



Engineering Notes: EWP-Floors

**MHP 23027**

PLEASE READ ALL NOTES PRIOR TO INSTALLATION OF THE COMPONENT

**RESPONSIBILITIES**

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.

**COMPONENT DESIGN INFORMATION**

1. THIS BUILDING COMPONENT IS CERTIFIED AS AN INDIVIDUAL COMPONENT FOR THE LOADS AND CONDITIONS SHOWN ON THE CALCULATION PAGE BASED ON INFORMATION PROVIDED BY KOTT DESIGN.
2. THE BUILDING COMPONENT USED IN CONSTRUCTION MUST BE THE SAME AS INDICATED ON THE DRAWINGS.
3. UNLESS NOTED OTHERWISE ON THE LAYOUT OR BEAM CALCULATION SHEET, MEMBERS CONSISTING OF MULTIPLE PLIES MUST BE CONNECTED AS PER THE DOCUMENT "MULTIPLE MEMBER CONNECTION DETAILS" SHOWN ON PAGE 2 OF THIS DOCUMENT.
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.

**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.

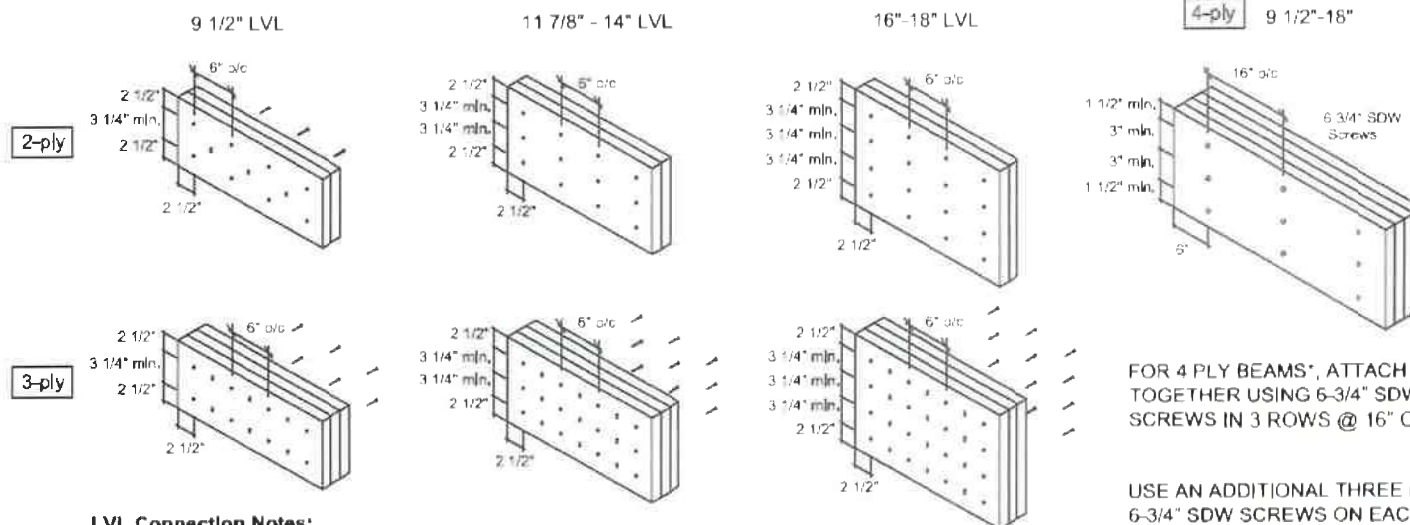
**HANDLING AND INSTALLATION**

1. DO NOT DRILL ANY HOLE, CUT OR NOTCH A CERTIFIED BUILDING COMPONENT WITHOUT A WRITTEN PRE-AUTHORIZATION.
2. INSTALLATION AND ASSEMBLY OF FLOOR JOISTS AND LVL BEAMS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUFACTURER'S LITERATURE.



## MULTIPLE MEMBER CONNECTIONS FOR BEAMS SHOWN ON KOTT LAYOUTS

### MULTIPLE MEMBER CONNECTIONS FOR UNIFORMLY DISTRIBUTED TOP & SIDE LOADED LVL BEAMS SHOWN ON KOTT LAYOUTS



#### 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 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

CORPORATION OF THE CITY OF OSHAWA  
TRUE COPY  
OF PERMIT PLANS  
Nov 16 2023  
PER: *C. Moore*  
CHIEF BUILDING OFFICIAL

**MHP 23027**

FOR MULTIPLE MEMBER CONNECTION OF BOISE ALLJOISTS REFER TO THE BOISE CASCADE INSTALLATION GUIDE

Installation Guide



(Open your phone's camera and hover over this QR code to access it!)

Ground Floor



ENG-IM0723-025-KTE-GREENPARK-ZADORRA ESTATES-RIVER 11-2

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.
12. Multi ply beams with side loading to have all fasteners installed with the head on the side of the applied load
13. Confirmation of adequate support & anchorage of components is the responsibility of the building designer, suggested uplift connectors are as shown
14. Where beam hangs on side of 3-ply member, it is recommended that the equivalent quantity and size of nails required for the hanger attachment also be installed on opposite side of the 3-ply member

Ground Floor LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F7	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	6-0-0
F6	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	4-0-0
FH5	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	4-0-0

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F5	AJS 140	2,5	9,5		3	14-0-0	
F4	AJS 140	2,5	9,5		2	12-0-0	
F3	AJS 140	2,5	9,5		1	10-0-0	
F2	AJS 140	2,5	9,5		2	4-0-0	
F1	AJS 140	2,5	9,5		2	2-0-0	
J4	AJS 140	2,5	9,5	1	2	2	18-0-0
J3	AJS 140	2,5	9,5		7	14-0-0	
J2	AJS 140	2,5	9,5		23	12-0-0	
J1	AJS 140	2,5	9,5		26	10-0-0	

Label	Description	Width	Depth	Pcs	Length
R1	Norbord Rimboard Plus 1,125 X 9,5	1,125	9,5	13	12-0-0

Label	Description	Width	Depth	Qty	Pcs	Length
BLK1	AJS 140	2,5	9,5	LinFt	Varies	30-0-0

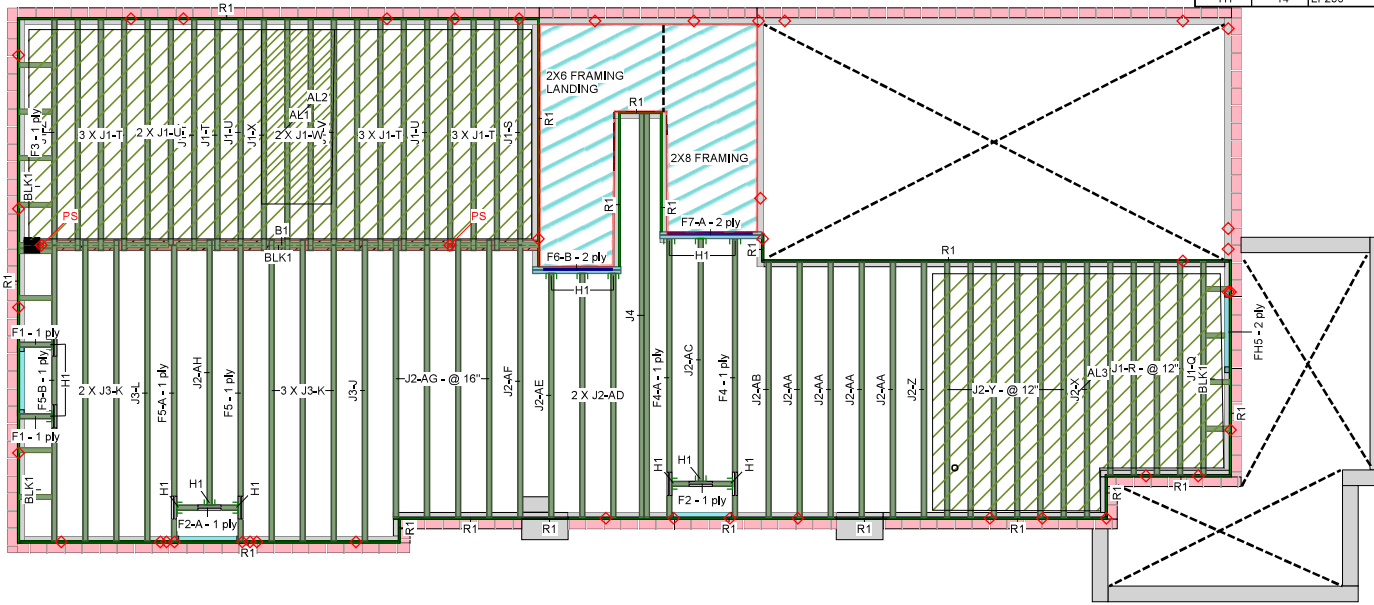
Label	Pcs	Description	Beam/Girder fasteners	Supported Member fasteners
H1	14	LF259	10 10dx1 1/2	1 #8x1 1/4WS

JOB INFORMATION

<b>Builder</b>	
<b>Project</b>	ZADORRA ESTATES OSHAWA, ON
<b>Shipping</b>	
<b>Sales Rep</b>	RALPH MIRIGELLO
<b>Designer</b>	W C
<b>Plotted</b>	July 04, 2023
<b>Layout Name</b>	RIVER 11-2 STD
<b>Job Path</b>	S:\CUSTOMERS\GREENPARK\ZADORRA ESTATES\MODELS\RIVER 11\RIVER 11-2\F-RIVER 11-2\RIVER 11-2 STD.dwg

DESIGN CRITERIA

<b>Ground Floor</b>	
<b>Design Method</b>	LSD (Canada)
<b>Building Code</b>	NBCC 2015 (2012 Update)
<b>Permit Plans</b>	TRUE COPY
<b>CHIEF BUILDING OFFICIAL</b>	Nov 16 2023
<b>CMC Reference</b>	Boise - 12472-R, 12787-R LP - 12412-R, Roseburg - 13310-R Forex - 14056-R
<b>Kott Inc.</b>	3228 Moodie Dr, Oshawa 14 Anderson Blvd, Oshawa Ontario 613-838-2775 / 905-642-4400



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

Legend	
PS	Point Load Support
Load from Above	
Wall	
Wall Opening	
Norbord Rimboard Plus 1,125 X 9,5	
AJS 140 9,5	
Versa-Lam LVL 2.1E 3100 SP 1,75 X 9,5	
1,75 X 9,5 (Dropped)	



Client: CORPORATION OF THE CITY OF OSHAWA  
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 TRUE COPY OF PERMIT PLANS  
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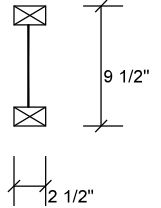
Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F1 AJS 140 9.500" - PASSE

MHP 23027



1 SPF 0-2-6  
 2 Hanger (LF259) 0-2-0  
 1'4 5/8"  
 1'4 5/8"



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	43	16	0	0
2	Vertical	42	16	0	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	5%	20 / 66	86	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	5%	19 / 63	82	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	20 ft-lb	8 1/2"	4095 ft-lb	0.005 (0%)	1.25D+1.5L	L
Unbraced	20 ft-lb	8 1/2"	4095 ft-lb	0.005 (0%)	1.25D+1.5L	L
Shear	69 lb	1 5/8"	1830 lb	0.038 (4%)	1.25D+1.5L	L
Perm Defl in. (L/184191)	0.000	8 1/2"	0.038 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch (L/69072)	0.000	8 1/2"	0.038 (L/360)	0.005 (1%)	L	L
TL Defl inch (L/50234)	0.000	8 1/2"	0.057 (L/240)	0.005 (0%)	D+L	L



JULY 04, 2023

## 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.
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-10	1-6-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	

## Notes

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

## Lumber

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

## chemicals

## Handling & Installation

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

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

This design is valid until 4/17/2026

## Manufacturer Info

Boise Cascade Wood Products  
 1111 W. Jefferson St.  
 Boise, ID 83702  
 (800) 232-0788  
 www.bc.com  
 CCMC: 12787

## Kott Inc.

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





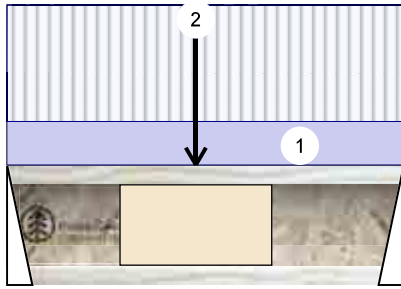


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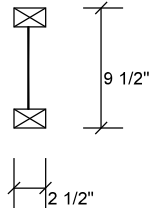
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 Project #:

F2 AJS 140 9.500" - PASSE

MHP 23027



1 Hanger (LF259) 0-2-0  
 2 Hanger (LF259) 0-2-0  
 2'7 7/16"  
 2'7 7/16"



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	193	72	0	0
2	Vertical	178	67	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	24%	90 / 291	381	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	22%	83 / 267	350	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	390 ft-lb	1'2 15/16"	4095 ft-lb	0.095 (10%)	1.25D+1.5L	L
Unbraced	390 ft-lb	1'2 15/16"	4095 ft-lb	0.095 (10%)	1.25D+1.5L	L
Shear	375 lb	1 1/4"	1830 lb	0.205 (20%)	1.25D+1.5L	L
Perm Defl in. (L/16850)	0.002	1'2 15/16"	0.080 (L/360)	0.021 (2%)	D	Uniform
LL Defl inch	0.005 (L/6306)	1'2 15/16"	0.080 (L/360)	0.057 (6%)	L	L
TL Defl inch	0.006 (L/4589)	1'2 15/16"	0.120 (L/240)	0.052 (5%)	D+L	L



JULY 04, 2023

### 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.
- Left Header: SPF, Thickness: 2 1/2"
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-7-7	0-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-2-15		Far Face	110 lb	294 lb	0 lb	0 lb	J2

### Notes

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

### Lumber

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

chemicals

### Handling & Installation

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

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

### Manufacturer Info

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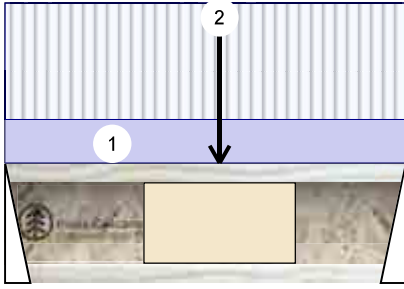


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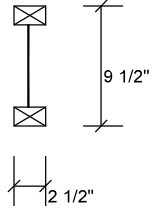
Date: 7/4/2023  
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 Job Name: RIVER 11-2 STD  
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F2-A AJ5 140 9.500" - PAS

MHP 23027



1 Hanger (LF259) 0-2-0  
 2 Hanger (LF259) 0-2-0  
 2' 7 3/4"  
 2' 7 3/4"



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	185	70	0	0
2	Vertical	210	79	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	23%	87 / 278	365	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	26%	98 / 315	413	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	421 ft-lb	1'5"	4095 ft-lb	0.103 (10%)	1.25D+1.5L	L
Unbraced	421 ft-lb	1'5"	4095 ft-lb	0.103 (10%)	1.25D+1.5L	L
Shear	407 lb	2'6 1/2"	1830 lb	0.222 (22%)	1.25D+1.5L	L
Perm Defl in. (L/15675)	0.002	1'5"	0.081 (L/360)	0.023 (2%)	D	Uniform
LL Defl inch	0.005 (L/5884)	1'5"	0.081 (L/360)	0.061 (6%)	L	L
TL Defl inch	0.007 (L/4278)	1'5"	0.122 (L/240)	0.056 (6%)	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.
- Left Header: SPF, Thickness: 2 1/2"
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
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JULY 04, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-7-12	0-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-5-0		Far Face	119 lb	317 lb	0 lb	0 lb	J2

### Notes

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### Lumber

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

### Handling & Installation

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

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- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

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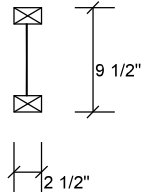
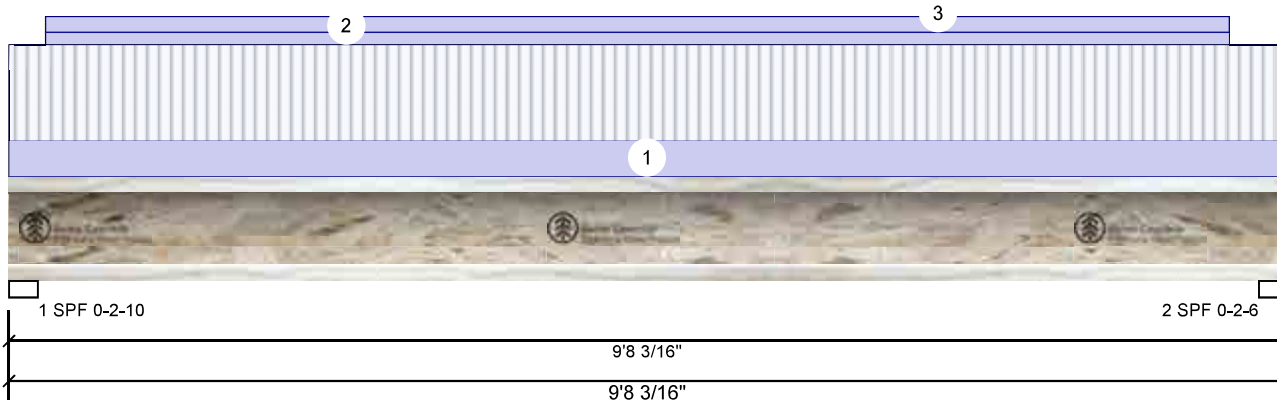


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F3 AJS 140 9.500" - PASSE

MHP 23027



### Member Information

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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	149	97	0	0
2	Vertical	148	95	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	20%	121 / 224	345	L	1.25D+1.5L
2 - SPF	2.375"	Vert	21%	119 / 223	342	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	790 ft-lb	4'10 3/16"	4095 ft-lb	0.193 (19%)	1.25D+1.5L	L
Unbraced	790 ft-lb	4'10 3/16"	4095 ft-lb	0.193 (19%)	1.25D+1.5L	L
Shear	335 lb	1 7/8"	1830 lb	0.183 (18%)	1.25D+1.5L	L
Perm Defl in.	0.024 (L/4721)	4'10 3/16"	0.313 (L/360)	0.076 (8%)	D	Uniform
LL Defl inch	0.036 (L/3150)	4'10 1/4"	0.313 (L/360)	0.114 (11%)	L	
TL Defl inch	0.060 (L/1889)	4'10 1/4"	0.469 (L/240)	0.127 (13%)	D+L	L



JULY 04, 2023

### 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 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 4 Bottom flange must be laterally braced at bearings.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 9-8-3	0-9-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-3-5 to 9-3-2		Top	4 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-3-5 to 9-3-2		Top	5 PLF	0 PLF	0 PLF	0 PLF	

### Notes

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

### Lumber

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

chemicals

### Handling & Installation

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

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

### Manufacturer Info

Boise Cascade Wood Products  
 1111 W. Jefferson St.  
 Boise, ID 83702  
 (800) 232-0788  
 www.bc.com  
 CCMC: 12787

### Kott Inc.

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



This design is valid until 4/17/2026



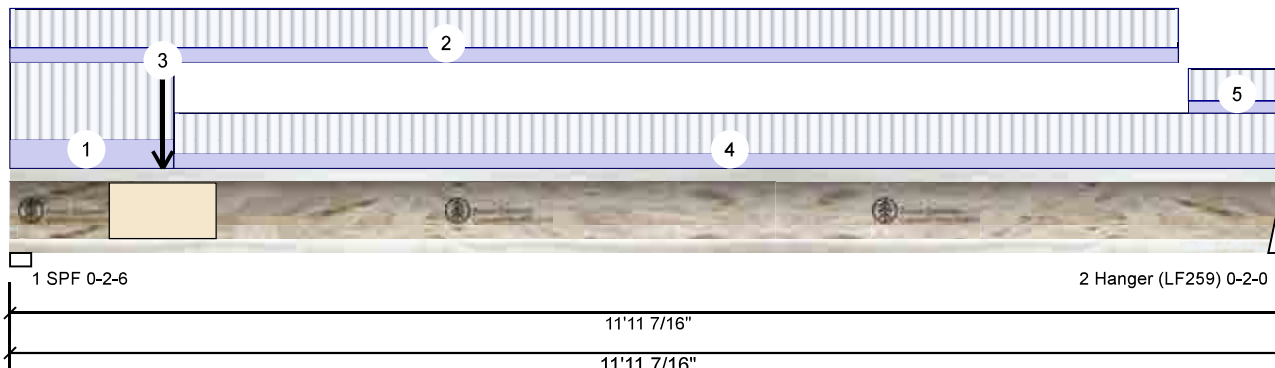
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 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS: NOV 18 2023  
 TRUE COPY OF PERMIT PLANS  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

Page 5 of 23

F4 AJS 140 9.500" - PASSE

MHP 23027



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	547	205	0	0
2	Vertical	363	136	0	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	65%	257 / 820	1077	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	45%	170 / 544	714	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2227 ft-lb	5'7 5/16"	4095 ft-lb	0.544 (54%)	1.25D+1.5L	L
Unbraced	2227 ft-lb	5'7 5/16"	4095 ft-lb	0.544 (54%)	1.25D+1.5L	L
Shear	1054 lb	1 5/8"	1830 lb	0.576 (58%)	1.25D+1.5L	L
Perm Defl in.	0.066 (L/2118)	5'10 5/16"	0.390 (L/360)	0.170 (17%)	D	Uniform
LL Defl inch	0.177 (L/795)	5'10 5/16"	0.390 (L/360)	0.453 (45%)	L	
TL Defl inch	0.243 (L/578)	5'10 5/16"	0.586 (L/240)	0.415 (42%)	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 Right Header: DF, Thickness: 3 1/2"
- 4 Girders are designed to be supported on the bottom edge only.
- 5 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 6 Bottom flange must be laterally braced at a maximum of 10'6 1/4" o.c.



JULY 04, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-7	1-4-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-11-5	0-8-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-3		Far Face	67 lb	178 lb	0 lb	0 lb	F2
4	Tie-In	1-6-7 to 11-11-7	0-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	11-0-7 to 11-11-7	0-7-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

## Notes

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## Lumber

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

## chemicals

## Handling &amp; Installation

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

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

This design is valid until 4/17/2026

## Manufacturer Info

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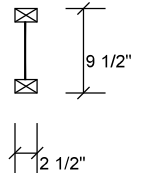
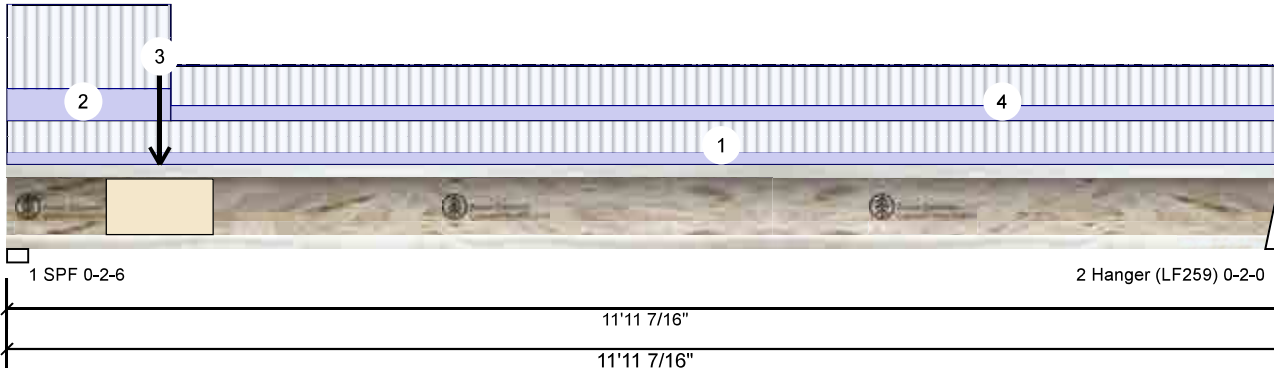




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Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F4-A AJS 140 9.500" - PAS MHP 23027



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	504	189	0	0
2	Vertical	312	117	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	60%	236 / 756	992	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	39%	146 / 468	614	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1918 ft-lb	5'6"	4095 ft-lb	0.468 (47%)	1.25D+1.5L	L
Unbraced	1918 ft-lb	5'6"	4095 ft-lb	0.468 (47%)	1.25D+1.5L	L
Shear	971 lb	1 5/8"	1830 lb	0.531 (53%)	1.25D+1.5L	L
Perm Defl in.	0.057 (L/2454)	5'9 15/16"	0.390 (L/360)	0.147 (15%)	D	Uniform
LL Defl inch	0.153 (L/920)	5'9 15/16"	0.390 (L/360)	0.391 (39%)	L	L
TL Defl inch	0.210 (L/669)	5'9 15/16"	0.586 (L/240)	0.359 (36%)	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 Right Header: DF, Thickness: 3 1/2"
- 4 Girders are designed to be supported on the bottom edge only.
- 5 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 6 Bottom flange must be laterally braced at a maximum of 10'6 1/4" o.c.



JULY 04, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 11-11-7	0-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-6-7	1-4-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-3		Near Face	72 lb	193 lb	0 lb	0 lb	F2
4	Tie-In	1-6-7 to 11-11-7	0-8-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

### Notes

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### Lumber

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

chemicals

### Handling & Installation

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

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

This design is valid until 4/17/2026

### Manufacturer Info

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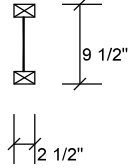
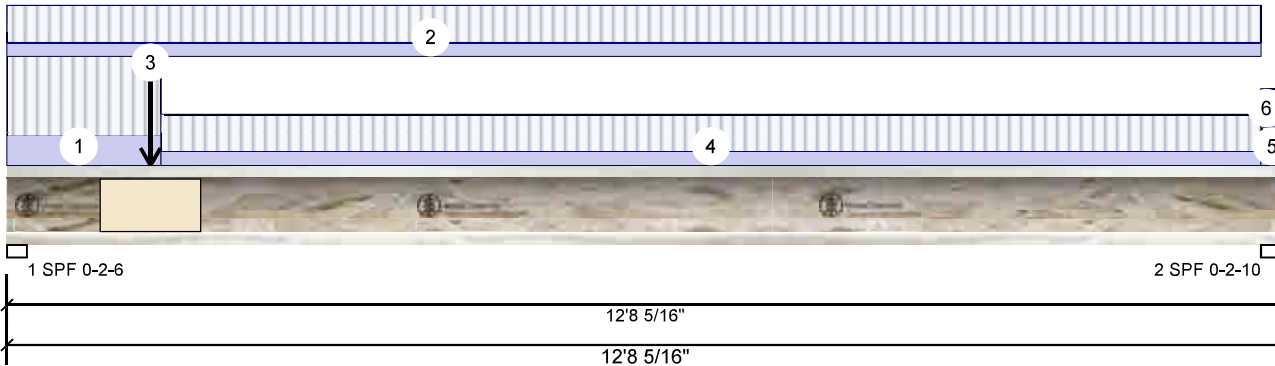


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 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F5 AJS 140 9.500" - PASSE

MHP 23027



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	570	214	0	0
2	Vertical	360	135	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	68%	268 / 855	1123	L	1.25D+1.5L
2 - SPF	2.625"	Vert	42%	169 / 540	709	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2325 ft-lb	5'10 9/16"	4095 ft-lb	0.568 (57%)	1.25D+1.5L	L
Unbraced	2325 ft-lb	5'10 9/16"	4095 ft-lb	0.568 (57%)	1.25D+1.5L	L
Shear	1100 lb	1 5/8"	1830 lb	0.601 (60%)	1.25D+1.5L	L
Perm Defl in.	0.077 (L/1937)	6'2 3/16"	0.413 (L/360)	0.186 (19%)	D	Uniform
LL Defl inch	0.205 (L/727)	6'2 3/16"	0.413 (L/360)	0.495 (50%)	L	
TL Defl inch	0.282 (L/528)	6'2 3/16"	0.620 (L/240)	0.454 (45%)	D+L	L



JULY 04, 2023

### 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.
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- Bottom flange must be laterally braced at a maximum of 11'3 3/16" o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-6	1-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-5-11	0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-2		Far Face	79 lb	210 lb	0 lb	0 lb	F2
4	Tie-In	1-6-6 to 12-5-11	0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	12-5-11 to 12-8-5	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Tie-In	12-5-11 to 12-8-5	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

### Notes

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### Lumber

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

chemicals

### Handling & Installation

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

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

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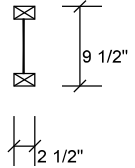
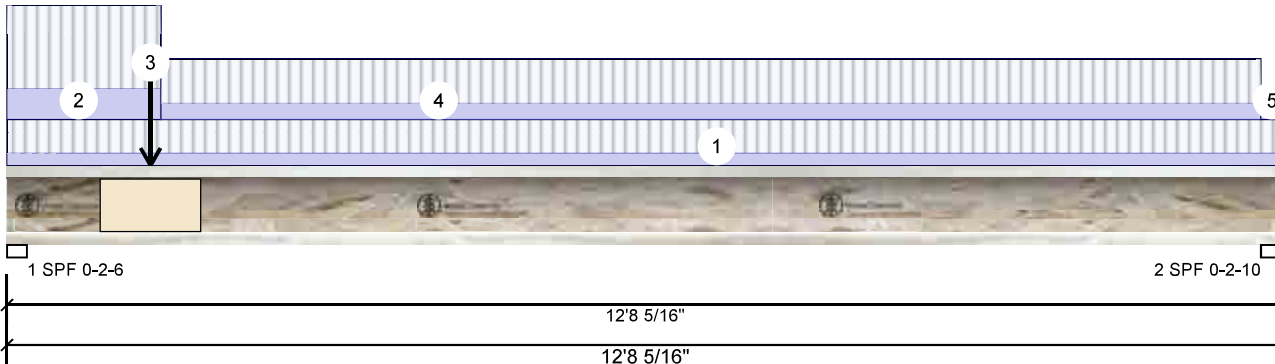
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F5-A AJS 140 9.500" - PAS MHP 23027



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	542	204	0	0
2	Vertical	357	134	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	65%	255 / 813	1068	L	1.25D+1.5L
2 - SPF	2.625"	Vert	41%	168 / 536	704	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2288 ft-lb	5'11 3/16"	4095 ft-lb	0.559 (56%)	1.25D+1.5L	L
Unbraced	2288 ft-lb	5'11 3/16"	4095 ft-lb	0.559 (56%)	1.25D+1.5L	L
Shear	1047 lb	1 5/8"	1830 lb	0.572 (57%)	1.25D+1.5L	L
Perm Defl in.	0.076 (L/1970)	6'2 3/8"	0.413 (L/360)	0.183 (18%)	D	Uniform
LL Defl inch	0.201 (L/740)	6'2 3/8"	0.413 (L/360)	0.487 (49%)	L	
TL Defl inch	0.277 (L/538)	6'2 3/8"	0.620 (L/240)	0.446 (45%)	D+L	L



JULY 04, 2023

### 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.
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- Bottom flange must be laterally braced at a maximum of 11'3 3/16" o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-8-5	0-6-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-6-6	1-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-2		Near Face	70 lb	185 lb	0 lb	0 lb	F2
4	Tie-In	1-6-6 to 12-5-11	0-9-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	12-5-11 to 12-8-5	0-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

### Notes

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### Lumber

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

### Handling & Installation

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

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

This design is valid until 4/17/2026

### Manufacturer Info

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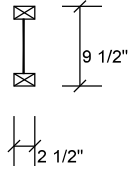
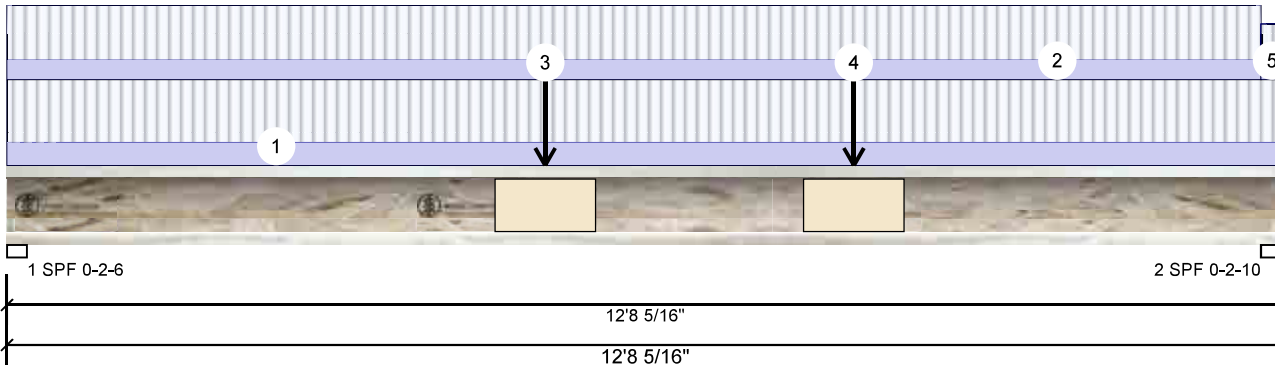




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F5-B AJS 140 9.500" - PAS MHP 23027



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	402	151	0	0
2	Vertical	409	154	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	48%	189 / 602	791	L	1.25D+1.5L
2 - SPF	2.625"	Vert	47%	192 / 614	806	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2559 ft-lb	6'3 1/4"	4095 ft-lb	0.625 (62%)	1.25D+1.5L	L
Unbraced	2559 ft-lb	6'3 1/4"	4095 ft-lb	0.625 (62%)	1.25D+1.5L	L
Shear	790 lb	12'6 7/16"	1830 lb	0.432 (43%)	1.25D+1.5L	L
Perm Defl in.	0.083 (L/1796)	6'4 1/8"	0.413 (L/360)	0.200 (20%)	D	Uniform
LL Defl inch	0.220 (L/675)	6'4 1/8"	0.413 (L/360)	0.533 (53%)	L	
TL Defl inch	0.303 (L/491)	6'4 1/8"	0.620 (L/240)	0.489 (49%)	D+L	L



JULY 04, 2023

### 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 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 4 Bottom flange must be laterally braced at a maximum of 5'4 1/4" o.c.

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-8-5	0-9-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-5-11	0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	5-4-4		Far Face	16 lb	42 lb	0 lb	0 lb	F1
4	Point	8-5-1		Far Face	16 lb	42 lb	0 lb	0 lb	F1
5	Tie-In	12-5-11 to 12-8-5	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

### Notes

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

### Lumber

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

chemicals

### Handling & Installation

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

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

This design is valid until 4/17/2026

### Manufacturer Info

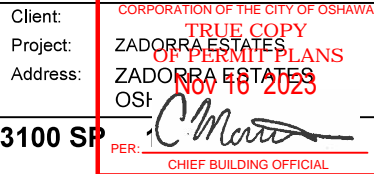
Boise Cascade Wood Products  
 1111 W. Jefferson St.  
 Boise, ID 83702  
 (800) 232-0788  
 www.bc.com  
 CCMC: 12787

### Kott Inc.

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

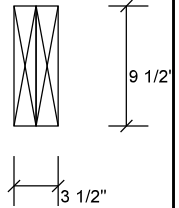
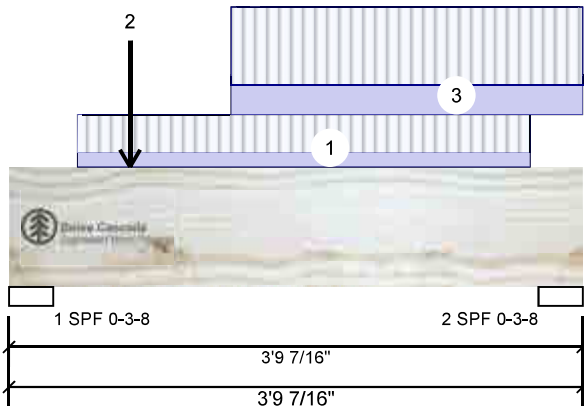






Date: 7/4/2023  
Input by: W C  
Job Name: RIVER 11-2 STD  
Project #:

2-FLY - 7 SEED Level: Ground Floor



### Unfactored Reactions UNPATTERNED Ib (Uplift)

Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind	
Plies:	2	Design Method:	LSD	1	Vertical	542	222	0	0	
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)	2	Vertical	624	252	0	0	
Deflection LL:	360	Load Sharing: No Deck: Not Checked Vibration: Not Checked		<b>Bearings and Factored Reactions</b>						
Deflection TL:	240									
Importance:	Normal - II									
General Load										
Floor Live:	40 PSF									
Dead:	15 PSF									
				Bearing	Length	Dir.	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - SPF	3.500"	Vert	14% 277 / 814	1091	L	1.25D+1.5L
				2 - SPF	3.500"	Vert	17% 315 / 936	1251	L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	951 ft-lb	1'11 1/16"	23220 ft-lb	0.041 (4%)	1.25D+1.5L	L
Unbraced	951 ft-lb	1'11 1/16"	23220 ft-lb	0.041 (4%)	1.25D+1.5L	L
Shear	1316 lb	1'1"	10574 lb	0.124 (12%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/50357)	1'10 3/4"	0.111 (L/360)	0.007 (1%)	D	Uniform
LL Defl inch	0.002 (L/20302)	1'10 3/4"	0.111 (L/360)	0.018 (2%)	L	L
TL Defl inch	0.003 (L/14469)	1'10 3/4"	0.166 (L/240)	0.017 (2%)	D+L	L



- 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.

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-5-7 to 3-5-4		Top	44 PLF	117 PLF	0 PLF	0 PLF	
2	Point	0-9-9		Near Face	98 lb	260 lb	0 lb	0 lb	J2
3	Part. Uniform	1-5-9 to 3-9-7		Near Face	90 PLF	240 PLF	0 PLF	0 PLF	
	Self Weight				9 PLF				

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

## 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

Boise Cascade Wood Products  
1111 W. Jefferson St.  
Boise, ID 83702  
(800) 232-0788  
www.bc.com  
CCMC: 12472

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



This design is valid until 4/17/2026

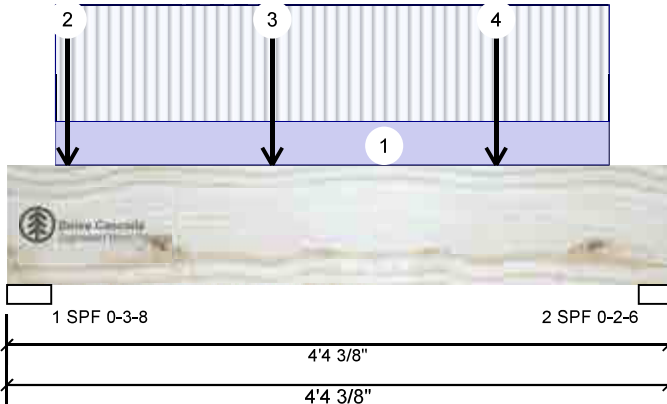


Client: CORPORATION OF THE CITY OF OSHAWA  
 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS: NOV 18 2023  
 PER: *[Signature]*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F7-A Versa-Lam LVL 2.1E 3100 SP

2-FH **MHP 23027**



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	648	264	0	0
2	Vertical	467	195	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	17%	330 / 972	1302	L	1.25D+1.5L
2 - SPF	2.375"	Vert	18%	244 / 701	944	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1053 ft-lb	1'9"	23220 ft-lb	0.045 (5%)	1.25D+1.5L	L
Unbraced	1053 ft-lb	1'9"	23220 ft-lb	0.045 (5%)	1.25D+1.5L	L
Shear	1239 lb	1'1"	10574 lb	0.117 (12%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/38146)	2'2 13/16"	0.133 (L/360)	0.009 (1%)	D	Uniform
LL Defl inch	0.003 (L/15658)	2'2 13/16"	0.133 (L/360)	0.023 (2%)	L	L
TL Defl inch	0.004 (L/11101)	2'2 13/16"	0.200 (L/240)	0.022 (2%)	D+L	L



JULY 04, 2023

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

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-3-13 to 3-11-11		Top	15 PLF	40 PLF	0 PLF	0 PLF	
2	Point	0-4-13		Near Face	117 lb	312 lb	0 lb	0 lb	F4
3	Point	1-9-0		Near Face	110 lb	294 lb	0 lb	0 lb	J2
4	Point	3-2-12		Near Face	136 lb	363 lb	0 lb	0 lb	F4
	Self Weight				9 PLF				

### Notes

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### 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

This design is valid until 4/17/2026

### Manufacturer Info

Boise Cascade Wood Products  
 1111 W. Jefferson St.  
 Boise, ID 83702  
 (800) 232-0788  
 www.bc.com  
 CCMC: 12472

Kott Inc.  
 3228 Moodie Dr, Ottawa, Ontario  
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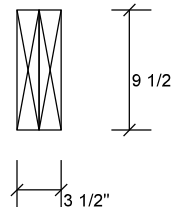
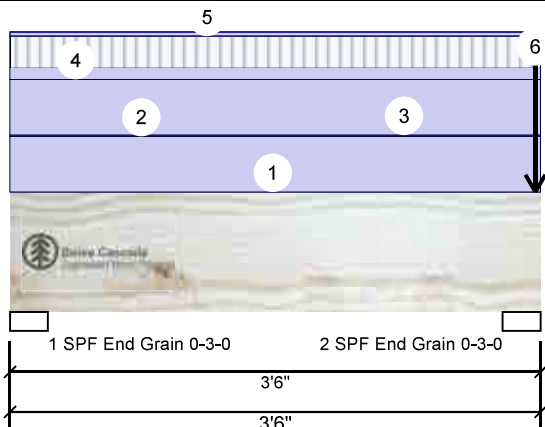


Client: CORPORATION OF THE CITY OF OSHAWA  
 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS: NOV 18 2023  
 PER: *[Signature]*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

FH5 Versa-Lam LVL 2.1E 3100 SP

1 *[Signature]* 2-Ply **MHP 23027**



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	40	183	0	0
2	Vertical	126	781	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	4%	229 / 60	289	L	1.25D+1.5L
2 - SPF End Grain	3.000"	Vert	16%	976 / 189	1165	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	202 ft-lb	1'9"	15093 ft-lb	0.013 (1%)	1.25D+1.5L	L
Unbraced	202 ft-lb	1'9"	15093 ft-lb	0.013 (1%)	1.25D+1.5L	L
Shear	207 lb	2'5 1/2"	6873 lb	0.030 (3%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/79968)	1'9"	0.104 (L/360)	0.005 (0%)	D	Uniform
LL Defl inch	0.000 (L/363219)	1'9"	0.104 (L/360)	0.001 (0%)	L	L
TL Defl inch	0.001 (L/65539)	1'9"	0.156 (L/240)	0.004 (0%)	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 laterally braced at a maximum of 3'6" o.c.
- 6 Bottom must be laterally braced at a maximum of 3'6" o.c.
- 7 Lateral slenderness ratio based on full section width.

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-6-0		Top	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-6-0		Near Face	1 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 3-6-0		Near Face	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Tapered Start	0-0-0		Near Face	9 PLF	23 PLF	0 PLF	0 PLF	

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

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 4/17/2026

## Manufacturer Info

Boise Cascade Wood Products  
 1111 W. Jefferson St.  
 Boise, ID 83702  
 (800) 232-0788  
 www.bc.com  
 CCMC: 12472

Kott Inc.  
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Client:  
Project:  
Address:

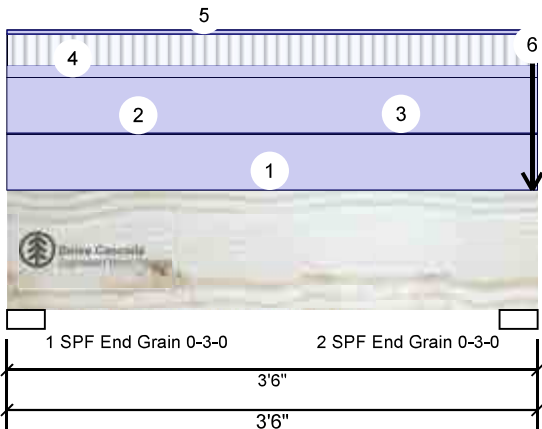
CORPORATION OF THE CITY OF OSHAWA  
**TRUE COPY**  
ZADORRA ESTATES  
OF PERMIT PLANS  
ZADORRA ESTATES  
OSI  
Nov 18 2023

Date: 7/4/2023  
Input by: W C  
Job Name: RIVER 11-2 STD  
Project #:

Page 13 of 23

FH5 Versa-Lam LVL 2.1E 3100 SP

1 *C. Morin* 2-**MHP 23027**  
PER: CHIEF BUILDING OFFICIAL



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	End	3-6-0			9 PLF	23 PLF	0 PLF	0 PLF	
5	Part. Uniform	0-0-0 to 3-6-0		Near Face	3 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
6	Point	3-5-10		Top	598 lb	86 lb	0 lb	0 lb	Header Column Header Column
	Bearing Length	0-3-8							
	Self Weight				9 PLF				



JULY 04, 2023

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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 4/17/2026

**Manufacturer Info**

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CCMC: 12472

**Kott Inc.**

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





Ground Floor



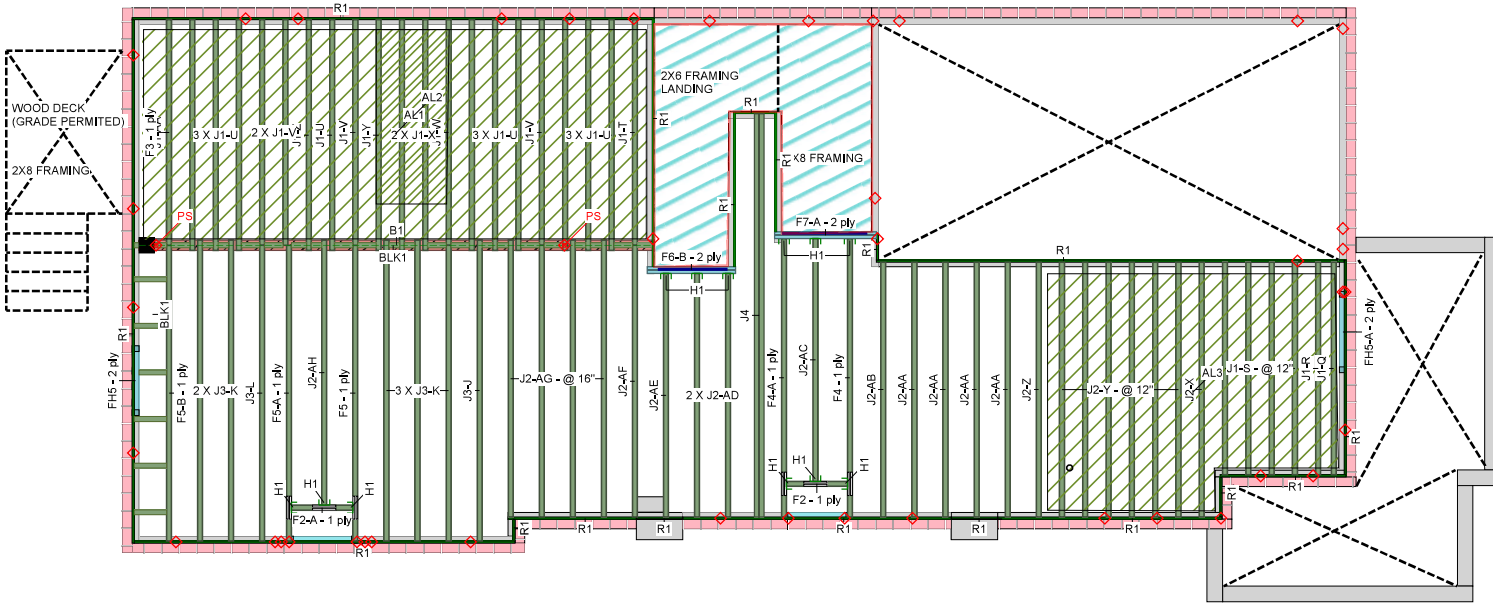
ENG-IM0723-025-KTE-GREENPARK-ZADORRA ESTATES-RIVER 11-2

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.
12. Multi ply beams with side loading to have all fasteners installed with the head on the side of the applied load
13. Confirmation of adequate support & anchorage of components is the responsibility of the building designer, suggested uplift connectors are as shown
14. Where beam hangs on side of 3-ply member, it is recommended that the equivalent quantity and size of nails required for the hanger attachment also be installed on opposite side of the 3-ply member

Ground Floor							
LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F7	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	6-0-0
FH5	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	2	2	4	4-0-0
F6	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	4-0-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F5	AJS 140	2,5	9,5			3	14-0-0
F4	AJS 140	2,5	9,5			2	12-0-0
F3	AJS 140	2,5	9,5			1	10-0-0
F2	AJS 140	2,5	9,5			2	4-0-0
J4	AJS 140	2,5	9,5	1	2	2	18-0-0
J3	AJS 140	2,5	9,5			7	14-0-0
J2	AJS 140	2,5	9,5			23	12-0-0
J1	AJS 140	2,5	9,5			27	10-0-0
Rim Board							
Label	Description	Width	Depth	Pcs	Length		
R1	Norbord Rimboard Plus 1,125 X 9,5	1,125	9,5	13	12-0-0		
Blocking							
Label	Description	Width	Depth	Qty	Pcs	Length	
BLK1	AJS 140	2,5	9,5	LinFt	Varies	23-0-0	
Hanger							
Label	Pcs	Description	Beam/Girder fasteners		Supported Member fasteners		
H1	12	LF259	10 10dx1 1/2		1 #8x1 1/4WS		

JOB INFORMATION	
Builder	
Project	ZADORRA ESTATES OSHAWA, ON
Shipping	
Sales Rep	RALPH MIRIGELLO
Designer	W C
Plotted	July 04, 2023
Layout Name	RIVER 11-2 DC
Job Path	S:\CUSTOMERS\GREENPARK\ZADORRA ESTATES MODELS\RIVER 11\RIVER 11-2\F-RIVER 11-2\DECK CONDITION\RIVER 11-2 DC.dwg

DESIGN CRITERIA	
Ground Floor	
Design Method	LSD (Canada)
Building Code	NBCC 2015 (2012 & 2015 Updates)
Floor Loads	CHIEF BUILDING OFFICIAL
Live	0
Dead	5
Deflection Joist	0
LL Span /	0
TL Span /	0
Deflection Floor	0
LL Span /	0
TL Span /	0
Deflection Drop	0
LL Span /	0
TL Span /	0
Deflection Head	360
LL Span /	240
TL Span /	
Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued
CCMC Reference	
Boise - 12472-R	12787-R
LP - 12412-R	Roseburg - 13310-R
Forex - 14056-R	
Kott Inc.	
3228 Moodie Dr. Chelmsford	
14 Anderson Blvd. Chelmsford	
Ontario	
613-838-2775 / 905-642-4400	



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

Legend	
PS	Point Load Support
Load from Above	
Wall	
Wall Opening	
Norbord Rimboard Plus 1,125 X 9,5	
AJS 140 9,5	
Versa-Lam LVL 2.1E 3100 SP 1,75 X 9,5	
1,75 X 9,5 (Dropped)	

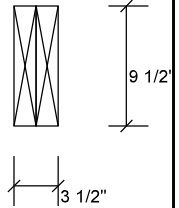
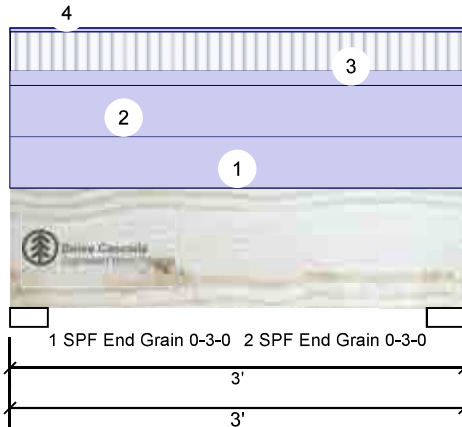


Client: CORPORATION OF THE CITY OF OSHAWA  
 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS# Nov 18 2023  
 PER: *C. Morin*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 DC  
 Project #:

Page 1 of 2

FH5 Versa-Lam LVL 2.1E 3100 SP

1 *C. Morin* 2-PLY UNPATTERNED Lb (Uplift)

## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	47	160	0	0
2	Vertical	47	160	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	3%	200 / 70	269	L	1.25D+1.5L
2 - SPF End Grain	3.000"	Vert	3%	200 / 70	269	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	155 ft-lb	1'6"	16950 ft-lb	0.009 (1%)	1.25D+1.5L	L
Unbraced	155 ft-lb	1'6"	16950 ft-lb	0.009 (1%)	1.25D+1.5L	L
Shear	184 lb	1' 1/2"	7719 lb	0.024 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/127609)	1'6"	0.088 (L/360)	0.003 (0%)	D	Uniform
LL Defl inch	0.000 (L/438262)	1'6"	0.088 (L/360)	0.001 (0%)	L	L
TL Defl inch	0.000 (L/98832)	1'6"	0.131 (L/240)	0.002 (0%)	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 laterally braced at a maximum of 3' o.c.
- 6 Bottom must be laterally braced at a maximum of 3' o.c.
- 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	Part. Uniform	0-0-0 to 3-0-0		Top	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-0-0		Near Face	41 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Tapered Start	0-0-0		Near Face	12 PLF	31 PLF	0 PLF	0 PLF	
	End	3-0-0			12 PLF	31 PLF	0 PLF	0 PLF	

Continued on page 2...

## Notes

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

## Lumber

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

chemicals

## Handling &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

## Manufacturer Info

Boise Cascade Wood Products  
 1111 W. Jefferson St.  
 Boise, ID 83702  
 (800) 232-0788  
 www.bc.com  
 CCMC: 12472

Kott Inc.

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





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Project:  
Address:

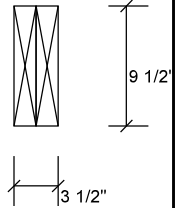
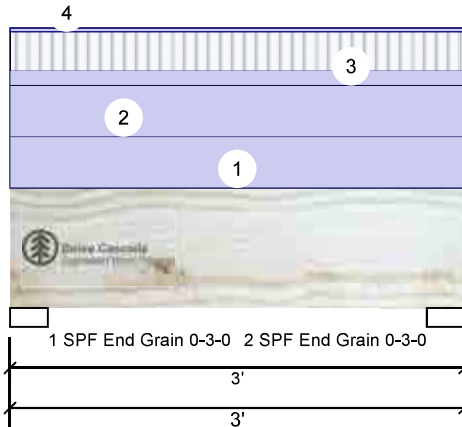
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OF PERMIT PLANS  
ZADORRA ESTATES  
OSI  
Nov 18 2023

Date: 7/4/2023  
Input by: W C  
Job Name: RIVER 11-2 DC  
Project #:

Page 2 of 2

FH5 Versa-Lam LVL 2.1E 3100 SP

1 *C. Morin* 2-PLY LVL SPED  
PER: CHIEF BUILDING OFFICIAL



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Part. Uniform	0-0-0 to 3-0-0		Near Face	3 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
	Self Weight				9 PLF				



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(800) 232-0788  
www.bc.com  
CCMC: 12472

**Kott Inc.**

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



Second Floor

ENG-JM0723-025-KTE-GREENPARK-ZADORRA ESTATES-RIVER 11-2

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.
12. Multi ply beams with side loading to have all fasteners installed with the head on the side of the applied load
13. Confirmation of adequate support & anchorage of components is the responsibility of the building designer, suggested uplift connectors are as shown
14. Where beam hangs on side of 3-ply member, it is recommended that the equivalent quantity and size of nails required for the hanger attachment also be installed on opposite side of the 3-ply member



Second Floor  
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plyies	Pcs	Length
F11	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	14-0-0
F10	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	10-0-0
F7	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	6-0-0
F8	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5			1	6-0-0
F6	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	2	2	4	4-0-0
F9	Versa-Lam LVL 2.1E 3100 SP	1,75	9,5	1	2	2	2-0-0

Joist (Flush)

Label	Description	Width	Depth	Pcs	Length
J3	AJS 140	2,5	9,5	12	14-0-0
J2	AJS 140	2,5	9,5	40	12-0-0
J1	AJS 140	2,5	9,5	23	10-0-0
J5	AJS 140	2,5	9,5	1	6-0-0

Rim Board

Label	Description	Width	Depth	Pcs	Length
R1	Norbord Rimboard Plus 1,125 X 9,5	1,125	9,5	13	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Pcs	Length
BLK1	AJS 140	2,5	9,5	LinFt	Varies	30-0-0

Hanger

Label	Pcs	Description	Beam/Girder fasteners	Supported Member fasteners
H1	13	LF259	10 10d	1 #8x1 1/4WS
H2	4	LF359	10 10d	2 #8x1 1/4WS

JOB INFORMATION

<b>Builder</b>	
<b>Project</b>	ZADORRA ESTATES OSHAWA, ON
<b>Shipping</b>	
<b>Sales Rep</b>	RALPH MIRIGELLO
<b>Designer</b>	W C
<b>Plotted</b>	July 04, 2023
<b>Layout Name</b>	RIVER 11-2 STD & DC
<b>Job Path</b>	S:\CUSTOMERS\GREENPARK\ZADORRA ESTATES MODELS\RIVER 11\RIVER 11-2\F-RIVER 11-2\RIVER 11-2 STD.dwg

DESIGN CRITERIA

<b>Second Floor</b>	
<b>Design Method</b>	LSD (Canada)
<b>Building Code</b>	NBCC 2015 (2012/2020 Updates)

Floor Loads

Live	0
Dead	5
<b>Deflection Joist</b>	0
LL Span /	0
TL Span /	0
<b>Deflection Flg</b>	0
LL Span /	0
TL Span /	0
<b>Deflection Drop</b>	0
LL Span /	0
TL Span /	0
<b>Deflection Header</b>	360
LL Span /	0
TL Span /	240

Decking

Decking	OSB
Thickness	5/8"
Fastener	Nailed & Glued

CCMC Reference

Boise - 12472-R, 12787-R	
LP - 12412-R, Roseburg - 13310-R	
Forex - 14056-R	

Kott Inc.

3228 Moodie Dr, Oshawa	
14 Anderson Blvd, Oshawa	
Ontario	

613-838-2775 /	
905-642-4400	

Legend

PS	Point Load Support
Load from Above	
Wall	
Wall Opening	
Norbord Rimboard Plus 1,125 X 9,5	
AJS 140 9,5	
Versa-Lam LVL 2.1E 3100 SP 1,75 X 9,5	
1,75 X 9,5 (Dropped)	

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

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LSD (Canada)  
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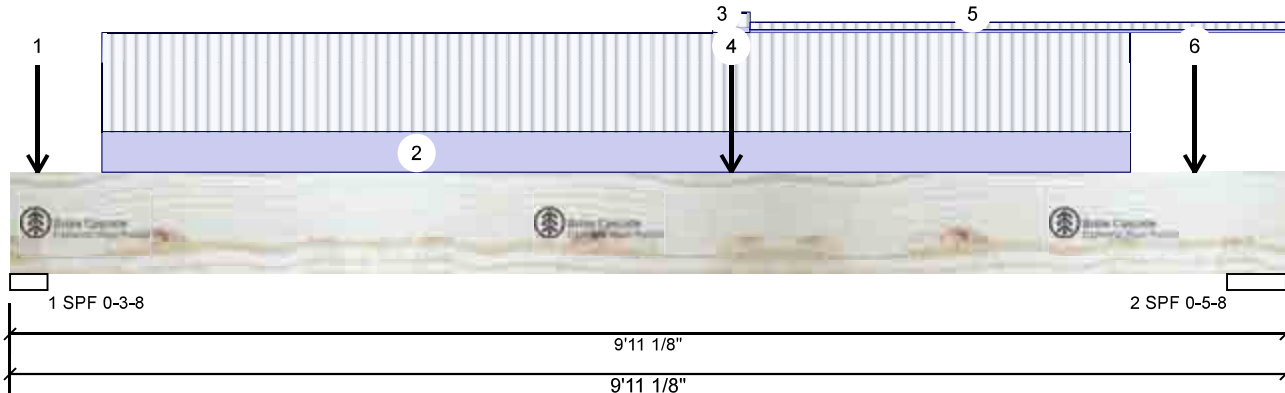


Client: CORPORATION OF THE CITY OF OSHAWA  
 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS# Nov 18 2023  
 PER: *C. Morris*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F10 Versa-Lam LVL 2.1E 3100 SP

1. *C. Morris* 2-PLY LVL 2.1E 3100 SP  
 MHP 23027



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	1075	484	0	0
2	Vertical	1214	541	0	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	29%	605 / 1613	2218	L	1.25D+1.5L
2 - SPF	5.500"	Vert	21%	676 / 1822	2497	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5452 ft-lb	5' 3/8"	23220 ft-lb	0.235 (23%)	1.25D+1.5L	L
Unbraced	5452 ft-lb	5' 3/8"	23220 ft-lb	0.235 (23%)	1.25D+1.5L	L
Shear	2572 lb	8'8 1/8"	10574 lb	0.243 (24%)	1.25D+1.5L	L
Perm Defl in.	0.035 (L/3156)	4'10 13/16"	0.310 (L/360)	0.114 (11%)	D	Uniform
LL Defl inch	0.079 (L/1411)	4'10 7/8"	0.310 (L/360)	0.255 (26%)	L	
TL Defl inch	0.114 (L/975)	4'10 7/8"	0.465 (L/240)	0.246 (25%)	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 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	Point	0-2-9		Near Face	30 lb	74 lb	0 lb	0 lb	J2
2	Part. Uniform	0-8-9 to 8-8-9		Near Face	94 PLF	232 PLF	0 PLF	0 PLF	
3	Tie-In	5-5-9 to 5-9-1	0-10-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	5-7-5		Far Face	20 lb	35 lb	0 lb	0 lb	F9
5	Tie-In	5-9-1 to 9-11-2	0-5-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	

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 &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

## Manufacturer Info

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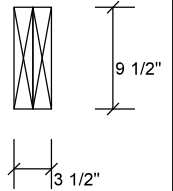
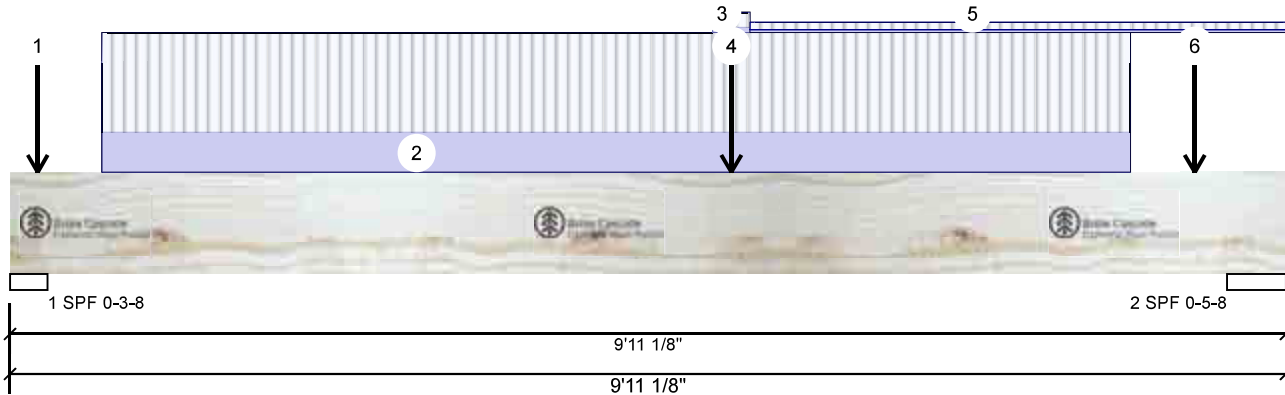


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 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS: NOV 18 2023

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F10 Versa-Lam LVL 2.1E 3100 SP

1. *[Signature]* 2-PL **MHP 23027**  
 PER. CHIEF BUILDING OFFICIAL



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	9-2-9		Near Face	97 lb	241 lb	0 lb	0 lb	J2
	Self Weight				9 PLF				



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

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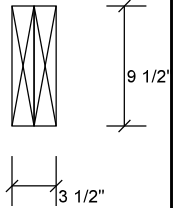
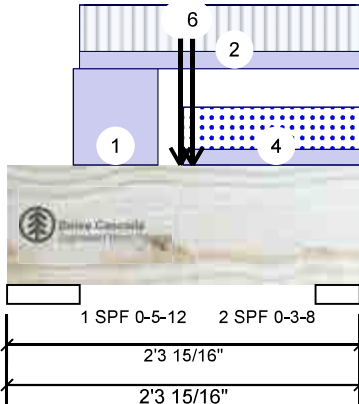
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Nov 18 2023  
PER: *C. Morris*  
CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
Input by: W C  
Job Name: RIVER 11-2 STD  
Project #:

F6 Versa-Lam LVL 2.1E 3100 SP

1.7 *C. Morris* - PLY *MHP 23027*



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	71	304	119	0
2	Vertical	73	230	115	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.750"	Vert	6%	380 / 226	606	L	1.25D+1.5L +S
2 - SPF	3.500"	Vert	8%	288 / 224	512	L	1.25D+1.5L +S

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	415 ft-lb	1'1 3/4"	20433 ft-lb	0.020 (2%)	1.25D+1.5S +L	L
Unbraced	415 ft-lb	1'1 3/4"	20433 ft-lb	0.020 (2%)	1.25D+1.5S +L	L
Shear	515 lb	1'3 1/4"	9305 lb	0.055 (6%)	1.25D+1.5S +L	L
Perm Defl in.	0.000 (L/93602)	1'1 3/4"	0.056 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.000 (L/166856)	1'1 13/16"	0.056 (L/360)	0.002 (0%)	S+0.5L	L
TL Defl inch	0.000 (L/59964)	1'1 3/4"	0.084 (L/240)	0.004 (0%)	D+S+0.5L	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.
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- 3 Multiple plies must be fastened together as per manufacturer's details.
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chemicals

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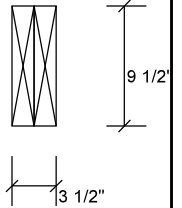
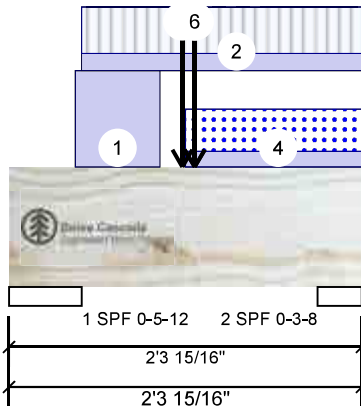
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Input by: W C  
Job Name: RIVER 11-2 STD  
Project #:

1.7 C. Martin  
PER: \_\_\_\_\_  
CHIEF BUILDING OFFICIAL

**MHP 23027**



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-5-4 to 0-11-15		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Tie-In	0-5-12 to 2-3-15	0-11-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-1-12		Far Face	407 lb	73 lb	193 lb	0 lb	F7
4	Part. Uniform	1-1-15 to 2-3-15		Top	13 PLF	0 PLF	35 PLF	0 PLF	
5	Point	1-2-11		Top	7 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	1-2-11		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				9 PLF				



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



Version 23.40.650 Powered by iStruct™ Dataset: 23062201.1

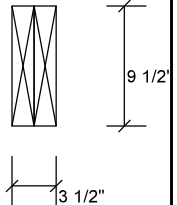
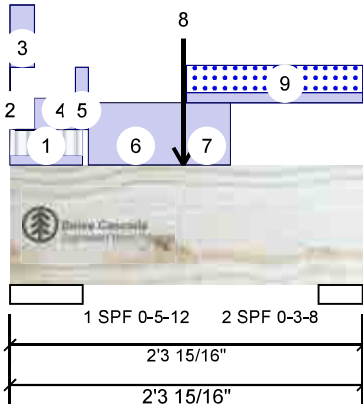


Client: CORPORATION OF THE CITY OF OSHAWA  
 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS# Nov 18 2023  
 PER: *[Signature]*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F6-A Versa-Lam LVL 2.1E 3100 SP

2-Floor Unfactored Reactions UNPATTERNED lb (Uplift)



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	57	323	119	0
2	Vertical	32	216	115	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.750"	Vert	6%	403 / 205	608	L	1.25D+1.5L+S
2 - SPF	3.500"	Vert	7%	270 / 204	474	L	1.25D+1.5S+L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	366 ft-lb	1'1 3/4"	18343 ft-lb	0.020 (2%)	1.25D+1.5L+S	L
Unbraced	366 ft-lb	1'1 3/4"	18343 ft-lb	0.020 (2%)	1.25D+1.5L+S	L
Shear	452 lb	1'3 1/4"	8353 lb	0.054 (5%)	1.25D+1.5L+S	L
Perm Defl in.	0.000 (L/96724)	1'1 3/4"	0.056 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.000 (L/179643)	1'1 3/4"	0.056 (L/360)	0.002 (0%)	S+0.5L	L
TL Defl inch	0.000 (L/62872)	1'1 3/4"	0.084 (L/240)	0.004 (0%)	D+S+0.5L	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 have sheathing attached or be continuously braced.
- 7 Lateral slenderness ratio based on full section width.



JULY 04, 2023

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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

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 4/17/2026

### Manufacturer Info

Boise Cascade Wood Products  
 1111 W. Jefferson St.  
 Boise, ID 83702  
 (800) 232-0788  
 www.bc.com  
 CCMC: 12472

### Kott Inc.

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





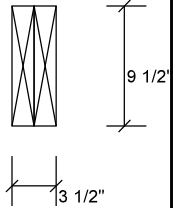
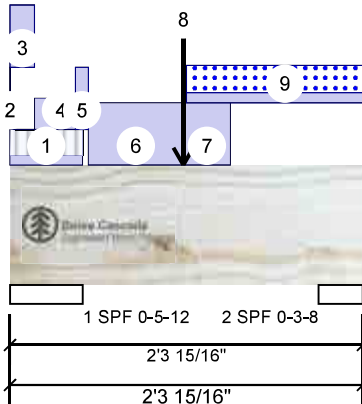


Client: CORPORATION OF THE CITY OF OSHAWA  
 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS: Nov 18 2023  
 PER: *C. M...*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F6-A Versa-Lam LVL 2.1E 3100 SP

2-FLOOR LEVELS



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-5-12	0-9-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-0-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-0 to 0-1-15		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-1-15 to 0-5-3		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Part. Uniform	0-5-3 to 0-6-3		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Part. Uniform	0-6-3 to 1-1-12		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Part. Uniform	1-1-12 to 1-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Point	1-1-12		Near Face	390 lb	73 lb	193 lb	0 lb	F7
9	Part. Uniform	1-1-15 to 2-3-15		Top	13 PLF	0 PLF	35 PLF	0 PLF	
	Self Weight				9 PLF				



JULY 04, 2023

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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 4/17/2026

**Manufacturer Info**

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 1111 W. Jefferson St.  
 Boise, ID 83702  
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 www.bc.com  
 CCMC: 12472

Kott Inc.  
 3228 Moodie Dr, Ottawa, Ontario  
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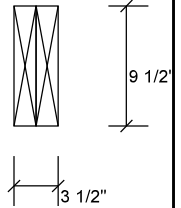
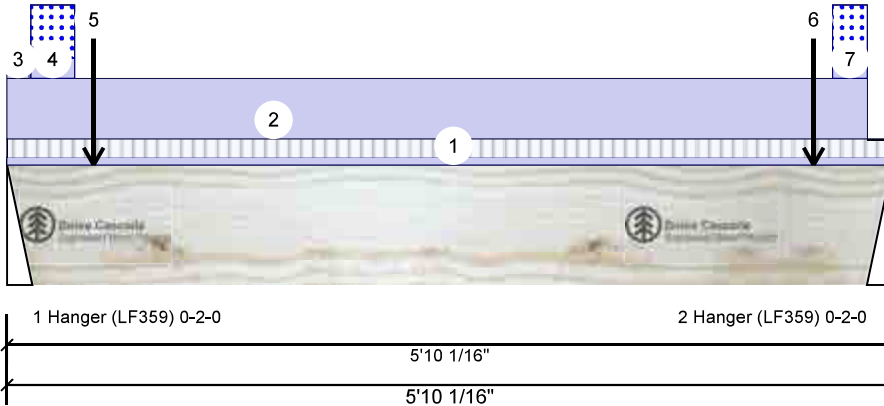


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 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS: NOV 18 2023  
 PER: *[Signature]*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F7 Versa-Lam LVL 2.1E 3100 SP

1.7 *[Signature]* - PLY **MHP 23027**  
 Level: Second Floor



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	73	407	193	0
2	Vertical	73	390	193	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	13%	509 / 303	812	L	1.25D+1.5L+S
2 - Hanger	2.000"	Vert	13%	487 / 303	790	L	1.25D+1.5L+S

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	699 ft-lb	2'10 15/16"	15093 ft-lb	0.046 (5%)	1.25D+1.5L	L
Unbraced	699 ft-lb	2'10 15/16"	15093 ft-lb	0.046 (5%)	1.25D+1.5L	L
Shear	392 lb	11 1/2"	6873 lb	0.057 (6%)	1.25D+1.5L	L
Perm Defl in.	0.005 (L/13429)	2'11"	0.188 (L/360)	0.027 (3%)	D	Uniform
LL Defl inch	0.002 (L/41045)	2'10 15/16"	0.188 (L/360)	0.009 (1%)	L+0.5S	L
TL Defl inch	0.007 (L/10118)	2'11"	0.282 (L/240)	0.024 (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 2.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 2.
- 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 Fill all hanger nailing holes.
- 5 Left Header: DF, Thickness: 3 1/2"
- 6 Right Header: DF, Thickness: 3 1/2"
- 7 Girders are designed to be supported on the bottom edge only.
- 8 Multiple plies must be fastened together as per manufacturer's details.
- 9 Top loads must be supported equally by all plies.
- 10 Top must be continuously laterally braced.
- 11 Bottom must be laterally braced at bearings.
- 12 Lateral slenderness ratio based on full section width.



JULY 04, 2023

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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 &amp; Installation

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

6. For flat roofs provide proper drainage to prevent ponding

## Manufacturer Info

Boise Cascade Wood Products  
 1111 W. Jefferson St.  
 Boise, ID 83702  
 (800) 232-0788  
 www.bc.com  
 CCMC: 12472

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



This design is valid until 4/17/2026

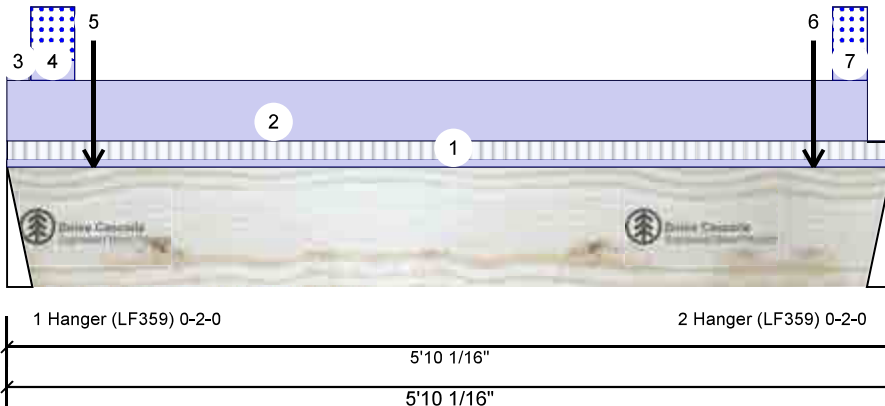


Client: CORPORATION OF THE CITY OF OSHAWA  
 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS: NOV 18 2023  
 PER: *[Signature]*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F7 Versa-Lam LVL 2.1E 3100 SP

1.7 *[Signature]* - PLY 1/2" **MHP 23027**



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 5-10-1	0-7-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 5-8-2		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-0 to 0-1-12		Top	31 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-1-14 to 0-5-6		Top	27 PLF	0 PLF	70 PLF	0 PLF	
5	Point	0-6-14		Top	107 lb	0 lb	175 lb	0 lb	Header Column
	Bearing Length	0-5-8							
6	Point	5-3-14		Top	107 lb	0 lb	175 lb	0 lb	Header Column
	Bearing Length	0-5-8							
7	Part. Uniform	5-5-6 to 5-8-2		Top	27 PLF	0 PLF	70 PLF	0 PLF	
	Self Weight				9 PLF				



JULY 04, 2023

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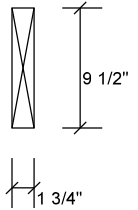
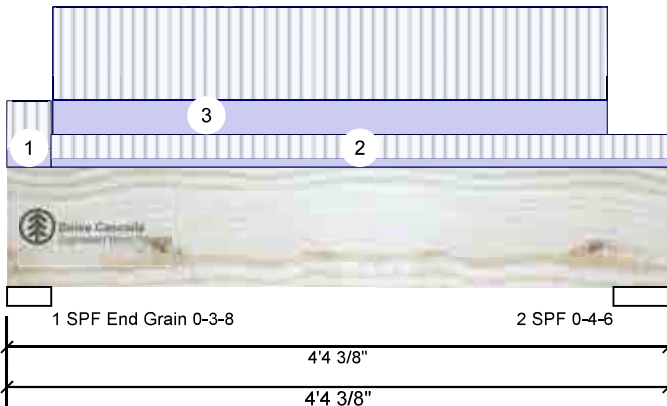
<b>Notes</b> Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads. <b>Lumber</b> 1. Dry service conditions, unless noted otherwise 2. LVL not to be treated with fire retardant or corrosive chemicals	<b>Handling &amp; Installation</b> 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 4/17/2026	<b>Manufacturer Info</b> Boise Cascade Wood Products 1111 W. Jefferson St. Boise, ID 83702 (800) 232-0788 www.bc.com CCMC: 12472	Kott Inc. 3228 Moodie Dr, Ottawa, Ontario 613-838-2775 / 905-642-4400 
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Client: CORPORATION OF THE CITY OF OSHAWA  
 Project: ZADORRA ESTATES  
 Address: ZADORRA ESTATES  
 OS: NOV 18 2023  
 PER: *C. Morin*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F8 Versa-Lam LVL 2.1E 3100 SP 0" - MHP 23027



### Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	165	72	0	0
2	Vertical	159	70	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	5%	90 / 248	338	L	1.25D+1.5L
2 - SPF	4.375"	Vert	7%	88 / 239	327	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	314 ft-lb	2'1 3/4"	11610 ft-lb	0.027 (3%)	1.25D+1.5L	L
Unbraced	314 ft-lb	2'1 3/4"	11610 ft-lb	0.027 (3%)	1.25D+1.5L	L
Shear	187 lb	3'2 1/2"	5287 lb	0.035 (4%)	1.25D+1.5L	L
Perm Defl in. (L/64611)	0.001	2'1 13/16"	0.128 (L/360)	0.006 (1%)	D	Uniform
LL Defl inch (L/27778)	0.002	2'1 13/16"	0.128 (L/360)	0.013 (1%)	L	L
TL Defl inch (L/19426)	0.002	2'1 13/16"	0.192 (L/240)	0.012 (1%)	D+L	L



JULY 04, 2023

### 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	0-10-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-3-8 to 4-4-6	0-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-3-10 to 3-11-8		Top	25 PLF	67 PLF	0 PLF	0 PLF	
	Self Weight				5 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 4/17/2026

### Manufacturer Info

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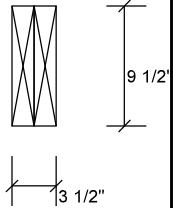


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 OS# NOV 18 2023  
 PER: *[Signature]*  
 CHIEF BUILDING OFFICIAL

Date: 7/4/2023  
 Input by: W C  
 Job Name: RIVER 11-2 STD  
 Project #:

F9 Versa-Lam LVL 2.1E 3100 SP

1.7 MHP 23027



## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
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	35	20	0	0
2	Vertical	32	19	0	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	1%	25 / 53	78	L	1.25D+1.5L
2 - SPF End Grain	1.628"	Vert	1%	24 / 48	71	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	46 ft-lb	8 7/8"	23220 ft-lb	0.002 (0%)	1.25D+1.5L	L
Unbraced	46 ft-lb	8 7/8"	23220 ft-lb	0.002 (0%)	1.25D+1.5L	L
Shear	76 lb	11 1/2"	10574 lb	0.007 (1%)	1.25D+1.5L	L
Perm Defl in. (L/1832581)	0.000	8 7/8"	0.044 (L/360)	0.000 (0%)	D	Uniform
LL Defl inch (L/881959)	0.000	8 7/8"	0.044 (L/360)	0.000 (0%)	L	L
TL Defl inch (L/595409)	0.000	8 7/8"	0.067 (L/240)	0.000 (0%)	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 Left Header: DF, Thickness: 3 1/2"
- 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 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	Point	0-8-14		Near Face	25 lb	67 lb	0 lb	0 lb	J5
	Self Weight				9 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

## Handling &amp; Installation

1. LVL beams must not be cut or drilled
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## Manufacturer Info

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