



Engineering Notes: EWP-Floors

MHP 23025



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.

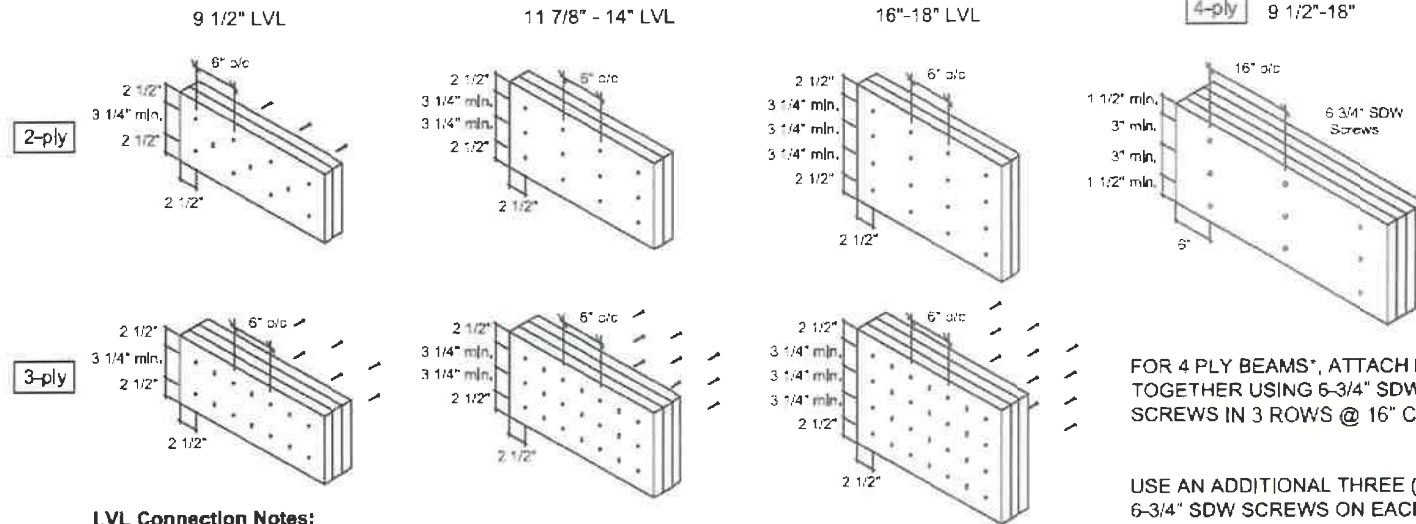
HANDLING AND INSTALLATION

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



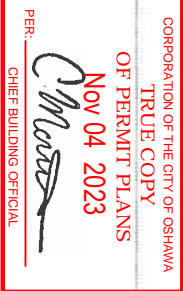
LVL Connection Notes:

- 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



MHP 23025

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

Installation Guide



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

ENG-IM0723-020-KTE-GREENPARK-ZADORRA ESTATES-RIVER 6-3

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	Pfies	Pcs	Length
F5	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5			1	14-0-0
F8	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5	4	2	8	10-0-0
F7	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5	2	3	6	8-0-0
F6	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5	3	2	6	4-0-0
FH5	Versa-Lam LVL 2.1E 3100 SP	1.75	9.5	1	2	2	4-0-0

Joist (Flush)

Label	Description	Width	Depth	Pcs	Length
F4	AJS 140	2.5	9.5	5	14-0-0
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	32	14-0-0
J3	AJS 140	2.5	9.5	2	12-0-0
J2	AJS 140	2.5	9.5	27	10-0-0
J1	AJS 140	2.5	9.5	4	6-0-0

Rim Board

Label	Description	Width	Depth	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5	14	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Pcs	Length
BLK1	AJS 140	2.5	9.5	Varies	24-0-0	

Hanger

Label	Pcs	Description	Beam/Girder fasteners	Supported Member fasteners
H1	6	LF359	10 10d	2 #8x1 1/4VWS
H3	2	HUC410 (Min)	14 16d	6 10d
H4	29	LF259	10 10d	1 #8x1 1/4VWS

JOB INFORMATION

Builder	GREENPARK
Project	ZADORRA ESTATES OSHAWA ON
Sales Rep	W C
Designer	W C
Plotted	July 05, 2023
Layout Name	RIVER 6-3 STD & DC
Job Path	S:\CUSTOMERS\GREENPARK\ZADORRA ESTATES\MODELS\RIVER 6-3\RIVER 6-3\RIVER 6-3 STD & DC.rvt

DESIGN CRITERIA

Ground Floor	
Design Method	LSF (Canada)
Building Code	NBCC 2015 (Update)
Floor Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	360
TL Span L/	240
Deflection Floor	
LL Span L/	360
TL Span L/	240
Deflection Dropped Girder	
LL Span L/	360
TL Span L/	240
Deflection Header	
LL Span L/	360
TL Span L/	240
Decking	
Thickness	OSB
Fastener	3/4" Nailed & Glued

CCMC References

Boise - 12472-R, 12787-R
LP - 12412-R, Roseburg - 13310-R
Forex - 14055-R

Kott Inc.

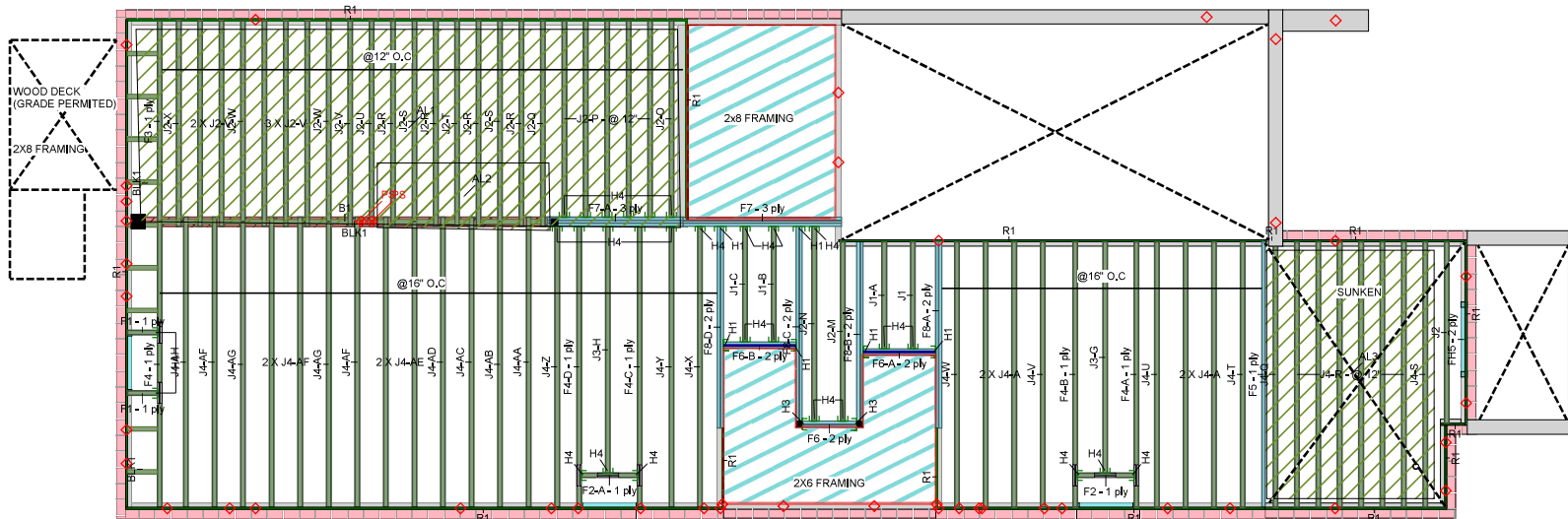
3228 Moodie Dr, Ottawa
14 Anderson Blvd, Uxbridge
Ontario

613-838-2775 /
905-642-4400



Legend

WS	Web Stiffener
WS	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
PS	Load from Above
Wall	Wall
Wall Opening	Wall Opening
Norbord Rimboard Plus 1.125 X 9.5	Norbord Rimboard Plus 1.125 X 9.5
AJS 140 9.5	AJS 140 9.5
Versa-Lam LVL 2.1E 3100 SP 1.75 X 9.5	Versa-Lam LVL 2.1E 3100 SP 1.75 X 9.5
1.75 X 9.5 (Dropped)	1.75 X 9.5 (Dropped)
5.25 X 8 (Dropped)	5.25 X 8 (Dropped)





Client: GREENPARK
 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO
 Nov 04 2023

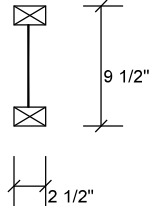
Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

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F1 AJS 140 9.500" - PASSIVE Level: Ground Floor



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	40	15	0	0
2	Vertical	38	14	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%	19 / 60	79	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	5%	18 / 57	75	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	18 ft-lb	8 1/2"	4095 ft-lb	0.004 (0%)	1.25D+1.5L	L
Unbraced	18 ft-lb	8 1/2"	4095 ft-lb	0.004 (0%)	1.25D+1.5L	L
Shear	64 lb	1'3 3/8"	1830 lb	0.035 (3%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/199583)	8 1/2"	0.038 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch	0.000 (L/74844)	8 1/2"	0.038 (L/360)	0.005 (0%)	L	L
TL Defl inch	0.000 (L/54432)	8 1/2"	0.057 (L/240)	0.004 (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.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-10	1-5-0	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
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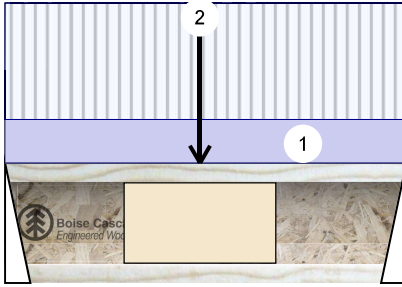
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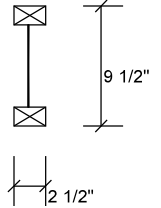
F2 AJS 140 9.500" - PASS

PER: *C. Motta*
 CHIEF BUILDING OFFICIAL

Level: Ground Floor



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	199	75	0	0
2	Vertical	190	71	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	25%	93 / 299	392	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	24%	89 / 285	374	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	414 ft-lb	1'3 7/16"	4095 ft-lb	0.101 (10%)	1.25D+1.5L	L
Unbraced	414 ft-lb	1'3 7/16"	4095 ft-lb	0.101 (10%)	1.25D+1.5L	L
Shear	386 lb	1 1/4"	1830 lb	0.211 (21%)	1.25D+1.5L	L
Perm Defl in. (L/15990)	0.002	1'3 7/16"	0.081 (L/360)	0.023 (2%)	D	Uniform
LL Defl inch	0.005 (L/5973)	1'3 7/16"	0.081 (L/360)	0.060 (6%)	L	L
TL Defl inch	0.007 (L/4349)	1'3 7/16"	0.122 (L/240)	0.055 (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.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' 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 2-7-12	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-3-7		Far Face	115 lb	308 lb	0 lb	0 lb	J3

Notes

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

Lumber

- 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

Manufacturer Info

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 Boise, ID 83702
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 www.bc.com
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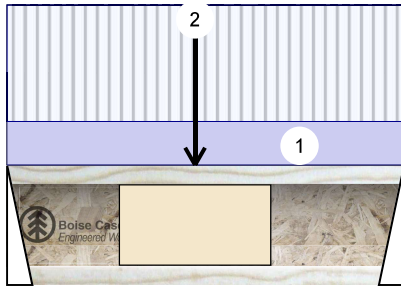


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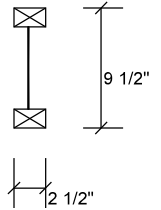
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F2-A AJ5 140 9.500" - PAS PER: CHIEF BUILDING OFFICIAL Level: Ground Floor



1 Hanger (LF259) 0-2-0
 2 Joist (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	213	80	0	0
2	Vertical	194	73	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	26%	100 / 319	419	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	24%	91 / 291	382	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	429 ft-lb	1'2 7/8"	4095 ft-lb	0.105 (10%)	1.25D+1.5L	L
Unbraced	429 ft-lb	1'2 7/8"	4095 ft-lb	0.105 (10%)	1.25D+1.5L	L
Shear	412 lb	1 1/4"	1830 lb	0.225 (23%)	1.25D+1.5L	L
Perm Defl in. (L/15298)	0.002	1'2 7/8"	0.080 (L/360)	0.024 (2%)	D	Uniform
LL Defl inch	0.005 (L/5726)	1'2 7/8"	0.080 (L/360)	0.063 (6%)	L	L
TL Defl inch	0.007 (L/4167)	1'2 7/8"	0.121 (L/240)	0.058 (6%)	D+L	L

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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	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-2-14		Far Face	122 lb	326 lb	0 lb	0 lb	J3

Notes

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Lumber

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

chemicals

Handling & Installation

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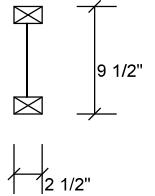
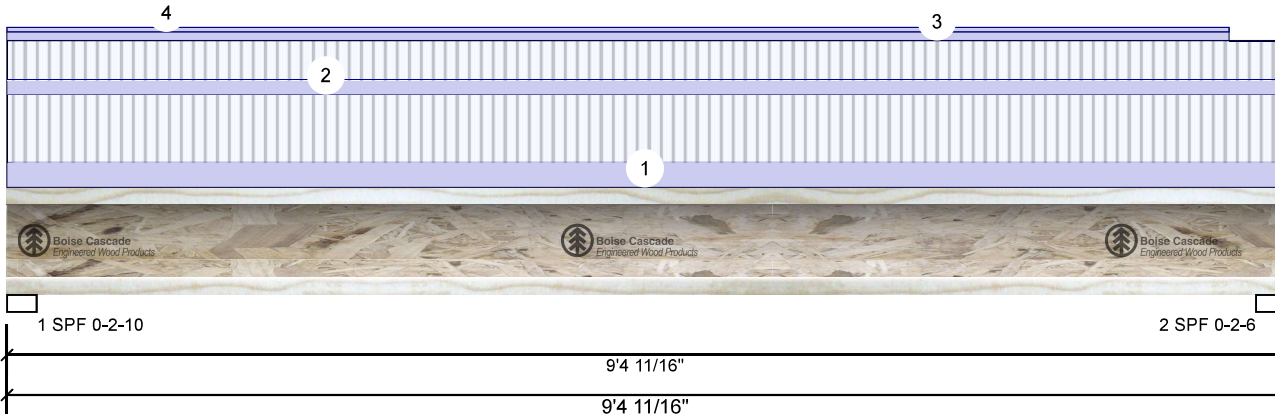


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F3 AJS 140 9.500" - PASS

Level: Ground Floor



Member Information

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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	229	114	0	0
2	Vertical	228	111	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	29%	143 / 343	486	L	1.25D+1.5L
2 - SPF	2.375"	Vert	29%	139 / 342	481	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1068 ft-lb	4'8 7/16"	4095 ft-lb	0.261 (26%)	1.25D+1.5L	L
Unbraced	1068 ft-lb	4'8 7/16"	4095 ft-lb	0.261 (26%)	1.25D+1.5L	L
Shear	470 lb	1 7/8"	1830 lb	0.257 (26%)	1.25D+1.5L	L
Perm Defl in.	0.025 (L/4340)	4'8 1/2"	0.303 (L/360)	0.083 (8%)	D	Uniform
LL Defl inch	0.051 (L/2162)	4'8 1/2"	0.303 (L/360)	0.167 (17%)	L	
TL Defl inch	0.076 (L/1443)	4'8 1/2"	0.455 (L/240)	0.166 (17%)	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 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.



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 9-4-11	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 9-4-11	0-5-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 8-11-15		Top	4 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-0-0 to 8-11-15		Top	2 PLF	0 PLF	0 PLF	0 PLF	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

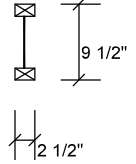
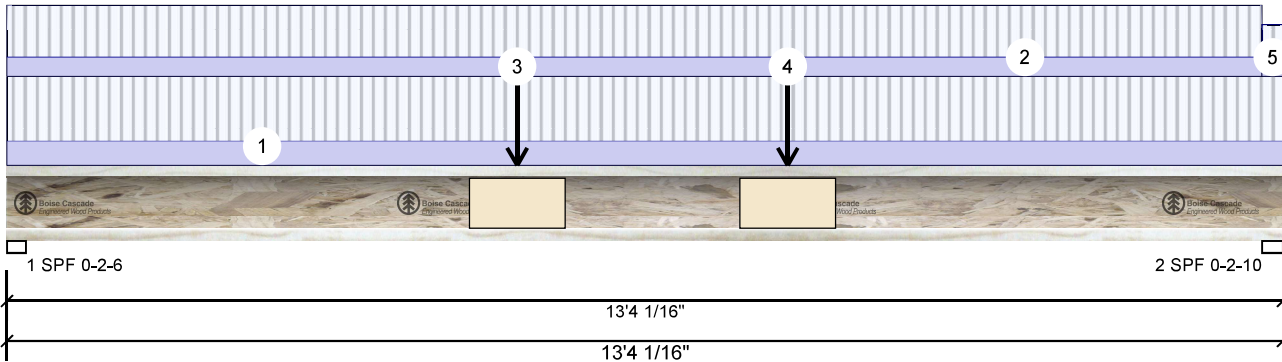


Client: GREENPARK
 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO
 Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

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F4 AJS 140 9.500" - PASSIVE Level: Ground Floor



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	406	152	0	0
2	Vertical	407	152	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%	190 / 609	799	L	1.25D+1.5L
2 - SPF	2.625"	Vert	47%	190 / 610	800	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2699 ft-lb	6'7 13/16"	4095 ft-lb	0.659 (66%)	1.25D+1.5L	L
Unbraced	2699 ft-lb	6'7 13/16"	4095 ft-lb	0.659 (66%)	1.25D+1.5L	L
Shear	785 lb	13'2 3/16"	1830 lb	0.429 (43%)	1.25D+1.5L	L
Perm Defl in.	0.095 (L/1643)	6'7 15/16"	0.435 (L/360)	0.219 (22%)	D	Uniform
LL Defl inch	0.255 (L/614)	6'7 15/16"	0.435 (L/360)	0.586 (59%)	L	
TL Defl inch	0.350 (L/447)	6'7 15/16"	0.652 (L/240)	0.537 (54%)	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 5'4" 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 13-4-1	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-1-7	0-7-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	5-4-0		Far Face	14 lb	38 lb	0 lb	0 lb	F1
4	Point	8-1-15		Far Face	14 lb	38 lb	0 lb	0 lb	F1
5	Tie-In	13-1-7 to 13-4-1	0-5-6	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

- 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

Manufacturer Info

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 (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



Client: GREENPARK
 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO
 Nov 04 2023

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

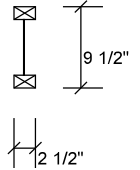
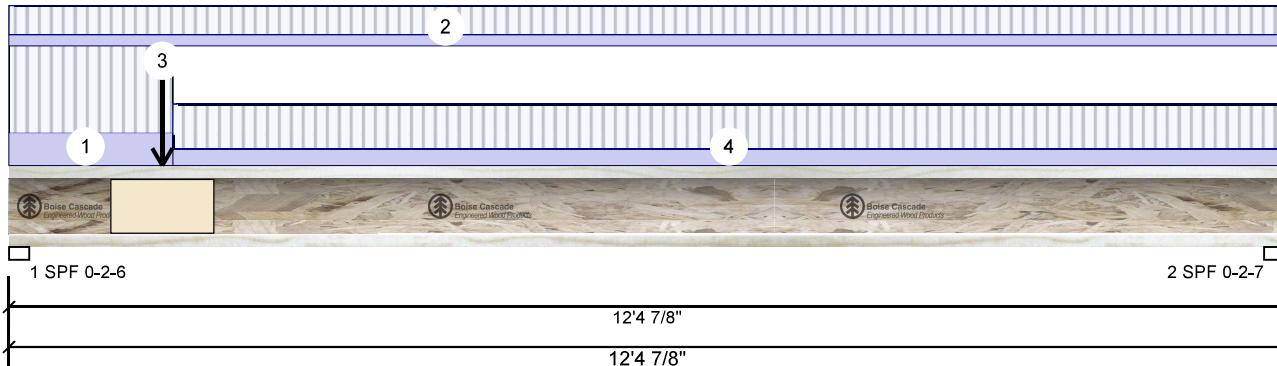
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F4-A AJS 140

9.500" - PAS

PER: *C. Motta*
 CHIEF BUILDING OFFICIAL

Level: Ground Floor



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	511	191	0	0
2	Vertical	324	122	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	61%	239 / 767	1006	L	1.25D+1.5L
2 - SPF	2.438"	Vert	38%	152 / 486	638	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2048 ft-lb	5'8 9/16"	4095 ft-lb	0.500 (50%)	1.25D+1.5L	L
Unbraced	2048 ft-lb	5'8 9/16"	4095 ft-lb	0.500 (50%)	1.25D+1.5L	L
Shear	985 lb	1 5/8"	1830 lb	0.538 (54%)	1.25D+1.5L	L
Perm Defl in.	0.065 (L/2238)	6' 7/16"	0.404 (L/360)	0.161 (16%)	D	Uniform
LL Defl inch	0.174 (L/839)	6' 7/16"	0.404 (L/360)	0.429 (43%)	L	
TL Defl inch	0.239 (L/610)	6' 7/16"	0.606 (L/240)	0.393 (39%)	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 10'11" 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 1-7-2	1-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-4-14	0-5-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-14		Far Face	71 lb	190 lb	0 lb	0 lb	F2
4	Tie-In	1-7-2 to 12-4-14	0-8-13	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

Manufacturer Info

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 CCMC: 12787

Kott Inc.
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 613-838-2775 / 905-642-4400



This design is valid until 4/17/2026



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 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

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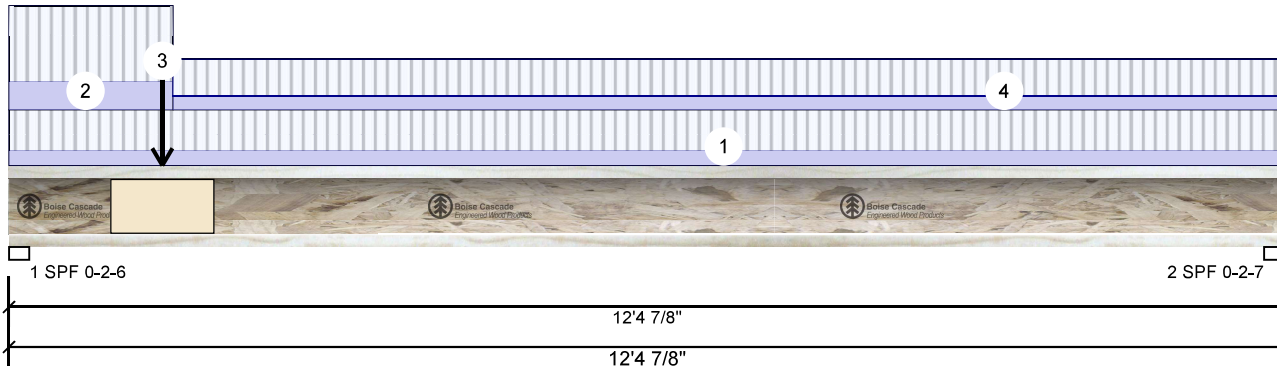
F4-B AJS 140

9.500"

- PAS

PER: *C. Motta*
 CHIEF BUILDING OFFICIAL

Level: Ground Floor



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	582	219	0	0
2	Vertical	386	145	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	69%	273 / 873	1146	L	1.25D+1.5L
2 - SPF	2.438"	Vert	46%	181 / 579	760	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2415 ft-lb	5'9 5/16"	4095 ft-lb	0.590 (59%)	1.25D+1.5L	L
Unbraced	2415 ft-lb	5'9 5/16"	4095 ft-lb	0.590 (59%)	1.25D+1.5L	L
Shear	1123 lb	1 5/8"	1830 lb	0.614 (61%)	1.25D+1.5L	L
Perm Defl in.	0.077 (L/1898)	6' 11/16"	0.404 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.204 (L/712)	6' 11/16"	0.404 (L/360)	0.505 (51%)	L	
TL Defl inch	0.281 (L/518)	6' 11/16"	0.606 (L/240)	0.463 (46%)	D+L	L

Design Notes

- Provide support to prevent lateral movement 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 10'11" 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 12-4-14	0-9-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-7-2	1-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-14		Near Face	75 lb	199 lb	0 lb	0 lb	F2
4	Tie-In	1-7-2 to 12-4-14	0-8-6	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
- 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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This design is valid until 4/17/2026



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 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO
 Nov 04 2023

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
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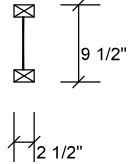
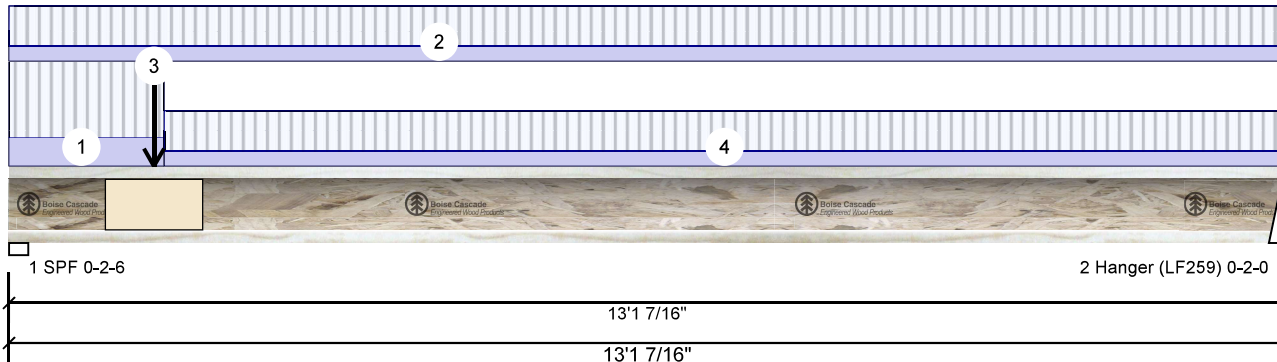
F4-C AJS 140

9.500"

- PAS

PER: *C. Motta*
 CHIEF BUILDING OFFICIAL

Level: Ground Floor



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	604	227	0	0
2	Vertical	411	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	72%	283 / 907	1190	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	51%	192 / 616	808	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2716 ft-lb	6'2 5/16"	4095 ft-lb	0.663 (66%)	1.25D+1.5L	L
Unbraced	2716 ft-lb	6'2 5/16"	4095 ft-lb	0.663 (66%)	1.25D+1.5L	L
Shear	1167 lb	1 5/8"	1830 lb	0.637 (64%)	1.25D+1.5L	L
Perm Defl in.	0.096 (L/1612)	6'5 3/8"	0.429 (L/360)	0.223 (22%)	D	Uniform
LL Defl inch	0.256 (L/605)	6'5 3/8"	0.429 (L/360)	0.595 (60%)	L	
TL Defl inch	0.351 (L/440)	6'5 3/8"	0.644 (L/240)	0.546 (55%)	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: 5 1/4"
- 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 11'7 9/16" 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 1-7-2	1-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-1-7	0-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-14		Far Face	73 lb	194 lb	0 lb	0 lb	F2
4	Tie-In	1-7-2 to 13-1-7	0-8-14	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 & 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

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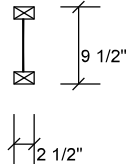
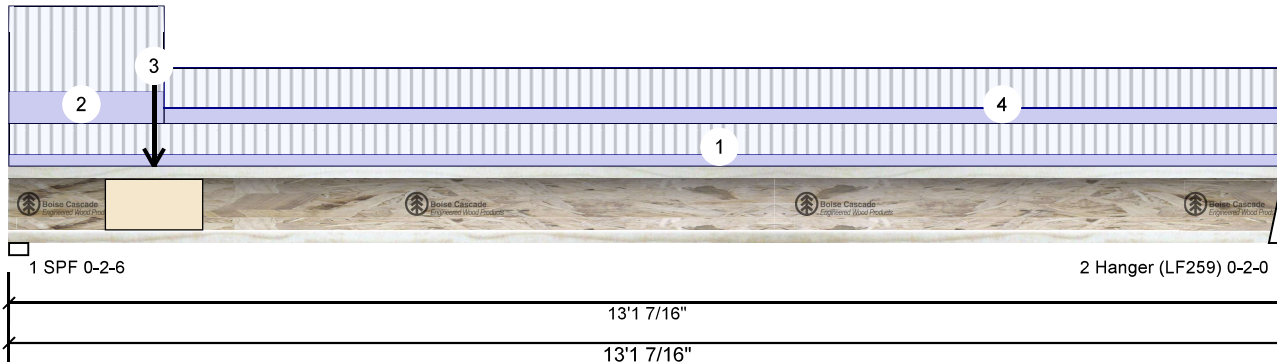
F4-D AJS 140

9.500"

- PAS

PER: *C. Motta*
 CHIEF BUILDING OFFICIAL

Level: Ground Floor



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	335	126	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	42%	157 / 503	660	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2263 ft-lb	6' 5/8"	4095 ft-lb	0.553 (55%)	1.25D+1.5L	L
Unbraced	2263 ft-lb	6' 5/8"	4095 ft-lb	0.553 (55%)	1.25D+1.5L	L
Shear	1057 lb	1 5/8"	1830 lb	0.577 (58%)	1.25D+1.5L	L
Perm Defl in.	0.080 (L/1929)	6'4 13/16"	0.429 (L/360)	0.187 (19%)	D	Uniform
LL Defl inch	0.214 (L/723)	6'4 13/16"	0.429 (L/360)	0.498 (50%)	L	
TL Defl inch	0.294 (L/526)	6'4 13/16"	0.644 (L/240)	0.456 (46%)	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.
- Right Header: DF, Thickness: 5 1/4"
- 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 11'7 9/16" 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 13-1-7	0-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-7-2	1-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-14		Near Face	80 lb	213 lb	0 lb	0 lb	F2
4	Tie-In	1-7-2 to 13-1-7	0-8-1	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

- 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

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



Client: GREENPARK
 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO

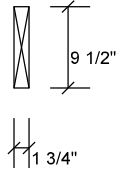
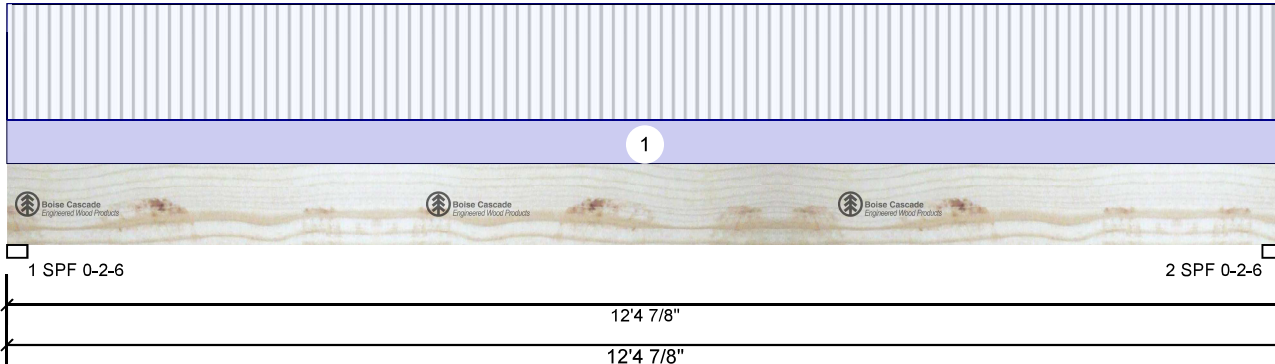
Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

F5 Versa-Lam LVL 2.1E 3100 SP

0" - PASSED

Level: Ground Floor

PER: *C. Moore*
 CHIEF BUILDING OFFICIAL



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	120	74	0	0
2	Vertical	120	74	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	11%	93 / 180	273	L	1.25D+1.5L
2 - SPF	2.398"	Vert	11%	93 / 180	273	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	809 ft-lb	6'2 7/16"	11610 ft-lb	0.070 (7%)	1.25D+1.5L	L
Unbraced	809 ft-lb	6'2 7/16"	11610 ft-lb	0.070 (7%)	1.25D+1.5L	L
Shear	234 lb	11 7/8"	5287 lb	0.044 (4%)	1.25D+1.5L	L
Perm Defl in.	0.022 (L/6502)	6'2 7/16"	0.404 (L/360)	0.055 (6%)	D	Uniform
LL Defl inch	0.036 (L/4030)	6'2 7/16"	0.404 (L/360)	0.089 (9%)	L	L
TL Defl inch	0.059 (L/2488)	6'2 7/16"	0.607 (L/240)	0.096 (10%)	D+L	L

Design Notes

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



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 12-4-14	0-5-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				5 PLF				

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

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





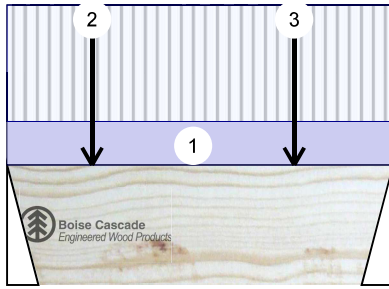
Client: GREENPARK
 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

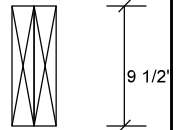
F6 Versa-Lam LVL 2.1E 3100 SP

1.7 *C. Motta* - Ply - PASSED
 PER: CHIEF BUILDING OFFICIAL

Level: Ground Floor



1 Hanger (HUC410 (Min)) 0-2-8
 2 Hanger (HUC410 (Min)) 0-2-8
 2'6 9/16"
 2'6 9/16"



3 1/2"

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	288	120	0	0
2	Vertical	268	113	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	Vert	6%	150 / 432	582	L	1.25D+1.5L
2 - Hanger	2.500"	Vert	6%	141 / 402	543	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	267 ft-lb	1'4 1/8"	23220 ft-lb	0.011 (1%)	1.25D+1.5L	L
Unbraced	267 ft-lb	1'4 1/8"	23220 ft-lb	0.011 (1%)	1.25D+1.5L	L
Shear	432 lb	1'	10574 lb	0.041 (4%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/221628)	1'3 3/8"	0.075 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch	0.000 (L/92648)	1'3 3/8"	0.075 (L/360)	0.004 (0%)	L	L
TL Defl inch	0.000 (L/65335)	1'3 3/8"	0.113 (L/240)	0.004 (0%)	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: DF, Thickness: 3 1/2"
- Right Header: DF, Thickness: 3 1/2"
- 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.



JULY 04, 2023

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Notes

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Lumber

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

chemicals

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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



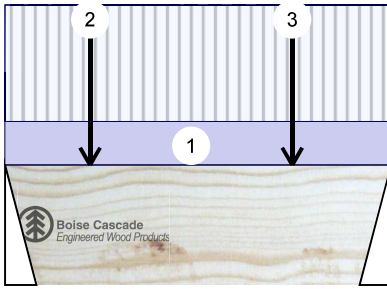
Client: GREENPARK
 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

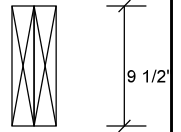
F6 Versa-Lam LVL 2.1E 3100 SP

1.7 *C. Mata* - Ply - PASSED
 PER: CHIEF BUILDING OFFICIAL

Level: Ground Floor



1 Hanger (HUC410 (Min)) 0-2-8
 2 Hanger (HUC410 (Min)) 0-2-8
 2'6 9/16"
 2'6 9/16"



9 1/2"
 3 1/2"

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-6-9	1-10-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-6-12		Far Face	70 lb	187 lb	0 lb	0 lb	J2
3	Point	1-10-12		Far Face	67 lb	178 lb	0 lb	0 lb	J2
	Self Weight				9 PLF				



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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

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Client: GREENPARK
 Project: ZADORRA ESTATES
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 OSHAWA, ONTARIO
 Nov 04 2023

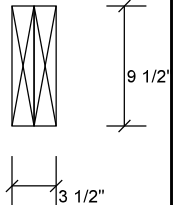
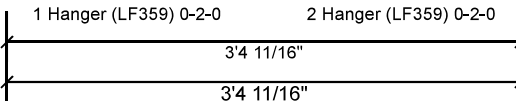
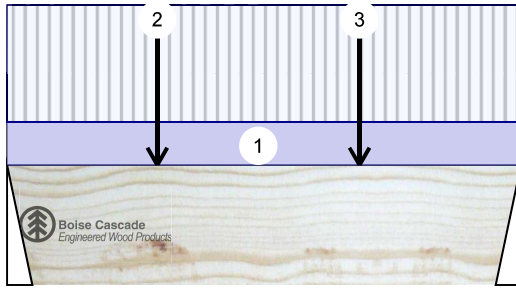
Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

F6-A Versa-Lam LVL 2.1E 3100 SP

2-Ply - PASSED

Level: Ground Floor

PER: 
 CHIEF BUILDING OFFICIAL



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	240	106	0	0
2	Vertical	236	104	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	6%	132 / 361	493	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	6%	130 / 354	484	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	409 ft-lb	1'8 15/16"	23220 ft-lb	0.018 (2%)	1.25D+1.5L	L
Unbraced	409 ft-lb	1'8 15/16"	23220 ft-lb	0.018 (2%)	1.25D+1.5L	L
Shear	365 lb	11 1/2"	10574 lb	0.034 (3%)	1.25D+1.5L	L
Perm Defl in. (L/112651)	0.000	1'8 3/8"	0.106 (L/360)	0.003 (0%)	D	Uniform
LL Defl inch (L/48588)	0.001	1'8 3/8"	0.106 (L/360)	0.007 (1%)	L	L
TL Defl inch (L/33946)	0.001	1'8 3/8"	0.159 (L/240)	0.007 (1%)	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: DF, Thickness: 3 1/2"
- Right Header: DF, Thickness: 3 1/2"
- 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.



JULY 04, 2023

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Notes

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Lumber

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

chemicals

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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: GREENPARK
 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
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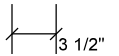
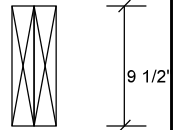
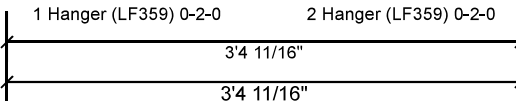
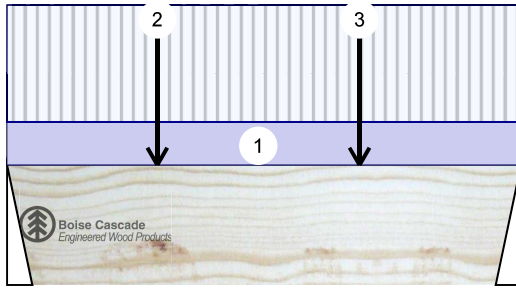
Page 14 of 40

F6-A Versa-Lam LVL 2.1E 3100 SP

2-Ply - PASSED

Level: Ground Floor

PER: *C. Maitre*
 CHIEF BUILDING OFFICIAL



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-4-11		Top	25 PLF	67 PLF	0 PLF	0 PLF	
2	Point	0-11-14		Far Face	46 lb	123 lb	0 lb	0 lb	J1
3	Point	2-3-14		Far Face	47 lb	126 lb	0 lb	0 lb	J1
	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

Manufacturer Info

Boise Cascade Wood Products
 1111 W. Jefferson St.
 Boise, ID 83702
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 CCMC: 12472

Kott Inc.
 3228 Moodie Dr, Ottawa, Ontario
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This design is valid until 4/17/2026



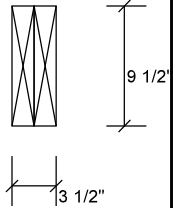
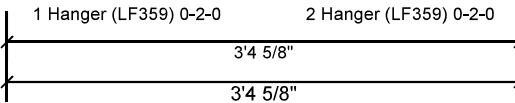
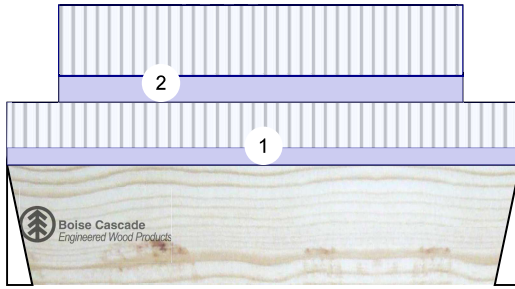
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 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO
 Nov 04 2023

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

F6-B Versa-Lam LVL 2.1E 3100 SP

2-Ply - PASSED

Level: Ground 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	252	111	0	0
2	Vertical	249	110	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	7%	139 / 378	517	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	7%	137 / 374	511	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	431 ft-lb	1'8 5/16"	23220 ft-lb	0.019 (2%)	1.25D+1.5L	L
Unbraced	431 ft-lb	1'8 5/16"	23220 ft-lb	0.019 (2%)	1.25D+1.5L	L
Shear	377 lb	2'5 1/8"	10574 lb	0.036 (4%)	1.25D+1.5L	L
Perm Defl in. (L/110348)	0.000	1'8 1/4"	0.106 (L/360)	0.003 (0%)	D	Uniform
LL Defl inch (L/47799)	0.001	1'8 1/4"	0.106 (L/360)	0.008 (1%)	L	L
TL Defl inch (L/33352)	0.001	1'8 1/4"	0.159 (L/240)	0.007 (1%)	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: DF, Thickness: 3 1/2"
- Right Header: DF, Thickness: 3 1/2"
- 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.



JULY 04, 2023

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Notes

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Lumber

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

chemicals

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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: GREENPARK
 Project: ZADORRA ESTATES
 Address: ZADORRA ESTATES
 OSHAWA, ONTARIO

Date: 7/3/2023
 Input by: W C
 Job Name: RIVER 6-3 STD & DC
 Project #: MHP 23025

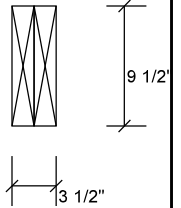
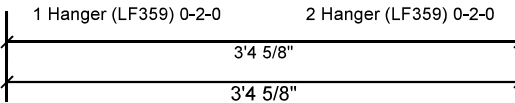
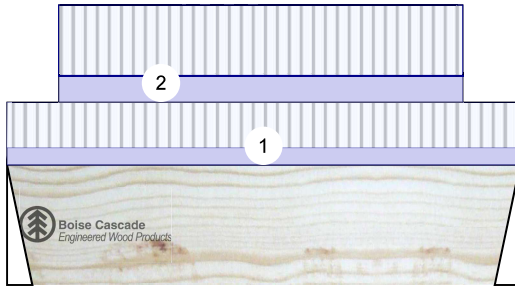
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F6-B Versa-Lam LVL 2.1E 3100 SP

2-Ply - PASSED

Level: Ground Floor

PER: *C. Mata*
 CHIEF BUILDING OFFICIAL



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-4-10		Top	25 PLF	67 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-4-1 to 3-0-1		Far Face	39 PLF	103 PLF	0 PLF	0 PLF	
	Self Weight				9 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

Manufacturer Info

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 CCMC: 12472

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Client: GREENPARK
Project: ZADORRA ESTATES
Address: ZADORRA ESTATES
OSHAWA, ONTARIO
Nov 04 2023

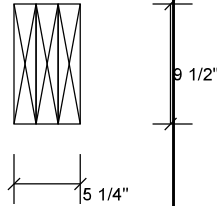
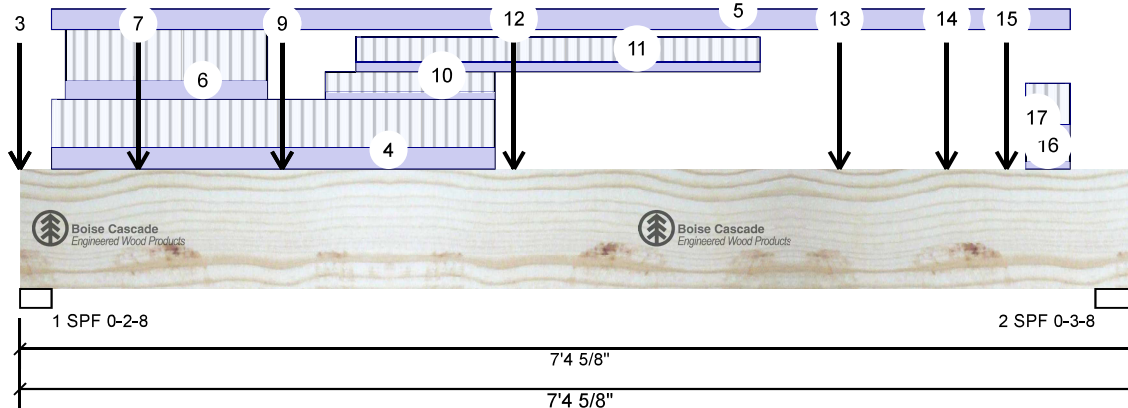
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Job Name: RIVER 6-3 STD & DC
Project #: MHP 23025

Page 1 of 4

F7 Versa-Lam LVL 2.1E 3100 SP

1.7 *C. Moore* - Ply - PASSED
PER: CHIEF BUILDING OFFICIAL

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	3	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(2020 Update)
Deflection LL:	360	Load Sharing:	Yes
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	2257	1403	0	0
2	Vertical	1620	1074	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.500"	Vert	64%	1754 / 3385	5139	L	1.25D+1.5L
2 - SPF	3.500"	Vert	33%	1343 / 2431	3774	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7551 ft-lb	3'3 1/8"	36222 ft-lb	0.208 (21%)	1.25D+1.5L	L
Unbraced	7551 ft-lb	3'3 1/8"	36222 ft-lb	0.208 (21%)	1.25D+1.5L	L
Shear	4418 lb	1'	15860 lb	0.279 (28%)	1.25D+1.5L	L
Perm Defl in.	0.024 (L/3526)	3'6 5/16"	0.234 (L/360)	0.102 (10%)	D	Uniform
LL Defl inch	0.037 (L/2301)	3'5 3/4"	0.234 (L/360)	0.156 (16%)	L	
TL Defl inch	0.060 (L/1392)	3'6"	0.351 (L/240)	0.172 (17%)	D+L	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.5.
- 2 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be continuously laterally braced.
- 7 Bottom must have sheathing attached or be continuously braced.
- 8 Lateral slenderness ratio based on full section width.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-0-0		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
2	Point	0-0-0		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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CCMC: 12472

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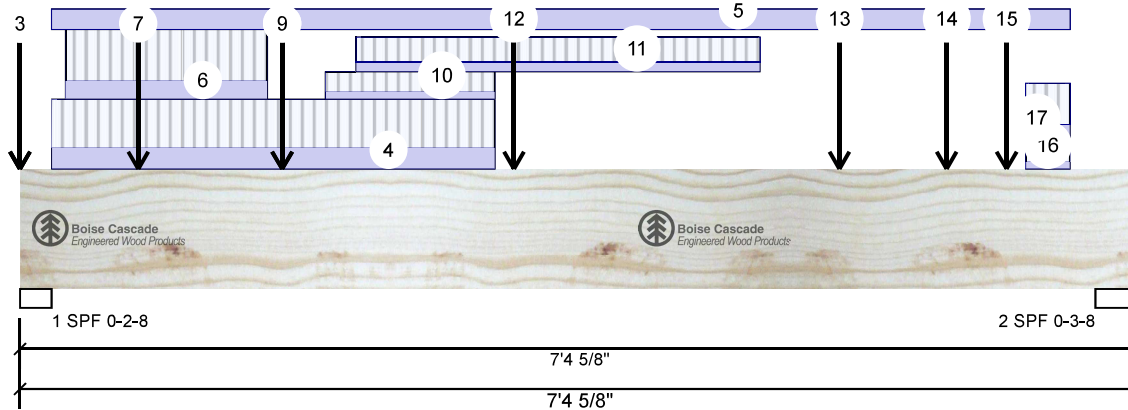
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Page 2 of 4

F7 Versa-Lam LVL 2.1E 3100 SP

1.7 *C. Moore* -Ply - PASSED
 PER: CHIEF BUILDING OFFICIAL

Level: Ground Floor



9 1/2"

5 1/4"

...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
3	Point	0-0-0		Top	13 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
4	Part. Uniform	0-2-8 to 3-1-10		Top	85 PLF	194 PLF	0 PLF	0 PLF	J2
5	Part. Uniform	0-2-8 to 6-11-2		Top	82 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Part. Uniform	0-3-10 to 1-7-10		Top	76 PLF	203 PLF	0 PLF	0 PLF	J4
7	Point	0-9-6		Near Face	112 lb	300 lb	0 lb	0 lb	J4
8	Point	1-8-12		Top	331 lb	613 lb	0 lb	0 lb	F11
	Bearing Length	0-5-8							
9	Point	1-8-12		Near Face	156 lb	283 lb	0 lb	0 lb	F8
10	Part. Uniform	2-0-3 to 3-1-10		Top	30 PLF	80 PLF	0 PLF	0 PLF	J5
11	Part. Uniform	2-2-10 to 4-10-10		Near Face	38 PLF	101 PLF	0 PLF	0 PLF	
12	Point	3-3-2		Top	231 lb	483 lb	0 lb	0 lb	Header Column
	Bearing Length	0-5-8							
13	Point	5-4-14		Near Face	149 lb	265 lb	0 lb	0 lb	F8
14	Point	6-1-6		Near Face	67 lb	180 lb	0 lb	0 lb	J2
15	Point	6-6-2		Top	228 lb	484 lb	0 lb	0 lb	Header Column
	Bearing Length	0-5-8							
16	Part. Uniform	6-7-10 to 6-11-2		Top	30 PLF	80 PLF	0 PLF	0 PLF	J5
17	Part. Uniform	6-7-10 to 6-11-2		Top	68 PLF	165 PLF	0 PLF	0 PLF	J2
	Self Weight				14 PLF				



JULY 05, 2023

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