

Engineering Notes: EWP-Floors

**MHP 23033**

PLEASE READ ALL NOTES PRIOR TO INSTALLATION OF THE COMPONENT

RESPONSIBILITIES

THE RESPONSIBILITY OF THE UNDERSIGNED ENGINEER IS ONLY LIMITED TO THE CALCULATION OF THIS BUILDING COMPONENT FOR THE LOADS AND CONDITIONS SHOWN ON THIS DRAWING.

THE RESPONSIBILITY OF THE UNDERSIGNED IS LIMITED TO THE VERIFICATION OF THE STRUCTURAL CAPACITY OF THE FLOOR JOISTS AND LVL BEAMS BASED ON PLACEMENT AS SHOWN ON THE LAYOUT. THE LOADS APPLIED ARE LIMITED TO THE GRAVITY EFFECTS OF THE SPECIFIED LOADS. THE STRUCTURAL INTEGRITY OF THE BUILDING AND THE EFFECT OF WIND, UPLIFT, SEISMIC, LATERAL OR OTHER FORCES, CALCULATION OF ADEQUATE SUPPORT AND ANCHORAGE OF COMPONENTS, AS WELL AS THE DIMENSIONS AND DESIGN LOADS USED TO CALCULATE COMPONENTS ARE THE RESPONSIBILITY OF THE OVERALL BUILDING DESIGNER. FLOOR JOISTS AND OSB RIM BOARD ARE DESIGNED TO CARRY UNIFORMLY DISTRIBUTED LOADS ONLY. POINT LOADS SHOULD BE TRANSFERRED THROUGH THE FLOOR CAVITY WITH TRANSFER BLOCKS. STRUCTURAL ELEMENTS SUCH AS WALLS, POSTS, CONNECTORS, AND TRANSFER BLOCKS ARE THE RESPONSIBILITY OF THE OVERALL BUILDING DESIGNER.

THE UNDERSIGNED ENGINEER DISCLAIMS ANY RESPONSIBILITY FOR DAMAGES AS A RESULT OF BEING FURNISHED FAULTY OR INCORRECT INFORMATION, SPECIFICATIONS AND/OR DESIGNS.

COMPONENT DESIGN INFORMATION

1. THIS BUILDING COMPONENT IS CERTIFIED AS AN INDIVIDUAL COMPONENT FOR THE LOADS AND CONDITIONS SHOWN ON THE CALCULATION PAGE BASED ON INFORMATION PROVIDED BY KOTT DESIGN.
2. THE BUILDING COMPONENT USED IN CONSTRUCTION MUST BE THE SAME AS INDICATED ON THE DRAWINGS.
3. UNLESS NOTED OTHERWISE ON THE LAYOUT OR BEAM CALCULATION SHEET, MEMBERS CONSISTING OF MULTIPLE PLIES MUST BE CONNECTED AS PER THE DOCUMENT "MULTIPLE MEMBER CONNECTION DETAILS" SHOWN ON PAGE 2 OF THIS DOCUMENT.
4. PASS-THRU TRANSFER BLOCK FRAMING IS REQUIRED AT ALL POINT LOADS OVER BEARINGS.
5. IT IS ASSUMED THAT EACH LVL BEAM WHERE NOT SEATED IN A HANGER IS ATTACHED USING (4) FOUR 3-1/4" COMMON SPIRAL NAILS FOR UP TO 5.5" LONG BEARINGS AND USING (6) SIX 3-1/4" COMMON SPIRAL NAILS FOR BEARINGS EQUAL TO OR LONGER THAN 5.5", UNLESS INDICATED OTHERWISE.

CODE

THIS BUILDING COMPONENT IS DESIGNED IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA, THE ONTARIO BUILDING CODE, CCMC AND CANADIAN STANDARDS ASSOCIATION GUIDELINES.

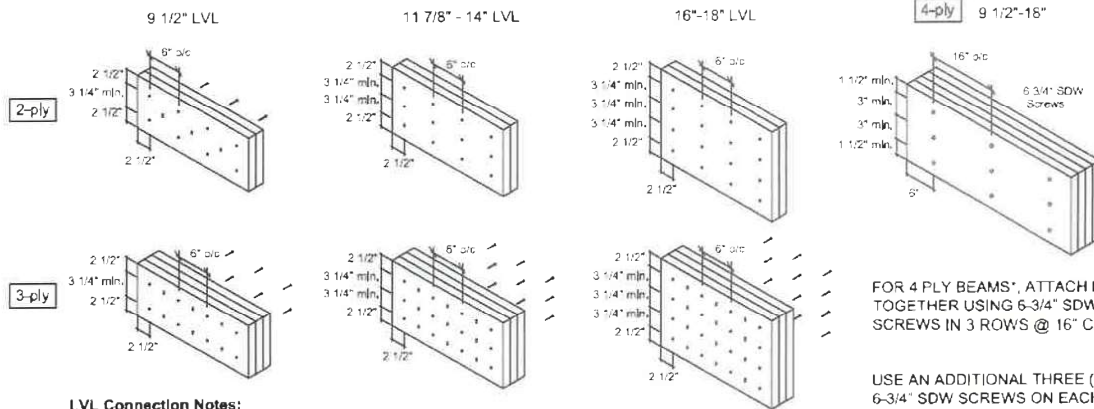
HANDLING AND INSTALLATION

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

MULTIPLE MEMBER CONNECTIONS FOR BEAMS SHOWN ON KOTT LAYOUTS



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



LVL Connection Notes:

- LVL ply width is 1-3/4"
- Nails to be 3 1/2" common wire nails.
- Nails to be located 2 1/2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
- Minimum 3 1/4" spacing between rows.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.
- Head of all specified screws must be on the loaded side.

FOR 4 PLY BEAMS*, ATTACH PLIES TOGETHER USING 6-3/4" SDW SCREWS IN 3 ROWS @ 16" C/C.

USE AN ADDITIONAL THREE (3) 6-3/4" SDW SCREWS ON EACH SIDE (OF EACH FACE) AT POINT LOAD LOCATIONS @ 1/2 SPACING, WHERE APPLICABLE.

***UNLESS NOTED OTHERWISE ON LAYOUT OR CALCULATION SHEET OF BEAM IN THE FLOOR PACKAGE**

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

Installation Guide

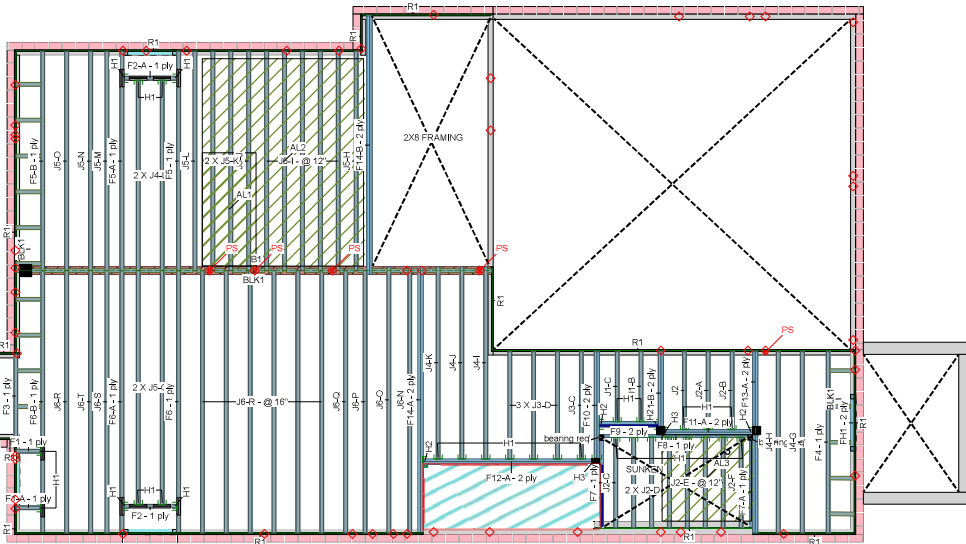


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ENG-M0723-115-KTZ-GREENPARK-ZADORRA ESTATES-VILLA 1-3

Page 3 of 56

Ground Floor



Ground Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Piles	Pcs	Length
F14	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	2	2	4	16-0-0
F13	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	12-0-0
F12	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	10-0-0
F8	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875			1	10-0-0
F10	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	8-0-0
F11	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	2	2	4	6-0-0
F7	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875			2	6-0-0
F9	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	4-0-0
FH1	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	4-0-0

Joist (Flush)				
Label	Description	Width	Depth	Pcs
F6	AJS 140	2.5	11.875	3
F5	AJS 140	2.5	11.875	3
F4	AJS 140	2.5	11.875	1
F3	AJS 140	2.5	11.875	1
F2	AJS 140	2.5	11.875	2
F1	AJS 140	2.5	11.875	2
J6	AJS 140	2.5	11.875	13
J5	AJS 140	2.5	11.875	15
J4	AJS 140	2.5	11.875	7
J3	AJS 140	2.5	11.875	4
J2	AJS 140	2.5	11.875	11
J1	AJS 140	2.5	11.875	2

Rim Board				
Label	Description	Width	Depth	Pcs
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875	11

Blocking				
Label	Description	Width	Depth	Pcs
BLK1	AJS 140	2.5	11.875	Varies

Hanger				
Label	Pcs	Description	fasteners	fasteners
H1	30	LF2511	12 10dX1 1/2	1 #8x1 1/4WS
H2	4	LF3511	12 10d	2 #8x1 1/4WS
H3	2	HUG410 (Min)	14 10d	6 10d

JOB INFORMATION	
Builder	GREENPARK
Project	ZADORRA ESTATES OSHAWA, ON
Shipping	
Sales Rep	RALPH MIRIGELLO
Designer	W.C.
Plotted	June 13, 2023
Layout Name	VILLA 1-3 STD
Job Path	8:\CUSTOMERS\GREENPARK\ZADORRA ESTATES MODELS\BILLA 1-3\STD-VILLA 1-3\BILLA 1-3-1

DESIGN CRITERIA	
Design Method	LSD (Canada)
Bulking Code	NBCC 2015 CBC 2012(2020 Update)

Ground Floor	
Design Method	LSD (Canada)
Bulking Code	NBCC 2015 CBC 2012(2020 Update)

Floor	
Dead	40
Live	15

Deflection Joist	
LL Span /	360
TL Span /	240

Deflection Flush Girder	
LL Span /	360
TL Span /	240

Deflection Dropped Girder	
LL Span /	360
TL Span /	240

Deflection Header	
LL Span /	360
TL Span /	240

Decking	
Decking	OSB
Thickness	3/4"
Fastener	Nailed & Glued

CCMC References	
Boise - 12472-R	12787-R
LP - 12412-R	Roseburg - 13310-R
Forex - 14035-R	

Kott Inc.	
3228 Wood Dr. Ottawa	
14 Anderson Blvd. Uxbridge	
Ontario	
613-838-2775 /	
905-642-4400	



Installation Guide



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

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

1. All blocking to be cut from 12" joists
2. 2" & 4" Lengths to be cut from 8" Length, 6" lengths to be cut from 12" Length
3. Ends of joists to be laterally supported
4. Packing of Steel beams and attachment by others
5. Shower and water closet flange locations are approximate only; consult architectural drawing for exact locations
6. Beams identified as "B" are dropped and supplied by others
7. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls
8. Load transfer blocks to be installed under all point loads
9. Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
10. Hangers and Fasteners to be installed as per manufacturer
11. Framing shown on this layout may deviate from architectural drawings. Arch / Eng to review and approve the deviation prior to construction.
12. Multi ply beams with side loading to have all fasteners installed with the head on the side of the applied load.
13. Confirmation of adequate support & anchorage of components is the responsibility of the building designer; suggested uplift connectors are as shown.
14. Where beam hangs on side of 3-ply member, it is recommended that the beam's joint quantity and size of nails required for the hanger attachment also be installed on opposite side of the 3-ply member

Legend

PS	Point Load Support
Load from Above	
Wall	
Wall Opening	
Norbord Rimboard Plus 1.125 X 11.875	
AJS 140 11.875	
Versa-Lam LVL 2.1E 3100 SP 1.75 X 11.875	
1.75 X 9.5 (Dropped)	

MHP 23033

Ground Floor

Installation Guide



[Open your phone's camera and
hover over the QR code to access it]

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Ground Floor
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Pies	Pcs	Length
F14	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	2	2	4	16-0-0
F13	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	12-0-0
F12	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	10-0-0
F8	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875			1	10-0-0
F10	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	8-0-0
F11	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	2	2	4	6-0-0
F7	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875			2	6-0-0
F9	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	4-0-0
FH1	Versa-Lam LVL 2.1E 3100 SP	1.75	11.875	1	2	2	4-0-0

Joist (Flush)

Label	Description	Width	Depth	Pcs	Length
J6	AJS 140	2.5	11.875	17	16-0-0
J5	AJS 140	2.5	11.875	15	14-0-0
J4	AJS 140	2.5	11.875	5	12-0-0
J3	AJS 140	2.5	11.875	4	8-0-0
J2	AJS 140	2.5	11.875	11	6-0-0
J1	AJS 140	2.5	11.875	2	4-0-0
F6	AJS 140	2.5	11.875	1	16-0-0
F5	AJS 140	2.5	11.875	1	14-0-0
F4	AJS 140	2.5	11.875	1	12-0-0
F3	AJS 140	2.5	11.875	1	6-0-0

Rim Board

Label	Description	Width	Depth	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875	11	12-0-0

Blocking

Label	Description	Width	Depth	Qty	Pcs	Length
BLK1	AJS 140	2.5	11.875	LinFt	Varies	45-0-0

Hanger

Label	Pcs	Description	Beam/Girder fasteners	Supported Member fasteners
H1	20	LF2511	12 10x1 1/2	1 #8x1 1/4WS
H2	4	LF3511	12 10x1	2 #8x1 1/4WS
H3	2	HLIC410 (Min)	14 16d	6 10d

JOB INFORMATION

Builder	GREENPARK
Project	ZADORRA ESTATES OSHAWA, ON
Shipping	V.C.
Sales Rep	RALPH MIRIGELLO
Designer	V.C.
Plotted	July 17, 2023
Layout Name	VILLA 1-3 WOC
Job Path	8:\CUSTOMERS\GREENPARK\ZADORRA ESTATES WOC\BIVILLA 1\WILLA 1-3\F-VILLA 1-3\WOC\WILLA 1-3 WOC.sld

DESIGN CRITERIA

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

CCMC References

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



Legend

PS	Point Load Support
Load from Above	
Wall	
Wall Opening	
Norbord Rimboard Plus 1.125 X 11.875	
AJS 140 11.875	
Versa-Lam LVL 2.1E 3100 SP 1.75 X 11.875	
1.75 X 9.5 (Dropped)	

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Client: GREENPARK

Date: 7/17/2023

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Project:

Input by: W C

Address:

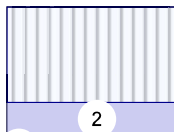
Job Name: VILLA 1-3 STD

ZADORRA ESTATES OF OSHAWA
OSHAWA, ON
TRUE COPY
OF PERMIT PLANS

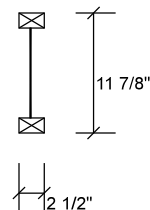
Project #:

F1 AJS 140 11.875" - PASSED Nov 21 2023 MHP 23033

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



1 SPF 0-2-6
2 Hanger (LF2511) 0-2-0
1'4 5/8"
1'4 5/8"



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	48	18	0	0
2	Vertical	43	16	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	6%	22 / 72	94	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	5%	20 / 64	84	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	20 ft-lb	8 1/2"	5305 ft-lb	0.004 (0%)	1.25D+1.5L	L
Unbraced	20 ft-lb	8 1/2"	5305 ft-lb	0.004 (0%)	1.25D+1.5L	L
Shear	73 lb	1 5/8"	2350 lb	0.031 (3%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/230346)	8 1/2"	0.038 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch	0.000 (L/86380)	8 1/2"	0.038 (L/360)	0.004 (0%)	L	L
TL Defl inch	0.000 (L/62822)	8 1/2"	0.057 (L/240)	0.004 (0%)	D+L	L



Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-2-6	0-4-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-4-10	1-7-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

This design is valid until 4/17/2026

Manufacturer Info

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

Kott Inc.

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





Client: GREENPARK

Date: 7/17/2023

Page 2 of 44

Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

Project #:

ZADORRA ESTATES OF OSHAWA
 OSHAWA ON
 TRUE COPY
 OF PERMIT PLANS
 NOV 21 2023

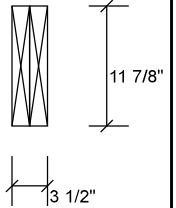
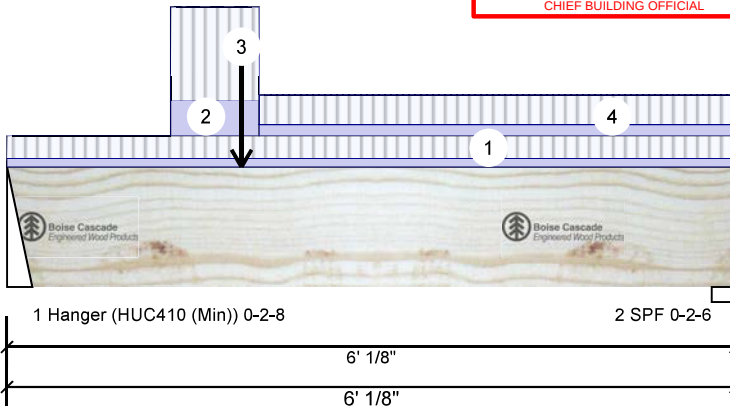
PER: *C. M...*
 CHIEF BUILDING OFFICIAL

F10 Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875"

2-Fly

MHP 23033



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	231	137	0	0
2	Vertical	178	109	0	0

Bearings and Factored Reactions

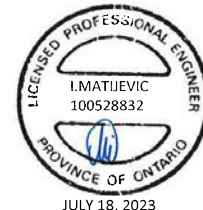
Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	Vert	5%	172 / 347	519	L	1.25D+1.5L
2 - SPF	2.375"	Vert	8%	136 / 267	403	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	812 ft-lb	1'11 3/16"	35392 ft-lb	0.023 (2%)	1.25D+1.5L	L
Unbraced	812 ft-lb	1'11 3/16"	35392 ft-lb	0.023 (2%)	1.25D+1.5L	L
Shear	475 lb	1'2 3/8"	13217 lb	0.036 (4%)	1.25D+1.5L	L
Perm Defl in. (L/58339)	0.001	2'10 7/16"	0.191 (L/360)	0.006 (1%)	D	Uniform
LL Defl inch (L/33695)	0.002	2'10 1/8"	0.191 (L/360)	0.011 (1%)	L	L
TL Defl inch (L/21359)	0.003	2'10 3/16"	0.286 (L/240)	0.011 (1%)	D+L	L

Design Notes

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



READ ALL NOTES ON THIS PAGE AND ON THE
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Lumber

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

chemicals

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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

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



This design is valid until 4/17/2026



Client: GREENPARK

Date: 7/17/2023

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Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

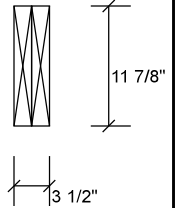
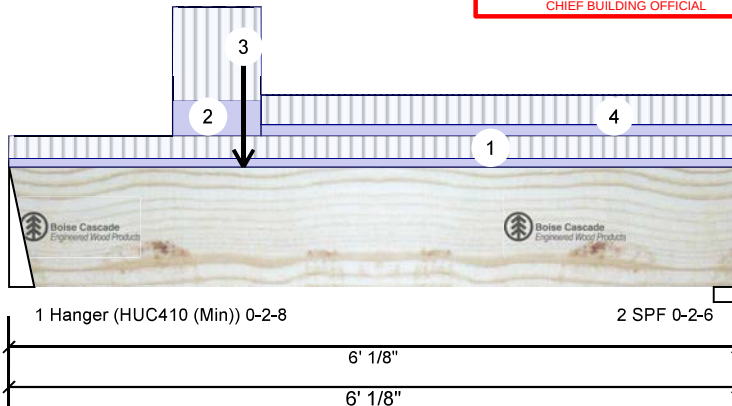
ZADORRA ESTATES
OSHAWA, ON
1.750" X 11.875"
NOV 21 2023
TRUE COPY
OF PERMIT PLANS

Project #:

F10 Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Fly MHP 23033

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 6-0-2	0-5-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	1-4-3 to 2-0-15	1-9-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-11-3		Near Face	83 lb	164 lb	0 lb	0 lb	F9
4	Tie-In	2-0-15 to 6-0-2	0-6-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				12 PLF				



READ ALL NOTES ON THIS PAGE AND ON THE
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USED IN THE DESIGN OF THIS COMPONENT.

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 4/17/2026

Manufacturer Info

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

Kott Inc.

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





Client: GREENPARK

Date: 7/17/2023

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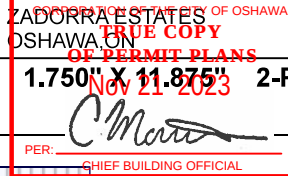
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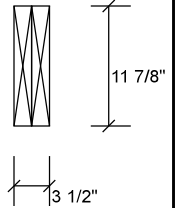
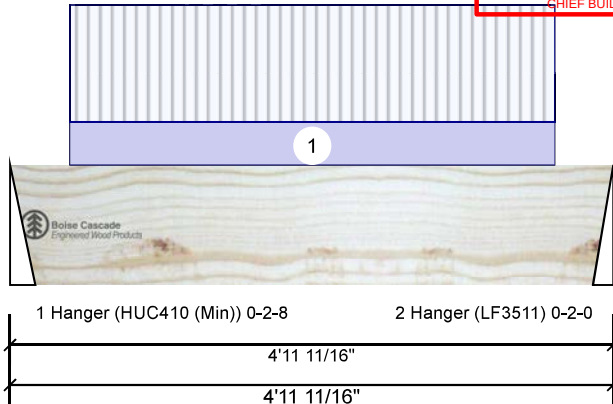
Address:

Job Name: VILLA 1-3 STD

Project #:



F11-A Versa-Lam LVL 2.1E 3100 SP 1.750" X 11.875" 2-Ply - **MHP 23033**



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	173	94	0	0
2	Vertical	171	93	0	0

Bearings and Factored Reactions

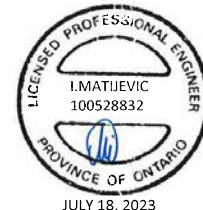
Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.500"	Vert	4%	118 / 260	377	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	5%	116 / 256	372	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	502 ft-lb	2'6 1/16"	35392 ft-lb	0.014 (1%)	1.25D+1.5L	L
Unbraced	502 ft-lb	2'6 1/16"	35392 ft-lb	0.014 (1%)	1.25D+1.5L	L
Shear	364 lb	3'9 13/16"	13217 lb	0.028 (3%)	1.25D+1.5L	L
Perm Defl in. (L/113195)	0.001	2'6 1/16"	0.157 (L/360)	0.003 (0%)	D	Uniform
LL Defl inch (L/58141)	0.001	2'6 1/16"	0.157 (L/360)	0.006 (1%)	L	L
TL Defl inch (L/38411)	0.001	2'6 1/16"	0.236 (L/240)	0.006 (1%)	D+L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Left Header: DF, Thickness: 3 1/2"
- Right Header: DF, Thickness: 3 1/2"
- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top must be continuously laterally braced.
- Bottom must have sheathing attached or be continuously braced.
- Lateral slenderness ratio based on full section width.



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

Notes

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

Lumber

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

chemicals

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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

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



This design is valid until 4/17/2026



Client: GREENPARK

Date: 7/17/2023

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Project:

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Address:

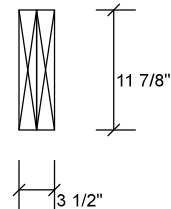
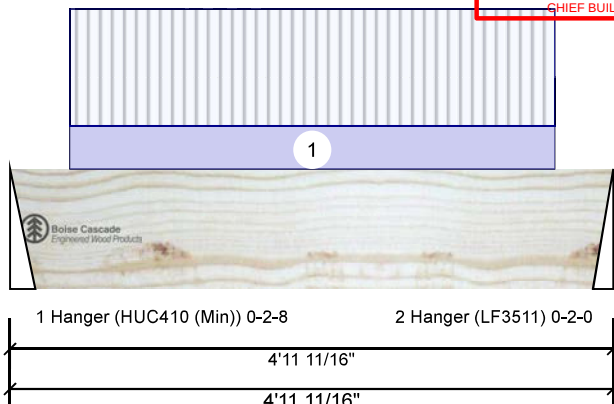
Job Name: VILLA 1-3 STD

ZADORRA ESTATES
OSHAWA ON
OF PERMIT PLANS
NOV 21 2023

Project #:

F11-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - MHP 23033

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

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform Self Weight	0-5-15 to 4-5-15		Far Face	32 PLF 12 PLF	86 PLF	0 PLF	0 PLF	



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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

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

This design is valid until 4/17/2026

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





Client: GREENPARK

Date: 7/17/2023

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Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

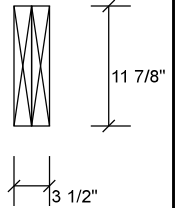
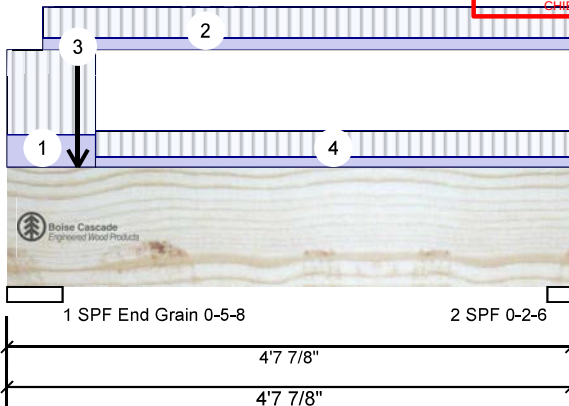
ZADORRA ESTATES
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Project #:

F11-B Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply -

MHP 23033

PER:
CHIEF BUILDING OFFICIAL

Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

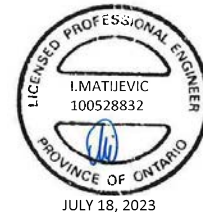
Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	305	164	0	0
2	Vertical	114	70	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	5.500"	Vert	3%	205 / 457	662	L	1.25D+1.5L
2 - SPF	2.375"	Vert	5%	87 / 172	259	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	271 ft-lb	2'3 9/16"	35392 ft-lb	0.008 (1%)	1.25D+1.5L	L
Unbraced	271 ft-lb	2'3 9/16"	35392 ft-lb	0.008 (1%)	1.25D+1.5L	L
Shear	462 lb	1'5 3/8"	13217 lb	0.035 (3%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/206729)	2'5"	0.137 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch	0.000 (L/123882)	2'4 13/16"	0.137 (L/360)	0.003 (0%)	L	L
TL Defl inch	0.001 (L/77463)	2'4 15/16"	0.206 (L/240)	0.003 (0%)	D+L	L



Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at a maximum of 4' 13/16" 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 0-8-12	1-9-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-3-8 to 4-7-14	0-7-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-7-0		Far Face	84 lb	166 lb	0 lb	0 lb	F9
4	Tie-In	0-8-12 to 4-7-14	0-6-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				12 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

This design is valid until 4/17/2026

Manufacturer Info

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

Kott Inc.

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





Client: GREENPARK

Date: 7/17/2023

Page 7 of 44

Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

ZADORRA ESTATES OF OSHAWA

Project #:

OSHAWA ON

OF PERMIT PLANS

NOV 21 2023

PER: *C. M...*

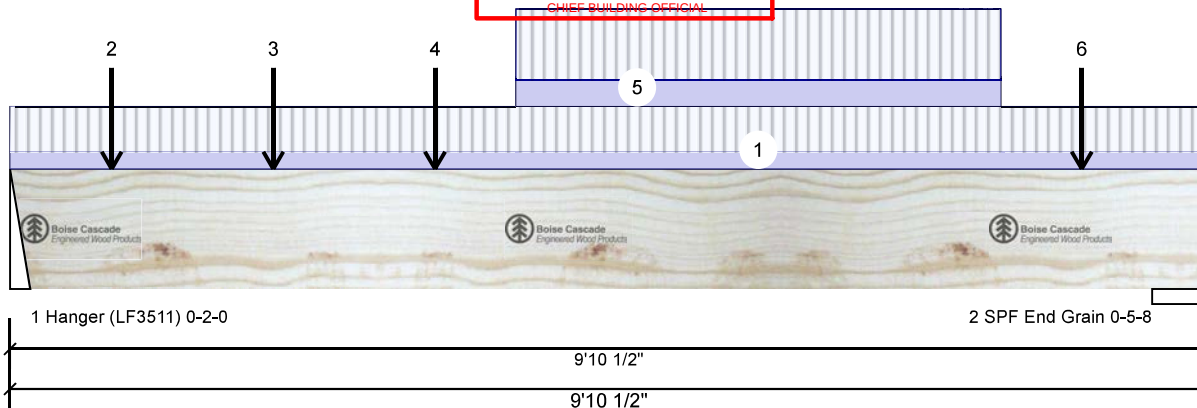
CHIEF BUILDING OFFICIAL

F12-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875"

2-Ply -

MHP 23033



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1155	522	0	0
2	Vertical	1000	453	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	31%	653 / 1733	2386	L	1.25D+1.5L
2 - SPF End Grain	5.500"	Vert	10%	566 / 1501	2067	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5188 ft-lb	4'4 5/8"	35392 ft-lb	0.147 (15%)	1.25D+1.5L	L
Unbraced	5188 ft-lb	4'4 5/8"	35392 ft-lb	0.147 (15%)	1.25D+1.5L	L
Shear	2208 lb	1'1 7/8"	13217 lb	0.167 (17%)	1.25D+1.5L	L
Perm Defl in.	0.018 (L/6215)	4'8 7/16"	0.313 (L/360)	0.058 (6%)	D	Uniform
LL Defl inch	0.039 (L/2864)	4'8 5/8"	0.313 (L/360)	0.126 (13%)	L	L
TL Defl inch	0.057 (L/1961)	4'8 9/16"	0.469 (L/240)	0.122 (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 Fill all hanger nailing holes.
- 3 Left Header: DF, Thickness: 3 1/2"
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Multiple plies must be fastened together as per manufacturer's details.
- 6 Top loads must be supported equally by all plies.
- 7 Top must be continuously laterally braced.
- 8 Bottom must have sheathing attached or be continuously braced.
- 9 Lateral slenderness ratio based on full section width.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 9-10-8	1-11-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-10-1		Far Face	91 lb	243 lb	0 lb	0 lb	J4
3	Point	2-2-1		Far Face	105 lb	279 lb	0 lb	0 lb	J4
4	Point	3-6-1		Far Face	148 lb	261 lb	0 lb	0 lb	J4

Continued on page 2...

Notes

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

Lumber

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

chemicals

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 4/17/2026



Client: GREENPARK

Date: 7/17/2023

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Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

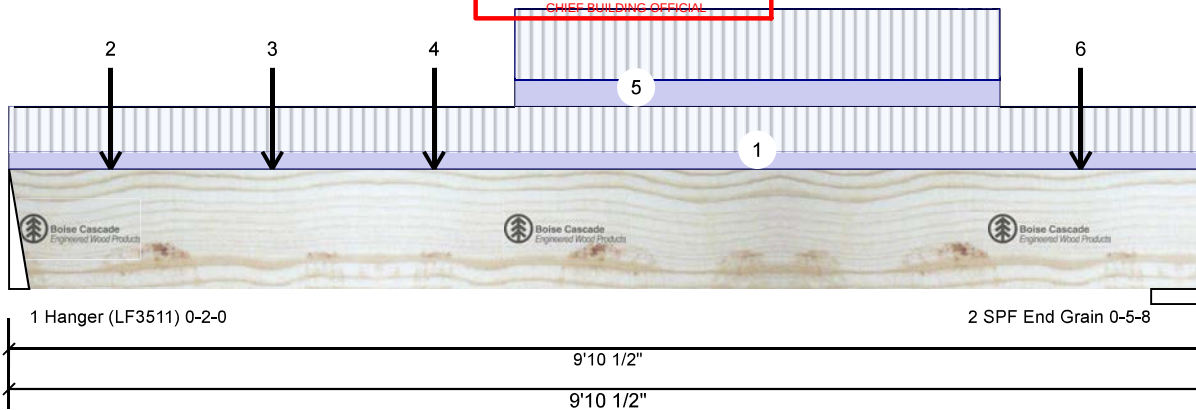
ZADORRA ESTATES
OSHAWA, ON
OF PERMIT PLANS
NOV 21 2023

Project #:

F12-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - **MHP 23033**
Level Ground Floor

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



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Part. Uniform	4-2-1 to 8-2-1		Far Face	45 PLF	120 PLF	0 PLF	0 PLF	
6	Point	8-10-1		Far Face	49 lb	132 lb	0 lb	0 lb	J3
	Self Weight				12 PLF				



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Notes

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

Lumber

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

chemicals

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

This design is valid until 4/17/2026

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





Client: GREENPARK

Date: 7/17/2023

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Project:

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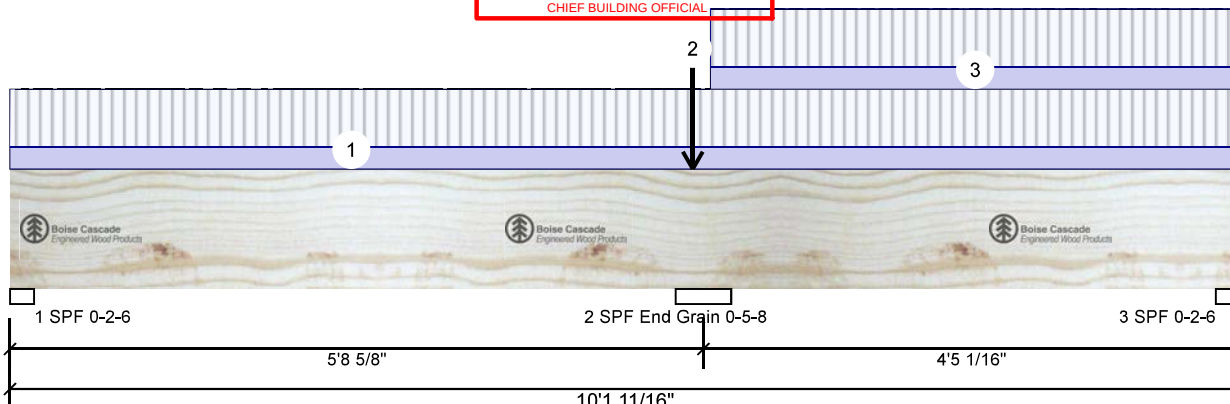
Job Name: VILLA 1-3 STD

ZADORRA ESTATES
OSHAWA ON
OF PERMIT PLANS
NOV 21 2023

Project #:

F13-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - MHP 23033

PER: *C. Mante*
CHIEF BUILDING OFFICIAL

Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	57	49	0	0
2	Vertical	396	251	0	0
3	Vertical	93	53	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	3%	61 / 98	159	L_	1.25D+1.5L
2 - SPF	5.500"	Vert	5%	315 / 596	911	LL	1.25D+1.5L
End Grain							
3 - SPF	2.375"	Vert	4%	66 / 159	225	_L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-261 ft-lb	5'8 5/8"	35392 ft-lb	0.007 (1%)	1.25D+1.5L	LL
Unbraced	-261 ft-lb	5'8 5/8"	33916 ft-lb	0.008 (1%)	1.25D+1.5L	LL
Pos Moment	187 ft-lb	8'2 9/16"	35392 ft-lb	0.005 (1%)	1.25D+1.5L	_L
Unbraced	187 ft-lb	8'2 9/16"	35392 ft-lb	0.005 (1%)	1.25D+1.5L	_L
Shear	183 lb	6'11 1/4"	13217 lb	0.014 (1%)	1.25D+1.5L	LL
Perm Defl in.	0.000 (L/287232)	2'6 15/16"	0.186 (L/360)	0.001 (0%)	D	Uniform
LL Defl inch	0.000 (L/162048)	7'11 7/16"	0.143 (L/360)	0.002 (0%)	L	_L
TL Defl inch	0.001 (L/106660)	2'8 1/4"	0.279 (L/240)	0.002 (0%)	D+L	_L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at a maximum of 5'7 9/16" o.c.
- 7 Lateral slenderness ratio based on full section width.



READ ALL NOTES ON THIS PAGE AND ON THE
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Notes

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

Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

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

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





Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

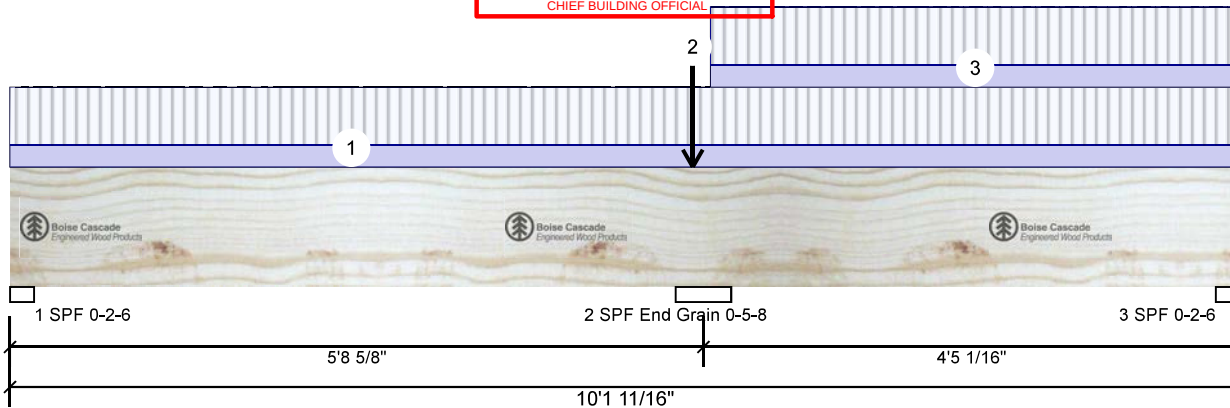
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NOV 21 2023

F13-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - MHP 23033
Level Ground Floor

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



ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-1-11	0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	5-7-9		Far Face	93 lb	171 lb	0 lb	0 lb	F11
3	Tie-In	5-9-5 to 10-1-11	0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				12 PLF				



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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

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

Kott Inc.

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





Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

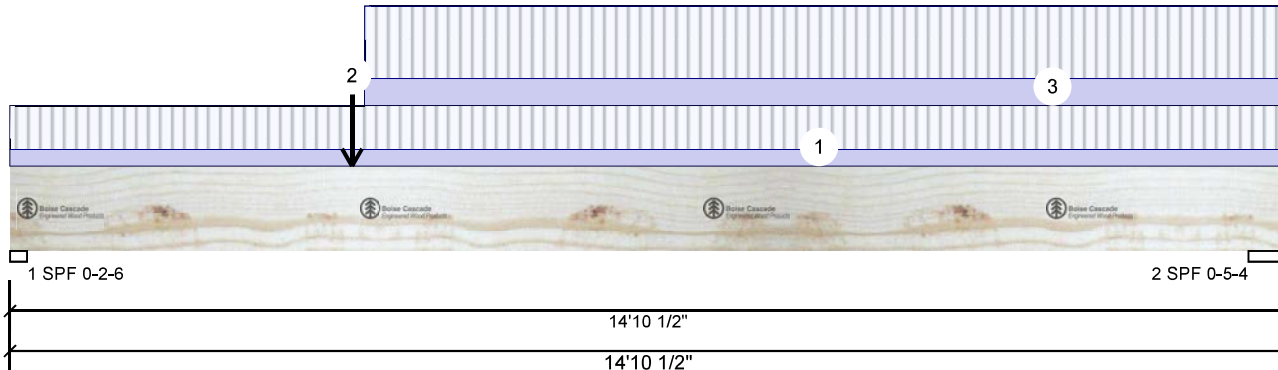
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PER: *C. M...*
CHIEF BUILDING OFFICIAL

F14-A Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - **MHP 23033**



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	1007	529	0	0
2	Vertical	538	315	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	42%	661 / 1510	2171	L	1.25D+1.5L
2 - SPF	5.250"	Vert	11%	394 / 807	1201	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8058 ft-lb	3'11 7/8"	35392 ft-lb	0.228 (23%)	1.25D+1.5L	L
Unbraced	8058 ft-lb	3'11 7/8"	35392 ft-lb	0.228 (23%)	1.25D+1.5L	L
Shear	2140 lb	1'2 1/4"	13217 lb	0.162 (16%)	1.25D+1.5L	L
Perm Defl in.	0.061 (L/2816)	6'9 9/16"	0.479 (L/360)	0.128 (13%)	D	Uniform
LL Defl inch	0.115 (L/1493)	6'8 1/2"	0.479 (L/360)	0.241 (24%)	L	
TL Defl inch	0.177 (L/976)	6'8 13/16"	0.718 (L/240)	0.246 (25%)	D+L	L

Design Notes

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be continuously laterally braced.
- 6 Bottom must be laterally braced at a maximum of 10'10 5/8" 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 14-10-8	0-3-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	3-11-14		Near Face	522 lb	1155 lb	0 lb	0 lb	F12
3	Tie-In	4-1-10 to 14-10-8	0-5-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				12 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

Manufacturer Info

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

Kott Inc.

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



This design is valid until 4/17/2026



Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

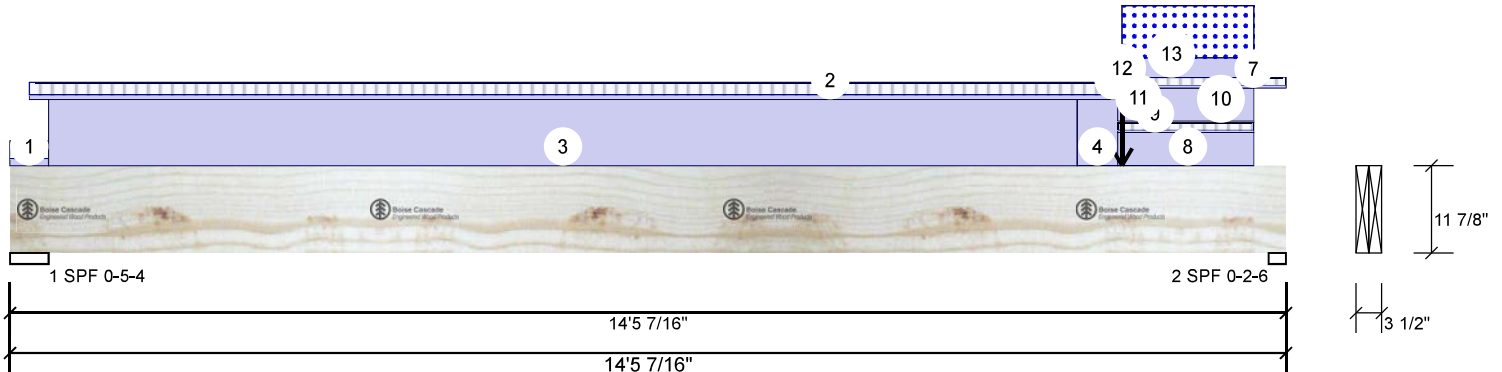
Address:

Job Name: VILLA 1-3 STD

ZADORRA ESTATES OF OSHAWA
OSHAWA ON
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NOV 21 2023

Project #:

F14-B Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - 2.1E 3100 SP
MHP 23033PER: *C. M...*
CHIEF BUILDING OFFICIAL

Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	117	707	58	0
2	Vertical	108	847	454	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	Vert	14%	883 / 175	1058	L	1.25D+1.5L
2 - SPF	2.375"	Vert	45%	1059 / 788	1847	L	1.25D+1.5S +L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3716 ft-lb	7'6 5/8"	23005 ft-lb	0.162 (16%)	1.25D+1.5L	L
Unbraced	3716 ft-lb	7'6 5/8"	23005 ft-lb	0.162 (16%)	1.25D+1.5L	L
Shear	1631 lb	13'3 3/16"	10574 lb	0.154 (15%)	1.25D+1.5S +L	L
Perm Defl in.	0.088 (L/1900)	7'5 1/16"	0.465 (L/360)	0.189 (19%)	D	Uniform
LL Defl inch	0.023 (L/7282)	8'1 1/16"	0.465 (L/360)	0.049 (5%)	S+0.5L	L
TL Defl inch	0.111 (L/1510)	7'6 5/8"	0.697 (L/240)	0.159 (16%)	D+S+0.5L	L

Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top must be continuously laterally braced.
- Bottom must be laterally braced at bearings.
- 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 0-5-4	0-6-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-2-10 to 12-5-7	0-4-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-5-4 to 12-1-1		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	12-1-1 to 12-6-9		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Tapered Start	12-6-0		Top	0 PLF	1 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

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

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

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

Kott Inc.

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





Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

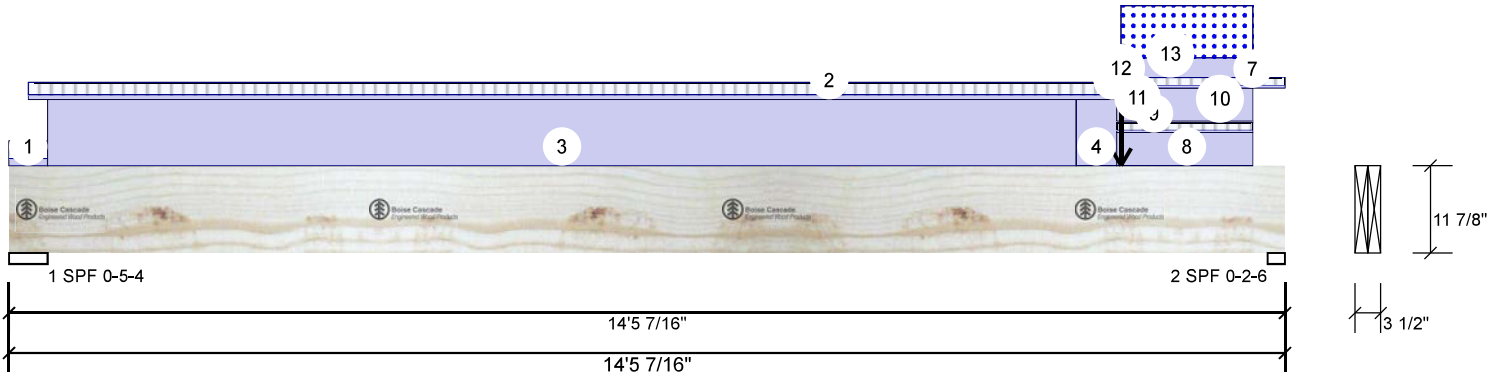
Job Name: VILLA 1-3 STD

Project #:

ZADORRA ESTATES
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OF PERMIT PLANS

F14-B Versa-Lam LVL 2.1E 3100 SP

1.750" X 11.875" 2-Ply - MHP 23033

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

...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	End	12-6-0			0 PLF	1 PLF	0 PLF	0 PLF	
6	Part. Uniform	12-6-0 to 12-6-0		Top	4 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
7	Tie-In	12-6-9 to 14-5-7	0-2-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
8	Part. Uniform	12-6-9 to 14-1-1		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
9	Tapered Start	12-6-9		Top	3 PLF	9 PLF	0 PLF	0 PLF	
	End	14-1-1			3 PLF	9 PLF	0 PLF	0 PLF	
10	Part. Uniform	12-6-9 to 14-1-1		Top	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
11	Part. Uniform	12-6-9 to 14-1-1		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
12	Point	12-7-3		Top	168 lb	0 lb	418 lb	0 lb	F18
	Bearing Length	0-8-0							
13	Part. Uniform	12-7-3 to 14-1-1		Top	24 PLF	0 PLF	63 PLF	0 PLF	
	Self Weight				12 PLF				



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Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 4/17/2026

Manufacturer Info

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

Kott Inc.

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





Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

Project #:

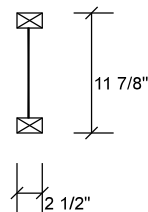
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OSHAWA, ON
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OF PERMIT PLANS
NOV 21 2023

PER: *Chen*
CHIEF BUILDING OFFICIAL

F1-A AJ5 140 11.875" - PASSED MHP 23033



1 SPF 0-2-6
2 Hanger (LF2511) 0-2-0
1'4 5/8"
1'4 5/8"



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

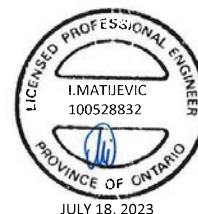
Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	65	25	0	0
2	Vertical	62	23	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	8%	31 / 98	129	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	8%	29 / 94	123	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	30 ft-lb	8 1/2"	5305 ft-lb	0.006 (1%)	1.25D+1.5L	L
Unbraced	30 ft-lb	8 1/2"	5305 ft-lb	0.006 (1%)	1.25D+1.5L	L
Shear	104 lb	1'3 3/8"	2350 lb	0.044 (4%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/158256)	8 1/2"	0.038 (L/360)	0.002 (0%)	D	Uniform
LL Defl inch	0.000 (L/59346)	8 1/2"	0.038 (L/360)	0.006 (1%)	L	L
TL Defl inch	0.000 (L/43161)	8 1/2"	0.057 (L/240)	0.006 (1%)	D+L	L



Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-4-10	1-7-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-4-10	0-8-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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Lumber

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

chemicals

Handling & Installation

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

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

This design is valid until 4/17/2026

Manufacturer Info

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

Kott Inc.

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





Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

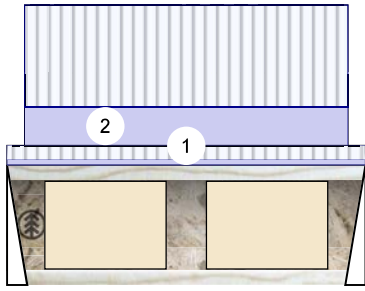
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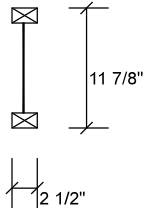
Nov 21 2023

PER: *C. Mart*
CHIEF BUILDING OFFICIAL

F2 AJS 140 11.875" - PASSED MHP 23033



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



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	337	126	0	0
2	Vertical	337	126	0	0

Bearings and Factored Reactions

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

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	464 ft-lb	1'5 3/4"	5305 ft-lb	0.087 (9%)	1.25D+1.5L	L
Unbraced	464 ft-lb	1'5 3/4"	5305 ft-lb	0.087 (9%)	1.25D+1.5L	L
Shear	658 lb	1 1/4"	2350 lb	0.280 (28%)	1.25D+1.5L	L
Perm Defl in. (L/19765)	0.002	1'5 3/4"	0.092 (L/360)	0.018 (2%)	D	Uniform
LL Defl inch	0.004 (L/7402)	1'5 3/4"	0.092 (L/360)	0.049 (5%)	L	L
TL Defl inch	0.006 (L/5385)	1'5 3/4"	0.137 (L/240)	0.045 (4%)	D+L	L



Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Left Header: SPF, Thickness: 2 1/2"
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

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 2-11-8	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-1-12 to 2-9-12		Far Face	82 PLF	219 PLF	0 PLF	0 PLF	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

Manufacturer Info

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

Kott Inc.

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



This design is valid until 4/17/2026



Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

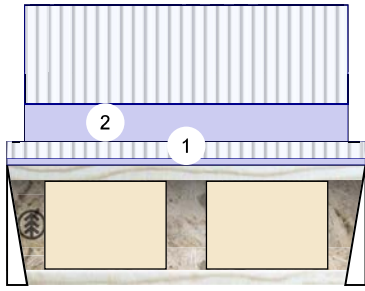
Job Name: VILLA 1-3 STD

Project #:

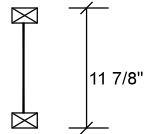
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PER: *C. Mart*
CHIEF BUILDING OFFICIAL

F2-A AJ5 140 11.875" - PASSED MHP 23033



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



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	284	106	0	0
2	Vertical	284	106	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	35%	133 / 426	559	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	35%	133 / 426	559	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	389 ft-lb	1'5 3/4"	5305 ft-lb	0.073 (7%)	1.25D+1.5L	L
Unbraced	389 ft-lb	1'5 3/4"	5305 ft-lb	0.073 (7%)	1.25D+1.5L	L
Shear	553 lb	1 1/4"	2350 lb	0.235 (24%)	1.25D+1.5L	L
Perm Defl in. (L/23540)	0.001	1'5 3/4"	0.092 (L/360)	0.015 (2%)	D	Uniform
LL Defl inch	0.004 (L/8814)	1'5 3/4"	0.092 (L/360)	0.041 (4%)	L	L
TL Defl inch	0.005 (L/6413)	1'5 3/4"	0.137 (L/240)	0.037 (4%)	D+L	L



Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Fill all hanger nailing holes.
- Left Header: SPF, Thickness: 2 1/2"
- Right Header: SPF, Thickness: 2 1/2"
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 2-11-8	0-9-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-1-12 to 2-9-12		Near Face	67 PLF	179 PLF	0 PLF	0 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

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

chemicals

Handling & Installation

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

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

Manufacturer Info

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CCMC: 12787

Kott Inc.

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



This design is valid until 4/17/2026



Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

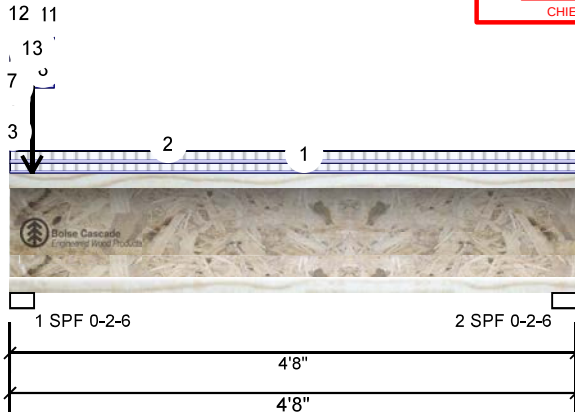
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OSHAWA, ON
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Project #:

Nov 21 2023

MHP 23033

PER: *C. M...*
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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(2020 Update)
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

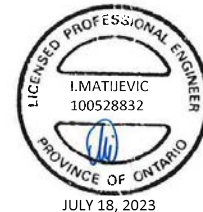
Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	188	483	378	0
2	Vertical	126	48	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	81%	604 / 756	1360	L	1.25D+1.5S +L
2 - SPF	2.375"	Vert	17%	60 / 190	250	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	260 ft-lb	2'3 7/8"	4721 ft-lb	0.055 (6%)	1.25D+1.5L	L
Unbraced	260 ft-lb	2'3 7/8"	4721 ft-lb	0.055 (6%)	1.25D+1.5L	L
Shear	282 lb	1 5/8"	2092 lb	0.135 (13%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/40037)	2'3 11/16"	0.147 (L/360)	0.009 (1%)	D	Uniform
LL Defl inch	0.003 (L/15613)	2'4"	0.147 (L/360)	0.023 (2%)	L+0.5S	L
TL Defl inch	0.005 (L/11233)	2'3 7/8"	0.220 (L/240)	0.021 (2%)	D+L+0.5S	L



Design Notes

- Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- Girders are designed to be supported on the bottom edge only.
- If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- Bottom flange must be laterally braced at bearings.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-8-0	0-7-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 4-8-0	0-9-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-0-0 to 0-0-9		Top	30 PLF	0 PLF	80 PLF	0 PLF	
4	Part. Uniform	0-0-0 to 0-0-9		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
5	Tapered Start	0-0-0		Top	5 PLF	13 PLF	0 PLF	0 PLF	

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

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

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

This design is valid until 4/17/2026

Manufacturer Info

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

Kott Inc.

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





Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

Job Name: VILLA 1-3 STD

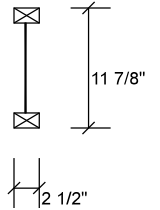
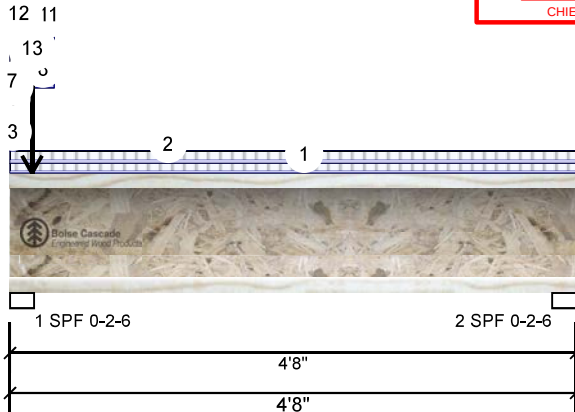
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...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
	End	0-0-9			5 PLF	13 PLF	0 PLF	0 PLF	
6	Part. Uniform	0-0-0 to 0-0-9		Top	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
7	Part. Uniform	0-0-0 to 0-0-9		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
8	Part. Uniform	0-0-0 to 0-4-6		Top	30 PLF	0 PLF	80 PLF	0 PLF	
9	Part. Uniform	0-0-0 to 0-4-6		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Tapered Start	0-0-0		Top	5 PLF	13 PLF	0 PLF	0 PLF	
	End	0-4-6			5 PLF	13 PLF	0 PLF	0 PLF	
11	Part. Uniform	0-0-0 to 0-4-6		Top	2 PLF	0 PLF	0 PLF	0 PLF	Rim Board Self Weight
12	Part. Uniform	0-0-0 to 0-4-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
13	Point	0-2-3		Top	374 lb	57 lb	346 lb	0 lb	B3
	Bearing Length	0-1-8							



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Notes

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Lumber

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

chemicals

Handling & Installation

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

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

This design is valid until 4/17/2026

Manufacturer Info

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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





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Date: 7/17/2023

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Job Name: VILLA 1-3 STD

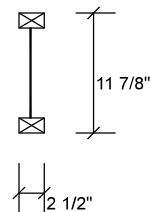
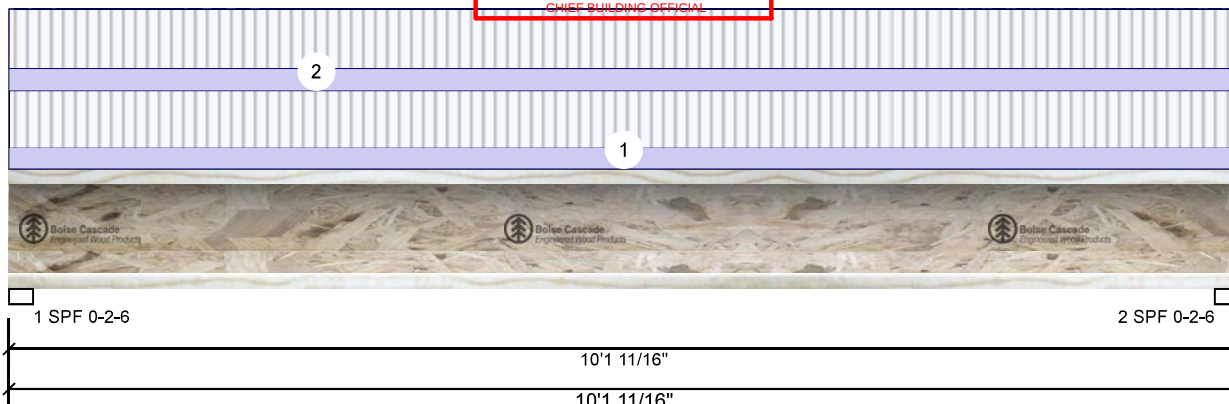
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Project #:

Page 19 of 44

F4 AJS 140 11.875" - PASSED MHP 23033

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



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	299	112	0	0
2	Vertical	299	112	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	35%	140 / 449	589	L	1.25D+1.5L
2 - SPF	2.375"	Vert	35%	140 / 449	589	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1415 ft-lb	5' 7/8"	5305 ft-lb	0.267 (27%)	1.25D+1.5L	L
Unbraced	1415 ft-lb	5' 7/8"	5305 ft-lb	0.267 (27%)	1.25D+1.5L	L
Shear	573 lb	1' 5/8"	2350 lb	0.244 (24%)	1.25D+1.5L	L
Perm Defl in.	0.019 (L/6195)	5' 7/8"	0.329 (L/360)	0.058 (6%)	D	Uniform
LL Defl inch	0.051 (L/2323)	5' 7/8"	0.329 (L/360)	0.155 (15%)	L	
TL Defl inch	0.070 (L/1690)	5' 7/8"	0.494 (L/240)	0.142 (14%)	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 bearings.

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-1-11	0-8-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-1-11	0-9-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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Lumber

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

chemicals

Handling & Installation

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

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

Manufacturer Info

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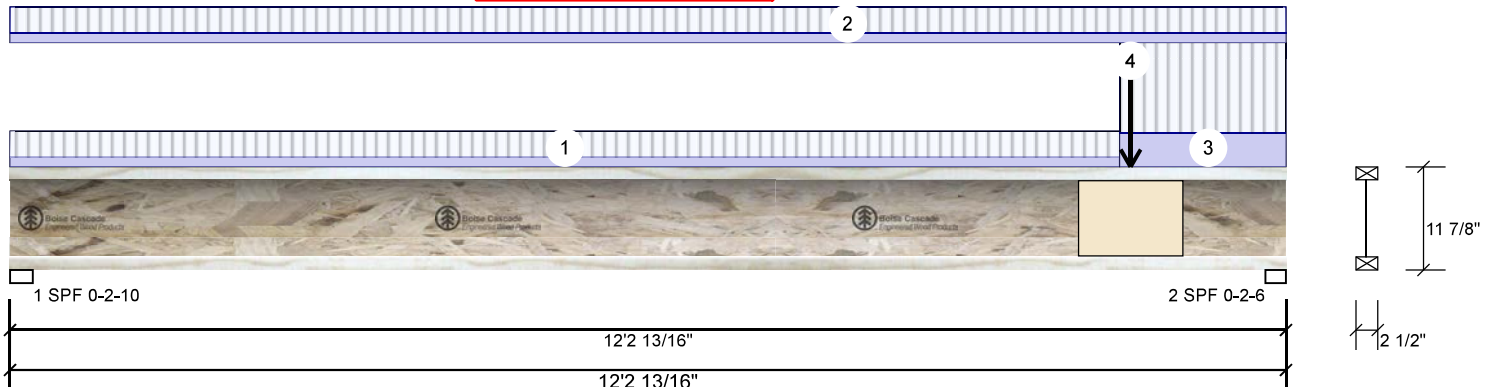
Job Name: VILLA 1-3 STD

Project #:

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PER: *C. M...*
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F5 AJS 140 11.875" - PASSED MHP 23033



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	261	98	0	0
2	Vertical	543	203	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	30%	122 / 391	513	L	1.25D+1.5L
2 - SPF	2.375"	Vert	63%	254 / 815	1069	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1747 ft-lb	7'1 3/8"	5305 ft-lb	0.329 (33%)	1.25D+1.5L	L
Unbraced	1747 ft-lb	7'1 3/8"	5305 ft-lb	0.329 (33%)	1.25D+1.5L	L
Shear	1047 lb	12'1 3/16"	2350 lb	0.446 (45%)	1.25D+1.5L	L
Perm Defl in.	0.033 (L/4351)	6'5 1/4"	0.398 (L/360)	0.083 (8%)	D	Uniform
LL Defl inch	0.088 (L/1630)	6'5 1/4"	0.398 (L/360)	0.221 (22%)	L	
TL Defl inch	0.121 (L/1186)	6'5 1/4"	0.597 (L/240)	0.202 (20%)	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 10'8 15/16" o.c.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 10-7-11	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-2-13	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	10-7-11 to 12-2-13	1-7-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	10-8-15		Far Face	106 lb	284 lb	0 lb	0 lb	F2

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

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Client: GREENPARK

Date: 7/17/2023

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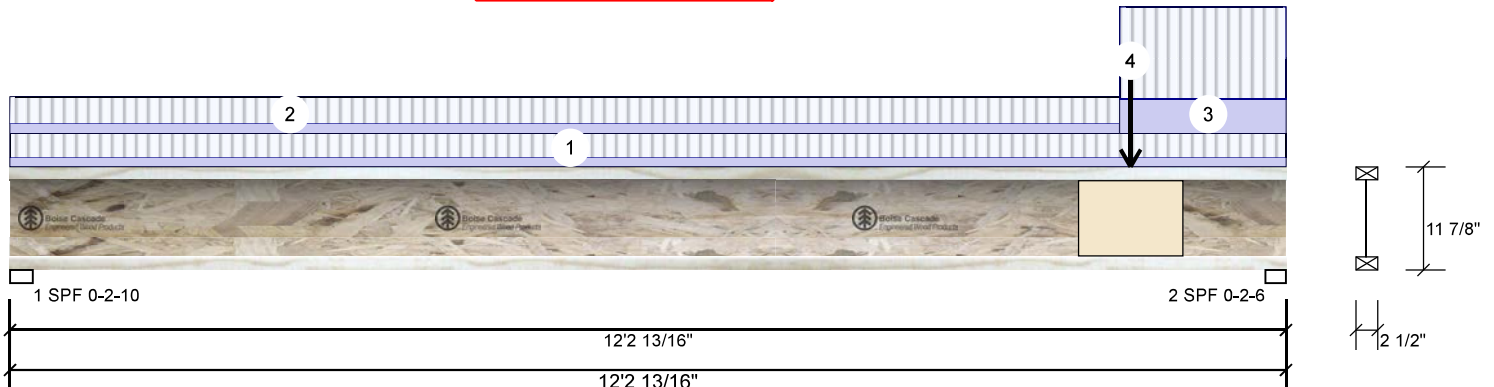
Job Name: VILLA 1-3 STD

Project #:

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

F5-A AJS 140 11.875" - PASSED MHP 23033



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	251	94	0	0
2	Vertical	533	200	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	28%	117 / 376	493	L	1.25D+1.5L
2 - SPF	2.375"	Vert	62%	249 / 800	1049	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1691 ft-lb	7'1 15/16"	5305 ft-lb	0.319 (32%)	1.25D+1.5L	L
Unbraced	1691 ft-lb	7'1 15/16"	5305 ft-lb	0.319 (32%)	1.25D+1.5L	L
Shear	1028 lb	12'1 3/16"	2350 lb	0.437 (44%)	1.25D+1.5L	L
Perm Defl in.	0.032 (L/4497)	6'5 3/8"	0.398 (L/360)	0.080 (8%)	D	Uniform
LL Defl inch	0.085 (L/1684)	6'5 3/8"	0.398 (L/360)	0.214 (21%)	L	
TL Defl inch	0.117 (L/1225)	6'5 3/8"	0.597 (L/240)	0.196 (20%)	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 10'8 15/16" o.c.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-2-13	0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 10-7-11	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	10-7-11 to 12-2-13	1-7-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Point	10-8-15		Near Face	106 lb	284 lb	0 lb	0 lb	F2

Notes

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Lumber

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

chemicals

Handling & Installation

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

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

Manufacturer Info

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

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



This design is valid until 4/17/2026



Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

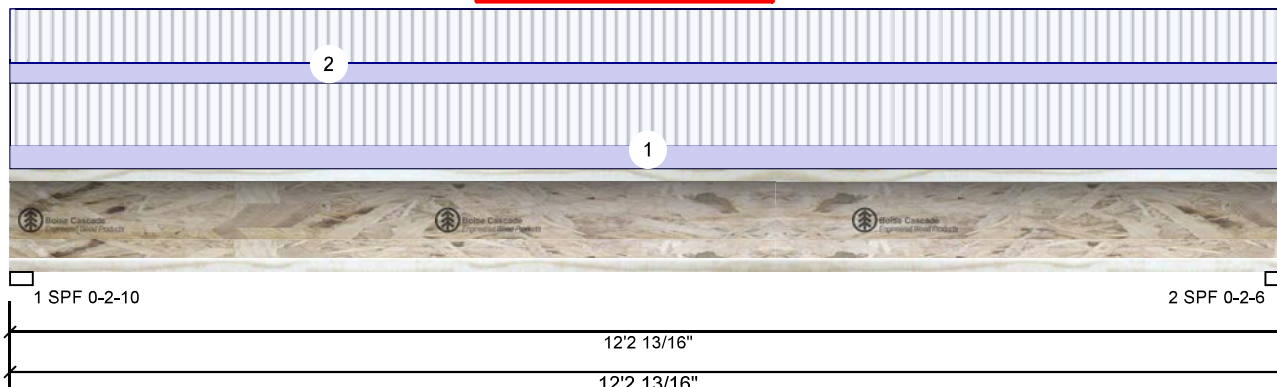
Job Name: VILLA 1-3 STD

Project #:

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OF PERMIT PLANS
NOV 21 2023

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

F5-B AJS 140 11.875" - PASSED MHP 23033



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	352	132	0	0
2	Vertical	351	131	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	40%	165 / 528	693	L	1.25D+1.5L
2 - SPF	2.375"	Vert	41%	164 / 526	690	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2015 ft-lb	6'1 9/16"	5305 ft-lb	0.380 (38%)	1.25D+1.5L	L
Unbraced	2015 ft-lb	6'1 9/16"	5305 ft-lb	0.380 (38%)	1.25D+1.5L	L
Shear	675 lb	1 7/8"	2350 lb	0.287 (29%)	1.25D+1.5L	L
Perm Defl in.	0.037 (L/3845)	6'1 9/16"	0.398 (L/360)	0.094 (9%)	D	Uniform
LL Defl inch	0.099 (L/1442)	6'1 9/16"	0.398 (L/360)	0.250 (25%)	L	
TL Defl inch	0.137 (L/1049)	6'1 9/16"	0.597 (L/240)	0.229 (23%)	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 bearings.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-2-13	0-9-3	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 12-2-13	0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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

Lumber

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

chemicals

Handling & Installation

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

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

Manufacturer Info

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

Kott Inc.

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



This design is valid until 4/17/2026



Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

ZADORRA ESTATES OF OSHAWA

Job Name: VILLA 1-3 STD

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Project #:

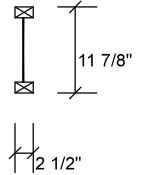
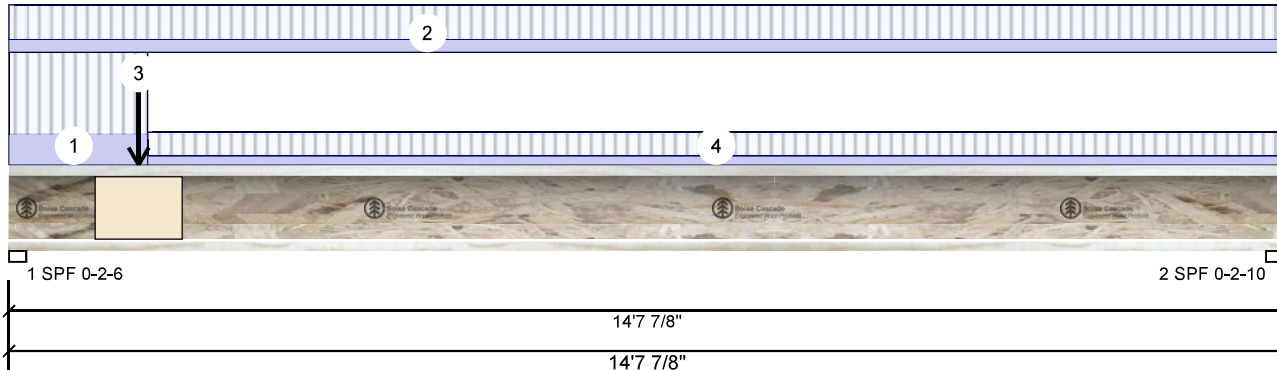
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Nov 21 2023

PER: *C. Mart*

CHIEF BUILDING OFFICIAL

F6 AJS 140 11.875" - PASSED MHP 23033



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	703	263	0	0
2	Vertical	365	137	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	82%	329 / 1054	1383	L	1.25D+1.5L
2 - SPF	2.625"	Vert	41%	171 / 548	719	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2806 ft-lb	6'6 7/16"	5305 ft-lb	0.529 (53%)	1.25D+1.5L	L
Unbraced	2806 ft-lb	6'6 7/16"	5305 ft-lb	0.529 (53%)	1.25D+1.5L	L
Shear	1359 lb	1 5/8"	2350 lb	0.578 (58%)	1.25D+1.5L	L
Perm Defl in.	0.073 (L/2359)	7' 13/16"	0.479 (L/360)	0.153 (15%)	D	Uniform
LL Defl inch	0.195 (L/884)	7' 13/16"	0.479 (L/360)	0.407 (41%)	L	
TL Defl inch	0.268 (L/643)	7' 13/16"	0.718 (L/240)	0.373 (37%)	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 13'2" o.c.



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-7-2	1-7-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 14-7-14	0-8-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-14		Far Face	126 lb	337 lb	0 lb	0 lb	F2
4	Tie-In	1-7-2 to 14-7-14	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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Lumber

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

chemicals

Handling & Installation

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

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

This design is valid until 4/17/2026

Manufacturer Info

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Client: GREENPARK

Date: 7/17/2023

Project:

Input by: W C

Address:

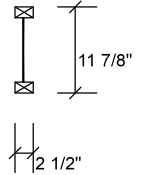
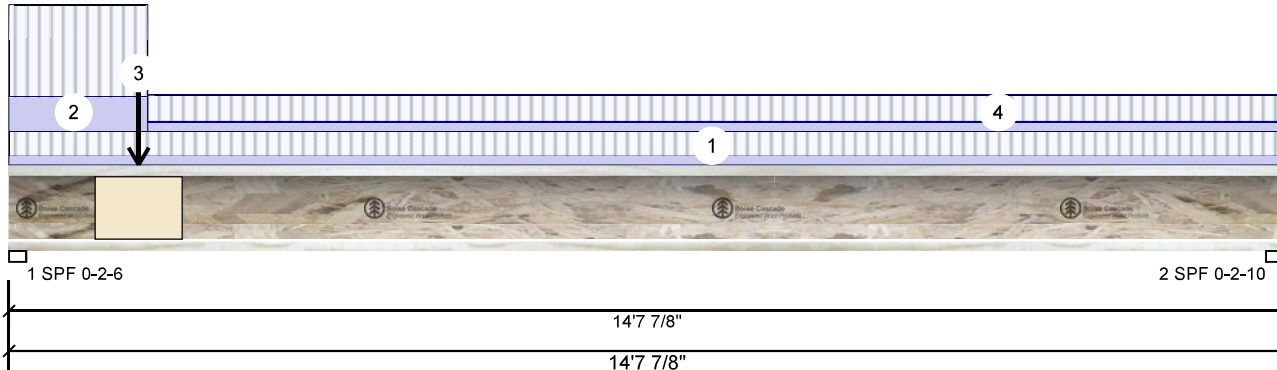
Job Name: VILLA 1-3 STD

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PER: *C. Mart*
CHIEF BUILDING OFFICIAL

F6-A AJ5 140 11.875" - PASSED MHP 23033



Member Information

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

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind
1	Vertical	630	236	0	0
2	Vertical	292	109	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	74%	295 / 944	1239	L	1.25D+1.5L
2 - SPF	2.625"	Vert	33%	137 / 438	575	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2307 ft-lb	6'3 3/4"	5305 ft-lb	0.435 (43%)	1.25D+1.5L	L
Unbraced	2307 ft-lb	6'3 3/4"	5305 ft-lb	0.435 (43%)	1.25D+1.5L	L
Shear	1218 lb	1 5/8"	2350 lb	0.518 (52%)	1.25D+1.5L	L
Perm Defl in.	0.060 (L/2864)	7' 1/8"	0.479 (L/360)	0.126 (13%)	D	Uniform
LL Defl inch	0.161 (L/1073)	7' 1/8"	0.479 (L/360)	0.335 (34%)	L	
TL Defl inch	0.221 (L/781)	7' 1/8"	0.718 (L/240)	0.307 (31%)	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.
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- 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 13'2" 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 14-7-14	0-5-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-7-2	1-7-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-5-14		Near Face	126 lb	337 lb	0 lb	0 lb	F2
4	Tie-In	1-7-2 to 14-7-14	0-5-8	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Notes

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Lumber

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

chemicals

Handling & Installation

- Joist flanges must not be cut or drilled
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