CORPORATION OF THE CITY OF OSHAWA ENG-I 40723-133-KTF-GREEN INC. OF PERMIPPE PLANGREEN PARK Nov 03 e 2023 OF RA ESTATES

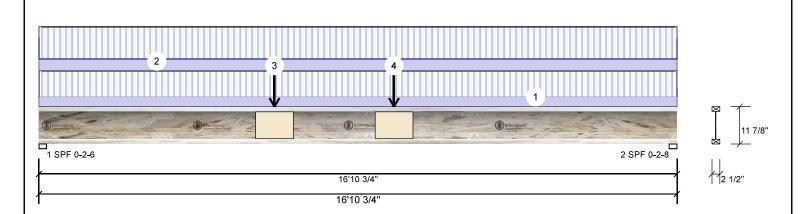
HAV<mark>VA,ON</mark>

Job Name: VILLA 5-1 STD

Project #

AJS 140

Level: Ground Floor



Member Inform	nation		Unfactored Reactions UNPATTERNED lb (Uplift)								
Туре:	Girder	Application:	Floor (Residential)	Brg	Direction	Liv	е	Dead		Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical	51	6	193		0	0
Moisture Condition:	: Dry	Building Code:	NBCC 2015	2	Vertical	51	0	191		0	0
Deflection LL:	360		OBC 2012(2020 Update)								
Deflection TL:	240	Load Sharing:	No								
Importance:	Normal - II	Deck:	Not Checked								
General Load		Vibration:	Not Checked								
Floor Live:	40 PSF			Bear	ings and Fa	actored F	Rea	ctions			
Dead:	15 PSF			Bea	aring Length	Dir. C	Сар.	React D/L Ib	Total	Ld. Case	Ld. Comb.
				1 - 3	SPF 2.375"	Vert (30%	242 / 773	1015	L	1.25D+1.5L
				2 - 1	SPF 2.518"	Vert :	59%	239 / 765	1004	L	1.25D+1.5L

Analysis Results

Ana l ysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4345 ft-lb	8'6"	5305 ft-lb	0.819 (82%)	1.25D+1.5L	L
Unbraced	4345 ft-lb	8'6"	5305 ft-lb	0.819 (82%)	1.25D+1.5L	L
Shear	1000 l b	1 5/8"	2350 lb	0.426 (43%)	1.25D+1.5L	L
Perm Defl in	0.143 (L/1395)	8'5 3/16"	0.554 (L/360)	0.258 (26%)	D	Uniform
LL Defl inch	0.381 (L/523)	8'5 3/16"	0.554 (L/360)	0.689 (69%)	L	L
TL Defl inch	0.524 (L/380)	8'5 3/16"	0.831 (L/240)	0.631 (63%)	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 7'5 15/16" 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 16-10-12	0-7-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 16-10-12	0-9-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	6-2-13		Near Face	16 l b	43 lb	0 l b	0 l b	F1
4	Point	9-4-13		Near Face	16 l b	43 lb	0 lb	0 l b	F1

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.

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

Handling & Installation

- Handling & Installation

 1. Noist flanges must not be cut or drilled

 2. Refer to latest copy of the Juoist product information details for framing details, stifferer tables, web hole chart, bridging details, multi-ray fastening details and handling/erection details

 3. Damaged Juoists must not be used

 4. 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





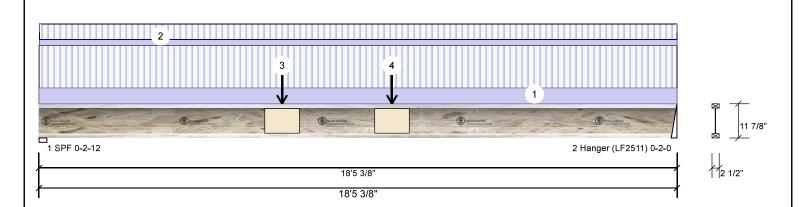
NO,AVVAF

Job Name: VILLA 5-1 STD

Project #

AJS 140

Level: Ground Floor



Member I	nformation			Unf	actored Read	tions l
Type:	Girder	Application:	Floor (Residential)	Bra	Direction	Li

Design Method: LSD Moisture Condition: Dry **Building Code: NBCC 2015** OBC 2012(2020 Update) Deflection LL: 360 Load Sharing: Deflection TL: 240 Not Checked Deck: Importance: Normal - II Vibration: Not Checked General Load

UNPATTERNED Ib (Uplift) Wind Live Dead Snow 437 164 0 Vertical 0 2 Vertical 429 161 0 0

Bearings and Factored Reactions

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1 - SPF 2.750" Vert 49% 205 / 656 861 L 1.25D+1.5L 2 -2.000" Vert 53% 201 / 643 844 L 1.25D+1.5L Hanger

Analysis Results

Floor Live:

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4073 ft-lb	9'3 15/16"	5305 ft-lb	0.768 (77%)	1.25D+1.5L	L
Unbraced	4073 ft-lb	9'3 15/16"	5305 ft-lb	0.768 (77%)	1.25D+1.5L	L
Shear	847 l b	2"	2350 lb	0.360 (36%)	1.25D+1.5L	L
Perm Defl in.	0.158 (L/1383)	9'2 7/8"	0.606 (L/360)	0.260 (26%)	D	Uniform
LL Defl inch	0.421 (L/518)	9'2 7/8"	0.606 (L/360)	0.695 (69%)	L	L
TL Defl inch	0.579 (L/377)	9'2 7/8"	0.909 (L/240)	0.637 (64%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Right Header: DF, Thickness: 3 1/2"

40 PSF 15 PSF

- 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 8'2 15/16" o.c.



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I D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 18-5-6	0-9-3	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-2 to 18-5-6	0-3-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	7-0-6		Near Face	16 l b	43 lb	0 lb	0 lb	F1
l ,	Point	10-2-8		Near Face	16 lh	43 lh	0 lb	Ωlh	F1

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

Handling & Installation

- Handling & Installation

 1. Noist flanges must not be out or drilled

 2. Refer to latest copy of the IJoist product information
 details for framing details, stiffener tables, web hole
 chart, bridging details, multi-rily fastening details and
 handling/erection details

 3. Damaged IJoists must not be used
 4. 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

Manufacturer Info

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(800) 232-0788 www.bc.com CCMC: 12787

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



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Page 18 of 35

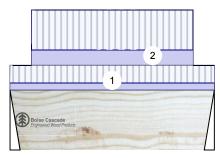
Job Name: VILLA 5-1 STD

Project #:

Versa-Lam LVL 2.1F-3-100-SP-FICIAL 750" X 11.875"

2-Ply - PASSED

Level: Ground Floor

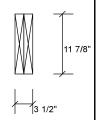


1 Hanger (LF3511) 0-2-0

2 Hanger (LF3511) 0-2-0

3'4 7/16'

3'4 7/16'



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015
Deflection LL:	360		OBC 2012(2020 Update)
Deflection TL:	240	Load Sharing:	No
Importance:	Normal - II	Deck:	Not Checked
General Load		Vibration:	Not Checked
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	186	89	0	0
2	Vertical	186	89	0	0

Analysis Results

Ana l ysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	330 ft-lb	1'8 1/4"	35392 ft-lb	0.009 (1%)	1.25D+1.5L	L
Unbraced	330 ft-lb	1'8 1/4"	35392 ft-lb	0.009 (1%)	1.25D+1.5L	L
Shear	287 lb	1'1 7/8"	13217 l b	0.022 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/255365)	1'8 1/4"	0.105 (L/360)	0.001 (0%)	D	Uniform
LL Defl inch	0.000 (L/118926)	1'8 1/4"	0.105 (L/360)	0.003 (0%)	L	L
TL Defl inch	0.000 (L/81139)	1'8 1/4"	0.158 (L/240)	0.003 (0%)	D+L	L

Bearings and Factored Reactions

	Dearing	Length	Dir.	Cap. Re	eact D/L I b	Total	Ld. Case	Ld. Comb.
٠.	•	2.000"	Vert	5%	111 / 279	390	L	1.25D+1.5L
2	2 -	2.000"	Vert	5%	112 / 279	391	L	1.25D+1.5L
2	Hanger						_	



- 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 loads must be supported equally by all plies.
- 8 Top must be continuously laterally braced.
- 9 Bottom must have sheathing attached or be continuously braced.
- 10 Lateral slenderness ratio based on full section width.



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

Handling & Installation

1. UVL 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

Dariga Beams must not be used
Design assumes top edge is laterally restrained
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

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





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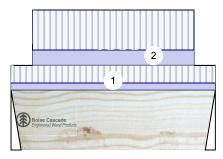
Job Name: VILLA 5-1 STD

Project #:

Versa-Lam LVL 2.1F-3-1000-PFICIAL 750" X 11.875"

2-Ply - PASSED

Level: Ground Floor



1 Hanger (LF3511) 0-2-0 2 Hanger (LF3511) 0-2-0 3'4 7/16" 3'4 7/16'

	11 7/8"
3 1	/2"

I D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-4-7		Тор	15 PLF	40 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-4-4 to 3-0-4		Far Face	33 PLF	89 PLF	0 PLF	0 PLF	
	Self Weight				12 PLF				



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 LVL not to be treated with fire retardant or corrosive

Handling & Installation

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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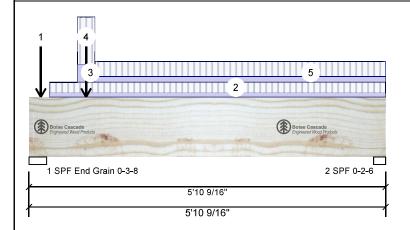
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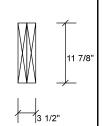
Project #:

Versa-Lam LVI 2 1F 2 100 SP FICIAL 750" X 11.875"

2-Ply - PASSED

Level: Ground Floor





Application: Floor (Residential) Type: Plies: 2 Design Method: LSD Moisture Condition: Dry **Building Code: NBCC 2015** OBC 2012(2020 Update) Deflection LL: 360 Load Sharing: Deflection TL: 240 Not Checked Deck: Importance: Normal - II Vibration: Not Checked General Load Floor Live: 40 PSF 15 PSF Dead:

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	862	439	0	0
2	Vertical	141	90	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. R	eact D/L I b	Total	Ld. Case	Ld. Comb.
1 - SPF End	3.500"	Vert	14%	548 / 1292	1841	L	1.25D+1.5L

Grain

2 - SPF 2.375" Vert 112 / 211 323 L 1.25D+1.5L

Analysis Results

Member Information

Ana l ysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	516 ft-lb	2'5 1/16"	35392 ft-lb	0.015 (1%)	1.25D+1.5L	L
Unbraced	516 ft-lb	2'5 1/16"	35392 ft-lb	0.015 (1%)	1.25D+1.5L	L
Shear	512 lb	1'3 3/8"	13217 l b	0.039 (4%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/83928)	2'10 1/2"	0.184 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.001 (L/50491)	2'10 1/8"	0.184 (L/360)	0.007 (1%)	L	L
TL Defl inch	0.002 (L/31527)	2'10 1/4"	0.276 (L/240)	0.008 (1%)	D+L	L



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Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at a maximum of 4'11 1/4" o.c.
- 7 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-2-5		Near Face	285 l b	591 l b	0 lb	0 l b	F17
2	Tie-In	0-4-1 to 5-10-9	0-5-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-9-9 to 1-1-1	1-10-0	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	0-11-5		Far Face	89 lb	186 lb	0 lb	0 lb	F6

Continued on page 2...

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

Handling & Installation

LVL beams must not be cut or drilled
 Refer to manufacturer's product information regarding installation requirements, multi-ray 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 6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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Nov 03e2023 OF RA ESTATES HAV<mark>VA,ON</mark>

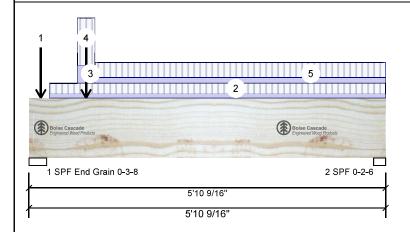
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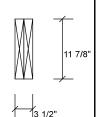
Project #:

Versa-Lam LVL 2.1F-3-1000-PFFICIAL 750" X 11.875"

2-Ply - PASSED

Level: Ground Floor





.Continued from page 1

Load Type ID Location Trib Width Side Comments Dead Live Wind Snow 1-1-1 to 5-10-9 0-7-0 15 PSF 40 PSF 0 PSF 0 PSF 5 Tie-In Тор Self Weight 12 PLF



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 LVL not to be treated with fire retardant or corrosive

Handling & Installation

Handling & Installation

1. UVI beams must not be cut or drilled

2. Refer to manufacturer's product information regarding installation requirements, multi-pty 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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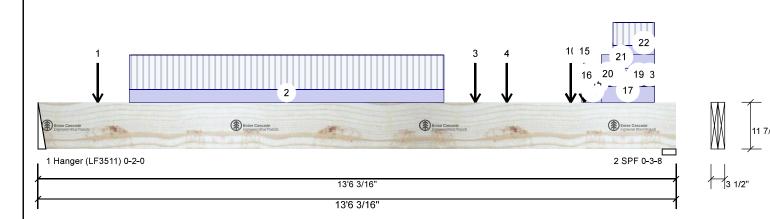
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Versa-Lam LVI 2 1F 2 100 SP FICIAL 750" X 11.875"

2-Ply - PASSED

Level: Ground Floor



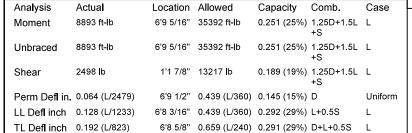
Member Inforn	nation			Unfacto	ored F
Type:	Girder	Application:	Floor (Residential)	Brg Dii	rection
Plies:	2	Design Method:	LSD	1 Ve	rtical
Moisture Condition: Deflection LL:	Dry 360	Building Code:	NBCC 2015 OBC 2012(2020 Update)	2 Ve	rtical
Deflection TL:	240	Load Sharing:	No		
Importance:	Normal - II	Deck:	Not Checked		
General Load		Vibration:	Not Checked		
Floor Live:	40 PSF			Bearing	js and
Dead:	15 PSF			Bearing	Lenç
				1 -	2.000
				Hanger	
Analysis Results	S			2 - SPF	3.500

Unfactored	Reactions	UNPATTERNED Ib	(Uplift)
Olliactorca	I Cac ciolis	OITI AT LEIGHTED IN	Opinio

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1171	560	43	0
2	Vertical	1001	839	327	0

d Factored Reactions

Bearing Len	gth Dir.	Cap.	React D/L Ib	Total	Ld. Case	Ld. Comb.
1 - 2.00 Hanger	0" Vert	33%	700 / 1800	2500	L	1.25D+1.5L +S
2 - SPF 3.50	0" Vert	38%	1049 / 1829	2878	L	1.25D+1.5L



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 3'7" o.c.
- 9 Lateral slenderness ratio based on full section width.



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

Handling & Installation

1. UVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-rily fastening details, beam strength values, and code approvals
3. 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

6. For flat roofs provide proper drainage to prevent ponding

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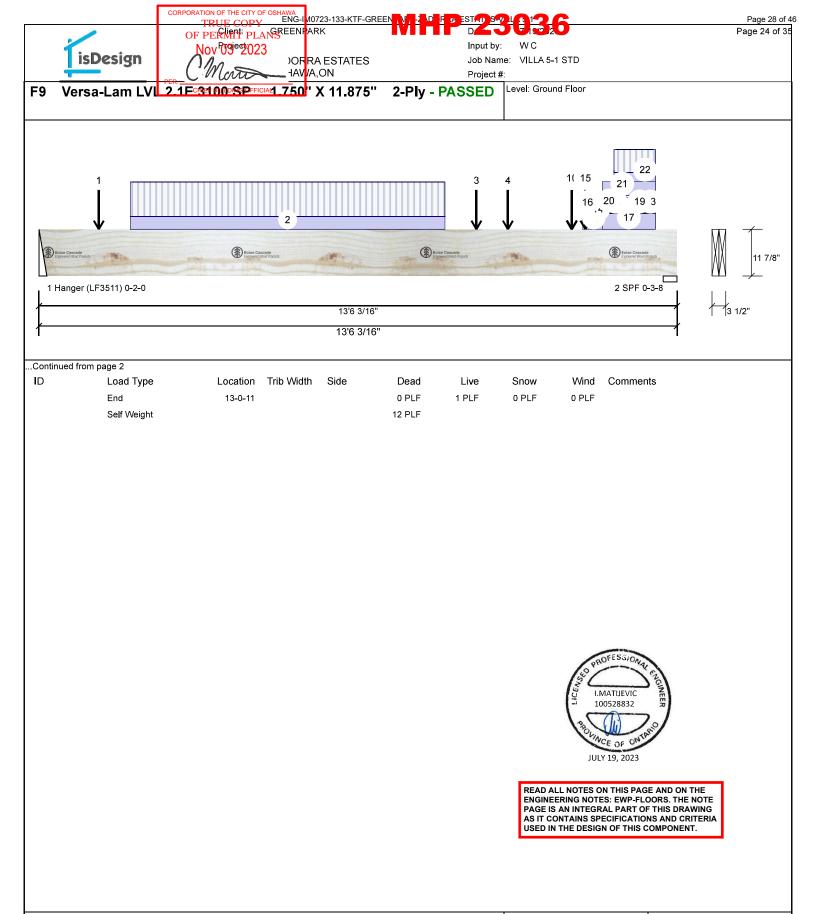
This design is valid until 4/17/2026

CSD DESIGN

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

Damaged Beams must not be use

Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation



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

Handling & Installation

Handling & Installation

1. UVI beams must not be cut or drilled

2. Refer to manufacturer's product 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



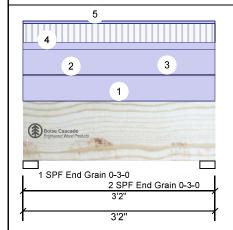


OF RA ESTATES Job Name: VILLA 5-1 STD & WOC NO,AVVAF Project #:

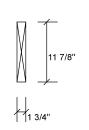
Versa-Lam <mark>LVL 2:11 E-3100 SP</mark>

1.750" X 11.875" - PASSED

Level: Ground Floor



Member Information



ı				
	Туре:	Girder	Application:	Floor (Residential)
ı	Plies:	1	Design Method:	LSD
	Moisture Condition:	Dry	Building Code:	NBCC 2015
ı	Deflection LL:	360		OBC 2012(2020 Update)
	Deflection TL:	240	Load Sharing:	No
	Importance:	Normal - II	Deck:	Not Checked
	General Load		Vibration:	Not Checked
	Floor Live:	40 PSF		
ı	Dead:	15 PSF		
ı				

Location Allowed

1'11 1/8" 4824 lb

1'7"

1'7" 12918 ft-lb

12918 ft-lb

1'7" 0.093 (L/360) 0.004 (0%) D

1'7" 0.093 (L/360) 0.001 (0%) L

1'7" 0.140 (L/240) 0.003 (0%) D+L

Capacity

0.013 (1%)

Comb.

0.013 (1%) 1.25D+1.5L L 0.038 (4%) 1.25D+1.5L L

1.25D+1.5L L

Case

Uniform

Grain

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	48	163	0	0
2	Vertical	48	163	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. Rea	ct D/L I b	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	7%	204 / 71	275	L	1.25D+1.5L
2 - SPF End	3.000"	Vert	7%	204 / 71	275	L	1.25D+1.5L

I.MATIJEVIC 100528832 NCE OF OF JULY 19, 2023

Design Notes

LL Defl inch

Analysis Results Analysis

Perm Defl in 0.000

TL Defl inch 0.000

Moment

Shear

Unbraced

Actual

169 ft-lb

169 ft-lb

(L/102390)

(L/351255)

(L/79280)

182 lb

0.000

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

4. Bottom must have sheathing attached or he continuously braced

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ı	4 Dollom must i	4 Bottom must have sheathing attached or be continuously braced.									
	I D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments	
	1	Part. Uniform	0-0-0 to 3-2-0		Тор	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight	
	2	Part. Uniform	0-0-0 to 3-2-0		Near Face	2 PLF	0 PLF	0 PLF	0 PLF		
	3	Part. Uniform	0-0-0 to 3-2-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight	
	4	Tapered Start	0-0-0		Near Face	11 PLF	30 PLF	0 PLF	0 PLF		
		End	3-2-0			11 PLF	30 PLF	0 PLF	0 PLF		
	5	Part. Uniform	0-0-0 to 3-2-0		Near Face	4 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight	
ı		Self Weight				6 PLF					

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

Handling & Installation

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2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used

Design assumes top edge is laterally restrained
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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www.bc.com CCMC: 12472

3228 Moodie Dr, Ottawa, Ontario

613-838-2775 / 905-642-4400



Page 1 of 5

HAV<mark>VA,ON</mark>

OF RA ESTATES

Job Name: VILLA 5-1 DC

Project #:

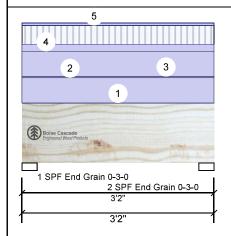
Versa-Lam LVL 244 E 3400 SP

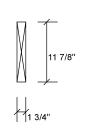
1.750" X 11.875" - PASSED

Bra

Direction

Level: Ground Floor





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Member Inform	nation		
Туре:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015
Deflection LL:	360		OBC 2012(2020 Update)
Deflection TL:	240	Load Sharing:	No
Importance:	Normal - II	Deck:	Not Checked
General Load		Vibration:	Not Checked
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored	Reactions	UNPATTERNED II	(Uplift)
------------	-----------	-----------------------	----------

lbià	Direction	Live	Deau	SHOW	vviila
1	Vertical	48	163	0	0
2	Vertical	48	163	0	0

Doad

Analysis Results

Design Notes

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	169 ft-lb	1'7"	12918 ft-lb	0.013 (1%)	1.25D+1.5L	L
Unbraced	169 ft-lb	1'7"	12918 ft-lb	0.013 (1%)	1.25D+1.5L	L
Shear	182 lb	1'11 1/8"	4824 lb	0.038 (4%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/102390)	1'7"	0.093 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.000 (L/351255)	1'7"	0.093 (L/360)	0.001 (0%)	L	L
TL Defl inch	0.000 (L/79280)	1'7"	0.140 (L/240)	0.003 (0%)	D+L	L

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L I b	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	7%	204 / 71	275	L	1.25D+1.5L
2 - SPF End Grain	3.000"	Vert	7%	204 / 71	275	L	1.25D+1.5L



JULY 19, 2023

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1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.

- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.

4 Bottom must have sheathing attached or be continuously braced.									
ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-2-0		Тор	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-2-0		Near Face	2 PLF	0 PLF	0 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 3-2-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Tapered Start	0-0-0		Near Face	11 PLF	30 PLF	0 PLF	0 PLF	
	End	3-2-0			11 PLF	30 PLF	0 PLF	0 PLF	
5	Part. Uniform	0-0-0 to 3-2-0		Near Face	4 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
	Self Weight				6 PLF				

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

Handling & Installation

Handling & Installation

1. IVI 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

This design is valid until 4/17/2026

Manufacturer Info 6. For flat roofs provide proper drainage to prevent ponding

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

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Page 2 of 5

CORPORATION OF THE CITY OF OSHAWA
ENG-I M0723-133-KTF-GREEN OF PERWIT PLANSREEN ARK Nov 03 e 2023

OF RA ESTATES

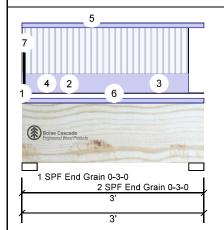
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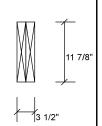
Job Name: VILLA 5-1 DC

Project #

1.750" X 11.875" Versa-Lam LVL 2 1 PER 1000 SPCIAL

2-Ply - PASSED Level: Ground Floor





Mind

Member Information Application: Floor (Residential) Type: Plies: 2 Design Method: LSD Moisture Condition: Dry **Building Code: NBCC 2015** OBC 2012(2020 Update) Deflection LL: 360 Load Sharing: Deflection TL: 240 Deck: Not Checked Importance: Normal - II Vibration: Not Checked General Load Floor Live: 40 PSF 15 PSF Dead:

Unf	actored	Reactions l	JNPATT	ERNED l b	(Uplift)
Dra	Directio	n Li	V/O	Dood	Sn.

ыy	Direction	LIVE	Deau	SHOW	VVIIIU
1	Vertical	1191	903	277	0
2	Vertical	482	348	0	0

Analysis Results

Design Notes

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	775 ft-lb	1'6"	35392 ft-lb	0.022 (2%)	1.25D+1.5L	L
Unbraced	775 ft-lb	1'6"	35392 ft-lb	0.022 (2%)	1.25D+1.5L	L
Shear	1077 l b	1'9 1/8"	13217 l b	0.082 (8%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/95986)	1'6"	0.088 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.000 (L/64562)	1'6"	0.088 (L/360)	0.006 (1%)	L+0.5S	L
TL Defl inch	0.001 (L/38599)	1'6"	0.131 (L/240)	0.006 (1%)	D+L+0.5S	L

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L I b	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	29%	1129 / 2064	3193	L	1.25D+1.5L +S
2 - SPF End Grain	3.000"	Vert	11%	435 / 723	1157	L	1.25D+1.5L



1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.

- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be continuously laterally braced.
- 6 Bottom must have sheathing attached or be continuously braced.

7 Lateral slenderness ratio based on full section width.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-0-0		Near Face	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-0-0		Near Face	4 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
3	Tapered Start	0-0-0		Near Face	0 PLF	1 PLF	0 PLF	0 PLF	
	End	3-0-0			0 PLF	1 PLF	0 PLF	0 PLF	
0 12	•								

Continued on page 2...

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Dry service conditions, unless noted otherwise
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Handling & Installation

- Handling & Installation

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 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





OF RA ESTATES

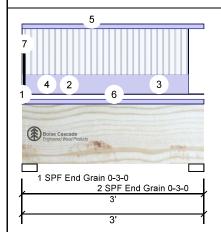
HAV<mark>VA,ON</mark>

Job Name: VILLA 5-1 DC

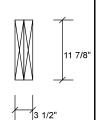
Project #:

1.750" X 11.875" Versa-Lam LVL 2.1 PESTION SPCIAL FH₆

2-Ply - PASSED Level: Ground Floor



Self Weight



Continued from page 1	1
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Part. Uniform	0-0-0 to 2-9-0		Near Face	163 PLF	384 PLF	0 PLF	0 PLF	J2
5	Part. Uniform	0-0-0 to 3-0-0		Тор	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
6	Part. Uniform	0-0-0 to 3-0-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Point	0-0-8		Тор	515 lb	614 l b	277 l b	0 l b	Header Column Header Column
	Bearing Length	0-3-8							

12 PLF



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Handling & Installation

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OF RA ESTATES NO,AVVAF

Job Name: VILLA 5-1 DC

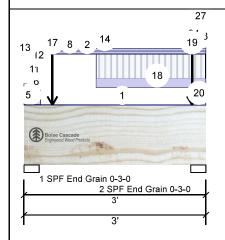
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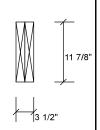
Versa-Lam VI 2.4F-3100 SPIAL

1.750" X 11.875"

2-Ply - PASSED

Level: Ground Floor





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ſ	Туре:	Girder	Application:	Floor (Residential)
l	Plies:	2	Design Method:	LSD
l	Moisture Condition:	Dry	Building Code:	NBCC 2015
ı	Deflection LL:	360		OBC 2012(2020 Update)
l	Deflection TL:	240	Load Sharing:	No
l	Importance:	Normal - II	Deck:	Not Checked
l	General Load		Vibration:	Not Checked
l	Floor Live:	40 PSF		
l	Dead:	15 PSF		
l				

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	VVind
1	Vertical	1056	825	231	0
2	Vertical	1066	869	239	0

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	864 ft-lb	1'4 1/4"	35392 ft-lb	0.024 (2%)	1.25D+1.5L +S	L
Unbraced	864 ft-lb	1'4 1/4"	35392 ft-lb	0.024 (2%)	1.25D+1.5L +S	L
Shear	1374 lb	1'2 7/8"	13217 lb	0.104 (10%)	1.25D+1.5L +S	L
Perm Defl in.	0.000 (L/82210)	1'5 3/16"	0.088 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.001 (L/57243)	1'5 5/16"	0.088 (L/360)	0.006 (1%)	L+0.5S	L
TL Defl inch	0.001 (L/33746)	1'5 5/16"	0.131 (L/240)	0.007 (1%)	D+L+0.5S	L

Bearings and Factored Reactions

Bearing Len	gth Dir.	Cap.	React D/L Ib	Total	Ld. Case	Ld. Comb.
1 - SPF 3.00 End Grain	00" Vert	30%	1031 / 1814	2845	L	1.25D+1.5L +S
2 - SPF 3.00 End Grain	00" Vert	27%	1086 / 1838	2924	L	1.25D+1.5L +S

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 3.
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
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Notes

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Manufacturer Info

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





Input by:

Page 5 of 5

Versa-Lam VI 2.4F-3100 SPIAL

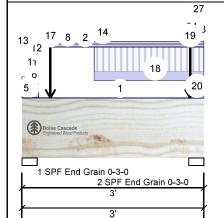
OF RA ESTATES HAV<mark>VA,ON</mark>

1.75<mark>0" X 11.875"</mark>

Project #: 2-Ply - PASSED

Level: Ground Floor

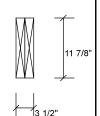
Job Name: VILLA 5-1 DC



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I D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tapered Start	0-0-0	THE WIGHT	Near Face	2 PLF	4 PLF	0 PLF	0 PLF	Comments
1	End	3-0-0		Near race	0 PLF	1 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 3-0-0		Near Face	4 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
4	Part. Uniform	0-0-0 to 0-3-4		Тор	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
5	Part. Uniform	0-0-0 to 0-3-4		Тор	64 PLF	130 PLF	0 PLF	0 PLF	J1
6	Part. Uniform	0-0-0 to 0-3-4		Тор	30 PLF	0 PLF	78 PLF	0 PLF	
7	Part. Uniform	0-0-0 to 0-3-4		Тор	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Part, Uniform	0-0-0 to 3-0-0		Тор	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Part. Uniform	0-0-0 to 0-3-4		Near Face	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
11	Part. Uniform	0-0-0 to 0-3-4		Near Face	64 PLF	130 PLF	0 PLF	0 PLF	J1
12	Part. Uniform	0-0-0 to 0-3-4		Near Face	30 PLF	0 PLF	78 PLF	0 PLF	
13	Part. Uniform	0-0-0 to 0-3-4		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
14	Part. Uniform	0-0-0 to 3-0-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
17	Point	0-5-10		Тор	604 lb	902 lb	211 l b	0 lb	Header Column Header Column F4
	Bearing Length	0-3-8							
18	Part. Uniform	1-2-4 to 3-0-0		Near Face	131 PLF	349 PLF	0 PLF	0 PLF	J1
19	Point	2-9-4		Тор	432 lb	432 lb	216 l b	0 lb	Header Column Header Column Header Column Header Column
	Bearing Length	0-3-8							
20	Part. Uniform	2-9-4 to 3-0-0		Тор	80 PLF	170 PLF	0 PLF	0 PLF	J1
22	Part. Uniform	2-9-4 to 3-0-0		Тор	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
23	Part. Uniform	2-9-4 to 3-0-0		Тор	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
24	Part. Uniform	2-9-4 to 3-0-0		Near Face	80 PLF	170 PLF	0 PLF	0 PLF	J1
26	Part. Uniform	2-9-4 to 3-0-0		Near Face	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
27	Part. Uniform	2-9-4 to 3-0-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				12 PLF				

Notice 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.

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

Handling & Installation

Handling & Installation

1. IVI 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

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





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ENG-I M0723-133-KTF-GREEN OF PERWIT PLANSREEN ARK

OF RA ESTATES

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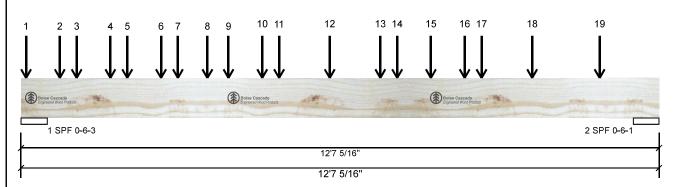
Job Name: VILLA 5-1 STD

Project #

Versa-Lam LVL 2 1F-R-1000S-PCIAL 1.750" X 9.500"

3-Ply - PASSED

Level: Second Floor





Member Information

Type:	Girder
Plies:	3
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal - II

General Load Floor Live: 40 PSF 15 PSF Application: Floor (Residential)

LSD

Building Code: NBCC 2015 OBC 2012(2020 Update)

Load Sharing:

Design Method:

Not Checked Deck: Vibration: Not Checked

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	4329	1950	0	0
2	Vertical	4088	1711	0	0

Bearings and Factored Reactions

Bearing Leng	jth Dir.	Cap.	React D/L Ib	Total	Ld. Case	Ld. Comb.
1 - SPF 6.21	7" Vert	44%	2438 / 6494	8932	L	1.25D+1.5L
2 - SPF 6.080	" Vert	42%	2138 / 6132	8270	L	1.25D+1.5L

Analysis Results

Dead:

Actual	Location	Allowed	Capacity	Comb.	Case
24869 ft-lb	6'1 3/16"	36222 ft-lb	0.687 (69%)	1.25D+1.5L	L
24869 ft-lb	6'1 3/16"	36222 ft-lb	0.687 (69%)	1.25D+1.5L	L
7968 lb	11'3 11/16"	15860 lb	0.502 (50%)	1.25D+1.5L	L
0.165 (L/853)	6'3 3/8"	0.390 (L/360)	0.422 (42%)	D	Uniform
0.384 (L/366)	6'3 11/16"	0.390 (L/360)	0.983 (98%)	L	L
0.548 (L/256)	6'3 9/16"	0.585 (L/240)	0.937 (94%)	D+L	L
	24869 ft-lb 24869 ft-lb 7968 lb 0.165 (L/853) 0.384 (L/366)	24869 ft-lb 6'1 3/16" 24869 ft-lb 6'1 3/16" 7968 lb 11'3 11/16" 0.165 (L/853) 6'3 3/8" 0.384 (L/366) 6'3 11/16"	24869 ft-lb 6'1 3/16" 36222 ft-lb 24869 ft-lb 6'1 3/16" 36222 ft-lb 7968 lb 11'3 11/16" 15860 lb 0.165 (L/853) 6'3 3/8" 0.390 (L/360) 0.384 (L/366) 6'3 11/16" 0.390 (L/360)	24869 ft-lb 6'1 3/16" 36222 ft-lb 0.687 (69%) 24869 ft-lb 6'1 3/16" 36222 ft-lb 0.687 (69%) 7968 lb 11'3 11/16" 15860 lb 0.502 (50%) 0.165 (L/853) 6'3 3/8" 0.390 (L/360) 0.422 (42%) 0.384 (L/366) 6'3 11/16" 0.390 (L/360) 0.983 (98%)	24869 ft-lb 6'1 3/16" 36222 ft-lb 0.687 (69%) 1.25D+1.5L 24869 ft-lb 6'1 3/16" 36222 ft-lb 0.687 (69%) 1.25D+1.5L 7968 lb 11'3 11/16" 15860 lb 0.502 (50%) 1.25D+1.5L 0.165 (L/853) 6'3 3/8" 0.390 (L/360) 0.422 (42%) D 0.384 (L/366) 6'3 11/16" 0.390 (L/360) 0.983 (98%) 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.



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	I slenderness ratio based on fu	· ·			
ID	Load Type	Location	Trib Width	Side	Dea

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-1-3		Тор	81 l b	166 l b	0 lb	0 lb	J1
	Bearing Length	0-3-8							
2	Point	0-9-3		Тор	160 lb	370 lb	0 lb	0 l b	J2
	Bearing Length	0-3-8							

Continued on page 2...

Notes

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- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- 1. UVL 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
- Dariga Beams must not be used
 Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

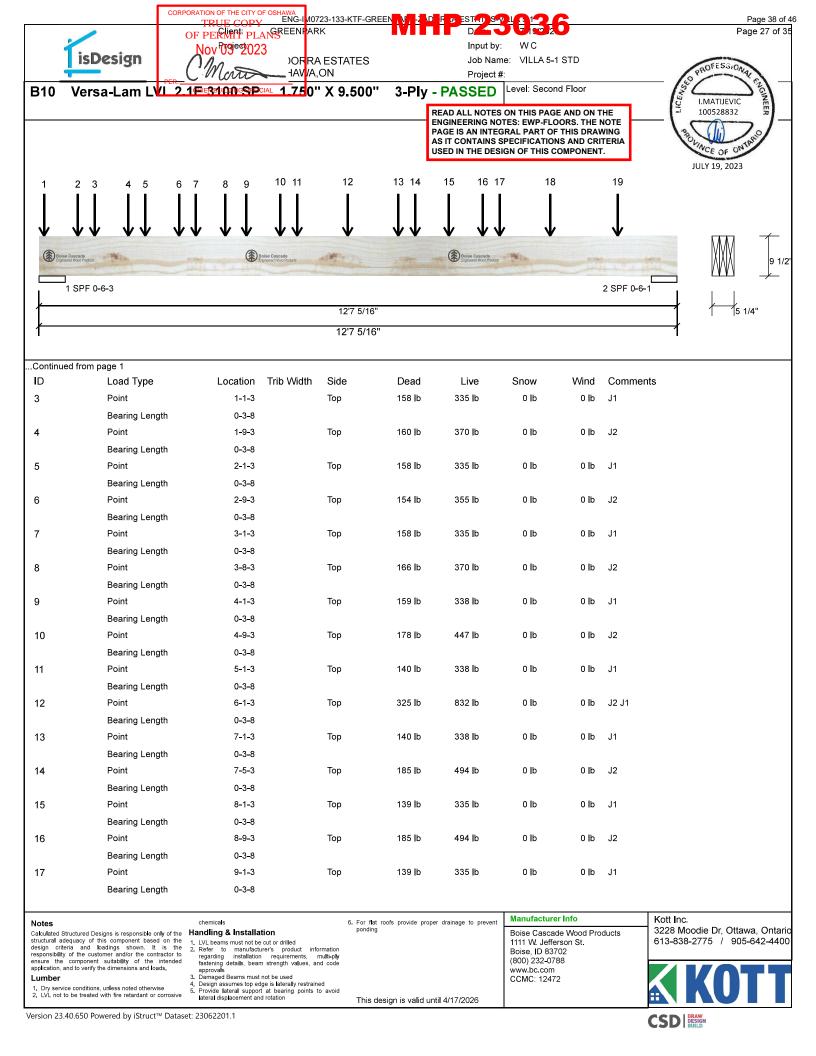
Boise Cascade Wood Products 1111 W. Jefferson St. Boise. ID 83702 (800) 232-0788

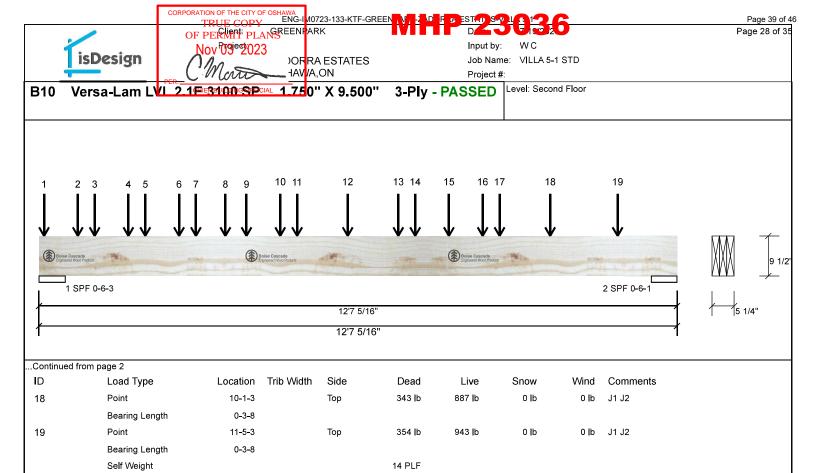
www.bc.com CCMC: 12472

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











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Handling & Installation

Handling & Installation

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Manufacturer Info

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www.bc.com CCMC: 12472

Kott Inc.

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





OF RA ESTATES

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Job Name: VILLA 5-1 STD

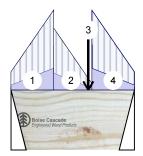
Project #:

F12

Versa-Lam LVL 241E41000SP

1.750" X 11.875" - PASSED

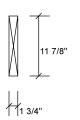
Level: Second Floor



1 Hanger (SUR/L1.81/9 (Min)) 0-3-0 2 Hange (SUR/L1.81/9 (Min)) 0-3-0

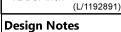
2' 7/16'

2' 7/16'



Member Infor	mation						Unfac	tored Rea	ctions	UNP	ATTERNED II	b (Uplift)	
Туре:	Girder		Applicat	ion: I	Floor (Resident	ial)	Brg	Direction	j	Live	Dead	Snow	Wind
Plies:	1		Design	Method: I	LSD		1 '	Vertical		14	11	0	0
Moisture Condition	n: Dry		Building		NBCC 2015		1 2 \	Vertical		17	12	0	0
Deflection LL:	360			(OBC 2012(2020	0 Update)							
Deflection TL:	240		Load Sh	naring: I	No								
Importance:	Normal - II		Deck:	1	Not Checked								
General Load			Vibratio	n: l	Not Checked								
Floor Live:	40 PSF						Beari	ngs and Fa	actore	d Read	ctions		
Dead:	15 PSF						Beari	ng Length	Dir.	Cap.	React D/L Ib	Total Ld. Case	Ld. Comb.
							1 - Hang	3.000" er	Vert	1%	14 / 21	35 L	1.25D+1.5L
Analysis Resul	ts						2 -	3.000"	Vert	1%	15 / 25	40 L	1.25D+1.5L
Analysis Ad	tual	Location	Allowed	Capacity	Comb.	Case	Hang	er					
Moment 16	ft-lb	1'3 5/16"	17696 ft-lb	0.001 (0%) 1.25D+1.5L	L							
Unbraced 16	ft-lb	1'3 5/16"	17696 ft-lb	0.001 (0%) 1.25D+1.5L	L					PROFESSIONAL		
I _	4.										A. T. A.	1	

Uniform



LL Defl inch

Perm Defl in 0.000

TL Defl inch 0.000

Shear

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.

9 9/16" 6608 lb

1' 3/4" 0.055 (L/360) 0.000 (0%) D

1'1" 0.083 (L/240) 0.000 (0%) D+L

1'1 3/16" 0.055 (L/360) 0.000 (0%) L

- 2 Fill all hanger nailing holes.
- 3 Left Header: DF, Thickness: 3 1/2"

16 lb

0.000

(L/2911345)

(L/2019394)

- 4 Right Header: DF, Thickness: 3 1/2"
- 5 Girders are designed to be supported on the bottom edge only.
- 6 Top must be continuously laterally braced.
- 7 Bottom must have sheathing attached or be continuously braced.

I D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-8-7	0-1-4 to 0-5-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-8-7 to 1-4-0	0-4-4 to 0-0-7	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-3-5		Far Face	4 lb	10 l b	0 l b	0 l b	J7
4	Tie-In	1-4-0 to 2-0-7	0-5-7 to 0-1-4	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				6 PLF				

0.002 (0%) 1.25D+1.5L L

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 LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- Handling & Installation

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 2. Refer to manufacturer's product multi-ply fastening details, beam strength values, and code approvals

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 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

1111 W. Jefferson St. Boise, ID 83702 (800) 232-0788

Boise Cascade Wood Products

I.MATIJEVIC

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JULY 19, 2023

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www.bc.com CCMC: 12472

Manufacturer Info

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





Version 23.40.650 Powered by iStruct™ Dataset: 23062201.1

OF RA ESTATES

NO,AVVAF

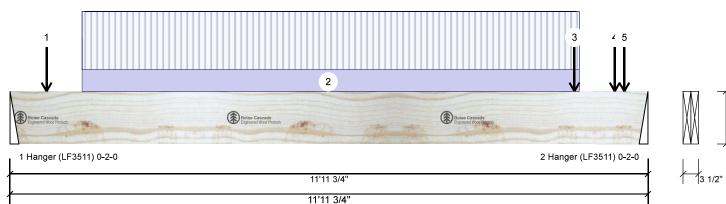
Job Name: VILLA 5-1 STD

Project #

Versa-Lam LVI 2.15 3400 SPCIAL 1.750" X 11.875"

2-Ply - PASSED

Level: Second Floor



Member Information Unfactored Reactions UNPATTERNED lb (Uplift) Application: Floor (Residential) Type: Brg Direction Live Dead Plies: 2 Design Method: LSD Vertical 328 193 1 Moisture Condition: Dry **Building Code: NBCC 2015** 2 Vertica 351 206 OBC 2012(2020 Update) Deflection LL: 360 Load Sharing: Deflection TL: 240 Not Checked Deck: Importance: Normal - II Vibration: Not Checked General Load **Bearings and Factored Reactions** Floor Live: 40 PSF 15 PSF Dead:

Analysis Results

Analysis	Actua l	Location	Allowed	Capacity	Comb.	Case
Moment	2200 ft-lb	6' 1/4"	35392 ft-lb	0.062 (6%)	1.25D+1.5L	L
Unbraced	2200 ft-lb	6' 1/4"	35392 ft-lb	0.062 (6%)	1.25D+1.5L	L
Shear	782 l b	10'9 7/8"	13217 l b	0.059 (6%)	1.25D+1.5L	L
Perm Defl in.	0.014 (L/10012)	6' 1/16"	0.392 (L/360)	0.036 (4%)	D	Uniform
LL Defl inch	0.024 (L/5809)	6'	0.392 (L/360)	0.062 (6%)	L	L
TL Defl inch	0.038 (L/3676)	6'	0.588 (L/240)	0.065 (7%)	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.
- 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.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Point	0-8-4		Far Face	23 lb	62 l b	0 l b	0 l b	J6
2	Part. Uniform	1-4-4 to 10-8-4		Far Face	21 PLF	57 PLF	0 PLF	0 PLF	
3	Point	10-7-3		Near Face	11 lb	14 l b	0 lb	0 lb	F12

Continued on page 2...

Notes

Notes

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 LVL not to be treated with fire retardant or corrosive

Handling & Installation

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2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used.

Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

This design is valid until 4/17/2026

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





Version 23.40.650 Powered by iStruct™ Dataset: 23062201.1

11 7/8'

Wind

0

0

Snow

0

0

Bearing	Length	Dir.	Cap. Re	act D/L I b	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	10%	241 / 492	733	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	10%	258 / 527	784	L	1.25D+1.5L

ROFESSION

I MATHEVIC 100528832

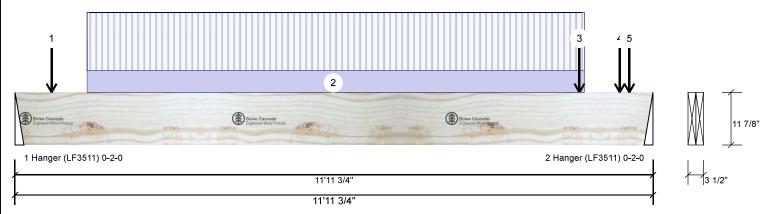
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Point	11-4-4		Far Face	23 lb	60 lb	0 l b	0 lb	J6
5	Point	11-6-6		Near Face	4 lb	11 l b	0 lb	0 lb	J7
	Self Weight				12 PLF				



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Continued from page 1

Dry service conditions, unless noted otherwise
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Handling & Installation

Handling & Installation

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www.bc.com CCMC: 12472

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





2 - SPF 5.500"

Vert

8%

I.MATIJEVIC 100528832

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JULY 19, 2023

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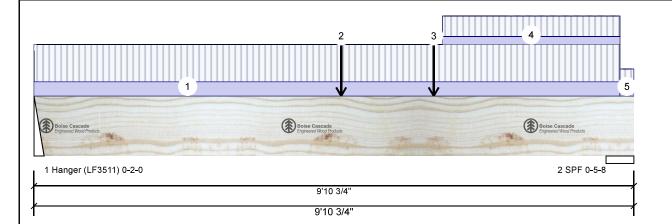
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Job Name: VILLA 5-1 STD Project #

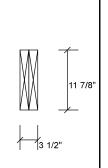
Versa-Lam LVI 2 1F 2 100 SP FICIAL 750" X 11.875"

2-Ply - PASSED

Level: Second Floor



OF RA ESTATES NO,AVVAF



Wind

Ld. Comb.

1.25D+1.5L

1.25D+1.5L

0

0

Snow

989 L

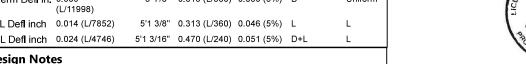
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Member Information **Unfactored Reactions UNPATTERNED Ib (Uplift)** Application: Floor (Residential) Type: Brg Direction Live Dead Plies: 2 Design Method: LSD 257 179 Vertical 1 Moisture Condition: Dry **Building Code: NBCC 2015** 2 Vertica 429 276 OBC 2012(2020 Update) Deflection LL: 360 Load Sharing: Deflection TL: 240 Deck: Not Checked Importance: Normal - II Vibration: Not Checked General Load **Bearings and Factored Reactions** Floor Live: 40 PSF 15 PSF Dead: Bearing Length Dir. Cap. React D/L lb Total Ld. Case 224 / 385 2.000" Vert 8% 609 L Hanger

Analysis Results

Ana i ysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2373 ft-lb	6'7 1/8"	35392 ft-lb	0.067 (7%)	1.25D+1.5L	L
Unbraced	2373 ft-lb	6'7 1/8"	35392 ft-lb	0.067 (7%)	1.25D+1.5L	L
Shear	871 l b	8'5 3/8"	13217 l b	0.066 (7%)	1.25D+1.5L	L
Perm Defl in.	0.009 (L/11998)	5' 7/8"	0.313 (L/360)	0.030 (3%)	D	Uniform
LL Defl inch	0.014 (L/7852)	5'1 3/8"	0.313 (L/360)	0.046 (5%)	L	L
TL Defl inch	0.024 (L/4746)	5'1 3/16"	0.470 (L/240)	0.051 (5%)	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.
- 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 4'10 5/16" o.c.
- 9 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 9-8-0	0-8-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	5-0-13		Far Face	12 lb	17 l b	0 lb	0 l b	F12
3	Point	6-7-2		Far Face	206 lb	351 lb	0 l b	0 l b	F17

Continued on page 2...

Notes

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Handling & Installation

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3. Damaged Beams must not be used

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Provide lateral support at bearing points to avoid
lateral displacement and rotation

This design is valid until 4/17/2026

6. For flat roofs provide proper drainage to prevent ponding

Boise. ID 83702 (800) 232-0788

www.bc.com CCMC: 12472

Manufacturer Info

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



Version 23.40.650 Powered by iStruct™ Dataset: 23062201.1

isDesign

Nov 03e2023 OF RA ESTATES HAV<mark>VA,ON</mark>

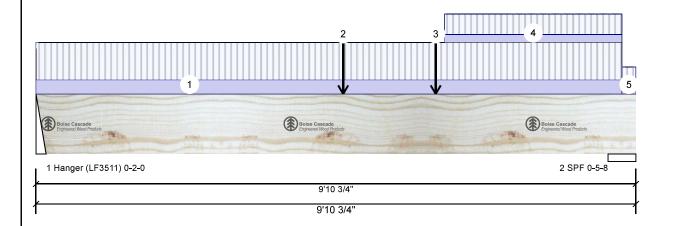
Job Name: VILLA 5-1 STD

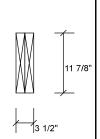
Project #:

Versa-Lam LVL 2.1F-3-1000-PFICIAL 750" X 11.875"

2-Ply - PASSED

Level: Second Floor





I D	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
4	Tie-In	6-8-14 to 9-8-0	0-4-10	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	9-8-0 to 9-10-12	0-4-6	Тор	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				12 PLF				



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Notice 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.

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

Handling & Installation

Handling & Installation

1. IVI 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

This design is valid until 4/17/2026

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

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





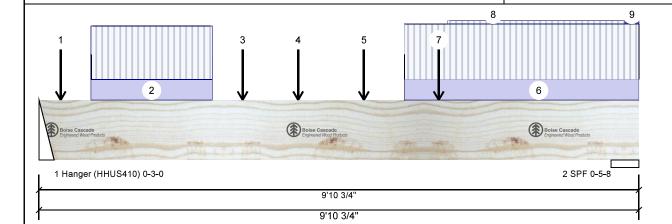
Job Name: VILLA 5-1 STD

Project #

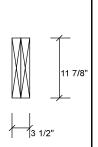
Versa-Lam LVL 2.1F-3100-SP-ICAL 1.750 X 11.875"

2-Ply - PASSED

Level: Second Floor



OF RA ESTATES NO,AVVAF



Member Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	360
Deflection TL:	240
Importance:	Normal - II
General Load	

40 PSF 15 PSF

Application: Floor (Residential) Design Method: LSD **Building Code: NBCC 2015**

OBC 2012(2020 Update) Load Sharing:

Deck: Not Checked Vibration: Not Checked

Unfactored Reactions UNPATTERNED lb (Uplift)

	Brg	Direction	Live	Dead	Snow	Wind
١	1	Vertical	1901	808	0	0
	2	Vertical	2166	927	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L Ib	Total	Ld. Case	Ld. Comb.
1 -	3.000"	Vert	34%	1010 / 2852	3862	L	1.25D+1.5L
Hanger							
2 - SPF	5.500"	Vert	37%	1159 / 3249	4408	L	1.25D+1.5L

Analysis Results

Floor Live:

Dead:

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	9390 ft-lb	5'4 5/16"	35392 ft-lb	0.265 (27%)	1.25D+1.5L	L
Unbraced	9390 ft-lb	5'4 5/16"	35392 ft-lb	0.265 (27%)	1.25D+1.5L	L
Shear	4323 lb	1'2 7/8"	13217 l b	0.327 (33%)	1.25D+1.5L	L
Perm Defl in.	0.031 (L/3656)	4'11"	0.310 (L/360)	0.098 (10%)	D	Uniform
LL Defl inch	0.071 (L/1582)	4'10 7/8"	0.310 (L/360)	0.228 (23%)	L	L
TL Defl inch	0.101 (L/1104)	4'10 15/16"	0.466 (L/240)	0.217 (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 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 have sheathing attached or be continuously braced.
- 9 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	0-4-5		Far Face	119 l b	310 l b	0 l b	0 lb	J2
2	Part. Uniform	0-10-5 to 2-10-5		Far Face	142 PLF	368 PLF	0 PLF	0 PLF	
3	Point	3-4-5		Far Face	137 l b	353 lb	0 l b	0 l b	J2
4	Point	4-3-5		Far Face	143 l b	368 lb	0 l b	0 lb	J2

Continued on page 2...

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

 1. UVI beams must not be cut or drilled

 2. Refer to manufacturer's product 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
- Handling & Installation

6. For flat roofs provide proper drainage to prevent ponding

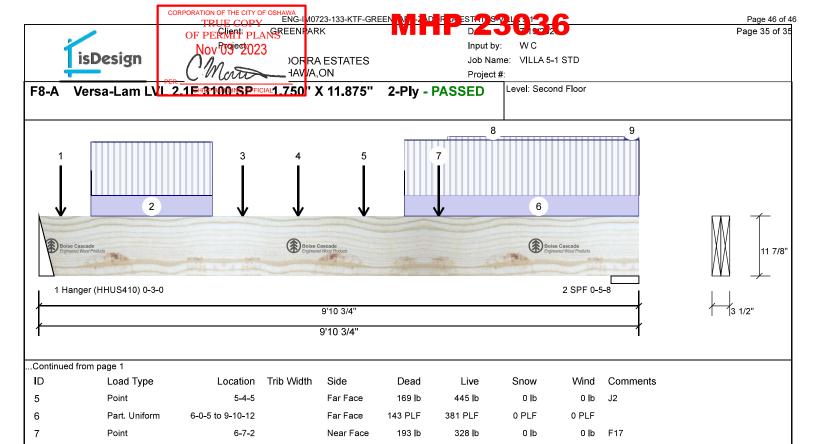
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Manufacturer Info

www.bc.com CCMC: 12472

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





15 PSF

15 PSF

12 PLF

Top

Top

40 PSF

40 PSF

0 PSF

0 PSF

0 PSF

0 PSF



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8

Tie-In

Tie-In

Self Weight

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Handling & Installation

6-8-14 to 9-8-0

9-8-0 to 9-10-12 0-6-0

Handling & Installation

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