top	24 PLF	0 PLF	58 PLF	0 PLF	
19	Part. Uniform	3-2-12 to 3-4-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
20	Part. Uniform	3-2-12 to 3-4-0		Near Face	63 PLF	129 PLF	0 PLF	0 PLF	J9
21	Part. Uniform	3-2-12 to 3-4-0		Near Face	24 PLF	0 PLF	58 PLF	0 PLF	
22	Part. Uniform	3-2-12 to 3-4-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				8 PLF				

Notes

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

Lumber

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

chemicals

Handling & 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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



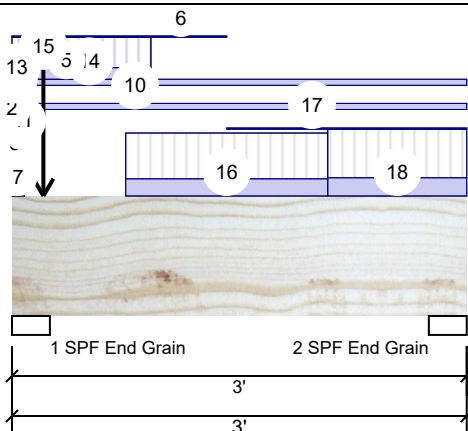
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 19 of 27

FH4-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

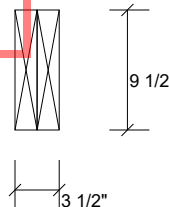


**CITY OF RICHMOND HILL
BUILDING DIVISION**

09/22/2022

RECEIVED

Per:maddy.toalaalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	986	816	281	0
2	Vertical	490	318	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	36%	1020 / 1760	2779	L	1.25D+1.5L+S
2 - SPF End Grain	3.000"	Vert	15%	398 / 734	1132	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	640 ft-lb	1'6"	22724 ft-lb	0.028 (3%)	1.25D+1.5L	L
Unbraced	640 ft-lb	1'6"	22724 ft-lb	0.028 (3%)	1.25D+1.5L	L
Shear	900 lb	1' 1/2"	9277 lb	0.097 (10%)	1.25D+1.5L	L
Perm Defl in. (L/29279)	0.001	1'6"	0.088 (L/360)	0.012 (1%)	D	Uniform
LL Defl inch (L/19181)	0.002	1'6"	0.088 (L/360)	0.019 (2%)	L+0.5S	L
TL Defl inch (L/11589)	0.003	1'6"	0.131 (L/240)	0.021 (2%)	D+L+0.5S	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.
- 2 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 3' o.c.
- 7 Bottom must be laterally braced at a maximum of 3' o.c.
- 8 Lateral slenderness ratio based on full section width.



October 12, 2021

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.

Notes

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Lumber

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

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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



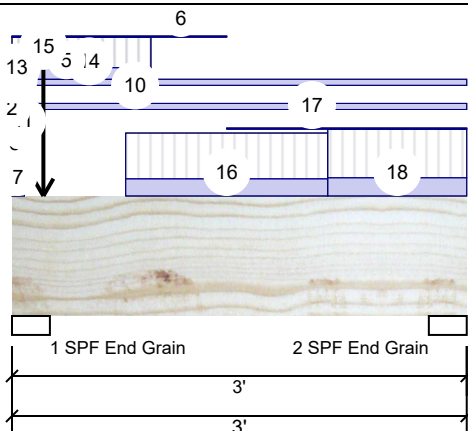
Client: GREENPARK
 Project: TERRACOTA 2S-2-1
 Address: RICHMOND HILL, ON

Date: 9/29/2021
 Input by: W C
 Job Name: TC2S-2-1 DECK CONDITION
 Project #: ROUNDEL HOMES INC

Page 20 of 27

FH4-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor

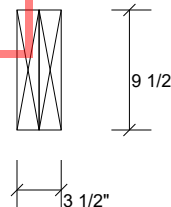


**CITY OF RICHMOND HILL
 BUILDING DIVISION**

09/22/2022

RECEIVED

Per:maddy.toalaalejandro



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-0-0		Near Face	127 PLF	335 PLF	0 PLF	0 PLF	J6
2	Part. Uniform	0-0-0 to 0-0-0		Near Face	47 PLF	0 PLF	116 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 0-0-0		Near Face	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-0-0 to 0-0-0		Near Face	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Part. Uniform	0-0-0 to 0-11-0		Near Face	78 PLF	207 PLF	0 PLF	0 PLF	J6
6	Tapered Start	0-0-0		Near Face	2 PLF	5 PLF	0 PLF	0 PLF	
	End	1-5-0			2 PLF	5 PLF	0 PLF	0 PLF	
7	Part. Uniform	0-0-0 to 0-1-0		Top	64 PLF	167 PLF	0 PLF	0 PLF	J6
8	Part. Uniform	0-0-0 to 0-1-0		Top	24 PLF	0 PLF	58 PLF	0 PLF	
9	Part. Uniform	0-0-0 to 0-1-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Part. Uniform	0-0-0 to 3-0-0		Top	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Part. Uniform	0-0-0 to 0-1-0		Near Face	64 PLF	167 PLF	0 PLF	0 PLF	J6
12	Part. Uniform	0-0-0 to 0-1-0		Near Face	24 PLF	0 PLF	58 PLF	0 PLF	
13	Part. Uniform	0-0-0 to 0-1-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
14	Part. Uniform	0-0-0 to 3-0-0		Near Face	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
15	Point	0-2-8		Top	499 lb	530 lb	271 lb	0 lb	Header Column Header Column
	Bearing Length	0-3-8							
16	Part. Uniform	0-9-0 to 2-1-0		Near Face	116 PLF	309 PLF	0 PLF	0 PLF	J6
17	Tapered Start	1-5-0		Near Face	2 PLF	5 PLF	0 PLF	0 PLF	
	End	3-0-0			2 PLF	5 PLF	0 PLF	0 PLF	
18	Part. Uniform	2-1-0 to 3-0-0		Near Face	123 PLF	329 PLF	0 PLF	0 PLF	J6
	Self Weight				8 PLF				

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October 12, 2021

Notes

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Lumber

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chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

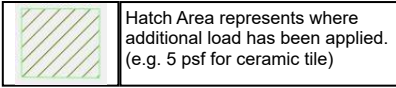
Forex
 APA: PR-L318

Kott Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



This design is valid until 5/24/2024









Start Joist Run (Level)



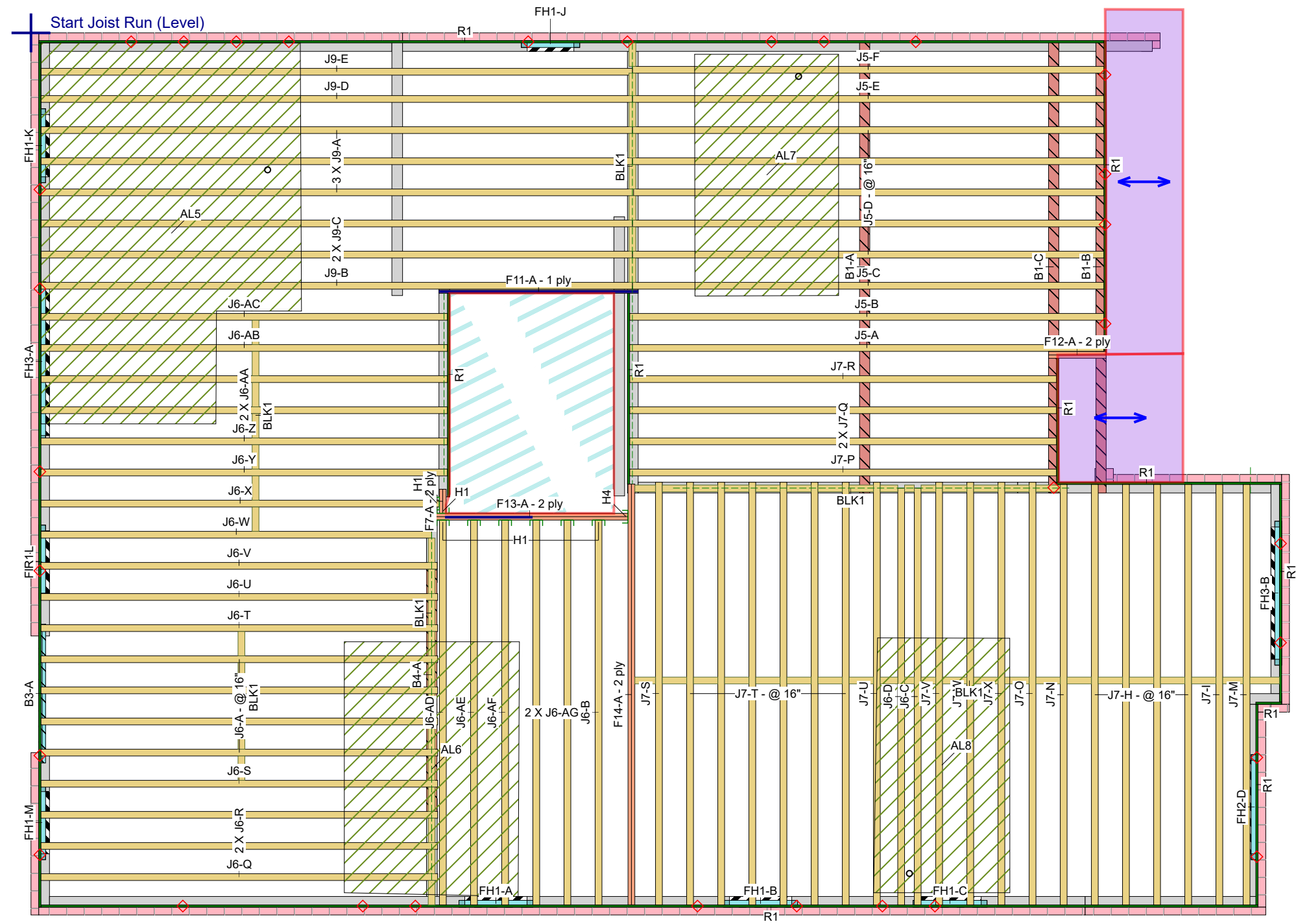
This placement plan is to be used as an installation guide only. It is meant to be used in conjunction with the manufacturers installation guide, the architectural and structural drawings, and not to replace the

Label	Pcs	Description	Skew	Slope	fasteners	fasteners
H1	8	LF359			10 10d	2 #8x1 1/4WS
H4	1	HHUS410			30 16d	10 16d



- ### Legend
- | | |
|---|--|
|  | Point Load Support |
|  | Load from Above |
|  | Wall |
|  | Wall Opening |
|  | Norbord Rimboard Plus 1.125 X 9.5 |
|  | AJS 24 9.5 |
|  | Forex 2.0E-3000Fb LVL 1.75 X 9.5 |
|  | Forex 2.0E-3000Fb LVL 1.75 X 9.5 (Dropped) |

Second Floor



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

AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

Second Floor LVL/LSL							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F14	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	20-0-0
B4	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	12-0-0
F13	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	10-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
F12	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0
F7	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	2-0-0

I Joist							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J9	AJS 24	3.5	9.5			8	26-0-0
J5	AJS 24	3.5	9.5			10	22-0-0
J7	AJS 24	3.5	9.5			23	20-0-0
J6	AJS 24	3.5	9.5			27	18-0-0

Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			17	12-0-0

Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	AJS 24	3.5	9.5	LinFt		Varies	70-0-0

Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	8	LF359			10 10d	2 #8x1 1/4WS	
H4	1	HHUS410			30 16d	10 16d	

JOB INFORMATION

Builder

GREENPARK

Project

ROUNDEL HOMES INC

Shipping

CITY OF RICHMOND HILL
TERRACOTA 2S-2-1
RICHMOND HILL, ON

Sales Rep

09/27/2022
RALPH MIRIGELLO

Designer

W C

Plotted

September 29, 2021
Per: Jody Toalaga, Jandro

Layout Name

TC2S-2-1 STANDARD

Job Path

DESIGN CRITERIA

Second Floor

Design Method

LSD (Canada)

Building Code

NBCC 2015 / OBC 2012

Floor Loads

Live

40

Dead

15

Deflection Joist

LL Span L/

360

TL Span L/

240

Deflection Flush Girder

LL Span L/

360

TL Span L/

240

Deflection Dropped Girder

LL Span L/

360

TL Span L/

240

Deflection Header

LL Span L/

360

TL Span L/

240

Decking

Decking


OSB

CCMC References

Boise - 12472-R , 12787-R
LP - 12412-R
Forex - 14056-R

Kott Inc.


3228 Moodie Dr, Ottawa
14 Anderson Blvd, Uxbridge
Ontario





613-838-2775 /
905-642-4400


1. All blocking to be cut from 12' joists
2. 2' & 4' Lengths to be cut from 8' Length, 6' lengths to be cut from 12' Length
3. Ends of joists to be laterally supported
4. Packing of Steel beams and attachment by others
5. Shower and water closet flange locations are approximate only, consult architectural drawing for exact locations
6. Beams identified as "B" are dropped and supplied by others
7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
8. Load transfer blocks to be installed under all point loads
9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
10. Hangers and Fasteners to be installed as per manufacturer
11. Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.


Legend


 PS


 Load from Above


 Wall

 Wall Opening

 Norbord Rimboard Plus 1.125 X 9.5

 AJS 24 9.5

 Forex 2.0E-3000Fb LVL 1.75 X 9.5

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



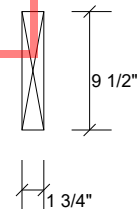
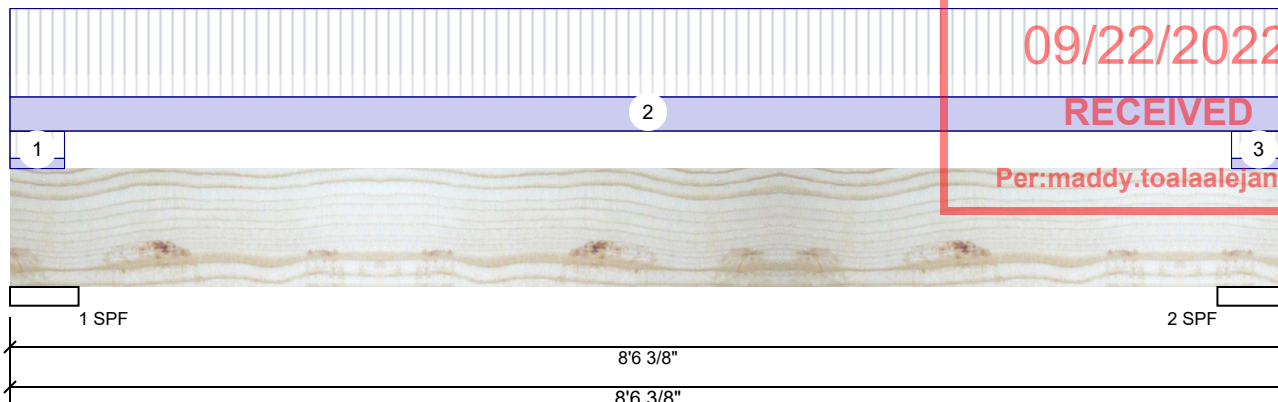
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Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 10/14/2021
Input by: W C
Job Name: TC2S-2-1 STANDARD
Project #: ROUNDEL HOMES INC

Page 1 of 1

F11-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	306	134	0	0
2	Vertical	306	134	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	11%	168 / 460	628	L	1.25D+1.5L
2 - SPF	5.500"	Vert	11%	168 / 460	628	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1074 ft-lb	4'3 3/16"	11362 ft-lb	0.095 (9%)	1.25D+1.5L	L
Unbraced	1074 ft-lb	4'3 3/16"	11362 ft-lb	0.095 (9%)	1.25D+1.5L	L
Shear	437 lb	1'3"	4638 lb	0.094 (9%)	1.25D+1.5L	L
Perm Defl in.	0.012 (L/8046)	4'3 1/4"	0.258 (L/360)	0.045 (4%)	D	Uniform
LL Defl inch	0.026 (L/3541)	4'3 1/4"	0.258 (L/360)	0.102 (10%)	L	L
TL Defl inch	0.038 (L/2459)	4'3 1/4"	0.387 (L/240)	0.098 (10%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom must be laterally braced at bearings.



October 12, 2021

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-6	0-6-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 8-6-6		Top	27 PLF	70 PLF	0 PLF	0 PLF	
3	Tie-In	8-2-0 to 8-6-6	0-6-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

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Notes

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Lumber

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

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 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





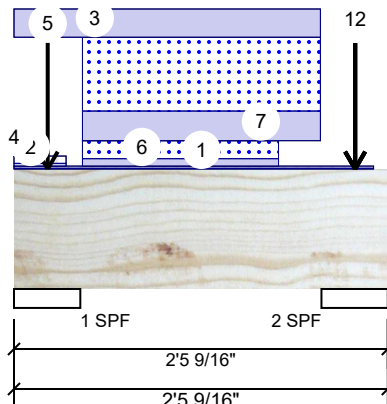
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 Project:
 Address: TERRACOTA 2S-2-1
 RICHMOND HILL, ON

Date: 9/29/2021
 Input by: W C
 Job Name: TC2S-2-1 DECK CONDITION
 Project #: ROUNDEL HOMES INC

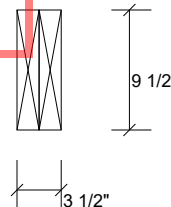
Page 22 of 27

F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor


**CITY OF RICHMOND HILL
 BUILDING DIVISION**
09/22/2022
RECEIVED

Per:maddy.toalaalejandro


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	14	436	684	0
2	Vertical	7	179	194	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	14%	545 / 1040	1585	L	1.25D+1.5S +L
2 - SPF	5.250"	Vert	5%	223 / 297	521	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	231 ft-lb	1'2 3/4"	22724 ft-lb	0.010 (1%)	1.25D+1.5S +L	L
Unbraced	231 ft-lb	1'2 3/4"	22724 ft-lb	0.010 (1%)	1.25D+1.5S +L	L
Shear	11 lb	1'2 13/16"	6030 lb	0.002 (0%)	1.4D	Uniform
Perm Defl in.	0.000 (L/64377)	1'2 3/4"	0.057 (L/360)	0.006 (1%)	D	Uniform
LL Defl inch	0.000 (L/48139)	1'2 3/4"	0.057 (L/360)	0.007 (1%)	S+0.5L	L
TL Defl inch	0.001 (L/27543)	1'2 3/4"	0.086 (L/240)	0.009 (1%)	D+S+0.5L	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be continuously laterally braced.
- 7 Bottom must be laterally braced at bearings.
- 8 Lateral slenderness ratio based on full section width.



October 12, 2021

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chemicals

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

Kott Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



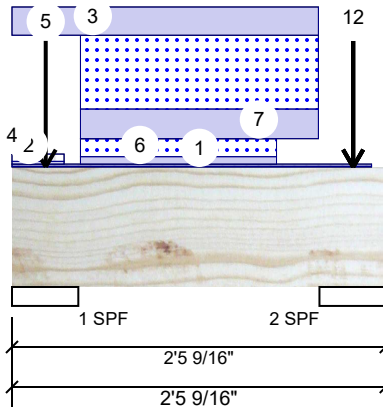
Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

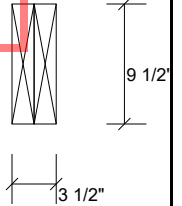
Page 23 of 27

F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor


**CITY OF RICHMOND HILL
BUILDING DIVISION**
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Per:maddy.toalaalejandro



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-4-7	0-1-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-4-2	0-6-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 2-0-4		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-0-0 to 0-0-1		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Point	0-2-11		Top	241 lb	0 lb	482 lb	0 lb	F2 F2
	Bearing Length	0-5-8							
6	Part. Uniform	0-5-7 to 1-8-15		Top	21 PLF	0 PLF	51 PLF	0 PLF	
7	Part. Uniform	0-5-7 to 2-0-4		Top	84 PLF	0 PLF	209 PLF	0 PLF	
8	Point	2-3-0		Top	0 lb	0 lb	1 lb	0 lb	
	Bearing Length	0-5-8							
9	Point	2-3-0		Top	1 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
11	Point	2-3-0		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
12	Point	2-3-0		Top	13 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				8 PLF				



October 12, 2021

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IN THE DESIGN OF THIS COMPONENT.**

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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



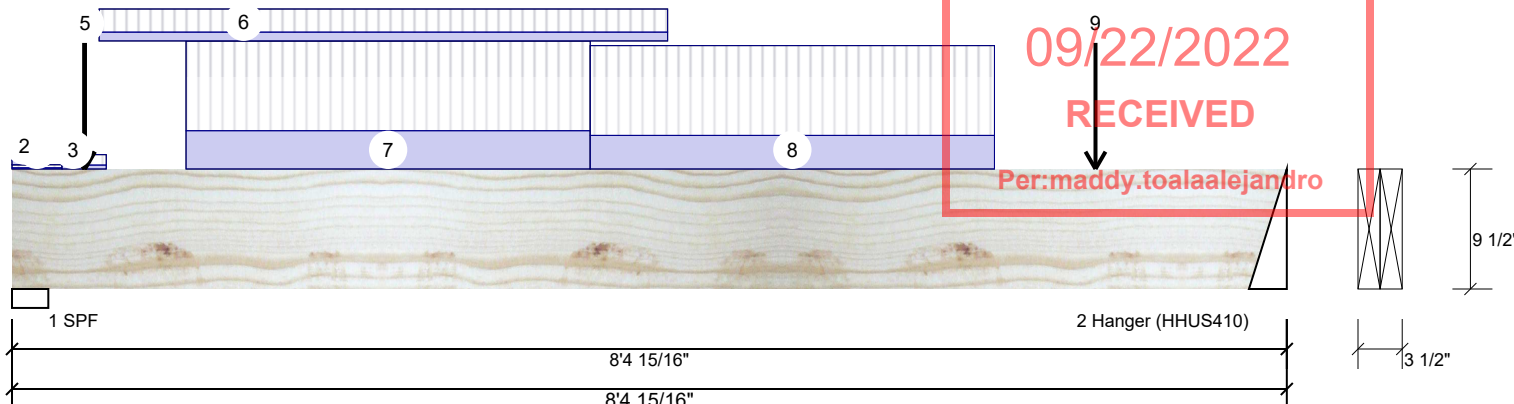
Client: GREENPARK
Project: TERRACOTA 2S-2-1
Address: RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 24 of 27

F13-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1573	672	0	0
2	Vertical	1275	523	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.876"	Vert	52%	840 / 2359	3199	L	1.25D+1.5L
2 - Hanger	3.000"	Vert	33%	654 / 1912	2567	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5994 ft-lb	4'	22724 ft-lb	0.264 (26%)	1.25D+1.5L	L
Unbraced	5994 ft-lb	4'	22724 ft-lb	0.264 (26%)	1.25D+1.5L	L
Shear	3072 lb	1' 3/8"	9277 lb	0.331 (33%)	1.25D+1.5L	L
Perm Defl in.	0.033 (L/2941)	4'1 9/16"	0.268 (L/360)	0.122 (12%)	D	Uniform
LL Defl inch	0.079 (L/1221)	4'1 13/16"	0.268 (L/360)	0.295 (29%)	L	L
TL Defl inch	0.112 (L/863)	4'1 3/4"	0.402 (L/240)	0.278 (28%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be continuously laterally braced.
- 7 Bottom must have sheathing attached or be continuously braced.
- 8 Lateral slenderness ratio based on full section width.



October 12, 2021

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-3-15	0-3-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-14	1-0-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-3-15 to 0-7-7	0-11-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	0-5-11		Far Face	27 lb	63 lb	0 lb	0 lb	F7

Continued on page 2...

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the 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 Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



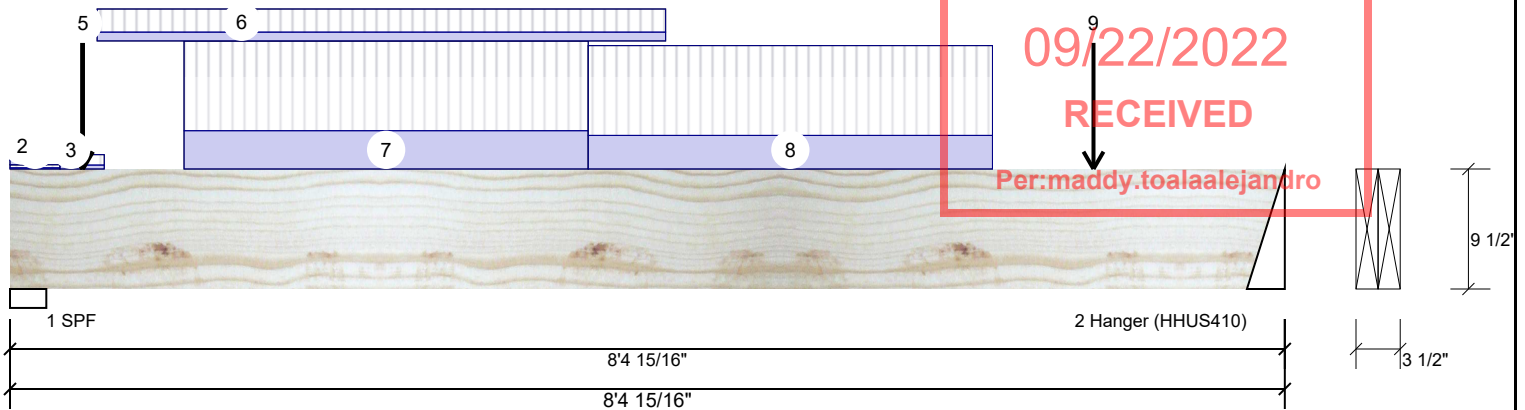
Client: GREENPARK
 Project:
 Address: TERRACOTA 2S-2-1
 RICHMOND HILL, ON

Date: 9/29/2021
 Input by: W C
 Job Name: TC2S-2-1 DECK CONDITION
 Project #: ROUNDEL HOMES INC

Page 25 of 27

F13-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	0-5-12		Near Face	112 lb	259 lb	0 lb	0 lb	J6
6	Part. Uniform	0-6-14 to 4-3-14		Top	32 PLF	84 PLF	0 PLF	0 PLF	
7	Part. Uniform	1-1-12 to 3-9-12		Near Face	139 PLF	326 PLF	0 PLF	0 PLF	
8	Part. Uniform	3-9-12 to 6-5-12		Near Face	122 PLF	326 PLF	0 PLF	0 PLF	
9	Point	7-1-12		Near Face	167 lb	447 lb	0 lb	0 lb	J6
	Self Weight				8 PLF				



October 12, 2021

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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
 APA: PR-L318

Kott Inc.
 3228 Moodie Dr, Ottawa, Ontario
 613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
Project #: ROUNDEL HOMES INC

Page 26 of 27

F14-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

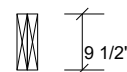
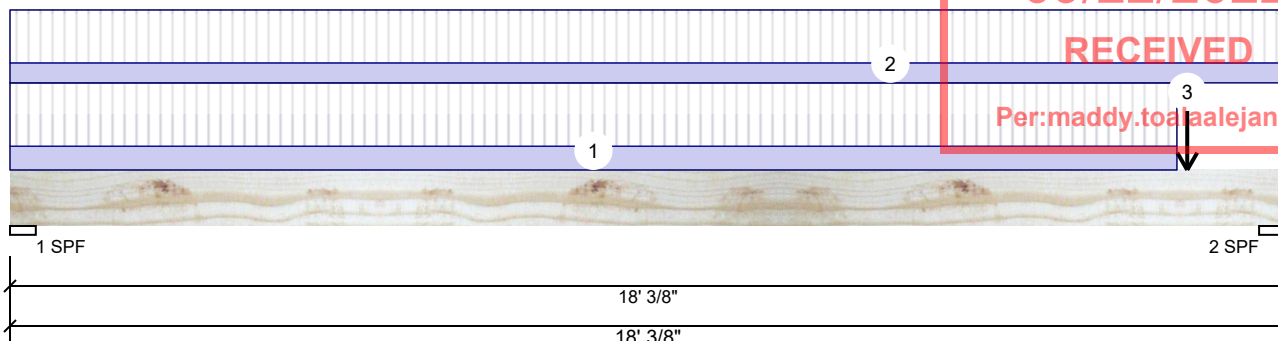
Level: Second Floor

**CITY OF RICHMOND HILL
BUILDING DIVISION**

09/22/2022

RECEIVED

Per:maddy.toalejandro



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	544	275	0	0
2	Vertical	1620	719	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	Vert	12%	344 / 815	1159	L	1.25D+1.5L
2 - SPF	4.563"	Vert	34%	898 / 2431	3329	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5690 ft-lb	10'4 15/16"	22724 ft-lb	0.250 (25%)	1.25D+1.5L	L
Unbraced	5690 ft-lb	10'4 15/16"	22724 ft-lb	0.250 (25%)	1.25D+1.5L	L
Shear	3271 lb	16'10 5/16"	9277 lb	0.353 (35%)	1.25D+1.5L	L
Perm Defl in.	0.153 (L/1369)	9'3 15/16"	0.580 (L/360)	0.263 (26%)	D	Uniform
LL Defl inch	0.312 (L/670)	9'4 11/16"	0.580 (L/360)	0.537 (54%)	L	L
TL Defl inch	0.464 (L/450)	9'4 7/16"	0.870 (L/240)	0.533 (53%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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 must be continuously laterally braced.
- 6 Bottom must be laterally braced at a maximum of 16'7 5/8" o.c.
- 7 Lateral slenderness ratio based on full section width.



October 12, 2021

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-5-14	0-8-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 18-0-6	0-7-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	16-7-10		Far Face	523 lb	1275 lb	0 lb	0 lb	F13
	Self Weight				8 PLF				

Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024



Client: GREENPARK
Project:
Address: TERRACOTA 2S-2-1
RICHMOND HILL, ON

Date: 9/29/2021
Input by: W C
Job Name: TC2S-2-1 DECK CONDITION
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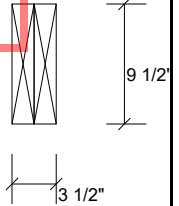
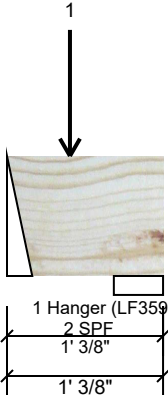
Page 27 of 27

F7-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor

**CITY OF RICHMOND HILL
BUILDING DIVISION**
09/22/2022
RECEIVED

Per:maddy.toalaalejandro


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	63	27	0	0
2	Vertical	56	25	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	2%	33 / 95	128	L	1.25D+1.5L
2 - SPF	3.897"	Vert	1%	31 / 84	115	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	39 ft-lb	5"	22724 ft-lb	0.002 (0%)	1.25D+1.5L	L
Unbraced	39 ft-lb	5"	22724 ft-lb	0.002 (0%)	1.25D+1.5L	L
Shear	127 lb	11 1/2"	9277 lb	0.014 (1%)	1.25D+1.5L	L
Perm Defl in. (L/289576)	0.000	5"	0.022 (L/360)	0.001 (0%)	D	Uniform
LL Defl inch (L/113307)	0.000	5"	0.022 (L/360)	0.003 (0%)	L	L
TL Defl inch (L/81441)	0.000	5"	0.033 (L/240)	0.003 (0%)	D+L	L



October 12, 2021

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-5-0		Far Face	44 lb	119 lb	0 lb	0 lb	J6
	Self Weight				8 PLF				

Notes

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Lumber

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This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400

