

Client: GREENPARK
Project: OF PERMIT PLANS
Ac: Nov 21, 2023 STATES
N.

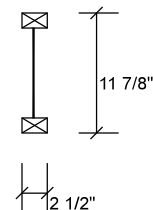
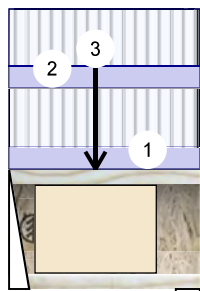
Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

11.87 PERCENT

PER-CHIEF-BUILDING OFFICIAL

Project #: **MHP 23040**
Level: Ground Floor

Level: Ground Floor




Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical	133	50	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	132	50	0	0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						
General Load				Bearings and Factored Reactions					
Floor Live:	40 PSF			Bearing	Length	Dir.	Cap. React D/L	lb	Total Ld. Case Ld. Comb.
Dead:	15 PSF			1 - Hanger	2.000"	Vert	16%	63 / 199	262 L 1.25D+1.5L

Bearings and Factored Reactions

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	94 ft-lb	8 9/16"	5305 ft-lb	0.018 (2%)	1.25D+1.5L	L
Unbraced	94 ft-lb	8 9/16"	5305 ft-lb	0.018 (2%)	1.25D+1.5L	L
Shear	234 lb	1 1/4"	2350 lb	0.100 (10%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/57394)	8 9/16"	0.044 (L/360)	0.006 (1%)	D	Uniform
LL Defl inch	0.001 (L/21671)	8 9/16"	0.044 (L/360)	0.017 (2%)	L	L
TL Defl inch	0.001 (L/15731)	8 9/16"	0.067 (L/240)	0.015 (2%)	D+L	L



JULY 21, 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 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 5 If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	1-8-5	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-6-14	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-8-9		Far Face	21 lb	55 lb	0 lb	0 lb	J1

chemicals

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

Handling & Installation

1. IJoist flanges must not be cut or drilled
2. Refer to latest copy of the IJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply 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.

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

Manufacturer Info

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CCMC: 12787

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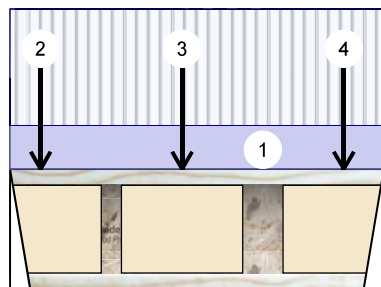


This design is valid until 11/3/2024

Project #

11.875 PERCENT

Project #: MHP 23040
Level: Ground Floor



1 Hanger (LF2511) 2 Hanger (LF2511)

•

3'1"

Diagram showing a vertical dimension of $11 \frac{7}{8}$ inches between two square boxes.

Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical	291	109	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	284	106	0	0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	36%	136 / 436	572	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	35%	132 / 426	558	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	402 ft-lb	1'5"	5305 ft-lb	0.076 (8%)	1.25D+1.5L	L
Unbraced	402 ft-lb	1'5"	5305 ft-lb	0.076 (8%)	1.25D+1.5L	L
Shear	565 lb	1 1/4"	2350 lb	0.240 (24%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/24015)	1'5 1/16"	0.096 (L/360)	0.015 (1%)	D	Uniform
LL Defl inch	0.004 (L/9016)	1'5 1/16"	0.096 (L/360)	0.040 (4%)	L	L
TL Defl inch	0.005 (L/6555)	1'5 1/16"	0.144 (L/240)	0.037 (4%)	D+L	L



Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-1-0	0-10-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-1		Far Face	46 lb	123 lb	0 lb	0 lb	J3
3	Point	1-5-1		Far Face	76 lb	202 lb	0 lb	0 lb	J3
4	Point	2-9-1		Far Face	53 lb	143 lb	0 lb	0 lb	J3

Notes

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Lumber

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

chemicals

Handling & Installation

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

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

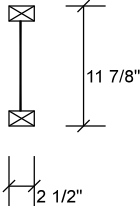
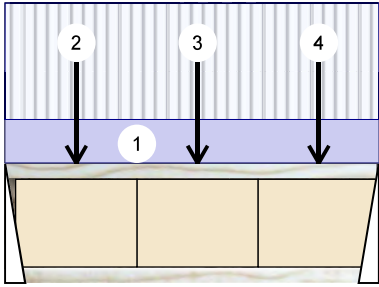
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Manufacturer Info

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(800) 232-0788
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CCMC: 12787

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





Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	443	169	0	0
2	Vertical	459	175	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	54%	211 / 664	875	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	56%	219 / 688	907	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	711 ft-lb	1'7 1/16"	5305 ft-lb	0.134 (13%)	1.25D+1.5L	L
Unbraced	711 ft-lb	1'7 1/16"	5305 ft-lb	0.134 (13%)	1.25D+1.5L	L
Shear	900 lb	2'11 3/4"	2350 lb	0.383 (38%)	1.25D+1.5L	L
Perm Defl in. (L/13246)	0.003	1'7 1/16"	0.096 (L/360)	0.027 (3%)	D	Uniform
LL Defl inch	0.007 (L/5053)	1'7 1/16"	0.096 (L/360)	0.071 (7%)	L	L
TL Defl inch	0.009 (L/3658)	1'7 1/16"	0.144 (L/240)	0.066 (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.
- Fill all hanger nailing holes.
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-1-0	0-10-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-7-1		Far Face	97 lb	254 lb	0 lb	0 lb	J6
3	Point	1-7-1		Far Face	115 lb	301 lb	0 lb	0 lb	J6
4	Point	2-7-1		Far Face	92 lb	240 lb	0 lb	0 lb	J6

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

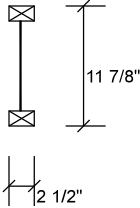
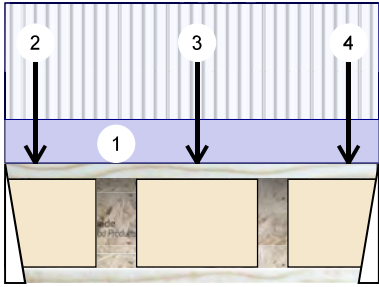
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This design is valid until 11/3/2024



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	429	161	0	0
2	Vertical	430	161	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	53%	201 / 644	845	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	53%	201 / 645	846	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	598 ft-lb	1'7"	5305 ft-lb	0.113 (11%)	1.25D+1.5L	L
Unbraced	598 ft-lb	1'7"	5305 ft-lb	0.113 (11%)	1.25D+1.5L	L
Shear	839 lb	2'11 3/4"	2350 lb	0.357 (36%)	1.25D+1.5L	L
Perm Defl in. (L/16222)	0.002	1'7"	0.096 (L/360)	0.022 (2%)	D	Uniform
LL Defl inch	0.006 (L/6077)	1'7"	0.096 (L/360)	0.059 (6%)	L	L
TL Defl inch	0.008 (L/4421)	1'7"	0.144 (L/240)	0.054 (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.
- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-1-0	0-10-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-3-0		Far Face	81 lb	216 lb	0 lb	0 lb	J5
3	Point	1-7-0		Far Face	124 lb	331 lb	0 lb	0 lb	J5
4	Point	2-10-0		Far Face	77 lb	206 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 & Installation

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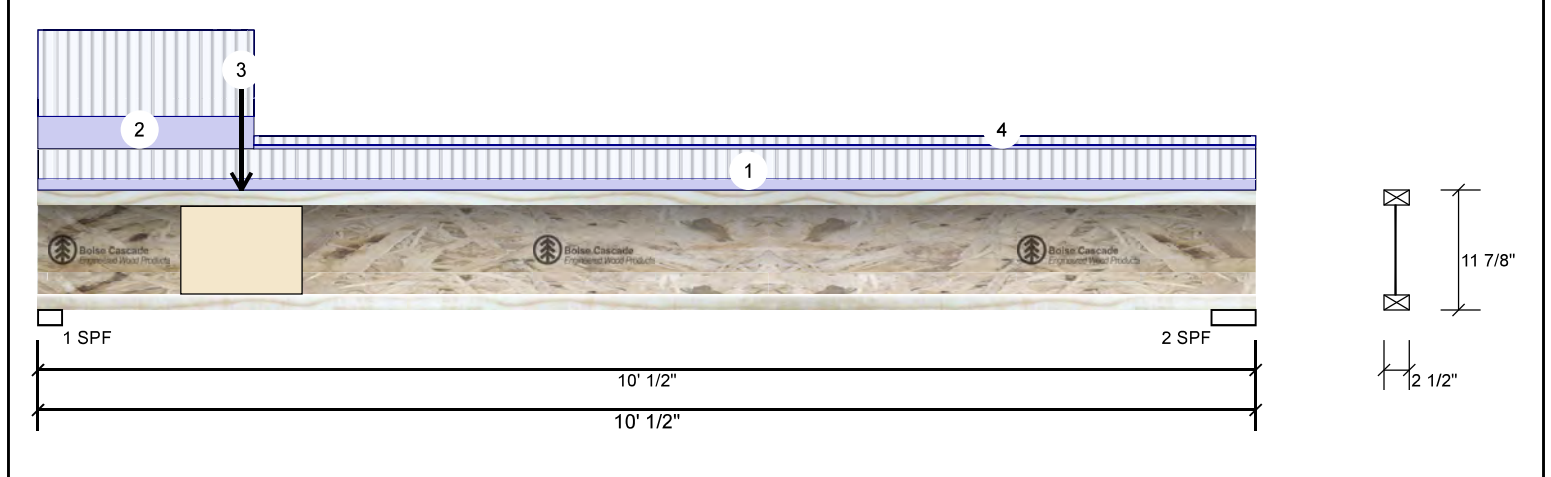
F5-A

AJS 140

11.875"

PERMIT PASSED

Level: Ground Floor




Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)					
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical	489	183	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	208	78	0	0
Deflection LL:	360	Load Sharing:	No	Bearings and Factored Reactions					
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						
General Load				Bearing	Length	Dir.	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
Floor Live:	40 PSF			1 - SPF	2.375"	Vert	57% 229 / 733	962 L	1.25D+1.5L
Dead:	15 PSF			2 - SPF	4.375"	Vert	21% 98 / 312	410 L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1300 ft-lb	3'1 1/4"	5305 ft-lb	0.245 (25%)	1.25D+1.5L	L
Unbraced	1300 ft-lb	3'1 1/4"	5305 ft-lb	0.245 (25%)	1.25D+1.5L	L
Shear	938 lb	1 5/8"	2350 lb	0.399 (40%)	1.25D+1.5L	L
Perm Defl in.	0.017 (L/6963)	4'5 1/2"	0.320 (L/360)	0.052 (5%)	D	Uniform
LL Defl inch	0.044 (L/2610)	4'5 1/2"	0.320 (L/360)	0.138 (14%)	L	
TL Defl inch	0.061 (L/1898)	4'5 1/2"	0.480 (L/240)	0.126 (13%)	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.
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- Bottom flange must be laterally braced at a maximum of 8'4 3/8" o.c.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-0-8	0-6-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-6	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Near Face	109 lb	291 lb	0 lb	0 lb	F3
4	Tie-In	1-9-6 to 10-0-8	0-2-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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Lumber

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


Handling & Installation

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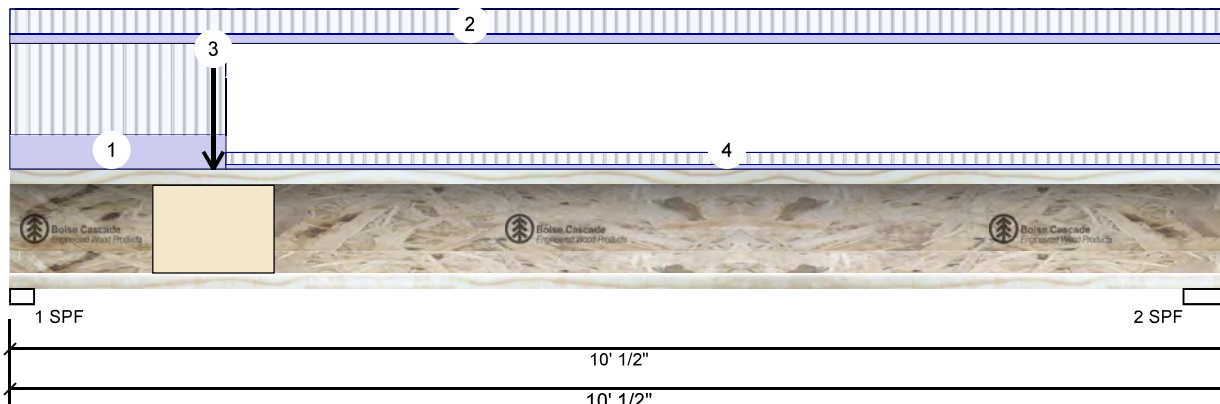
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Ac: Nov 21 2023 STATES
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Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F5-B AJS 140

PER 11.875" CHIEF-BUILDING OFFICIAL **PASSED**

Level: Ground Floor



Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical	464	174	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	190	71	0	0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	54%	217 / 696	913	L	1.25D+1.5L
2 - SPF	4.375"	Vert	19%	89 / 285	373	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1218 ft-lb	2'11 1/8"	5305 ft-lb	0.230 (23%)	1.25D+1.5L	L
Unbraced	1218 ft-lb	2'11 1/8"	5305 ft-lb	0.230 (23%)	1.25D+1.5L	L
Shear	890 lb	1 5/8"	2350 lb	0.379 (38%)	1.25D+1.5L	L
Perm Defl in.	0.015 (L/7498)	4'5 3/16"	0.320 (L/360)	0.048 (5%)	D	Uniform
LL Defl inch	0.041 (L/2806)	4'5 3/16"	0.320 (L/360)	0.128 (13%)	L	L
TL Defl inch	0.056 (L/2042)	4'5 3/16"	0.480 (L/240)	0.118 (12%)	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 8'4 3/8" o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-9-6	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-0-8	0-5-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Far Face	106 lb	284 lb	0 lb	0 lb	F3
4	Tie-In	1-9-6 to 10-0-8	0-2-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

This design is valid until 11/3/2024

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





CORPORATION OF ENGINEERING ARCHITECTS
Client: GREENPARK
Project:
Ac: STATES
N.

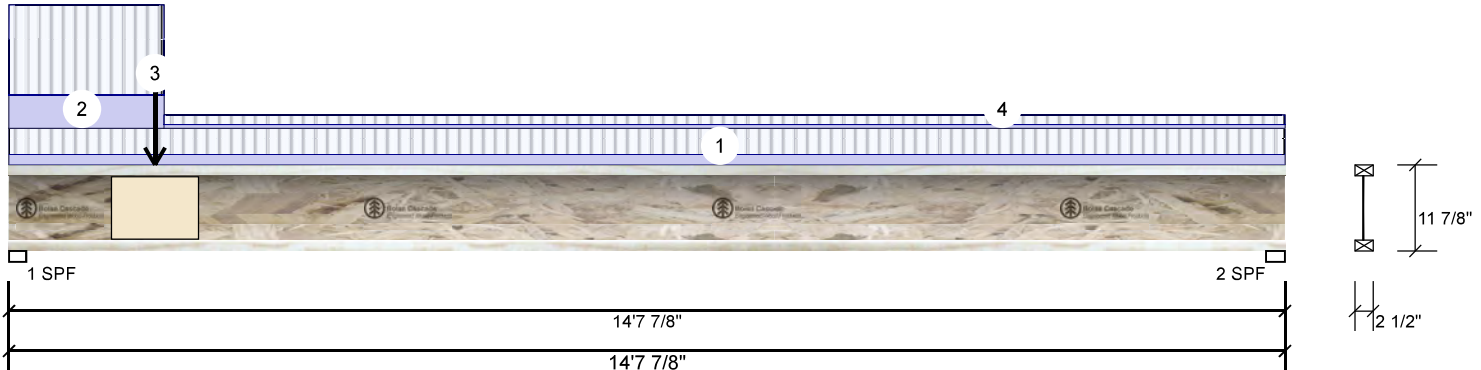
Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F6-A AJS 140

11.87 PER:

CHIEF-BUILDING OFFICIAL

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
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 Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	677	254	0	0
2	Vertical	247	93	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	79%	318 / 1016	1333	L	1.25D+1.5L
2 - SPF	2.625"	Vert	28%	116 / 371	487	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2182 ft-lb	5'4 5/8"	5305 ft-lb	0.411 (41%)	1.25D+1.5L	L
Unbraced	2182 ft-lb	5'4 5/8"	5305 ft-lb	0.411 (41%)	1.25D+1.5L	L
Shear	1311 lb	1 5/8"	2350 lb	0.558 (56%)	1.25D+1.5L	L
Perm Defl in.	0.056 (L/3051)	6'9 15/16"	0.479 (L/360)	0.118 (12%)	D	Uniform
LL Defl inch	0.151 (L/1144)	6'9 15/16"	0.479 (L/360)	0.315 (31%)	L	L
TL Defl inch	0.207 (L/832)	6'9 15/16"	0.718 (L/240)	0.288 (29%)	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 12'11 3/4" o.c.

**READ ALL NOTES ON THIS PAGE AND ON THE
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 14-7-14	0-5-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-6	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Near Face	161 lb	429 lb	0 lb	0 lb	F3
4	Tie-In	1-9-6 to 14-7-14	0-2-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
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www.bc.com
CCMC: 12787

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



This design is valid until 11/3/2024



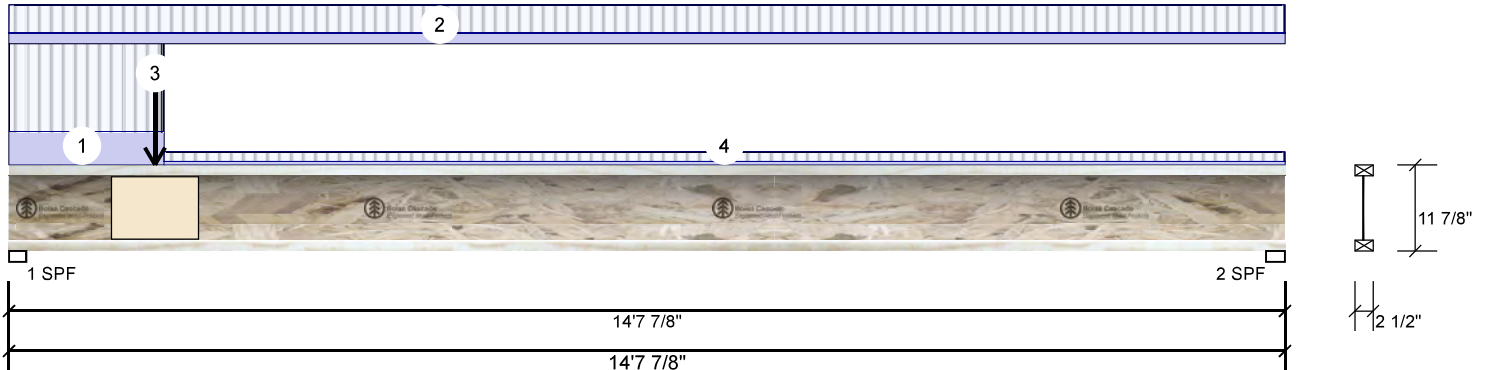
CORPORATION OF ENGINEERING ARCHITECTS
Client: GREENPARK
Project:
Ac: STATES
N.

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F6-B AJS 140

11.875" PER **CHIEF BUILDING OFFICIAL** **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
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 Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	690	259	0	0
2	Vertical	260	97	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	81%	323 / 1035	1359	L	1.25D+1.5L
2 - SPF	2.625"	Vert	29%	122 / 389	511	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2262 ft-lb	5'5 15/16"	5305 ft-lb	0.426 (43%)	1.25D+1.5L	L
Unbraced	2262 ft-lb	5'5 15/16"	5305 ft-lb	0.426 (43%)	1.25D+1.5L	L
Shear	1336 lb	1 5/8"	2350 lb	0.568 (57%)	1.25D+1.5L	L
Perm Defl in.	0.059 (L/2939)	6'10 3/16"	0.479 (L/360)	0.122 (12%)	D	Uniform
LL Defl inch	0.156 (L/1102)	6'10 3/16"	0.479 (L/360)	0.327 (33%)	L	L
TL Defl inch	0.215 (L/801)	6'10 3/16"	0.718 (L/240)	0.300 (30%)	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 12'11 3/4" o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-9-6	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 14-7-14	0-6-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Far Face	161 lb	430 lb	0 lb	0 lb	F3
4	Tie-In	1-9-6 to 14-7-14	0-2-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

Manufacturer Info

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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 11/3/2024



CORPORATION OF ENGINEERS 1544 - GREEN PARK
Client: GREEN PARK
Project: TRUE COPY OF PERMIT PLANS
Ac: Nov 21, 2023 STATES
N.

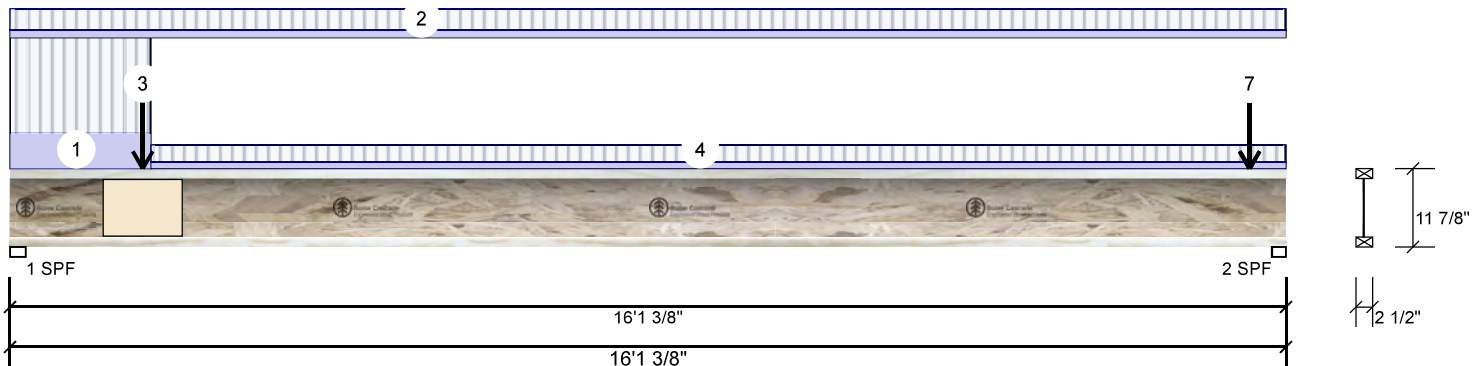
Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F7-A AJS 140

11.875 PER: _____

PER: **CHIEF-BUILDING OFFICIAL**

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
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 Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	726	276	0	0
2	Vertical	488	238	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	85%	345 / 1089	1434	L	1.25D+1.5L
2 - SPF	2.125"	Vert	63%	298 / 732	1029	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2583 ft-lb	6'5 3/16"	5305 ft-lb	0.487 (49%)	1.25D+1.5L	L
Unbraced	2583 ft-lb	6'5 3/16"	5305 ft-lb	0.487 (49%)	1.25D+1.5L	L
Shear	1412 lb	1 5/8"	2350 lb	0.601 (60%)	1.25D+1.5L	L
Perm Defl in.	0.083 (L/2292)	7'8 1/4"	0.529 (L/360)	0.157 (16%)	D	Uniform
LL Defl inch	0.216 (L/883)	7'7 13/16"	0.529 (L/360)	0.408 (41%)	L	L
TL Defl inch	0.299 (L/637)	7'7 15/16"	0.793 (L/240)	0.376 (38%)	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 14'5 1/4" o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-9-6	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 16-1-6	0-4-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Far Face	175 lb	459 lb	0 lb	0 lb	F3
4	Tie-In	1-9-6 to 16-1-6	0-3-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	15-7-14		Top	43 lb	114 lb	0 lb	0 lb	J6
	Bearing Length	0-1-8							
6	Point	15-7-14		Top	48 lb	115 lb	0 lb	0 lb	J5

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

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

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

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 11/3/2024



Client: TRUE GREENPARK
Project: OF PERMIT PLANS
Ac: Nov 21, 2023
STATES
N.

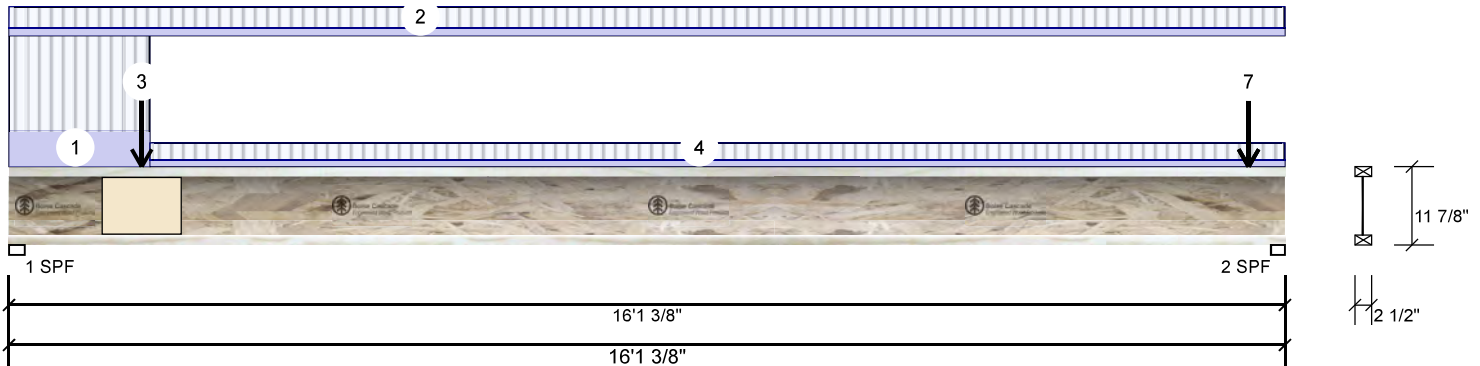
Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

Page 11 of 28

F7-A AJS 140 11.875

PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Bearing Length	0-1-8							
	Point	15-7-14		Top	51 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							



JULY 21, 2023

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Notes

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Lumber

1. Dry service conditions, unless noted otherwise
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chemicals

Handling & Installation

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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 11/3/2024

Manufacturer Info

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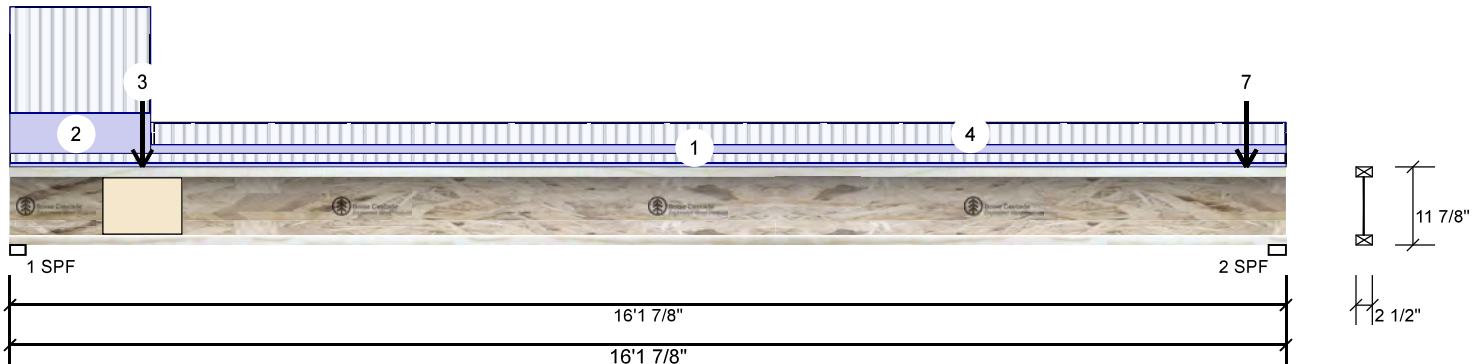




CORPORATION OF TEXAS ENGINEERING 1544 -- GRE
Client: GREENPARK
Project:
Ac: Nov 21 2023 STATES
N.

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F7-B	AJS 140	11.875	PERM. CHIEF BUILDING OFFICIAL	Level: Ground Floor
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Member Information

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

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	656	249	0	0
2	Vertical	494	230	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	77%	312 / 984	1296	L	1.25D+1.5L
2 - SPF	2.625"	Vert	59%	288 / 741	1029	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2173 ft-lb	6' 3/8"	5305 ft-lb	0.410 (41%)	1.25D+1.5L	L
Unbraced	2173 ft-lb	6' 3/8"	5305 ft-lb	0.410 (41%)	1.25D+1.5L	L
Shear	1276 lb	1 5/8"	2350 lb	0.543 (54%)	1.25D+1.5L	L
Perm Defl in.	0.070 (L/2722)	7'7 5/8"	0.529 (L/360)	0.132 (13%)	D	Uniform
LL Defl inch	0.181 (L/1049)	7'7 3/16"	0.529 (L/360)	0.343 (34%)	L	L
TL Defl inch	0.251 (L/757)	7'7 3/8"	0.793 (L/240)	0.317 (32%)	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 14'5 3/4" o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-1-14	0-1-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-6	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Near Face	169 lb	443 lb	0 lb	0 lb	F3
4	Tie-In	1-9-6 to 16-1-14	0-4-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	15-7-14		Top	58 lb	155 lb	0 lb	0 lb	J6
	Bearing Length	0-1-8							
6	Point	15-7-14		Top	57 lb	136 lb	0 lb	0 lb	J5

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

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

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

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Client: TRUE GREENPARK
Project: OF PERMIT PLANS
Ac: Nov 21, 2023
STATES
N.

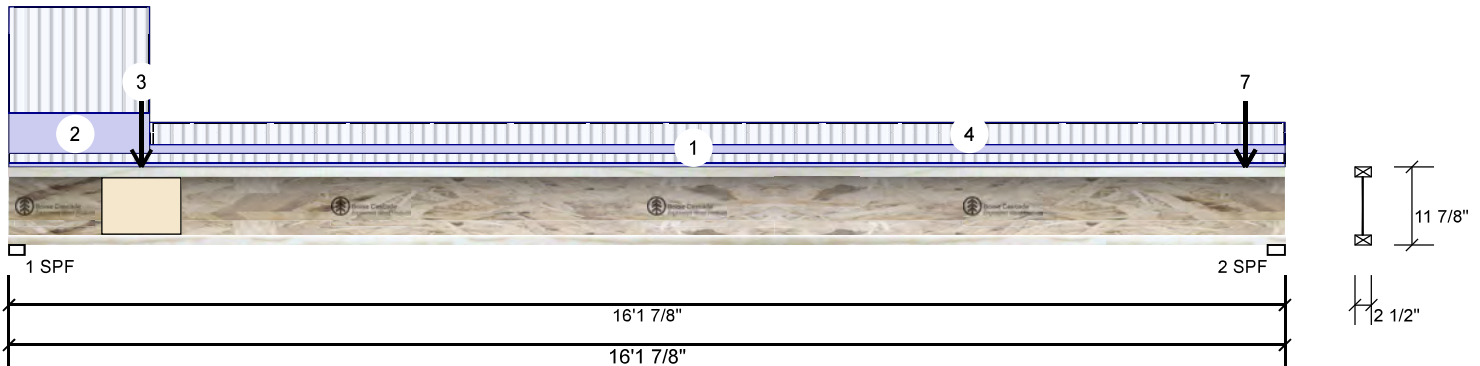
Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

Page 13 of 28

F7-B AJS 140 11.875"

PERMITS PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Bearing Length	0-1-8							
	Point	15-7-14		Top	40 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-1-8							



JULY 21, 2023

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CCMC: 12787

Kott Inc.

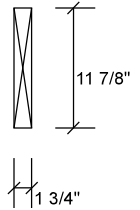
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400





Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

Level: Ground Floor



Unfactored Reactions UNPATTERNED Ib (Uplift)

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

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	66	42	0	0
2	Vertical	60	38	0	0

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	3%	53 / 100	153	L	1.25D+1.5L
2 - SPF	1.750"	Vert	4%	48 / 90	138	L	1.25D+1.5L
End Grain							

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	173 ft-lb	2'11 5/8"	17696 ft-lb	0.010 (1%)	1.25D+1.5L	L
Unbraced	173 ft-lb	2'11 5/8"	17696 ft-lb	0.010 (1%)	1.25D+1.5L	L
Shear	87 lb	1'5 1/8"	7232 lb	0.012 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/129622)	2'11 5/8"	0.173 (L/360)	0.003 (0%)	D	Uniform
LL Defl inch	0.001 (L/82854)	2'11 5/8"	0.173 (L/360)	0.004 (0%)	L	L
TL Defl inch	0.001 (L/50546)	2'11 5/8"	0.259 (L/240)	0.005 (0%)	D+L	L



- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be continuously laterally braced.
- 4 Bottom 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 0-4-2	0-6-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-4-2 to 5-7-12	0-6-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				6 PLF				

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

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


6. For flat roofs provide proper drainage to prevent ponding

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

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



This design is valid until 11/3/2024




CORPORATION OF ENGINEERS

Client: TRUE GREENPARK

Project: OF PERMIT PLANS

Ac: Nov 21, 2023



ENG-M0723-154-KT

GREENPARK-ZADORRA ESTATES-VILLA 12A-1,2,3

STATES

N.

Date: 7/18/2023

Input by: RCO

Job Name: VILLA 12A-1

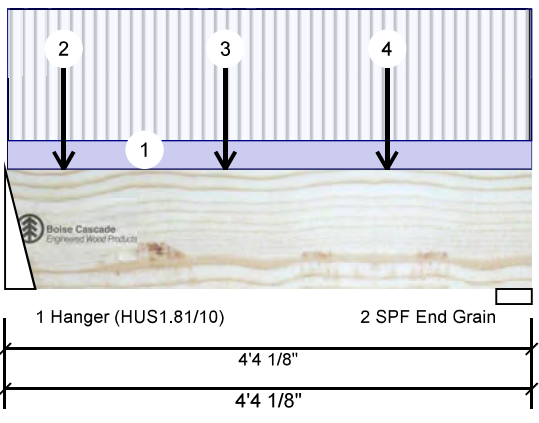
Project #:

Page 19 of 39

Page 15 of 28

F8-B Versa-Lam LVL 2.1E 3100 SP 1750" X 11.875" - PASSED

Level: Ground Floor



1 Hanger (HUS1.81/10)

2 SPF End Grain

4'4 1/8"

4'4 1/8"

11 7/8"

1 3/4"

Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)											
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind						
Plies:	1	Design Method:	LSD	1	Vertical	363	125	0	0						
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	320	108	0	0						
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														

Analysis Results							Bearings and Factored Reactions			
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	Bearing	Length	Dir.	Cap. React D/L lb
Moment	654 ft-lb	1'9 13/16"	17696 ft-lb	0.037 (4%)	1.25D+1.5L	L	1 - Hanger	3.000"	Vert	11% 157 / 545
Unbraced	654 ft-lb	1'9 13/16"	17696 ft-lb	0.037 (4%)	1.25D+1.5L	L	2 - SPF End Grain	3.500"	Vert	8% 135 / 481
Shear	549 lb	1'2 7/8"	7232 lb	0.076 (8%)	1.25D+1.5L	L				
Perm Defl in.	0.001 (L/69505)	2'1 9/16"	0.131 (L/360)	0.005 (1%)	D	Uniform				
LL Defl inch	0.002 (L/23924)	2'1 5/8"	0.131 (L/360)	0.015 (2%)	L	L				
TL Defl inch	0.003 (L/17798)	2'1 9/16"	0.196 (L/240)	0.013 (1%)	D+L	L				

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	654 ft-lb	1'9 13/16"	17696 ft-lb	0.037 (4%)	1.25D+1.5L	L
Unbraced	654 ft-lb	1'9 13/16"	17696 ft-lb	0.037 (4%)	1.25D+1.5L	L
Shear	549 lb	1'2 7/8"	7232 lb	0.076 (8%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/69505)	2'1 9/16"	0.131 (L/360)	0.005 (1%)	D	Uniform
LL Defl inch	0.002 (L/23924)	2'1 5/8"	0.131 (L/360)	0.015 (2%)	L	L
TL Defl inch	0.003 (L/17798)	2'1 9/16"	0.196 (L/240)	0.013 (1%)	D+L	L

Design Notes

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

LICENSED PROFESSIONAL ENGINEER

I.MATJIEVIC

100528832

PROVINCE OF ONTARIO

JULY 21, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-4 to 4-4-2		Top	15 PLF	70 PLF	0 PLF	0 PLF	
2	Point	0-5-13		Near Face	40 lb	106 lb	0 lb	0 lb	J2
3	Point	1-9-13		Near Face	54 lb	143 lb	0 lb	0 lb	J2
4	Point	3-1-13		Near Face	49 lb	132 lb	0 lb	0 lb	J2
	Self Weight				6 PLF				

Notes

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

Lumber

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

Handling & Installation

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


6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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 11/3/2024

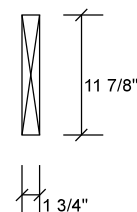
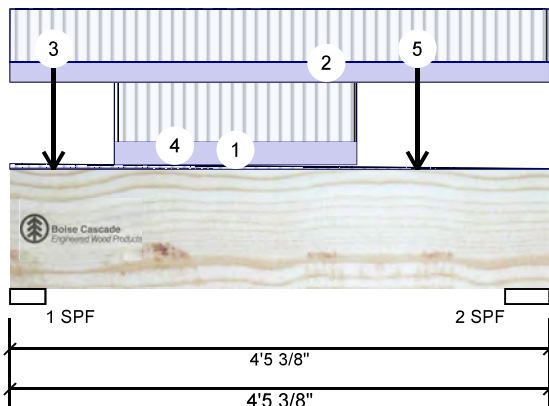
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CSD | DRAW DESIGN BUILD



Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

Level: Ground Floor



Unfactored Reactions UNPATTERNED lb (Uplift)

Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical	1225	480	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	1014	399	0	0
Deflection LL:	360	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearings and Factored Reactions					
Dead:	15 PSF			Bearing	Length	Dir.	Cap.	React D/L	Ib Total Ld. Case Ld. Comb.
				1 - SPF	3.503"	Vert	65%	600 / 1838	2438 L 1.25D+1.5L
				2 - GFRP	1.875"	Vert	42%	400 / 1500	2040 L 1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1963 ft-lb	2'2 1/4"	17696 ft-lb	0.111 (11%)	1.25D+1.5L	L
Unbraced	1963 ft-lb	2'2 1/4"	17696 ft-lb	0.111 (11%)	1.25D+1.5L	L
Shear	1568 lb	1'3 3/8"	7232 lb	0.217 (22%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/20507)	2'2 5/16"	0.131 (L/360)	0.018 (2%)	D	Uniform
LL Defl inch	0.006 (L/8053)	2'2 5/16"	0.131 (L/360)	0.045 (4%)	L	L
TL Defl inch	0.008 (L/5782)	2'2 5/16"	0.196 (L/240)	0.042 (4%)	D+L	L



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

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-5-6	0-5-2 to 0-0-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 4-5-6		Top	90 PLF	240 PLF	0 PLF	0 PLF	
3	Point	0-4-5		Near Face	121 lb	314 lb	0 lb	0 lb	J5
4	Part. Uniform	0-10-5 to 2-10-5		Near Face	104 PLF	269 PLF	0 PLF	0 PLF	
5	Point	3-4-5		Near Face	108 lb	278 lb	0 lb	0 lb	J5
	Self Weight				6 PLF				

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Boise Cascade Wood Products
1111 W. Jefferson St.
Boise, ID 83702
(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 11/3/2024

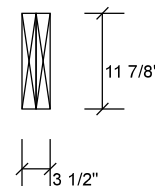
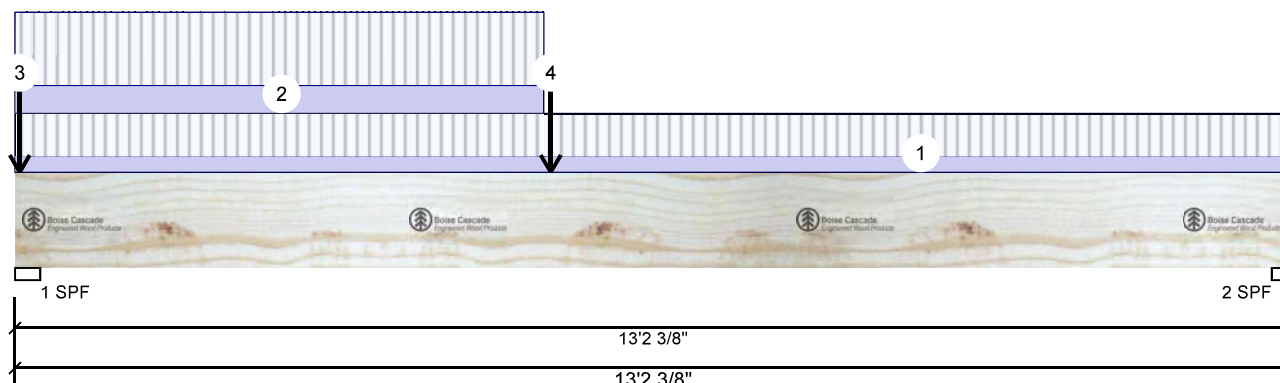


CORPORATION OF ENGINEERING
Client: TRUE GREEN PARK
Project: OF PERMIT PLANS
Ac: Nov 21, 2023
C. Martin
3100 SE 14th Ave. N. STATES
SUITE BUILDING OFFICIAL 11.875

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F9-B Versa-Lam LVL 2.1E 3100 SP 1/2" x 11.875" 2-Ply - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
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	2608	1202	0	0
2	Vertical	213	153	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.125"	Vert	80%	1502 / 3911	5413	L	1.25D+1.5L
2 - SPF	2.375"	Vert	10%	191 / 319	511	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2980 ft-lb	5'6 1/2"	35392 ft-lb	0.084 (8%)	1.25D+1.5L	L
Unbraced	2980 ft-lb	5'6 1/2"	35392 ft-lb	0.084 (8%)	1.25D+1.5L	L
Shear	660 lb	1'3"	14464 lb	0.046 (5%)	1.25D+1.5L	L
Perm Defl in.	0.019 (L/8143)	6'5 1/16"	0.429 (L/360)	0.044 (4%)	D	Uniform
LL Defl inch	0.034 (L/4592)	6'3 5/8"	0.429 (L/360)	0.078 (8%)	L	L
TL Defl inch	0.053 (L/2937)	6'4 1/8"	0.643 (L/240)	0.082 (8%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 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 7'7 7/8" o.c.
- 7 Lateral slenderness ratio based on full section width.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-2-6	0-2-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 5-5-10	0-3-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-0-9		Top	1011 lb	2291 lb	0 lb	0 lb	C2
	Bearing Length	0-3-8							
4	Point	5-6-8		Near Face	125 lb	363 lb	0 lb	0 lb	F8
	Self Weight				12 PLF				

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

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

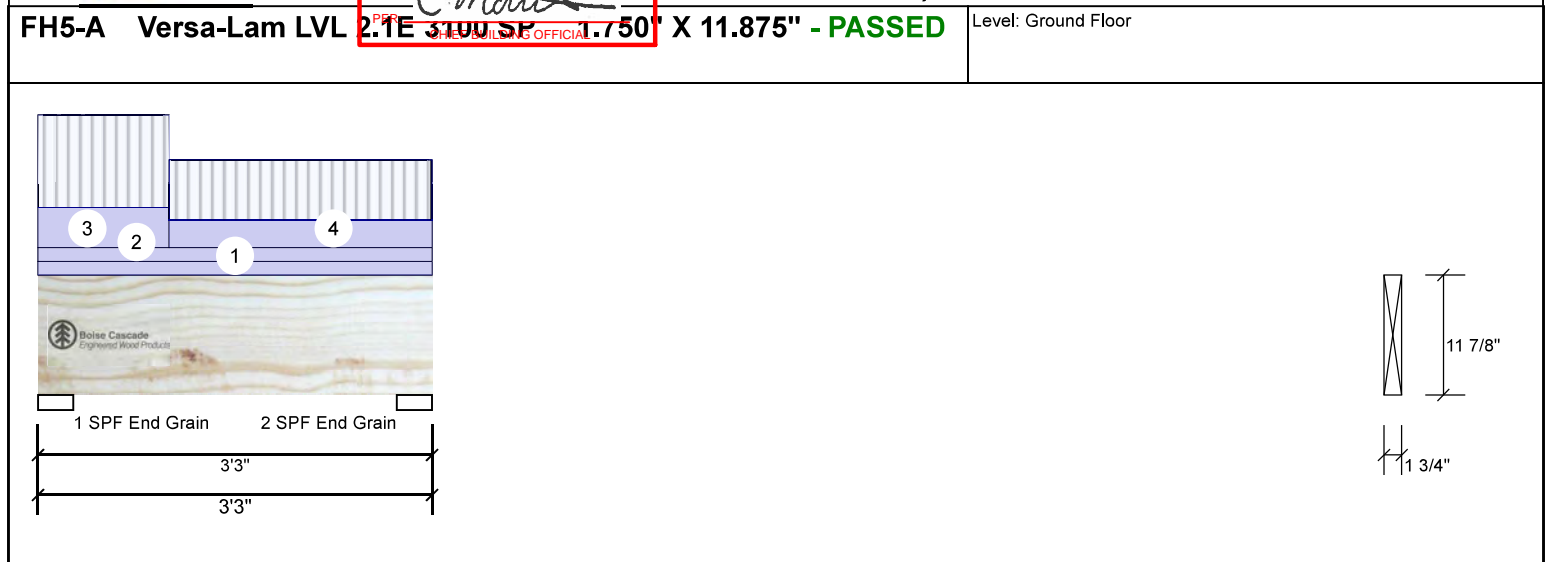
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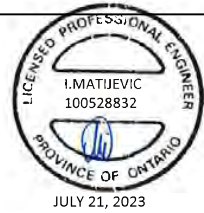
FH5-A Versa-Lam LVL 2.1E 3.100 SP 1.750" X 11.875" - PASSED

Level: Ground Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)							
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind		
Plies:	1	Design Method:	LSD	1	Vertical	375	305	0	0		
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	298	274	0	0		
Deflection LL:	360	Load Sharing:	No								
Deflection TL:	240	Deck:	Not Checked								
Importance:	Normal - II	Vibration:	Not Checked								
General Load											
Floor Live:	40 PSF	Bearings and Factored Reactions									
Dead:	15 PSF										
				Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - SPF	3.500"	Vert	13%	381 / 563	944	L	1.25D+1.5L
				End							

Analysis Results							Bearings and Factored Reactions			
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	Bearing	Length	Dir.	Cap. React D/L lb
Moment	494 ft-lb	1'6 7/8"	17696 ft-lb	0.028 (3%)	1.25D+1.5L	L	1 - SPF End Grain	3.500"	Vert	13% 381 / 563
Unbraced	494 ft-lb	1'6 7/8"	17696 ft-lb	0.028 (3%)	1.25D+1.5L	L	2 - SPF End Grain	3.500"	Vert	11% 343 / 447
Shear	763 lb	1'11 5/8"	7232 lb	0.106 (11%)	1.25D+1.5L	L				
Perm Defl in.	0.001 (L/60715)	1'7 3/8"	0.093 (L/360)	0.006 (1%)	D	Uniform				
LL Defl inch	0.001 (L/53915)	1'7 3/16"	0.093 (L/360)	0.007 (1%)	L	L				
TL Defl inch	0.001 (L/28558)	1'7 5/16"	0.140 (L/240)	0.008 (1%)	D+L	L				



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-3-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Part. Uniform	0-0-0 to 3-3-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-0 to 1-1-0		Near Face	117 PLF	270 PLF	0 PLF	0 PLF	J5
4	Part. Uniform	1-1-0 to 3-3-0		Near Face	80 PLF	176 PLF	0 PLF	0 PLF	J3
	Self Weight				6 PLF				

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


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

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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CCMC: 12472

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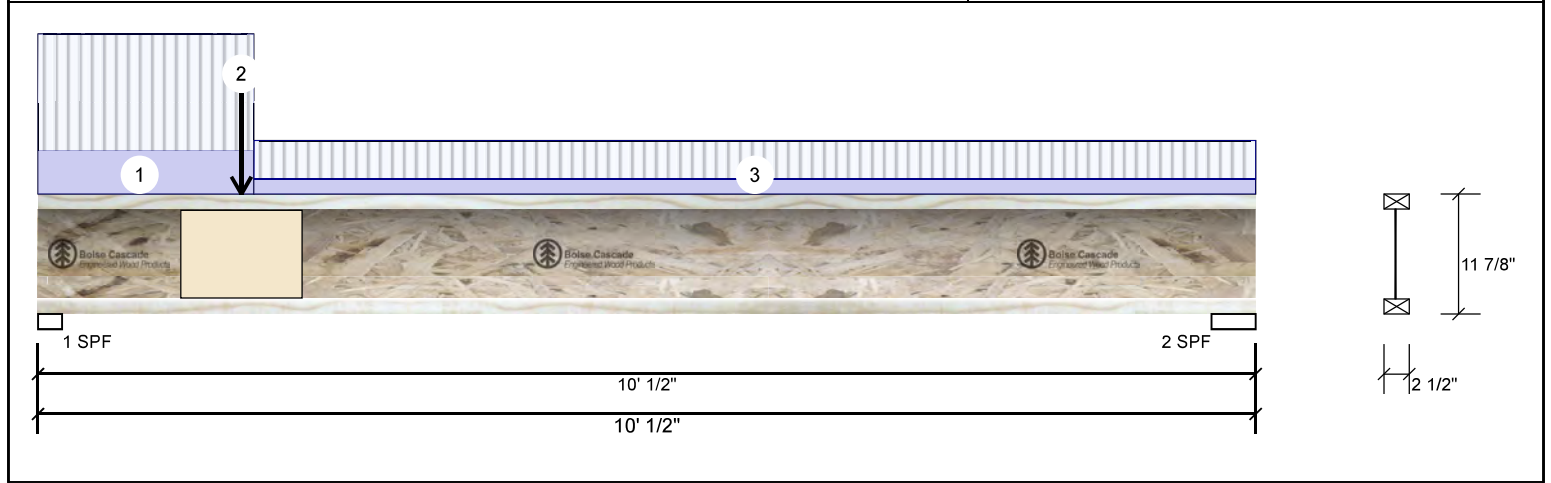


F19-A

AJS 140

PER 11.875" PASSED

Level: Ground Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)					
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical	372	140	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	155	58	0	0
Deflection LL:	360	Load Sharing:	No	Bearings and Factored Reactions					
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						
General Load				Bearing	Length	Dir.	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
Floor Live:	40 PSF			1 - SPF	2.375"	Vert	44% 175 / 558	733 L	1.25D+1.5L
Dead:	15 PSF			2 - SPF	4.375"	Vert	16% 73 / 233	306 L	1.25D+1.5L

Analysis Results						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	987 ft-lb	2'11 15/16"	5305 ft-lb	0.186 (19%)	1.25D+1.5L	L
Unbraced	987 ft-lb	2'11 15/16"	5305 ft-lb	0.186 (19%)	1.25D+1.5L	L
Shear	715 lb	1 5/8"	2350 lb	0.304 (30%)	1.25D+1.5L	L
Perm Defl in.	0.013 (L/9197)	4'5 5/16"	0.320 (L/360)	0.039 (4%)	D	Uniform
LL Defl inch	0.033 (L/3457)	4'5 5/16"	0.320 (L/360)	0.104 (10%)	L	
TL Defl inch	0.046 (L/2513)	4'5 5/16"	0.480 (L/240)	0.096 (10%)	D+L	L


Design Notes

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

2 Girders are designed to be supported on the bottom edge only.

3 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 8'4 3/8" o.c.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-9-6	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-8-2		Far Face	86 lb	228 lb	0 lb	0 lb	F3
3	Tie-In	1-9-6 to 10-0-8	0-6-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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

Lumber

1. Dry service conditions, unless noted otherwise

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

Handling & Installation

1. Joist flanges must not be cut or drilled

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

3. Damaged Joists must not be used

4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes,

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

6. Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches


7. For flat roofs provide proper drainage to prevent ponding

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 11/3/2024

Version 21.80.417 Powered by iStruct™ Dataset: 21060301.1545

CSD

DRAW DESIGN BUILD

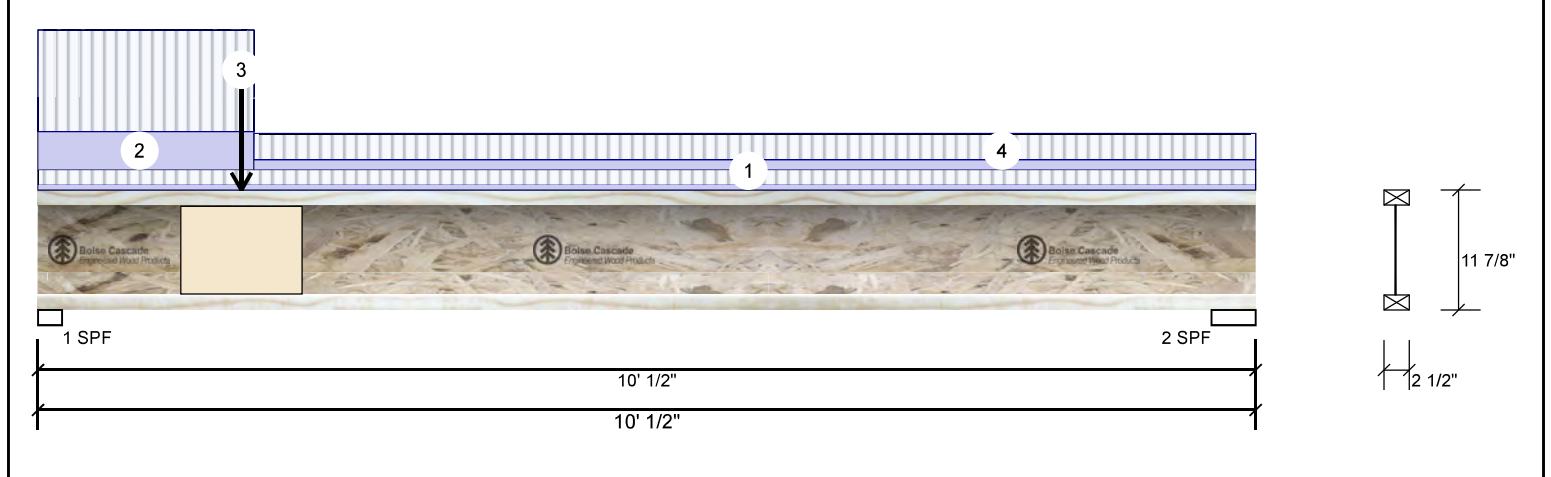


F19-B

AJS 140

11.875" PASSED

Level: Ground Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)					
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	1	Design Method:	LSD	1	Vertical	422	158	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	183	69	0	0
Deflection LL:	360	Load Sharing:	No	Bearings and Factored Reactions					
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						
General Load				Bearing	Length	Dir.	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
Floor Live:	40 PSF			1 - SPF	2.375"	Vert	49% 198 / 633	831 L	1.25D+1.5L
Dead:	15 PSF			2 - SPF	4.375"	Vert	19% 86 / 275	361 L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1133 ft-lb	3'2 1/16"	5305 ft-lb	0.214 (21%)	1.25D+1.5L	L
Unbraced	1133 ft-lb	3'2 1/16"	5305 ft-lb	0.214 (21%)	1.25D+1.5L	L
Shear	811 lb	1 5/8"	2350 lb	0.345 (35%)	1.25D+1.5L	L
Perm Defl in.	0.014 (L/7967)	4'5 5/8"	0.320 (L/360)	0.045 (5%)	D	Uniform
LL Defl inch	0.039 (L/2986)	4'5 5/8"	0.320 (L/360)	0.121 (12%)	L	
TL Defl inch	0.053 (L/2172)	4'5 5/8"	0.480 (L/240)	0.110 (11%)	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 8'4 3/8" 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 10-0-8	0-2-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-6	1-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-2		Near Face	94 lb	251 lb	0 lb	0 lb	F3
4	Tie-In	1-9-6 to 10-0-8	0-5-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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

Lumber

1. Dry service conditions, unless noted otherwise

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

Handling & Installation

1. Joist flanges must not be cut or drilled

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

3. Damaged Joists must not be used

4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes,

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

6. Web stiffeners for point load as shown Minimum point load bearing length>= 3.5 inches


7. For flat roofs provide proper drainage to prevent ponding

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 11/3/2024

Version 21.80.417 Powered by iStruct™ Dataset: 21060301.1545

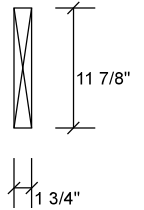
CSD

DRAW DESIGN BUILD



Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

Level: Second Floor



Unfactored Reactions UNPATTERNED Ib (Uplift)

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

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	676	264	0	0
2	Vertical	656	257	0	0

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	21%	331 / 1013	1344	L	1.25D+1.5L
2 - SPF End Grain	3.500"	Vert	17%	321 / 984	1305	L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1018 ft-lb	1'8 13/16"	17696 ft-lb	0.058 (6%)	1.25D+1.5L	L
Unbraced	1018 ft-lb	1'8 13/16"	17696 ft-lb	0.058 (6%)	1.25D+1.5L	L
Shear	756 lb	1'2 7/8"	7232 lb	0.105 (10%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/47556)	1'9 5/8"	0.109 (L/360)	0.008 (1%)	D	Uniform
LL Defl inch	0.002 (L/18593)	1'9 9/16"	0.109 (L/360)	0.019 (2%)	L	L
TL Defl inch	0.003 (L/13367)	1'9 5/8"	0.164 (L/240)	0.018 (2%)	D+L	L



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

**READ ALL NOTES ON THIS PAGE AND ON THE
ENGINEERING NOTES: EWP-FLOORS. THE NOTE
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USED IN THE DESIGN OF THIS COMPONENT.**

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 3-8-5		Top	90 PLF	240 PLF	0 PLF	0 PLF	
2	Point	0-4-13		Near Face	50 lb	132 lb	0 lb	0 lb	J8
3	Point	1-8-13		Near Face	70 lb	187 lb	0 lb	0 lb	J8
4	Point	3-0-13		Near Face	47 lb	126 lb	0 lb	0 lb	J8
	Self Weight				6 PLF				

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

Lumber

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

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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www.bc.com
CCMC: 12472

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



This design is valid until 11/3/2024

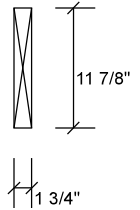
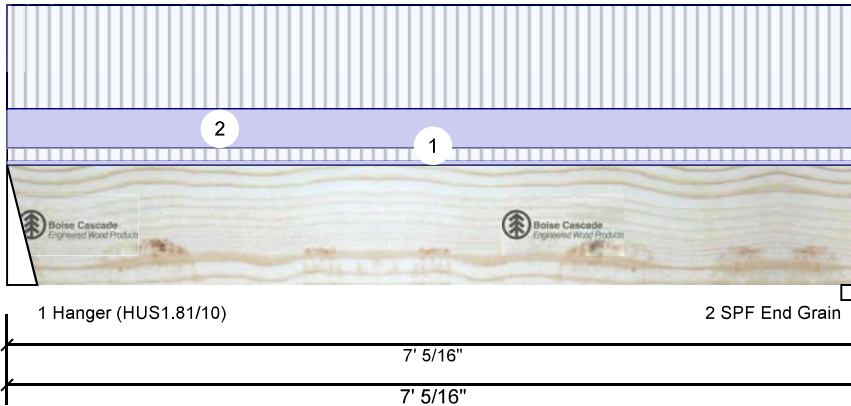


CORPORATION OF ENGINEERS 1544 - GREEN PARK
Client: GREEN PARK
Project: TRUE COPY OF PERMIT PLANS
Ac: Nov 21, 2023 STATES
N.

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F11-A Versa-Lam LVL 2.1E 3100 SP 1.750" X 11.875" - PASSED

Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	311	138	0	0
2	Vertical	302	134	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	10%	172 / 466	638	L	1.25D+1.5L
2 - SPF End Grain	1.750"	Vert	17%	167 / 453	620	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1021 ft-lb	3'6 3/4"	17696 ft-lb	0.058 (6%)	1.25D+1.5L	L
Unbraced	1021 ft-lb	3'6 3/4"	17696 ft-lb	0.058 (6%)	1.25D+1.5L	L
Shear	424 lb	5'10 11/16"	7232 lb	0.059 (6%)	1.25D+1.5L	L
Perm Defl in.	0.004 (L/22249)	3'6 13/16"	0.225 (L/360)	0.016 (2%)	D	Uniform
LL Defl inch	0.008 (L/9853)	3'6 13/16"	0.225 (L/360)	0.037 (4%)	L	L
TL Defl inch	0.012 (L/6829)	3'6 13/16"	0.338 (L/240)	0.035 (4%)	D+L	L



JULY 21, 2023

Design Notes

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

**READ ALL NOTES ON THIS PAGE AND ON THE
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 7-0-5	0-2-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 7-0-5	1-11-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				6 PLF				

Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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 11/3/2024

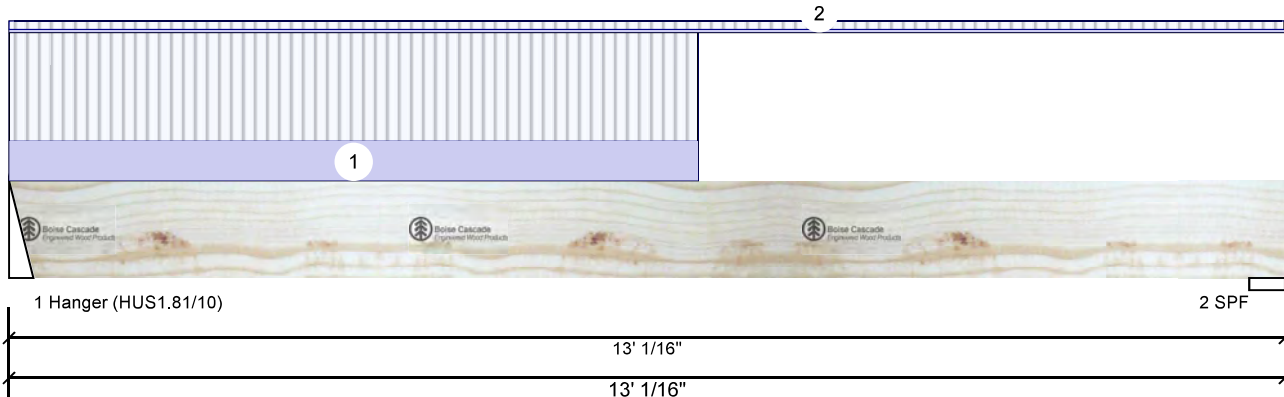


CORPORATION OF ENGINEERING ARCHITECTS
Client: GREENPARK
Project:
Ac: STATES
N.

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F12-A Versa-Lam LVL 2.1E 3100 SP 1.750' X 11.875" - PASSED

Level: Second Floor



Technical drawing of a rectangular plate. The vertical dimension is labeled $11 \frac{7}{8}"$ and the horizontal dimension is labeled $1 \frac{3}{4}"$.

Member Information

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

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	441	204	0	0
2	Vertical	186	108	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	Vert	14%	255 / 662	916	L	1.25D+1.5L
2 - SPF	4.375"	Vert	9%	136 / 279	414	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2261 ft-lb	5'3 5/8"	17696 ft-lb	0.128 (13%)	1.25D+1.5L	L
Unbraced	2261 ft-lb	5'3 5/8"	17696 ft-lb	0.128 (13%)	1.25D+1.5L	L
Shear	709 lb	1'2 7/8"	7232 lb	0.098 (10%)	1.25D+1.5L	L
Perm Defl in.	0.027 (L/5517)	6'1 13/16"	0.417 (L/360)	0.065 (7%)	D	Uniform
LL Defl inch	0.056 (L/2705)	6' 3/4"	0.417 (L/360)	0.133 (13%)	L	L
TL Defl inch	0.083 (L/1815)	6'1 1/16"	0.626 (L/240)	0.132 (13%)	D+L	L



Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top must be continuously laterally braced.
- 5 Bottom must 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 7-0-5	1-11-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-0-1	0-1-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				6 PLF				

Notes

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Lumber

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

chemicals

Handling & 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 11/3/2024

isDesign

Client: TRUE GREEN PARK

Project: OF PERMIT PLANS

Ac: Nov 21, 2023

CHIEF BUILDING OFFICIAL

CORPORATION OF ENGINEERS

ENG-10723-154-KT

GREENPARK-ZADORRA ESTATES-VILLA 12A-1,2,3

Date: 7/18/2023

Input by: RCO

Job Name: VILLA 12A-1

Project #:

Page 31 of 39

Page 22 of 28

F13-A Versa-Lam LVL 2.1 E 3100 SF 11.875" 2-Ply - PASSED

Level: Second Floor

2

3

4

5

6

8

9

10

1

7

Boise Cascade

Engineered Wood Products

1 SPF End Grain

2 SPF

9' 1/2"

9' 1/2"

11 7/8"

3 1/2"

Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)					
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	Vertical	2291	1011	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	2175	929	0	0
Deflection LL:	360	Load Sharing:	No	Bearings and Factored Reactions					
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF			Bearing	Length	Dir.	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
Dead:	15 PSF			1 - SPF End Grain	5.500"	Vert	20% 1264 / 3437	4701 L	1.25D+1.5L

Analysis Results						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	7777 ft-lb	4'3 7/8"	35392 ft-lb	0.220 (22%)	1.25D+1.5L	L
Unbraced	7777 ft-lb	4'3 7/8"	35392 ft-lb	0.220 (22%)	1.25D+1.5L	L
Shear	4476 lb	1'5 3/8"	14464 lb	0.309 (31%)	1.25D+1.5L	L
Perm Defl in.	0.019 (L/5157)	4'5 1/2"	0.275 (L/360)	0.070 (7%)	D	Uniform
LL Defl inch	0.046 (L/2170)	4'5 7/16"	0.275 (L/360)	0.166 (17%)	L	L
TL Defl inch	0.065 (L/1528)	4'5 7/16"	0.412 (L/240)	0.157 (16%)	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 must be continuously laterally braced.

5 Bottom must have sheathing attached or be continuously braced.

6 Lateral slenderness ratio based on full section width.

LICENSED PROFESSIONAL ENGINEER

I.MATJUEVIC

100528832

PROVINCE OF ONTARIO

JULY 21, 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	Part. Uniform	0-2-5 to 2-10-5		Near Face	118 PLF	315 PLF	0 PLF	0 PLF	
2	Point	0-7-12		Far Face	258 lb	463 lb	0 lb	0 lb	F9
3	Point	1-2-5		Far Face	50 lb	132 lb	0 lb	0 lb	J8
4	Point	2-6-5		Far Face	70 lb	187 lb	0 lb	0 lb	J8
5	Point	3-6-5		Near Face	138 lb	369 lb	0 lb	0 lb	J7
6	Point	3-10-5		Far Face	47 lb	126 lb	0 lb	0 lb	J8

Continued on page 2...

Notes

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

Lumber

1. Dry service conditions, unless noted otherwise

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

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 11/3/2024

Manufacturer Info

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Boise, ID 83702

(800) 232-0788

www.bc.com

CCMC: 12472

Kott Inc.

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613-838-2775 / 905-642-4400

KOTT

CSD | DRAW DESIGN BUILD

Version 21.80.417 Powered by iStruct™ Dataset: 21060301.1545

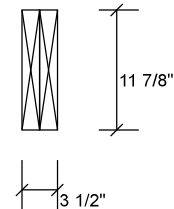
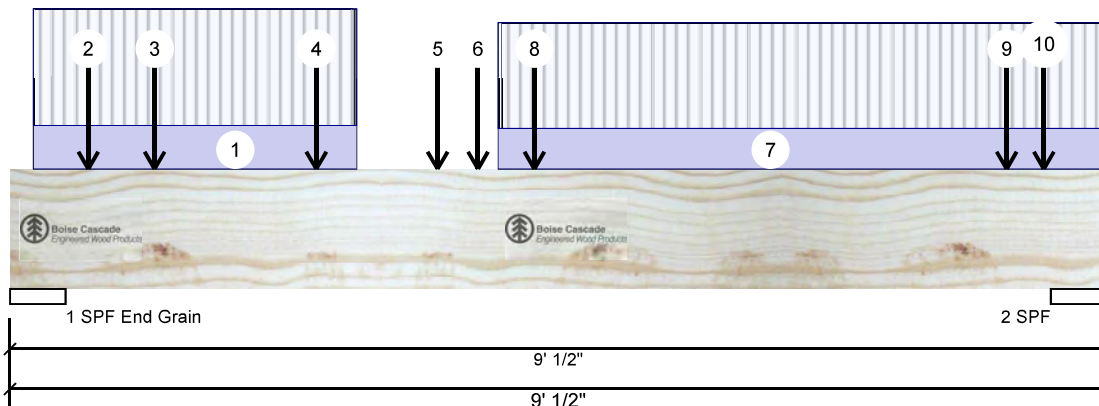
CSD | DRAW DESIGN BUILD



Client: TRUE GREENPARK
Project: OF PERMIT PLANS
Ac: Nov 21, 2023
STATES
N.

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F13-A Versa-Lam LVL 2.1 E 3100 SF 1750 X 11.875" 2-Ply - PASSED Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
7	Part. Uniform	4-0-5 to 9-0-5		Near Face	110 PLF	286 PLF	0 PLF	0 PLF	
8	Point	4-3-14		Far Face	138 lb	311 lb	0 lb	0 lb	F11
9	Point	8-2-10		Far Face	204 lb	441 lb	0 lb	0 lb	F12
10	Point	8-6-5		Far Face	63 lb	167 lb	0 lb	0 lb	J5
	Self Weight				12 PLF				



JULY 21, 2023

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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

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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

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



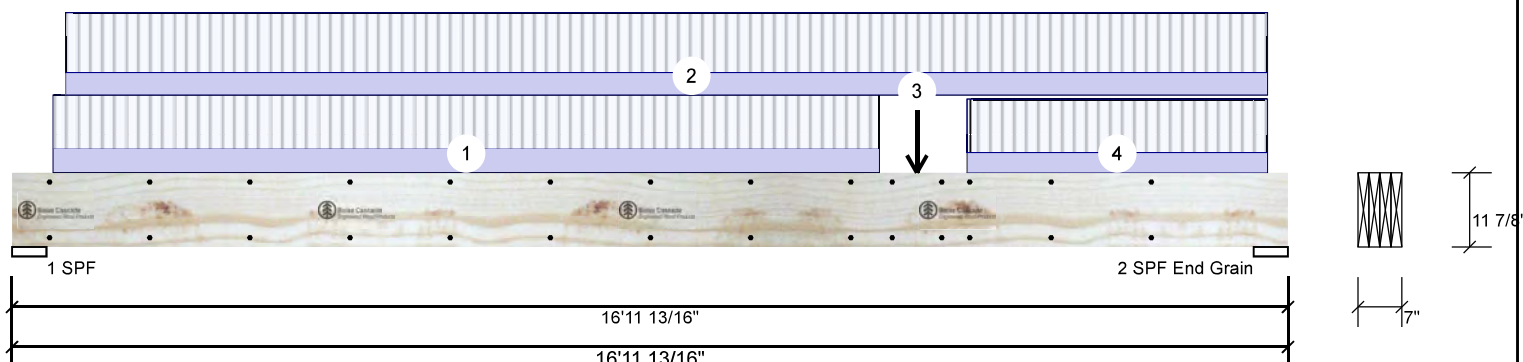
This design is valid until 11/3/2024



CORPORATION OF ENGINEERS
Client: GREENPARK
Project:
Ac: STATES
N:

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F17-A	Versa-Lam LVL 2.1E	3100 SF	1.429	11.875"	4-Ply - PASSED	Level: Second Floor
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Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	4	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	4214	1920	0	0
2	Vertical	4404	1932	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	37%	2400 / 6322	8722	L	1.25D+1.5L
2 - SPF	5.500"	Vert	19%	2415 / 6605	9020	L	1.25D+1.5L
End Grain							

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	36223 ft-lb	8'5 13/16"	73615 ft-lb	0.492 (49%)	1.25D+1.5L	L
Unbraced	36223 ft-lb	8'5 13/16"	73615 ft-lb	0.492 (49%)	1.25D+1.5L	L
Shear	8873 lb	1'5 3/8"	28928 lb	0.307 (31%)	1.25D+1.5L	L
Perm Defl in.	0.182 (L/1066)	8'5 3/4"	0.540 (L/360)	0.338 (34%)	D	Uniform
LL Defl inch	0.407 (L/478)	8'5 15/16"	0.540 (L/360)	0.753 (75%)	L	L
TL Defl inch	0.589 (L/330)	8'5 7/8"	0.810 (L/240)	0.727 (73%)	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 Fasten all plies using 2 rows of SDW22634 at 16" o.c. Maximum end distance not to exceed 8".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
- 5 Simpson fasteners applied from a single side of the member use tip values where published.
- 6 Girders are designed to be supported on the bottom edge only.
- 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 21, 2023

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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Boise Cascade Wood Products
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CCMC: 12472

Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
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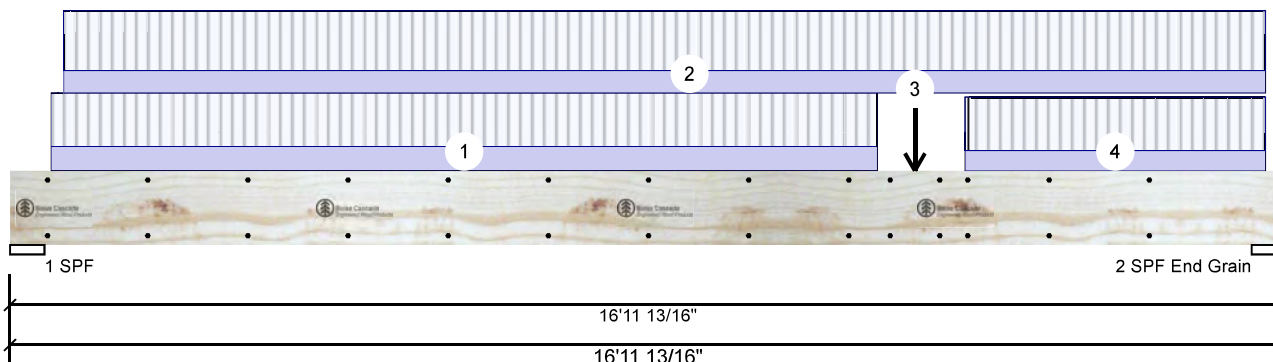
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Client: TRUE GREENPARK
Project: OF PERMIT PLANS
Ac: Nov 21, 2023
N. STATES
Project #:

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F17-A Versa-Lam LVL 2.1E 3100 SF 1750 X 11.875" 4-Ply - PASSED Level: Second Floor



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-6-9 to 11-6-9		Far Face	114 PLF	253 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-8-9 to 16-8-9		Near Face	106 PLF	283 PLF	0 PLF	0 PLF	
3	Point	12-0-9		Far Face	120 lb	295 lb	0 lb	0 lb	J5
4	Part. Uniform	12-8-9 to 16-8-9		Far Face	95 PLF	253 PLF	0 PLF	0 PLF	
	Self Weight				24 PLF				



JULY 21, 2023

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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
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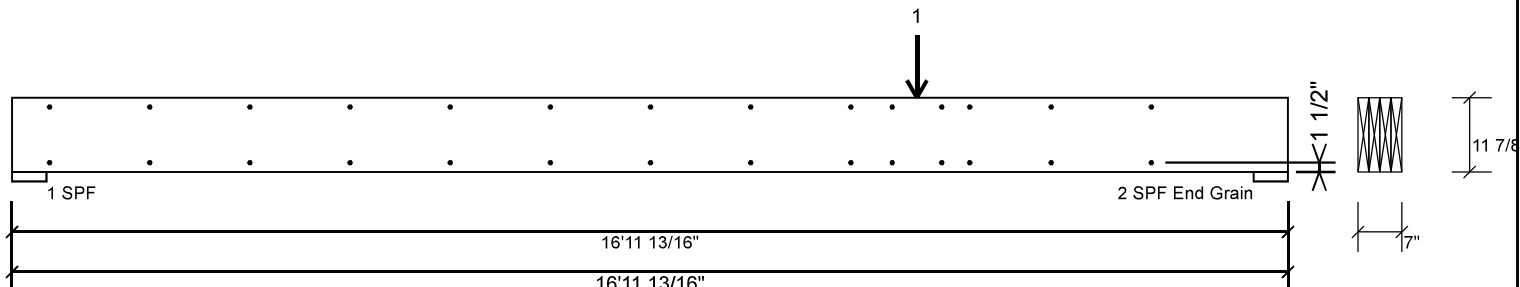
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Client: TRUE GREENPARK
Project: OF PERMIT PLANS
Ac: Nov 21, 2023
N. STATES

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F17-A Versa-Lam LVL 2.1E 3100 SF 11.875" 4-Ply - PASSED Level: Second Floor



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22634 at 16" o.c.. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 8".

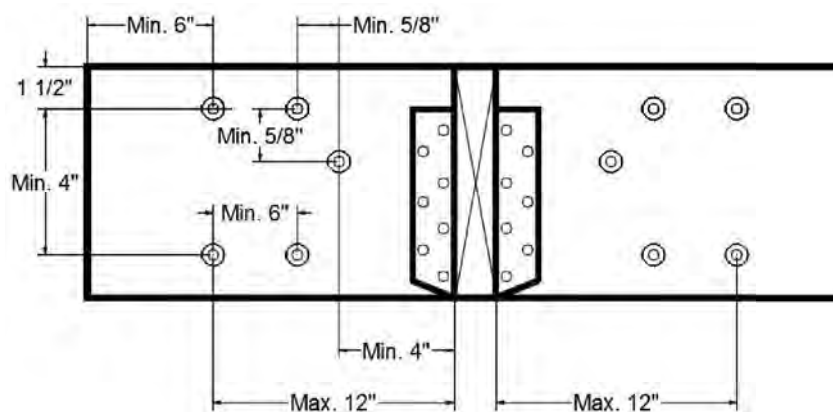
Capacity	67.1 %
Load	417.8 PLF
Yield Limit per Foot	622.5 PLF
Yield Limit per Fastener	415.0 lb.
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	1.25D+1.5L
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 12-0-9 with a minimum of (4) – SDW22634 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	22.4 %
Load	444.4lb.
Total Yield Limit	1980.0 lb.
Yield Limit per Fastener	495.0 lb.
Yield Mode	Lookup
Load Combination	1.25D+1.5L
Duration Factor	1.00

Min/Max fastener distances for Concentrated Side Loads



JULY 21, 2023

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding


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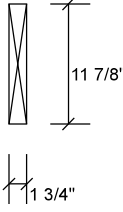

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F1-A

Versa-Lam LVL 2.1E 3 1/2" x 11.875" - PASSED

Level: Second Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)						
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind	
Plies:	1	Design Method:	LSD	1	Vertical	57	59	0	0	
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	38	43	0	0	
Deflection LL:	360	Load Sharing:	No							
Deflection TL:	240	Deck:	Not Checked							
Importance:	Normal - II	Vibration:	Not Checked	Bearings and Factored Reactions						
General Load										
Floor Live:	40 PSF									
Dead:	15 PSF									
				Bearing	Length	Dir.	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
				1 - SPF	5.250"	Vert	3%	74 / 85	159 L	1.25D+1.5L
				2 - SPF	4.125"	Vert	3%	53 / 57	111 L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	42 ft-lb	7 13/16"	17519 ft-lb	0.002 (0%)	1.25D+1.5L	L
Unbraced	42 ft-lb	7 13/16"	17519 ft-lb	0.002 (0%)	1.25D+1.5L	L
Shear	136 lb	1'5 1/8"	7160 lb	0.019 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/845969)	7 13/16"	0.023 (L/360)	0.000 (0%)	D	Uniform
LL Defl inch	0.000 (L/803433)	7 13/16"	0.023 (L/360)	0.000 (0%)	L	L
TL Defl inch	0.000 (L/412076)	7 13/16"	0.034 (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 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.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-5-4 to 0-11-12		Top	29 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Point	0-7-13		Near Face	78 lb	95 lb	0 lb	0 lb	J2
	Self Weight				6 PLF				

Notes

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Lumber

1. Dry service conditions, unless noted otherwise

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

Handling & 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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613-838-2775 / 905-642-4400



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CSD

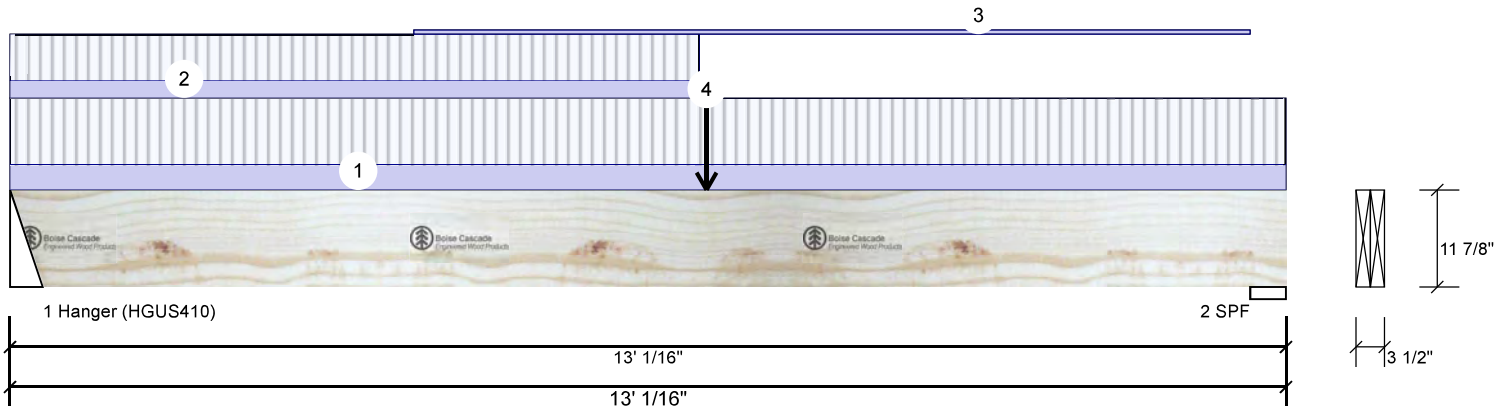
DRAW DESIGN BUILD



CORPORATION OF ENGINEERS 1544 - GREEN PARK
Client: GREEN PARK
Project: TRUE COPY OF PERMIT PLANS
Ac: Nov 21, 2023 STATES
N.

Date: 7/18/2023
Input by: RCO
Job Name: VILLA 12A-1
Project #:

F9-A Versa-Lam LVL 2.1E 3100 SF **1-7/8" x 11.875" 2-Ply - PASSED** Level: Second Floor



Member Information

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

Unfactored Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	463	258	0	0
2	Vertical	494	274	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	Vert	6%	323 / 695	1018	L	1.25D+1.5L
2 - SPF	4.375"	Vert	11%	342 / 741	1083	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5252 ft-lb	7'1 3/16"	35392 ft-lb	0.148 (15%)	1.25D+1.5L	L
Unbraced	5252 ft-lb	7'1 3/16"	35392 ft-lb	0.148 (15%)	1.25D+1.5L	L
Shear	1034 lb	11'7 13/16"	14464 lb	0.072 (7%)	1.25D+1.5L	L
Perm Defl in.	0.029 (L/5182)	6'7 5/16"	0.414 (L/360)	0.069 (7%)	D	Uniform
LL Defl inch	0.057 (L/2613)	6'7 11/16"	0.414 (L/360)	0.138 (14%)	L	L
TL Defl inch	0.086 (L/1737)	6'7 9/16"	0.622 (L/240)	0.138 (14%)	D+L	L



Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be continuously laterally braced.
- 7 Bottom must be laterally braced at a maximum of 7'1 3/16" o.c.
- 8 Lateral slenderness ratio based on full section width.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 13-0-1	0-4-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 7-0-5	0-3-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	4-1-6 to 12-7-11		Top	1 PLF	0 PLF	0 PLF	0 PLF	
4	Point	7-1-3		Near Face	264 lb	676 lb	0 lb	0 lb	F10
	Self Weight				12 PLF				

Notes

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Lumber

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

chemicals

Handling & 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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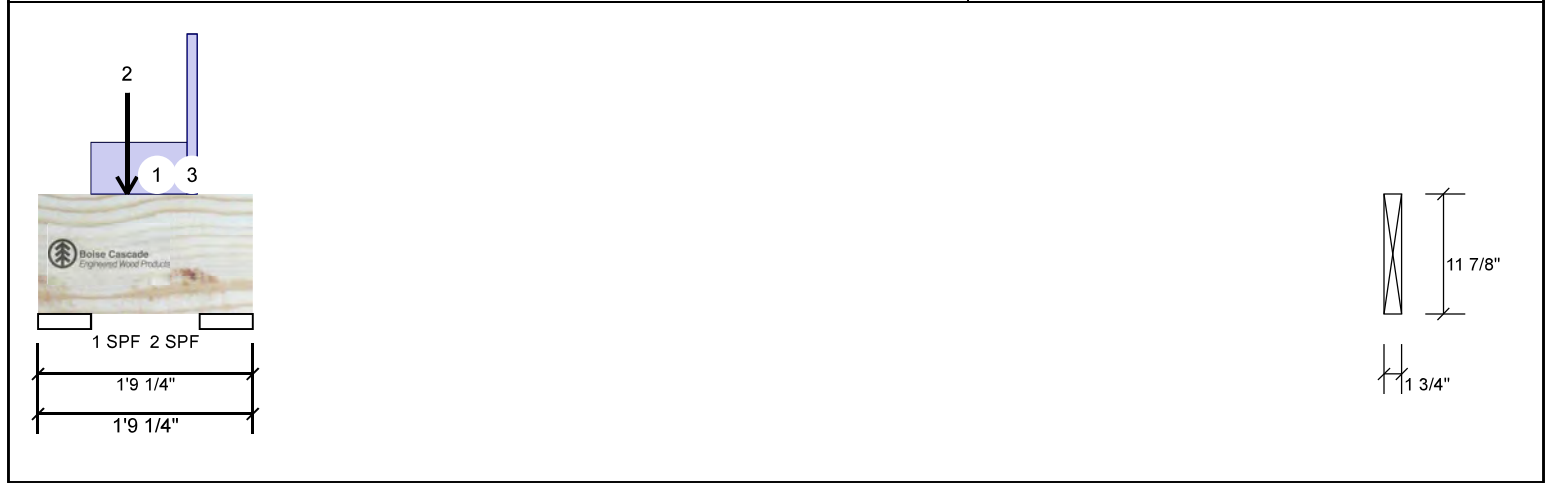
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F1-A

Versa-Lam LVL 2.1E 3 1/2" x 11.875" - PASSED

Level: Second Floor



Member Information				Unfactored Reactions UNPATTERNED lb (Uplift)							
Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind		
Plies:	1	Design Method:	LSD	1	Vertical	73	84	0	0		
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	40	58	0	0		
Deflection LL:	360	Load Sharing:	No								
Deflection TL:	240	Deck:	Not Checked								
Importance:	Normal - II	Vibration:	Not Checked								
General Load											
Floor Live:	40 PSF	Bearings and Factored Reactions									
Dead:	15 PSF										
				Bearing	Length	Dir.	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.	
				1 - SPF	5.250"	Vert	4%	105 / 110	215	L	1.25D+1.5L
				2 - SPF	5.250"	Vert	2%	72 / 60	132	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	74 ft-lb	8 13/16"	16811 ft-lb	0.004 (0%)	1.25D+1.5L	L
Unbraced	74 ft-lb	8 13/16"	16811 ft-lb	0.004 (0%)	1.25D+1.5L	L
Shear	174 lb	1'5 1/8"	6870 lb	0.025 (3%)	1.25D+1.5L	L
Perm Defl in. (L/543609)	0.000	8 13/16"	0.034 (L/360)	0.001 (0%)	D	Uniform
LL Defl inch (L/586013)	0.000	8 13/16"	0.034 (L/360)	0.001 (0%)	L	L
TL Defl inch (L/282008)	0.000	8 13/16"	0.051 (L/240)	0.001 (0%)	D+L	L

LICENSED PROFESSIONAL ENGINEER
I.MATJUEVIC
100528832
PROVINCE OF ONTARIO
JULY 21, 2023

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-5-4 to 1-2-12		Top	29 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
2	Point	0-8-13		Near Face	101 lb	113 lb	0 lb	0 lb	J2
3	Part. Uniform	1-2-12 to 1-3-12		Top	90 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				6 PLF				

Notes

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Lumber

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Handling & Installation

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4. Design assumes top edge is laterally restrained
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CSD

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