

## Engineering Notes: EWP-Floors



MHP 23034



PLEASE READ AND FOLLOW INSTRUCTIONS 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.

# MHP 23034

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*C. M...*  
PER: CHIEF BUILDING OFFICIAL

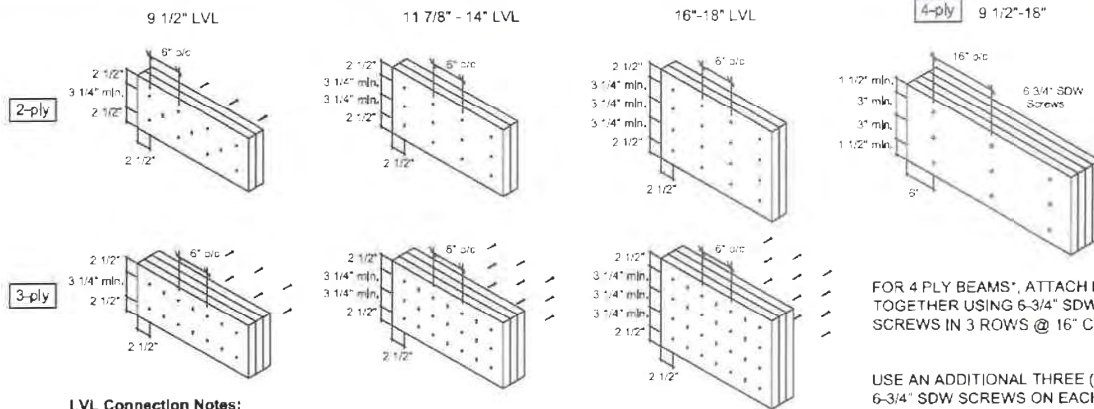
ENG-IM0723-117-KTF-GREENPARK-ZADORRA ESTATES-VILLA 2-2

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## 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

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)

Last Revised January 13, 2023

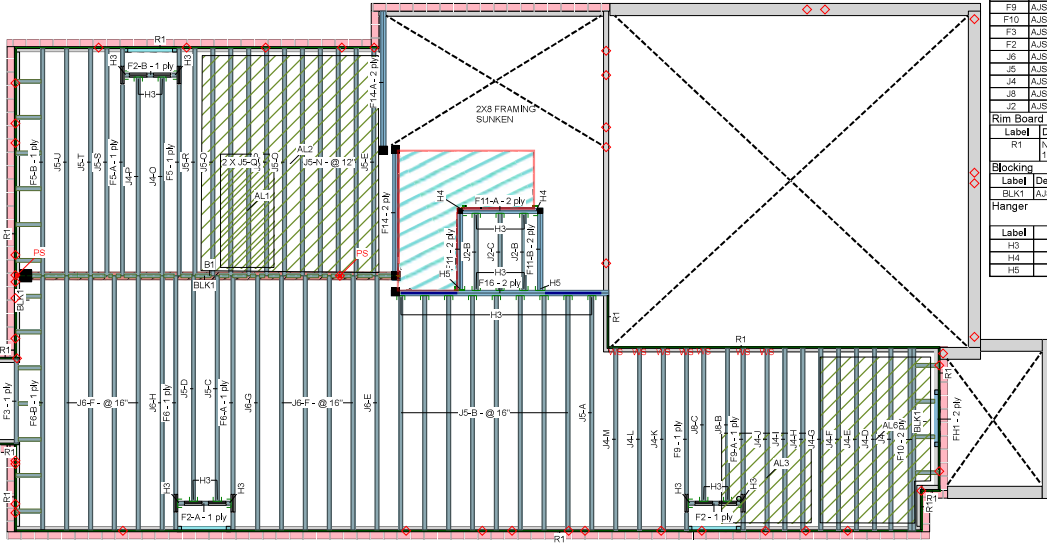
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Ground Floor



Ground Floor							
LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F16	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	14-0
F14	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	2	2	4	8-0
F11	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	3	2	6	6-0
F10	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	4-0
Joist (Flush)							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F8	AJS 140	2.5	11.875			3	16-0
F5	AJS 140	2.5	11.875			3	14-0
F9	AJS 140	2.5	11.875			2	12-0
F10	AJS 140	2.5	11.875	1	2	2	12-0
F3	AJS 140	2.5	11.875			1	6-0
F2	AJS 140	2.5	11.875			3	4-0
J6	AJS 140	2.5	11.875			11	16-0
J5	AJS 140	2.5	11.875			25	14-0
J4	AJS 140	2.5	11.875			13	12-0
J8	AJS 140	2.5	11.875			2	10-0
J2	AJS 140	2.5	11.875			3	6-0

Rim Board			
Label	Description	Width	Depth
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875

Blocking			
Label	Description	Width	Depth
BLK1	AJS 140	2.5	11.875

Hanger			
Label	Pcs	Description	fasteners
H3	2	F2511	12 10x1 1/2
H4	2	HUC410 (Min)	14 16d
H5	2	LF3511	12 10d

Supported Member			
Label	Pcs	Description	fasteners
H3	2	F2511	12 10x1 1/2
H4	2	HUC410 (Min)	14 16d
H5	2	LF3511	12 10d

JOB INFORMATION	
Builder	GREENPARK
Project	ZADORRA ESTATES OSHAWA, ON
Shipping	
Sales Rep	RALPH MIRIGELLO
Designer	
Plotted	July 17, 2023
Layout Name	VILLA 2-2 STD
Job Path	8:\CUSTOMERS\GREENPARK\ZADORRA ESTATES\MODELS\BILLA 2VILLA 2-2\F-VILLA 2-2\BILLA 2-2 STD.rvt

DESIGN CRITERIA	
Design Method	LSD (Canada)
Bulking Code	NBCC 2015
	OBC 2012(2020 Update)
Floor Loads	
Live	40
Dead	15
Deflection Joist	
LL Span /	360
TL Span /	240
Deflection Flush Girder	
LL Span /	360
TL Span /	240
Deflection Dropped Girder	
LL Span /	360
TL Span /	240
Deflection Header	
LL Span /	360
TL Span /	240
Decking	
Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued

CCMC References	
Boise - 12472-R	12787-R
LP - 12412-R	Roseburg - 13310-R
Forex - 14035-R	
Kott Inc.	
3228 Wood Dr. Ottawa	
14 Anderson Blvd. Unbridge	
Ontario	
613-838-2775 /	
905-642-4400	



Installation Guide



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

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

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

Legend	
WS	Web Stiffener
-WS	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
Load from Above	
Wall	
Wall Opening	
Norbord Rimboard Plus 1.125 X 11.875	
AJS 140 11.875	
Versa-Lam LVL 2.1E 3100 SP 1.75 X 11.875	
1.75 X 9.5 (Dropped)	
5.25 X 8 (Dropped)	

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Ground Floor

Installation Guide



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

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

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
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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
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Ground Floor  
LV/LSL (Flush)

Label	Description	Width	Depth	Qty	Files	Pcs	Length
F16	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	14'-0"
F14	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	2	2	4	8'-0"
F11	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	3	2	6	6'-0"
FH1	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	4'-0"

Joist (Flush)

Label	Description	Width	Depth	Qty	Files	Pcs	Length
F8	AJS 140	2.5	11.875			1	16'-0"
F5	AJS 140	2.5	11.875			1	14'-0"
F9	AJS 140	2.5	11.875			2	12'-0"
F10	AJS 140	2.5	11.875	1	2	2	12'-0"
F3	AJS 140	2.5	11.875			1	8'-0"
F2	AJS 140	2.5	11.875			1	4'-0"
J6	AJS 140	2.5	11.875			15	16'-0"
J5	AJS 140	2.5	11.875			27	14'-0"
J4	AJS 140	2.5	11.875			11	12'-0"
J8	AJS 140	2.5	11.875			2	10'-0"
J2	AJS 140	2.5	11.875			3	6'-0"

Rim Board

Label	Description	Width	Depth	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875	12	12'-0"

Blocking

Label	Description	Width	Depth	Qty	Pcs	Length
BLK1	AJS 140	2.5	11.875	1	1	37'-0"

Hanger

Label	Pcs	Description	fasteners	Supported Member
H3	19	LF2511	12 10d x 1/2"	1 #8 x 1 1/4" WS
H4	2	HUC410 (Min)	14 16d	6 10d
H5	2	LF3511	12 10d	2 #8 x 1 1/4" WS

JOB INFORMATION

<b>Builder</b>	GREENPARK
<b>Project</b>	ZADORRA ESTATES OSHAWA, ON
<b>Shipping</b>	
<b>Sales Rep</b>	RALPH MIRIGELLO
<b>Designer</b>	
<b>Plotted</b>	July 18, 2023
<b>Layout Name</b>	VILLA 2-2 WOC
<b>Job Path</b>	8:\CUSTOMERS\GREENPARK\ZADORRA ESTATES WOODSIDE\BILLA 2\BILLA 2-2\F-VILLA 2-2\WOC\BILLA 2-2 WOC.rvt

DESIGN CRITERIA

<b>Ground Floor</b>	
<b>Design Method</b>	LSD (Canada)
<b>Bulking Code</b>	NBCC 2015 OBC 2012(2020 Update)

Floor Loads

Live	40
Dead	15

Deflection Joist

LL Span /	360
TL Span /	240

Deflection Flush Girder

LL Span /	360
TL Span /	240

Deflection Dropped Girder

LL Span /	360
TL Span /	240

Deflection Header

LL Span /	360
TL Span /	240

Decking

Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued

CCMC References

Boise - 12472-R, 12787-R	
LP - 12412-R, Roseburg - 13310-R	
Forex - 14095-R	

Kott Inc.

3228 Woodle Dr. Ottawa 14 Anderson Blvd. Unbridge Ontario	
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613-838-2775 /  
905-642-4400

Legend

WS	Web Stiffener
-WS	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
◇	Load from Above
Wall	Wall
Wall Opening	Wall Opening
Norbord Rimboard Plus 1.125 X 11.875	Norbord Rimboard Plus 1.125 X 11.875
AJS 140 11.875	AJS 140 11.875
Versa-Lam LVL 2.1E 3100 SP 1.75 X 11.875	Versa-Lam LVL 2.1E 3100 SP 1.75 X 11.875
1.75 X 9.5 (Dropped)	1.75 X 9.5 (Dropped)
1.75 X 9.5	1.75 X 9.5





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

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

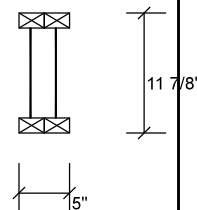
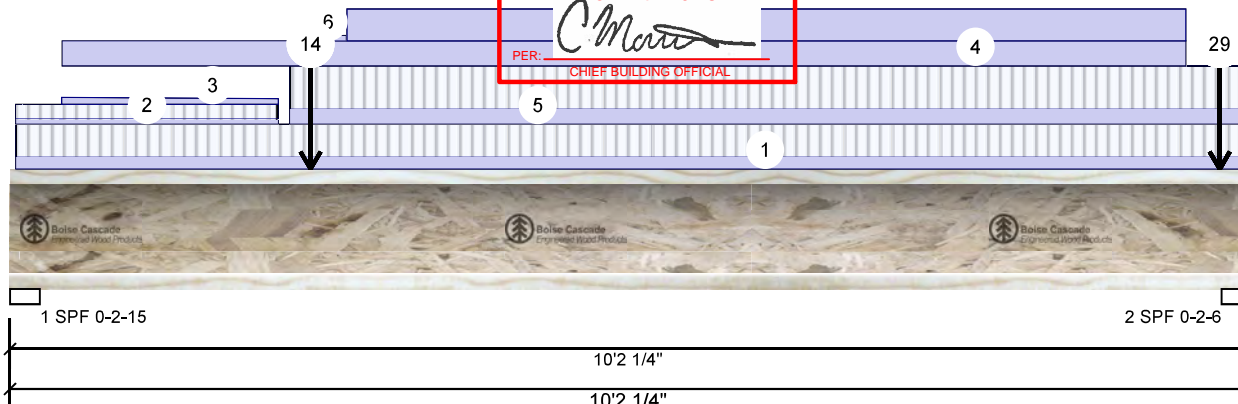
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F10 AJS 140 11.875" 2-Ply - PASSED

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PER: *C. M...*  
CHIEF BUILDING OFFICIAL

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	266	302	2	0
2	Vertical	845	918	265	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.943"	Vert	22%	377 / 400	777	L	1.25D+1.5L
2 - SPF	2.375"	Vert	80%	1147 / 1533	2680	L	1.25D+1.5L +S

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2064 ft-lb	5'1 1/8"	10398 ft-lb	0.198 (20%)	1.25D+1.5L	L
Unbraced	2064 ft-lb	5'1 1/8"	10398 ft-lb	0.198 (20%)	1.25D+1.5L	L
Shear	2666 lb	10' 5/8"	4700 lb	0.567 (57%)	1.25D+1.5L +S	L
Perm Defl in.	0.029 (L/4089)	5'1 1/4"	0.329 (L/360)	0.088 (9%)	D	Uniform
LL Defl inch	0.025 (L/4695)	5'1 5/8"	0.329 (L/360)	0.077 (8%)	L+0.5S	L
TL Defl inch	0.054 (L/2186)	5'1 7/16"	0.494 (L/240)	0.110 (11%)	D+L+0.5S	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.
- 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.
- 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 bearings.



JULY 19, 2023

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	0-0-9 to 10-2-4	0-7-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-9 to 2-2-9	0-3-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tapered Start	0-5-2		Top	5 PLF	0 PLF	0 PLF	0 PLF	
	End	2-2-9			4 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-5-2 to 9-8-6		Top	18 PLF	0 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

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

chemicals

## Handling &amp; Installation

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

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





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

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

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F10 AJS 140 11.875" 2-Ply - PASSED

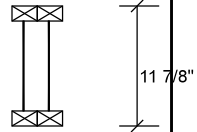
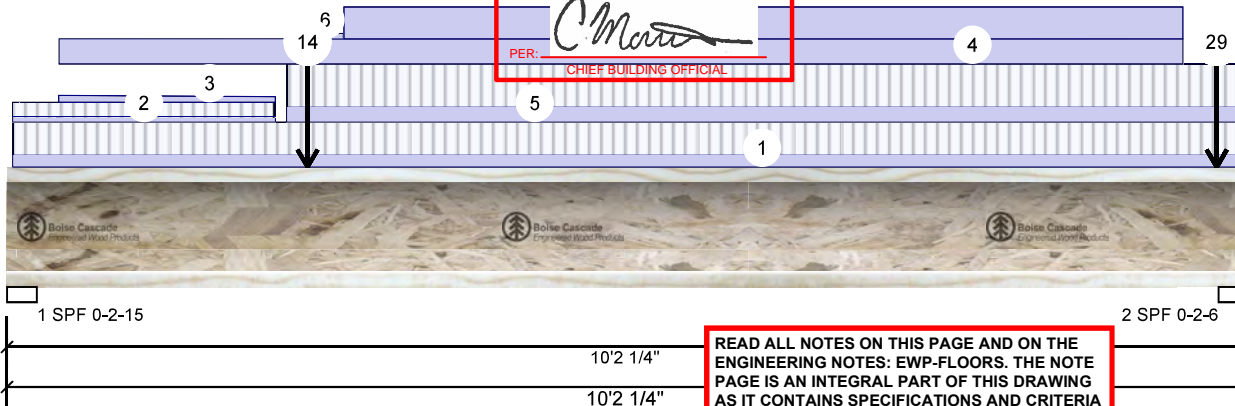
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CHIEF BUILDING OFFICIAL

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Tie-In	2-3-11 to 10-2-4	0-9-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Part. Uniform	2-3-11 to 2-9-4		Top	4 PLF	0 PLF	0 PLF	0 PLF	
7	Point	2-5-12		Top	5 lb	14 lb	0 lb	0 lb	J1
	Bearing Length	0-3-8							
8	Point	2-5-12		Top	1 lb	0 lb	0 lb	0 lb	Rim Board Self Weight
	Bearing Length	0-3-8							
9	Point	2-5-12		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8							
10	Point	2-5-12		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8							
11	Point	2-5-12		Top	9 lb	25 lb	0 lb	0 lb	J1
	Bearing Length	0-3-8							
13	Point	2-5-12		Top	2 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8							
14	Point	2-5-12		Top	31 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-3-8							
15	Part. Uniform	2-9-6 to 9-8-6		Top	23 PLF	0 PLF	0 PLF	0 PLF	
16	Point	9-11-11		Top	223 lb	244 lb	261 lb	0 lb	F4
	Bearing Length	0-1-8							
17	Point	9-11-11		Top	108 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							
18	Point	9-11-11		Top	6 lb	0 lb	0 lb	0 lb	Rim Board Self Weight
	Bearing Length	0-1-8							
19	Point	9-11-11		Top	75 lb	200 lb	0 lb	0 lb	J4
	Bearing Length	0-1-8							
20	Point	9-11-11		Top	2 lb	0 lb	6 lb	0 lb	
	Bearing Length	0-1-8							
22	Point	9-11-11		Top	0 lb	1 lb	0 lb	0 lb	
	Bearing Length	0-1-8							
23	Point	9-11-11		Top	29 lb	78 lb	0 lb	0 lb	J1



#### Notes

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

#### Lumber

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

#### chemicals

#### Handling & Installation

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

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 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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3228 Moodie Dr, Ottawa, Ontario  
613-838-2775 / 905-642-4400





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

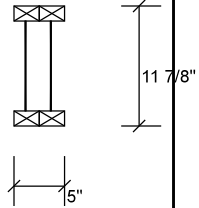
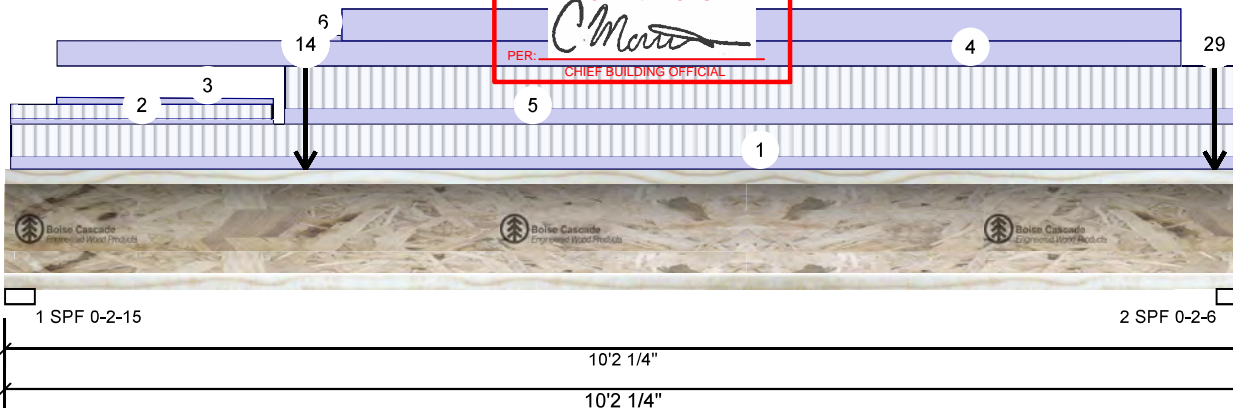
Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

Page 3 of 37

F10 AJS 140 11.875" 2-Fly - PASSED

CORPORATION OF THE CITY OF OSHAWA  
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PER: *Chen*  
CHIEF BUILDING OFFICIAL

Level: Ground Floor



...Continued from page 2

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-1-8							
24	Point	9-11-11		Top	108 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							
25	Point	9-11-11		Top	27 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							
26	Point	9-11-11		Top	1 lb	0 lb	0 lb	0 lb	Rim Board Self Weight
	Bearing Length	0-1-8							
28	Point	9-11-11		Top	18 lb	49 lb	0 lb	0 lb	J1
	Bearing Length	0-1-8							
29	Point	9-11-11		Top	27 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							



JULY 19, 2023

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**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**

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





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

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

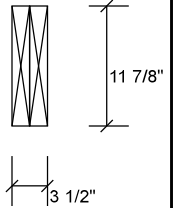
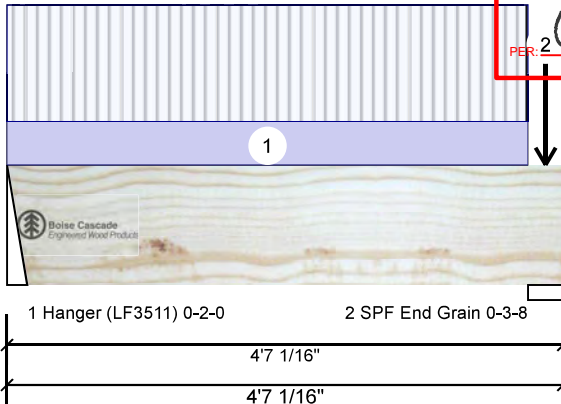
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F11 Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor

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Nov 14 2023  
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## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(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	41	42	0	0
2	Vertical	191	124	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%	52 / 61	113	L	1.25D+1.5L
2 - SPF End Grain	3.500"	Vert	3%	155 / 286	441	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	115 ft-lb	2'2 3/4"	35392 ft-lb	0.003 (0%)	1.25D+1.5L	L
Unbraced	115 ft-lb	2'2 3/4"	35392 ft-lb	0.003 (0%)	1.25D+1.5L	L
Shear	69 lb	3'3 11/16"	13217 lb	0.005 (1%)	1.25D+1.5L	L
Perm Defl in. (L/351327)	0.000	2'2 13/16"	0.142 (L/360)	0.001 (0%)	D	Uniform
LL Defl inch (L/359843)	0.000	2'2 13/16"	0.142 (L/360)	0.001 (0%)	L	L
TL Defl inch (L/177767)	0.000	2'2 13/16"	0.213 (L/240)	0.001 (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 loads must be supported equally by all plies.
- 7 Top must be continuously laterally braced.
- 8 Bottom must be laterally braced at a maximum of 4'5 5/16" o.c.
- 9 Lateral slenderness ratio based on full section width.



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## Notes

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## Lumber

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

## chemicals

## 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: GREENPARK  
Project:  
Address: ZADORRA ESTATES  
OSHAWA, ON

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

Page 5 of 37

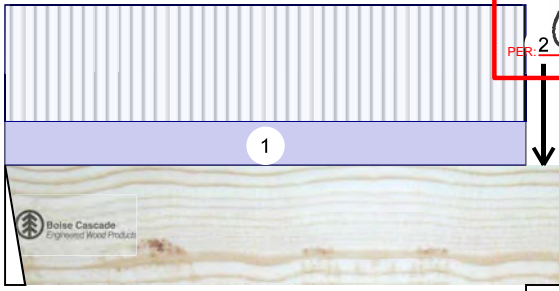
F11 Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - PASSED

Level: Ground Floor

TRUE COPY  
OF PERMIT PLANS  
Nov 14 2023

PER. 2  
CHIEF BUILDING OFFICIAL

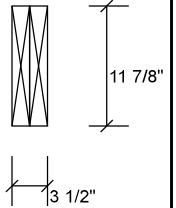


1 Hanger (LF3511) 0-2-0

2 SPF End Grain 0-3-8

4'7 1/16"

4'7 1/16"



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-3-9	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	4-5-5		Near Face	82 lb	153 lb	0 lb	0 lb	F11
	Self Weight				12 PLF				



JULY 19, 2023

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**Lumber**

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2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

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6. For flat roofs provide proper drainage to prevent ponding

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OSHAWA, ON

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Project #:

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F11-A Versa-Lam LVL 2.1E 3100 SP

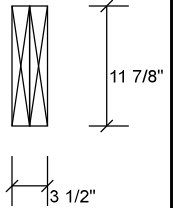
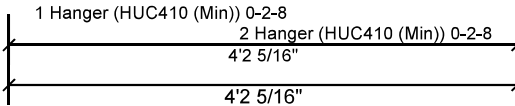
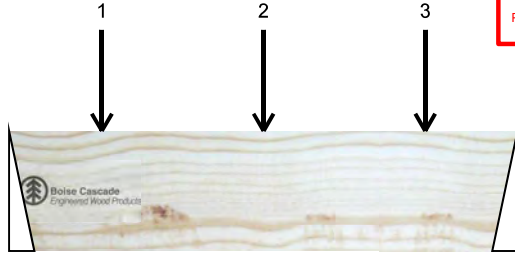
1.750" X 11.875" 2-Ply

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Level: Ground Floor

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Nov 14 2023

PER:   
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## Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 OBC 2012(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	153	82	0	0
2	Vertical	154	82	0	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	Vert	3%	103 / 230	333	L	1.25D+1.5L
2 - Hanger	2.500"	Vert	3%	103 / 231	333	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	366 ft-lb	2'1 3/16"	35392 ft-lb	0.010 (1%)	1.25D+1.5L	L
Unbraced	366 ft-lb	2'1 3/16"	35392 ft-lb	0.010 (1%)	1.25D+1.5L	L
Shear	330 lb	2'11 15/16"	13217 lb	0.025 (2%)	1.25D+1.5L	L
Perm Defl in. (L/193691)	0.000	2'1 3/16"	0.130 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch (L/99832)	0.000	2'1 3/16"	0.130 (L/360)	0.004 (0%)	L	L
TL Defl inch (L/65877)	0.001	2'1 3/16"	0.195 (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 Fill all hanger nailing holes.
- 3 Left Header: DF, Thickness: 3 1/2"
- 4 Right Header: DF, Thickness: 3 1/2"
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Multiple plies must be fastened together as per manufacturer's details.
- 7 Top must be continuously laterally braced.
- 8 Bottom must have sheathing attached or be continuously braced.
- 9 Lateral slenderness ratio based on full section width.



JULY 19, 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: GREENPARK  
Project:  
Address: ZADORRA ESTATES  
OSHAWA, ON

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

Page 7 of 37

F11-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply

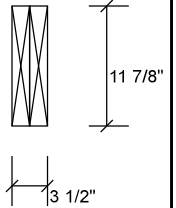
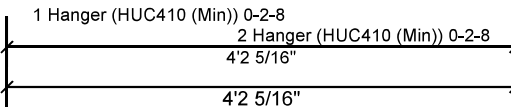
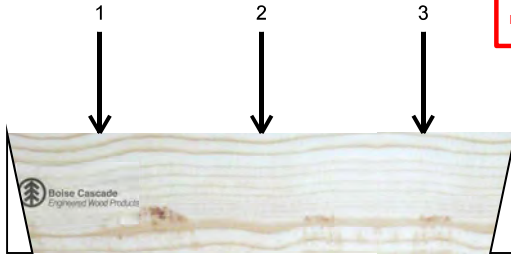
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-9-3		Near Face	36 lb	96 lb	0 lb	0 lb	J2
2	Point	2-1-3		Near Face	43 lb	115 lb	0 lb	0 lb	J2
3	Point	3-5-3		Near Face	36 lb	96 lb	0 lb	0 lb	J2
	Self Weight				12 PLF				



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**Lumber**

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2. LVL not to be treated with fire retardant or corrosive chemicals

**Handling & Installation**

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

6. For flat roofs provide proper drainage to prevent ponding

**Manufacturer Info**

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

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

Page 8 of 37

F11-B Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply

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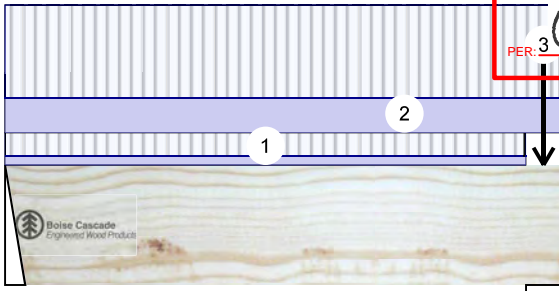
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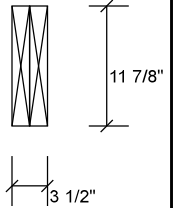
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1 Hanger (LF3511) 0-2-0  
2 SPF End Grain 0-3-8  
4'7 1/16"  
4'7 1/16"



## 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	201	102	0	0
2	Vertical	361	188	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%	127 / 302	429	L	1.25D+1.5L
2 - SPF End Grain	3.500"	Vert	6%	234 / 542	776	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	435 ft-lb	2'2 3/4"	35392 ft-lb	0.012 (1%)	1.25D+1.5L	L
Unbraced	435 ft-lb	2'2 3/4"	35392 ft-lb	0.012 (1%)	1.25D+1.5L	L
Shear	221 lb	3'3 11/16"	13217 lb	0.017 (2%)	1.25D+1.5L	L
Perm Defl in. (L/143784)	0.000	2'2 13/16"	0.142 (L/360)	0.003 (0%)	D	Uniform
LL Defl inch (L/72806)	0.001	2'2 13/16"	0.142 (L/360)	0.005 (0%)	L	L
TL Defl inch (L/48333)	0.001	2'2 13/16"	0.213 (L/240)	0.005 (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.
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- 6 Top loads must be supported equally by all plies.
- 7 Top must be continuously laterally braced.
- 8 Bottom must be laterally braced at a maximum of 4'5 5/16" o.c.
- 9 Lateral slenderness ratio based on full section width.



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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 &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

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

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Job Name: VILLA 2-2 STD  
Project #:

Page 9 of 37

MHP 23034

F11-B Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply

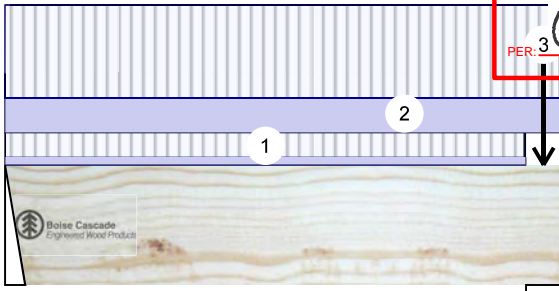
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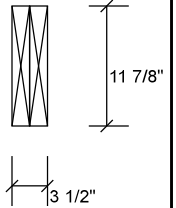


1 Hanger (LF3511) 0-2-0

2 SPF End Grain 0-3-8

4'7 1/16"

4'7 1/16"



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-3-9	0-5-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 4-7-1	1-9-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	4-5-5		Far Face	82 lb	154 lb	0 lb	0 lb	F11
	Self Weight				12 PLF				



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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: GREENPARK  
Project:  
Address: ZADORRA ESTATES  
OSHAWA, ON

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

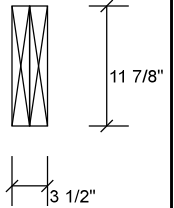
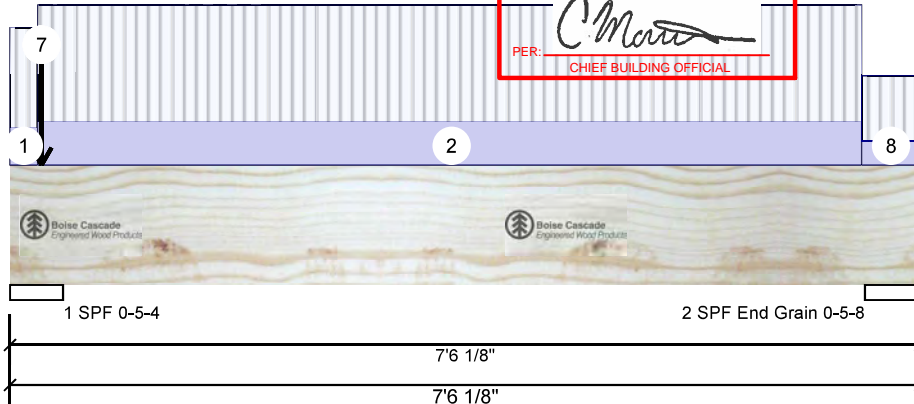
Page 10 of 37

F14 Versa-Lam LVL 2.1E 3100 SP 1.750 X 11.875" OF OSB 2-Ply - PASSED Level: Ground Floor

TRUE COPY  
OF PERMIT PLANS

Nov 14 2023

PER: *C. M. ...*  
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	2125	1061	0	0
2	Vertical	85	76	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	40%	1327 / 3188	4515	L	1.25D+1.5L
2 - SPF	5.500"	Vert	1%	95 / 127	222	L	1.25D+1.5L
End Grain							

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	350 ft-lb	3'8 15/16"	35392 ft-lb	0.010 (1%)	1.25D+1.5L	L
Unbraced	350 ft-lb	3'8 15/16"	35392 ft-lb	0.010 (1%)	1.25D+1.5L	L
Shear	158 lb	6' 3/4"	13217 lb	0.012 (1%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/83334)	3'8 15/16"	0.225 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.001 (L/72625)	3'8 15/16"	0.225 (L/360)	0.005 (0%)	L	L
TL Defl inch	0.002 (L/38806)	3'8 15/16"	0.337 (L/240)	0.006 (1%)	D+L	L

### Design Notes

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



JULY 19, 2023

READ ALL NOTES ON THIS PAGE AND ON THE  
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### 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:  
Address: ZADORRA ESTATES  
OSHAWA, ON

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

Page 11 of 37

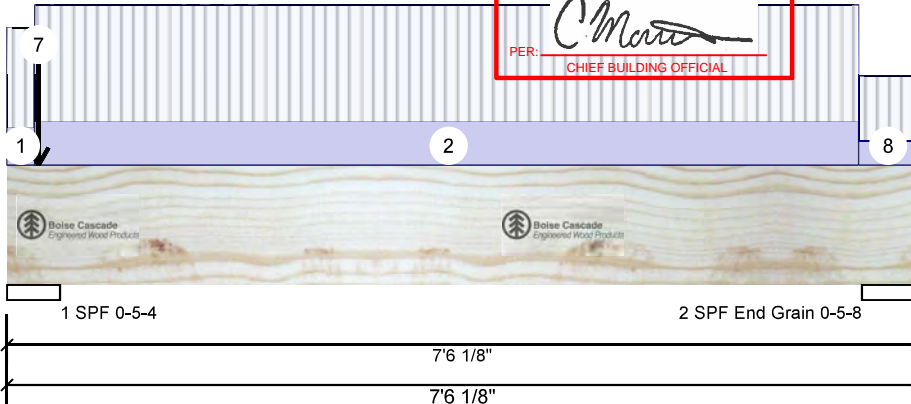
## F14 Versa-Lam LVL 2.1E 3100 SP

1.750' X 11.875' 2-Ply - PASSED

Level: Ground Floor

TRUE COPY  
OF PERMIT PLANS

Nov 14 2023

PER:   
CHIEF BUILDING OFFICIAL

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-12	0-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-2-12 to 7-0-4	0-7-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-3-2		Top	928 lb	1968 lb	0 lb	0 lb	F16
	Bearing Length	0-5-8							
4	Point	0-3-2		Top	10 lb	27 lb	0 lb	0 lb	
	Bearing Length	0-5-8							
5	Point	0-3-2		Top	12 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-3-2		Top	16 lb	42 lb	0 lb	0 lb	
	Bearing Length	0-5-8							
7	Point	0-3-2		Top	18 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
8	Tie-In	7-0-4 to 7-6-2	0-4-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				12 PLF				



JULY 19, 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

This design is valid until 4/17/2026

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





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

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

Page 12 of 37

MHP 23034

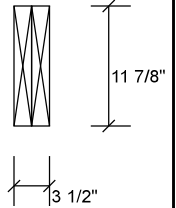
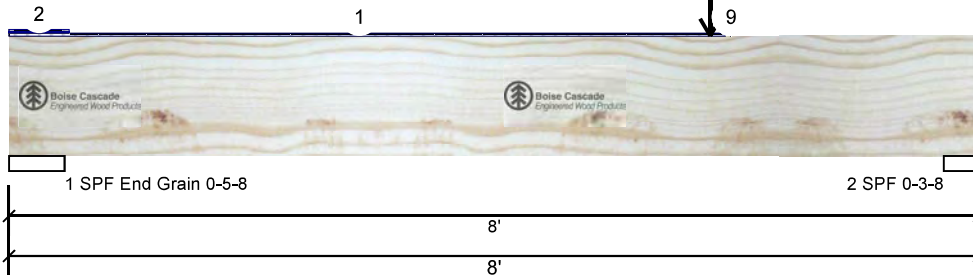
## F14-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply

PASSED

Level: Ground Floor

TRUE COPY  
OF PERMIT PLANS  
Nov 14 2023  
PER: *C. Mart*  
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	209	447	506	0
2	Vertical	461	1229	1584	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.500"	Vert	8%	559 / 969	1527	L	1.25D+1.5S +L
2 - SPF	3.500"	Vert	58%	1536 / 2837	4373	L	1.25D+1.5S +L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7668 ft-lb	5'9 3/8"	35392 ft-lb	0.217 (22%)	1.25D+1.5S +L	L
Unbraced	7668 ft-lb	5'9 3/8"	35392 ft-lb	0.217 (22%)	1.25D+1.5S +L	L
Shear	3839 lb	6'8 5/8"	13217 lb	0.290 (29%)	1.25D+1.5S +L	L
Perm Defl in.	0.016 (L/5439)	4'6 3/16"	0.246 (L/360)	0.066 (7%)	D	Uniform
LL Defl inch	0.024 (L/3713)	4'6 7/16"	0.246 (L/360)	0.097 (10%)	S+0.5L	L
TL Defl inch	0.040 (L/2207)	4'6 3/8"	0.369 (L/240)	0.109 (11%)	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 laterally braced at a maximum of 2'1 1/8" o.c.
- 6 Bottom must be laterally braced at bearings.
- 7 Lateral slenderness ratio based on full section width.



JULY 19, 2023

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 5-10-14	0-3-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-15	0-4-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	5-6-8 to 7-6-8		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	5-9-6		Top	1218 lb	601 lb	1626 lb	0 lb	F15

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 &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







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

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

Page 13 of 37

MHP 23034

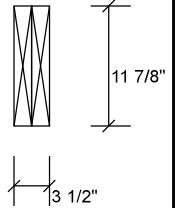
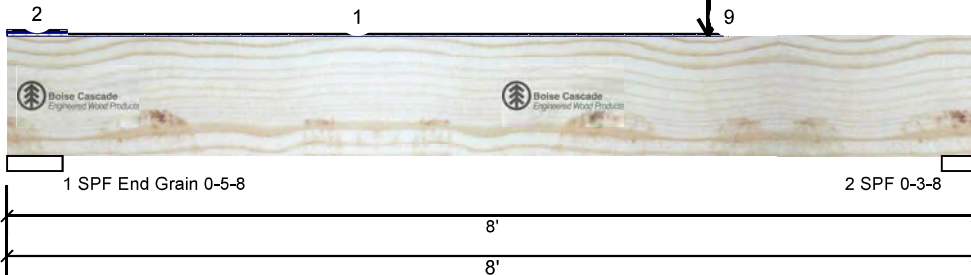
F14-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply

PASSED

Level: Ground Floor

TRUE COPY  
OF PERMIT PLANS  
Nov 14 2023  
PER: *[Signature]*  
CHIEF BUILDING OFFICIAL



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	Bearing Length	0-8-0							
5	Part. Uniform	5-10-4 to 7-6-8		Top	105 PLF	0 PLF	275 PLF	0 PLF	
6	Part. Uniform	5-11-7 to 5-11-7		Top	100 PLF	0 PLF	260 PLF	0 PLF	
7	Part. Uniform	5-11-7 to 5-11-7		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Part. Uniform	5-11-7 to 5-11-7		Top	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
	Self Weight				12 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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1111 W. Jefferson St.  
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(800) 232-0788  
www.bc.com  
CCMC: 12472

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613-838-2775 / 905-642-4400



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Client: GREENPARK  
Project:  
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OSHAWA, ON

Date: 7/18/2023  
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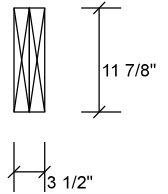
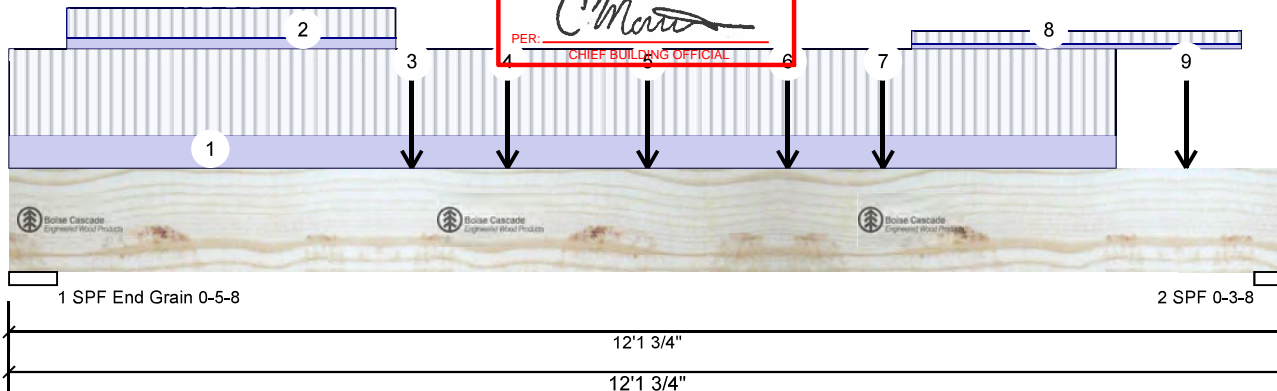
Page 14 of 37

**F16 Versa-Lam LVL 2.1E 3100 SP**

1.750' X 11.875" OF OSAL 2-Ply - PASSED

Level: Ground Floor

TRUE COPY  
OF PERMIT PLANS  
Nov 14 2023  
PER: *Chen*  
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	2129	899	0	0
2	Vertical	1921	818	0	0

**Bearings and Factored Reactions**

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.500"	Vert	21%	1124 / 3193	4317	L	1.25D+1.5L
2 - SPF	3.500"	Vert	52%	1022 / 2881	3903	L	1.25D+1.5L

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11988 ft-lb	6' 15/16"	35392 ft-lb	0.339 (34%)	1.25D+1.5L	L
Unbraced	11988 ft-lb	6' 15/16"	35392 ft-lb	0.339 (34%)	1.25D+1.5L	L
Shear	4345 lb	10'10 3/8"	13217 lb	0.329 (33%)	1.25D+1.5L	L
Perm Defl in.	0.059 (L/2343)	6'1 15/16"	0.384 (L/360)	0.154 (15%)	D	Uniform
LL Defl inch	0.139 (L/996)	6'1 15/16"	0.384 (L/360)	0.361 (36%)	L	L
TL Defl inch	0.198 (L/699)	6'1 15/16"	0.576 (L/240)	0.343 (34%)	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.



JULY 19, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 10-6-7		Near Face	99 PLF	264 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-6-10 to 3-8-3		Top	34 PLF	90 PLF	0 PLF	0 PLF	
3	Point	3-10-0		Far Face	42 lb	41 lb	0 lb	0 lb	F11
4	Point	4-8-15		Far Face	36 lb	96 lb	0 lb	0 lb	J2
5	Point	6-0-15		Far Face	43 lb	115 lb	0 lb	0 lb	J2

Continued on page 2...

**Notes**

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**Lumber**

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

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

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

**Manufacturer Info**

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CCMC: 12472

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

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

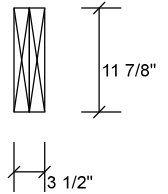
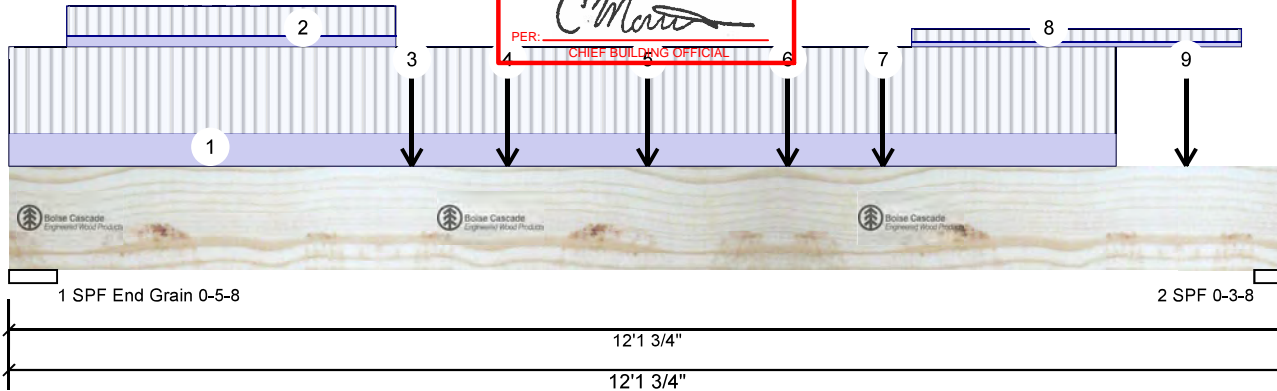
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F16 Versa-Lam LVL 2.1E 3100 SP

1.750 X 11.875" 2-Ply - PASSED

Level: Ground Floor

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OF PERMIT PLANS  
Nov 14 2023  
PER: *Chen*  
CHIEF BUILDING OFFICIAL



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	7-4-15		Far Face	36 lb	96 lb	0 lb	0 lb	J2
7	Point	8-3-14		Far Face	102 lb	201 lb	0 lb	0 lb	F11
8	Part. Uniform	8-7-2 to 11-8-13		Top	15 PLF	40 PLF	0 PLF	0 PLF	
9	Point	11-2-7		Near Face	117 lb	311 lb	0 lb	0 lb	J5
	Self Weight				12 PLF				



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

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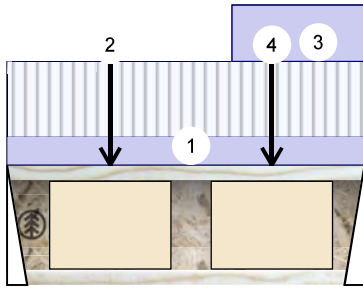
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Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

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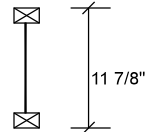
**F2 AJS 140 11.875" - PASSED**

INTEGRATION OF THE CITY OF OSHAWA  
TRUE COPY  
OF PERMIT PLANS  
Nov 14 2023  
PER: *Chen*  
CHIEF BUILDING OFFICIAL

Level: Ground Floor



1 Hanger (LF2511) 0-2-0  
2 Hanger (LF2511) 0-2-0  
2'11 3/8"  
2'11 3/8"



### 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	238	111	0	0
2	Vertical	247	167	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	31%	138 / 357	495	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	36%	208 / 370	578	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	367 ft-lb	1'7 5/8"	5305 ft-lb	0.069 (7%)	1.25D+1.5L	L
Unbraced	367 ft-lb	1'7 5/8"	5305 ft-lb	0.069 (7%)	1.25D+1.5L	L
Shear	569 lb	2'10 1/8"	2350 lb	0.242 (24%)	1.25D+1.5L	L
Perm Defl in. (L/18015)	0.002	1'10 7/16"	0.091 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch (L/10181)	0.003	1'4 5/8"	0.091 (L/360)	0.035 (4%)	L	L
TL Defl inch (L/6579)	0.005	1'6 5/8"	0.137 (L/240)	0.036 (4%)	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 19, 2023

READ ALL NOTES ON THIS PAGE AND ON THE  
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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 2-11-6	0-9-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-10-3		Far Face	76 lb	201 lb	0 lb	0 lb	J8
3	Part. Uniform	1-10-4 to 2-11-6		Top	23 PLF	0 PLF	0 PLF	0 PLF	
4	Point	2-2-3		Far Face	142 lb	193 lb	0 lb	0 lb	J8

### 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

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:  
Address: ZADORRA ESTATES  
OSHAWA, ON

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

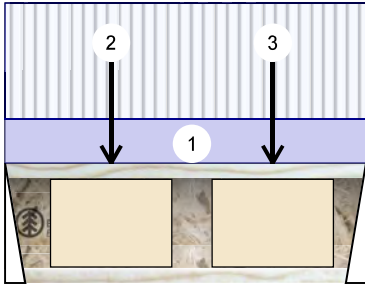
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MHP 23034

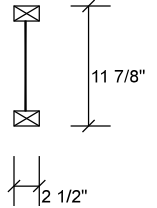
F2-A AJS 140 11.875" - PASSED



Level: Ground Floor



1 Hanger (LF2511) 0-2-0  
2 Hanger (LF2511) 0-2-0  
2'11 3/4"  
2'11 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	321	121	0	0
2	Vertical	337	127	0	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	39%	151 / 482	633	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	41%	158 / 506	664	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	466 ft-lb	1' 5/16"	5305 ft-lb	0.088 (9%)	1.25D+1.5L	L
Unbraced	466 ft-lb	1' 5/16"	5305 ft-lb	0.088 (9%)	1.25D+1.5L	L
Shear	657 lb	2'10 1/2"	2350 lb	0.280 (28%)	1.25D+1.5L	L
Perm Defl in. (L/19548)	0.002	1'4 3/8"	0.092 (L/360)	0.018 (2%)	D	Uniform
LL Defl inch	0.005 (L/7342)	1'4 3/8"	0.092 (L/360)	0.049 (5%)	L	L
TL Defl inch	0.006 (L/5338)	1'4 3/8"	0.138 (L/240)	0.045 (4%)	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 19, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-11-12	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-10-8		Far Face	109 lb	290 lb	0 lb	0 lb	J5
3	Point	2-2-8		Far Face	104 lb	277 lb	0 lb	0 lb	J5

## 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 &amp; Installation

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

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

## Manufacturer Info

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This design is valid until 4/17/2026



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

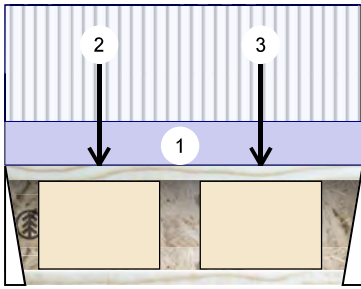
Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

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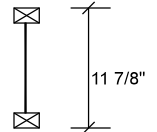
**F2-B AJS 140 11.875" - PASSED**



Level: Ground Floor



1 Hanger (LF2511) 0-2-0  
2 Hanger (LF2511) 0-2-0  
2'11 7/16"  
2'11 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	298	112	0	0
2	Vertical	290	108	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	37%	140 / 447	587	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	35%	135 / 435	570	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	404 ft-lb	1'8 11/16"	5305 ft-lb	0.076 (8%)	1.25D+1.5L	L
Unbraced	404 ft-lb	1'8 11/16"	5305 ft-lb	0.076 (8%)	1.25D+1.5L	L
Shear	580 lb	1 1/4"	2350 lb	0.247 (25%)	1.25D+1.5L	L
Perm Defl in. (L/22356)	0.001	1'6 9/16"	0.091 (L/360)	0.016 (2%)	D	Uniform
LL Defl inch	0.004 (L/8367)	1'6 5/8"	0.091 (L/360)	0.043 (4%)	L	L
TL Defl inch	0.005 (L/6088)	1'6 5/8"	0.137 (L/240)	0.039 (4%)	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 19, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0 to 2-11-7	0-9-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-9-5		Near Face	92 lb	245 lb	0 lb	0 lb	J4
3	Point	2-1-5		Near Face	94 lb	252 lb	0 lb	0 lb	J4

### 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

### Manufacturer Info

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



This design is valid until 4/17/2026



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

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

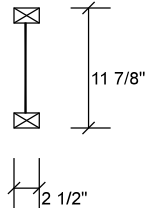
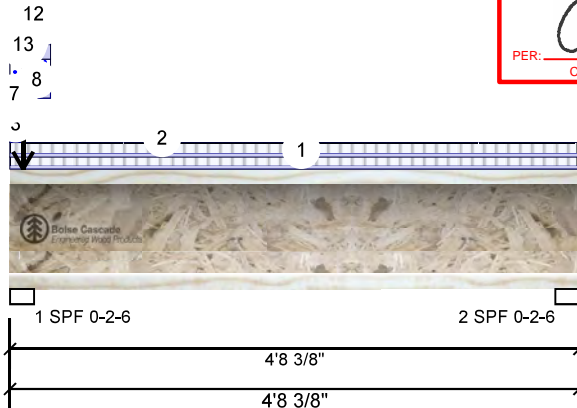
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MHP 23034

F3 AJS 140 11.875" - PASSED



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	190	489	383	0
2	Vertical	127	48	0	0

## Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	82%	611 / 764	1375	L	1.25D+1.5S +L
2 - SPF	2.375"	Vert	17%	60 / 191	251	L	1.25D+1.5L

## Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	262 ft-lb	2'4 1/16"	4721 ft-lb	0.056 (6%)	1.25D+1.5L	L
Unbraced	262 ft-lb	2'4 1/16"	4721 ft-lb	0.056 (6%)	1.25D+1.5L	L
Shear	277 lb	1 5/8"	2092 lb	0.132 (13%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/40028)	2'3 7/8"	0.147 (L/360)	0.009 (1%)	D	Uniform
LL Defl inch	0.003 (L/15454)	2'4 1/8"	0.147 (L/360)	0.023 (2%)	L+0.5S	L
TL Defl inch	0.005 (L/11150)	2'4 1/16"	0.221 (L/240)	0.022 (2%)	D+L+0.5S	L



JULY 19, 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 bearings.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-8-6	0-7-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 4-8-6	0-8-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 0-1-2		Top	15 PLF	0 PLF	40 PLF	0 PLF	
4	Part. Uniform	0-0-0 to 0-1-2		Top	20 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Tapered Start	0-0-0		Top	2 PLF	6 PLF	0 PLF	0 PLF	

Continued on page 2...

## Notes

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## Lumber

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

## chemicals

## Handling &amp; Installation

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

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

This design is valid until 4/17/2026

## Manufacturer Info

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Kott Inc.  
3228 Moodie Dr, Ottawa, Ontario  
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Client: GREENPARK  
Project:  
Address: ZADORRA ESTATES  
OSHAWA, ON

Date: 7/18/2023  
Input by: W C  
Job Name: VILLA 2-2 STD  
Project #:

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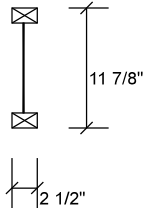
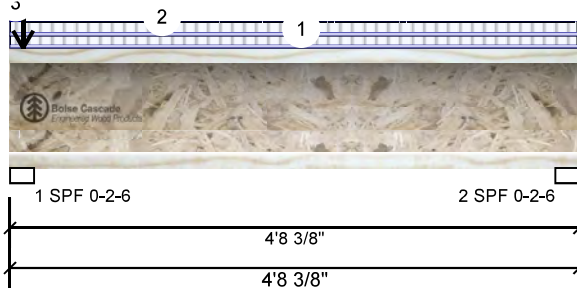
MHP 23034

F3 AJS 140 11.875" - PASSED

INCORPORATION OF THE CITY OF OSHAWA  
TRUE COPY  
OF PERMIT PLANS  
Nov 14 2023  
PER: *C. Mart*  
CHIEF BUILDING OFFICIAL

Level: Ground Floor

12  
13  
1. 8  
7



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	End	0-1-2			2 PLF	6 PLF	0 PLF	0 PLF	
6	Part. Uniform	0-0-0 to 0-1-2		Top	1 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
7	Part. Uniform	0-0-0 to 0-1-2		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Part. Uniform	0-0-0 to 0-4-0		Top	30 PLF	0 PLF	80 PLF	0 PLF	
9	Part. Uniform	0-0-0 to 0-4-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Tapered Start	0-0-0		Top	5 PLF	13 PLF	0 PLF	0 PLF	
	End	0-4-0			5 PLF	13 PLF	0 PLF	0 PLF	
11	Part. Uniform	0-0-0 to 0-4-0		Top	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
12	Part. Uniform	0-0-0 to 0-4-0		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
13	Point	0-1-5		Top	382 lb	58 lb	353 lb	0 lb	B3
	Bearing Length	0-1-8							



JULY 19, 2023

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**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
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7. For flat roofs provide proper drainage to prevent ponding

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Client: GREENPARK  
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Address: ZADORRA ESTATES  
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Date: 7/18/2023  
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Job Name: VILLA 2-2 STD  
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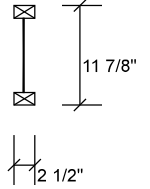
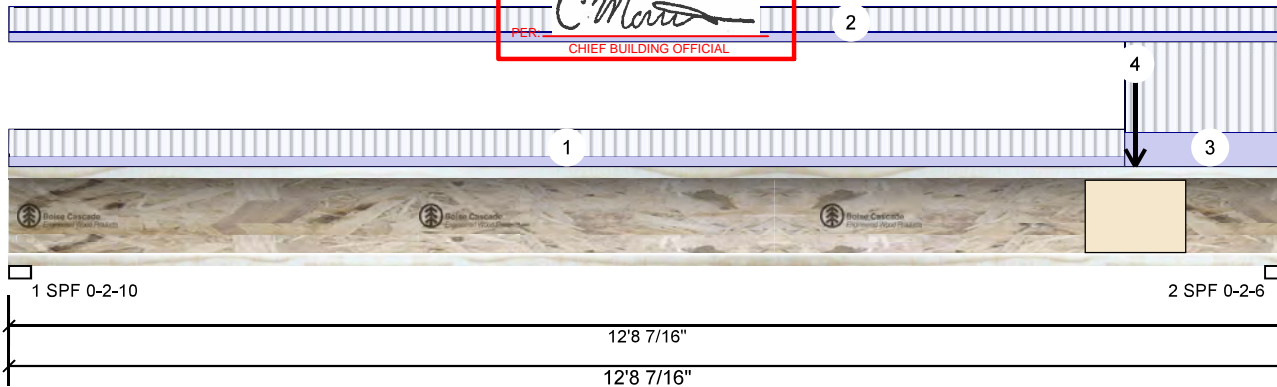
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F5 AJS 140 11.875" - PASSED

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TRUE COPY  
OF PERMIT PLANS  
Nov 14 2023  
PER: *Chen*  
CHIEF BUILDING OFFICIAL

MHP 23034

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	269	101	0	0
2	Vertical	557	208	0	0

### Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	30%	126 / 403	529	L	1.25D+1.5L
2 - SPF	2.375"	Vert	65%	260 / 837	1097	L	1.25D+1.5L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1855 ft-lb	7'3 15/16"	5305 ft-lb	0.350 (35%)	1.25D+1.5L	L
Unbraced	1855 ft-lb	7'3 15/16"	5305 ft-lb	0.350 (35%)	1.25D+1.5L	L
Shear	1075 lb	12'6 13/16"	2350 lb	0.457 (46%)	1.25D+1.5L	L
Perm Defl in.	0.037 (L/3987)	6'8"	0.414 (L/360)	0.090 (9%)	D	Uniform
LL Defl inch	0.100 (L/1493)	6'8"	0.414 (L/360)	0.241 (24%)	L	
TL Defl inch	0.137 (L/1086)	6'8"	0.620 (L/240)	0.221 (22%)	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 a maximum of 11'2 9/16" 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 11-1-5	0-5-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-8-7	0-5-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	11-1-5 to 12-8-7	1-6-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	11-2-9		Far Face	108 lb	290 lb	0 lb	0 lb	F2

### 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

This design is valid until 4/17/2026

### Manufacturer Info

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www.bc.com  
CCMC: 12787

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