

Please read all notes prior to installation of the component

DESIGN INFORMATION

This building component is certified as an individual component for the loads and conditions shown on the calculation and drawing page.

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.

Installation of floor joists is to be carried out in accordance with the current edition of the manufacturer's literature available at <http://www.kottgroup.com>.

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.

COMPONENT

1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies must be connected as per the document "Multi-ply Connection Details".
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.

HANDLING AND INSTALLATION

Do not drill any hole, cut or notch a certified building component without a written pre-authorization.



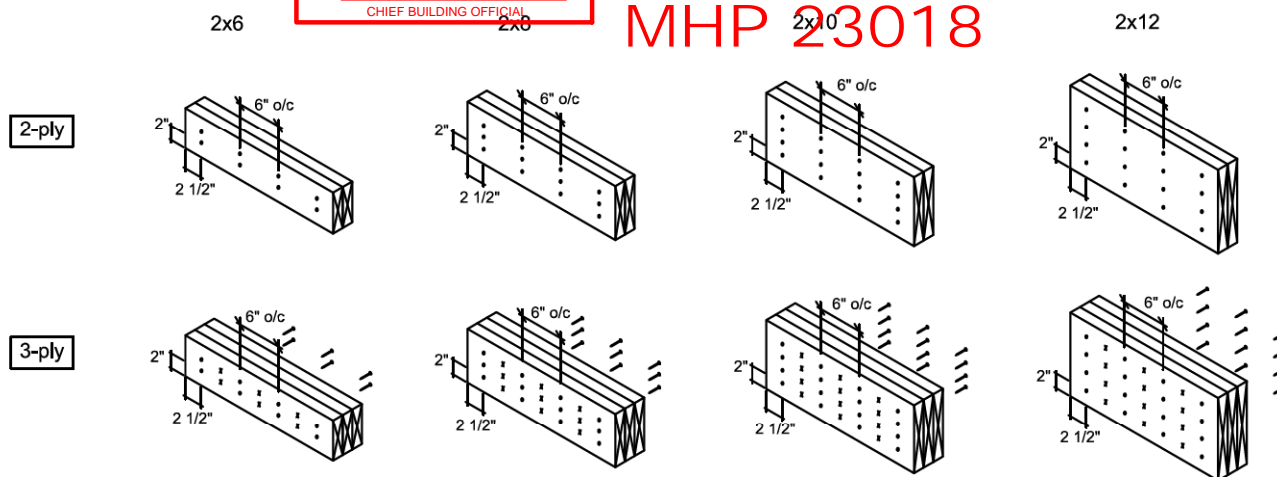
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Dec 06 2023

PER: *Chen*
CHIEF BUILDING OFFICIAL

Conventional Connections

old-Sawn material including LFL)

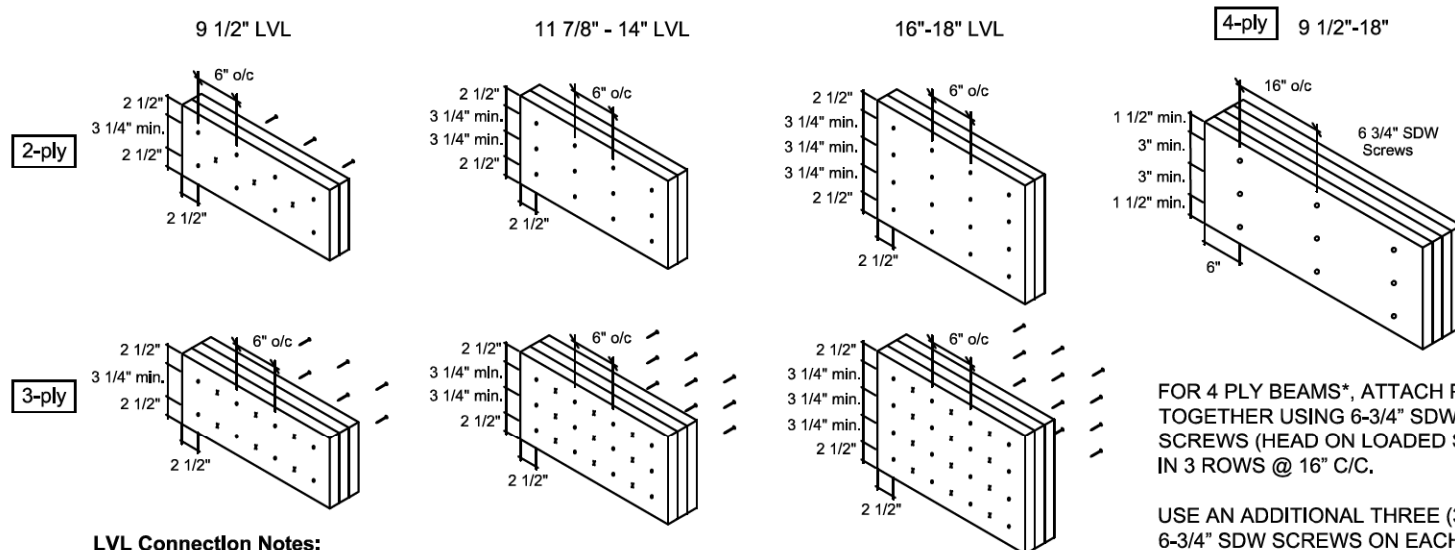
MHP 23018



Conventional Connection Notes:

- Nails to be 3" long wire nails.
- Nails to be located 2" min. from the top and bottom of the member. Start all nails 2 1/2" min. from ends.
- Number of rows and spacing as per details shown, unless noted otherwise.
- "X" represents nail driven from the opposite side.

LVL Connections



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 (HEAD ON LOADED SIDE) 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

Multiple Member Connections

All connections are for uniformly distributed loads.

For multi-ply connections of I-joists, refer to Manufacturer's Installation Guide

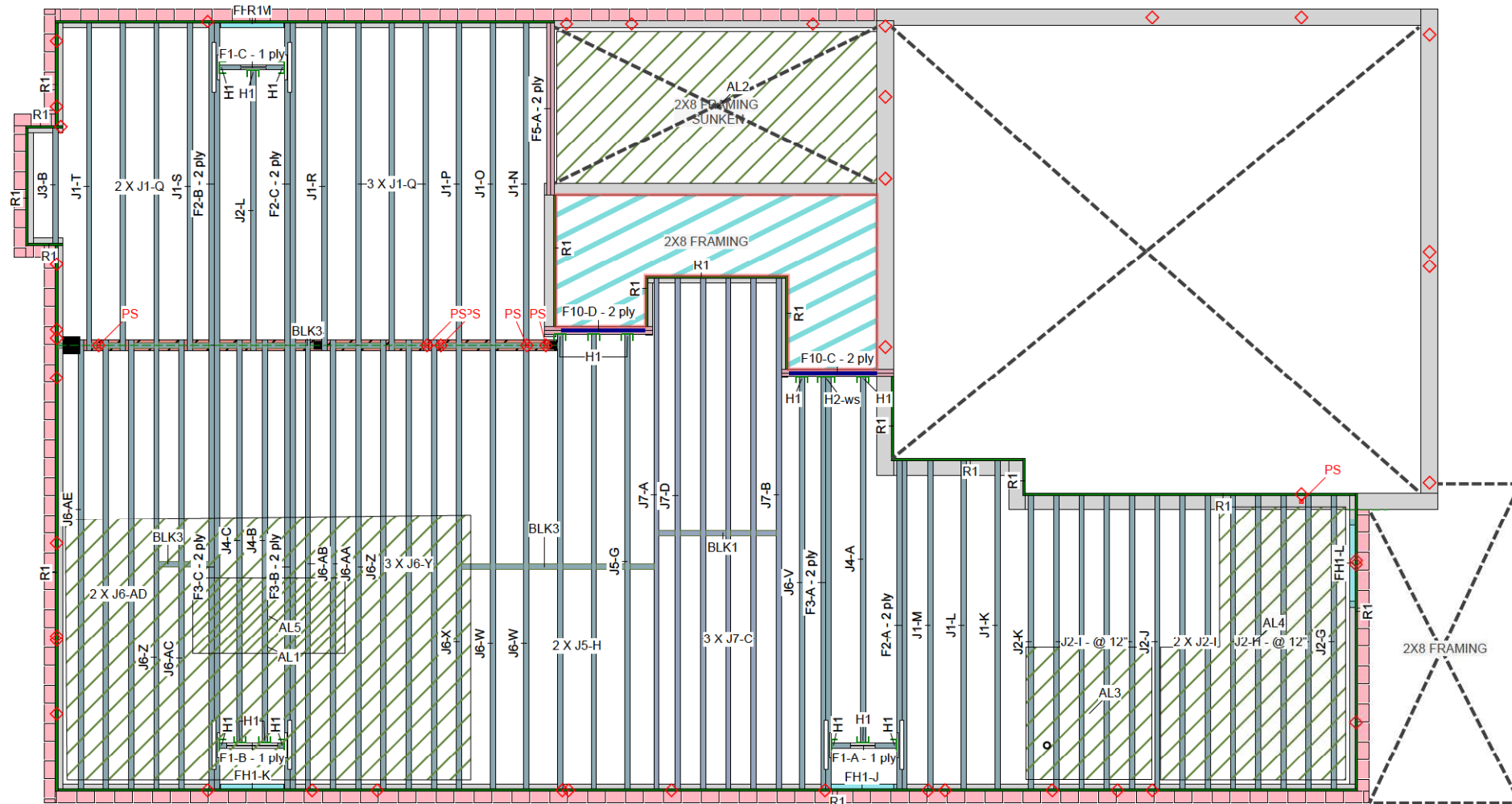
Last revised: MAY 17, 2022




KOTT Inc.
3228 Moodie Drive
Ottawa, ON
K2H 7V1
613-838-2775


CORPORATION OF THE CITY OF OSHAWA
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Dec 06 2023
PER: 
CHIEF BUILDING OFFICIAL

MHP 23018



JOB INFORMATION	
Builder	GREENPARK
Project	ZADORRA ESTATES
Shipping	PENROSE 1- EL 1 OSHAWA,ON
Sales Rep	RALPH MIRIGELLO
Designer	W C
Plotted	May 31, 2022
Layout Name	PENROSE 1-EL 1
Job Path	
DESIGN CRITERIA	
Ground Floor	
Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012
Floor	
Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	480
TL Span L/	240
Deflection Flush Girder	
LL Span L/	480
TL Span L/	240
Deflection Dropped Girder	
LL Span L/	480
TL Span L/	240
Deflection Header	
LL Span L/	480
TL Span L/	240
Decking	
Decking	OSB
Thickness	3/4"






CCMC References Boise - 12472-R , 12787-R LP - 12412-R Forex - 14056-R	
Kott Inc. 3228 Moodie Dr, Ottawa 14 Anderson Blvd, Uxbridge Ontario 613-838-2775 / 905-642-4400	

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

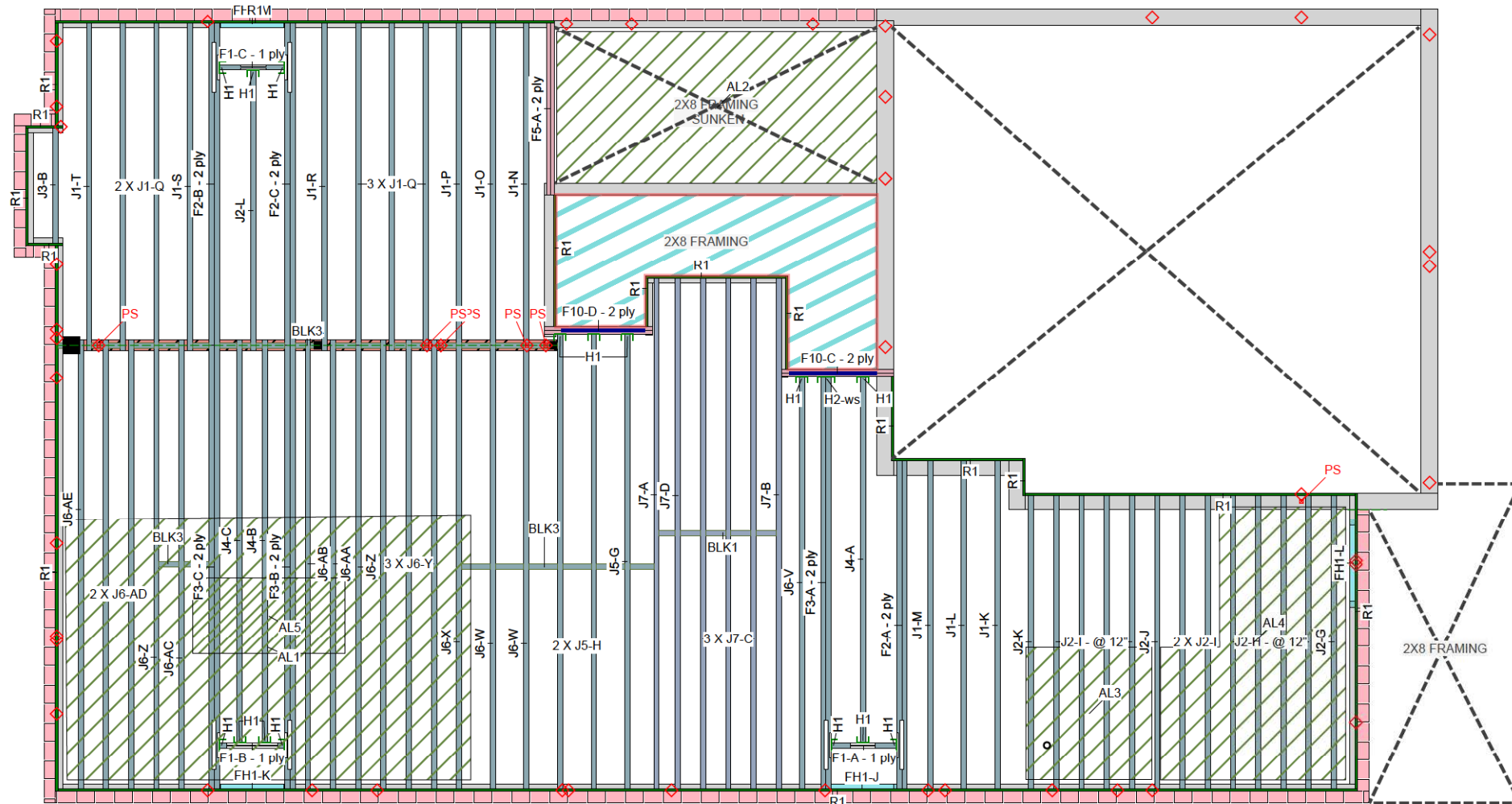
AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

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

Legend

WS	Web Stiffener
-WS	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
◇	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 11.875
	AJS 140 11.875
	AJS 20 11.875

Ground Floor



Legend

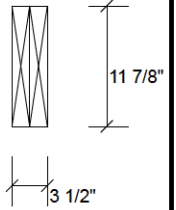
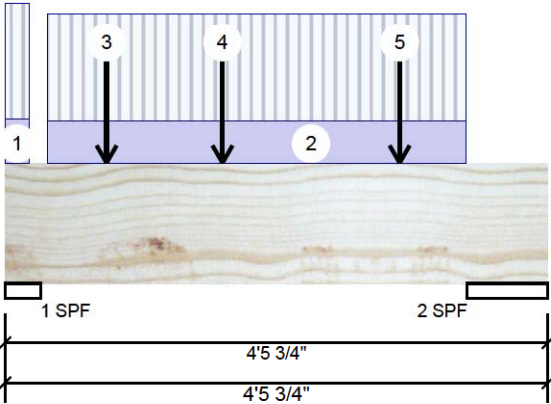
- WS Web Stiffener
- WS In Hanger Label Denotes Web Stiffener
- PS Point Load Support
- ◊ Load from Above
- Wall
- Wall Opening
- Norbord Rimboard Plus 1.125 X 11.875
- AJS 140 11.875
- AJS 20 11.875

AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

Client: GREENPARK
Project: Dec 06 2023
Address: L1
Signature: [Handwritten Signature]
Title: CHIEF BUILDING OFFICIALDate: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 1 of 24

F10-C Forex 2.0E-3000Fb LVL 1.750 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:	480	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	701	284	0	0
2	Vertical	690	283	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	19%	355 / 1051	1406	L	1.25D+1.5L
2 - SPF	8.000"	Vert	8%	354 / 1035	1389	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1413 ft-lb	1'9 1/2"	34261 ft-lb	0.041 (4%)	1.25D+1.5L	L
Unbraced	1413 ft-lb	1'9 1/2"	34261 ft-lb	0.041 (4%)	1.25D+1.5L	L
Shear	1246 lb	2'9 7/8"	11596 lb	0.107 (11%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/30689)	1'9 1/2"	0.121 (L/360)	0.012 (1%)	D	Uniform
LL Defl inch	0.004 (L/12275)	1'9 1/2"	0.091 (L/480)	0.039 (4%)	L	L
TL Defl inch	0.005 (L/8768)	1'9 1/2"	0.182 (L/240)	0.027 (3%)	D+L	L

Design Notes

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



READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. 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	1-10-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-3 to 3-9-9		Top	27 PLF	70 PLF	0 PLF	0 PLF	
3	Point	0-10-1		Near Face	115 lb	306 lb	0 lb	0 lb	J6
4	Point	1-9-8		Near Face	160 lb	426 lb	0 lb	0 lb	F3

Continued on page 2...

Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.

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

This design is valid until 5/24/2024



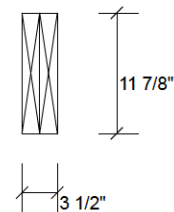
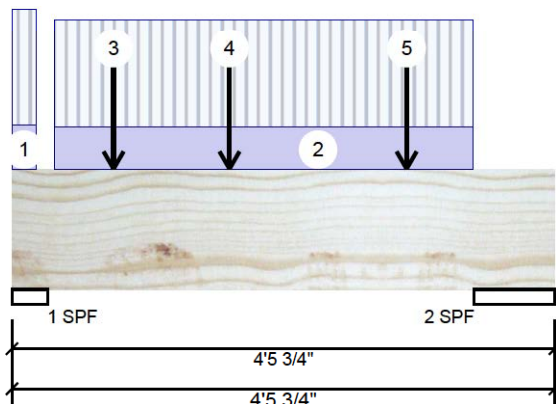
Client: GREENPARK
Project: Dec 06 2023
Address: L 1
RES: CHIEF BUILDING OFFICIAL

Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 2 of 24

F10-C Forex 2.0E-3000Fb LVL 1.750 X 11.875" 2-Ply - PASSED Level Ground Floor

MHP-23018



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Point	3-3-1		Near Face	151 lb	402 lb	0 lb	0 lb	J4
	Self Weight				10 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

Forex
APA: PR-L318

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



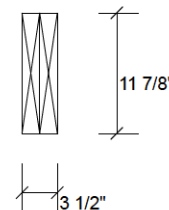
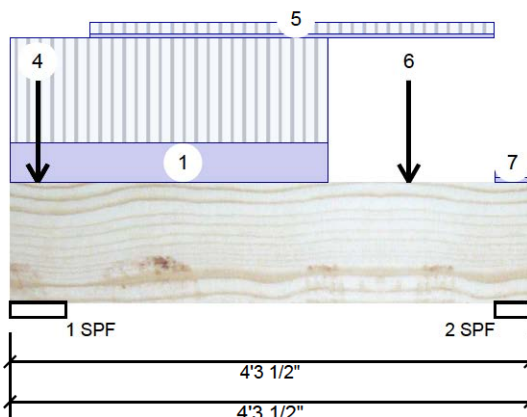
This design is valid until 5/24/2024

Client: GREENPARK
Project: Dec 06 2023
Address: L 1
Signature: [Handwritten Signature]
Title: CHIEF BUILDING OFFICIALDate: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 3 of 24

F10-D Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level Ground Floor

MHP-23018



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	872	381	0	0
2	Vertical	684	276	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	15%	476 / 1308	1784	L	1.25D+1.5L
2 - SPF	3.500"	Vert	18%	345 / 1027	1371	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1330 ft-lb	2'2 1/2"	34261 ft-lb	0.039 (4%)	1.25D+1.5L	L
Unbraced	1330 ft-lb	2'2 1/2"	34261 ft-lb	0.039 (4%)	1.25D+1.5L	L
Shear	1980 lb	3' 1/8"	11596 lb	0.171 (17%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/31468)	2'2 5/8"	0.122 (L/360)	0.011 (1%)	D	Uniform
LL Defl inch	0.004 (L/12519)	2'2 5/8"	0.092 (L/480)	0.038 (4%)	L	L
TL Defl inch	0.005 (L/8956)	2'2 5/8"	0.183 (L/240)	0.027 (3%)	D+L	L

Design Notes

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

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 2-7-8		Near Face	137 PLF	367 PLF	0 PLF	0 PLF	
2	Point	0-2-12		Top	27 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							

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

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

Forex
APA: PR-L318Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400

This design is valid until 5/24/2024



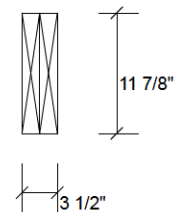
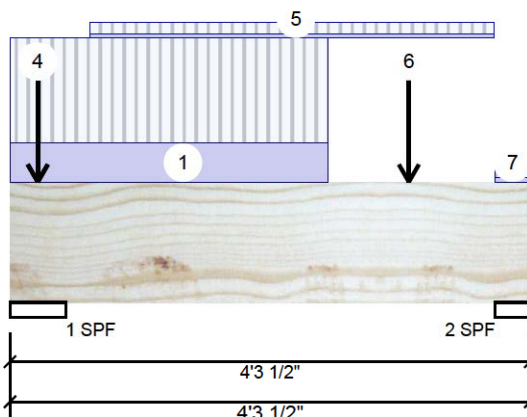
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F10-D Forex 2.0E-3000Fb LVL 1.750 X 11.875" 2-Ply - PASSED Level Ground Floor

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...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
3	Point	0-2-12		Top	1 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
4	Point	0-2-12		Top	6 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
5	Part. Uniform	0-7-15 to 3-11-15		Top	15 PLF	40 PLF	0 PLF	0 PLF	
6	Point	3-3-8		Near Face	168 lb	448 lb	0 lb	0 lb	J5
7	Tie-In	4-0-0 to 4-3-8	1-0-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				



June 23, 2022

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Lumber

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

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
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4. Design assumes top edge is laterally restrained
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6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

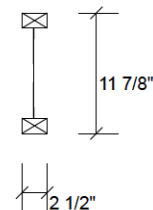
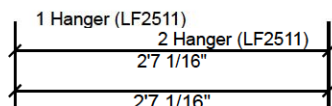
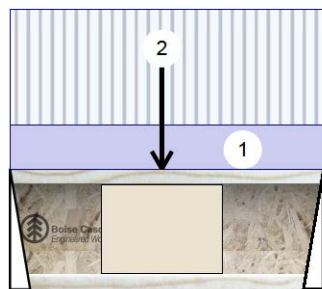
Kott Inc.

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



This design is valid until 5/24/2024

F1-A AJS 140 11.875" - **PASSED** MHP 23018 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:	480	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	270	101	0	0
2	Vertical	255	96	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	33%	126 / 405	531	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	31%	119 / 382	502	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	555 ft-lb	1'3 1/16"	5305 ft-lb	0.105 (10%)	1.25D+1.5L	L
Unbraced	555 ft-lb	1'3 1/16"	5305 ft-lb	0.105 (10%)	1.25D+1.5L	L
Shear	524 lb	1 1/4"	2350 lb	0.223 (22%)	1.25D+1.5L	L
Perm Defl in.	0.002 (L/15698)	1'3 1/16"	0.079 (L/360)	0.023 (2%)	D	Uniform
LL Defl inch	0.005 (L/5887)	1'3 1/16"	0.059 (L/480)	0.082 (8%)	L	L
TL Defl inch	0.007 (L/4281)	1'3 1/16"	0.119 (L/240)	0.056 (6%)	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.
- 5 If sheathing is not attached to the bottom flange, bottom flange must be laterally braced at maximum 2' o.c.

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ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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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 2-7-1	0-10-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-3-0		Far Face	162 lb	432 lb	0 lb	0 lb	J4

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

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

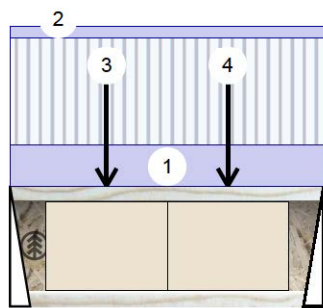
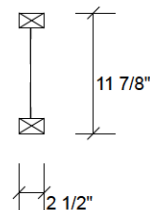


This design is valid until 5/24/2024

Client: GREENPARK
Project: Dec 06 2023
Address: L 1
REF: CHIEF BUILDING OFFICERDate: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 6 of 24

F1-B AJS 140 11.875" - PASSED MHP 23018 Level Ground Floor

1 Hanger (LF2511)
2 Hanger (LF2511)
2'7 1/16"
2'7 1/16"

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	360	211	0	0
2	Vertical	361	209	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	50%	264 / 540	804	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	50%	261 / 542	803	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	540 ft-lb	1'2 3/4"	5305 ft-lb	0.102 (10%)	1.25D+1.5L	L
Unbraced	540 ft-lb	1'2 3/4"	5305 ft-lb	0.102 (10%)	1.25D+1.5L	L
Shear	796 lb	1 1/4"	2350 lb	0.339 (34%)	1.25D+1.5L	L
Perm Defl in. (L/11185)	0.003	1'3 1/8"	0.079 (L/360)	0.032 (3%)	D	Uniform
LL Defl inch	0.004 (L/6544)	1'3 7/16"	0.059 (L/480)	0.073 (7%)	L	L
TL Defl inch	0.007 (L/4129)	1'3 5/16"	0.119 (L/240)	0.058 (6%)	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.
- 5 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 NOTE PAGE ENP-2. THE NOTE PAGE
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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 2-7-1	0-10-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 2-7-1		Top	4 PLF	0 PLF	0 PLF	0 PLF	
3	Point	0-9-9		Far Face	191 lb	315 lb	0 lb	0 lb	J4
4	Point	1-9-9		Far Face	184 lb	314 lb	0 lb	0 lb	J4

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. Lumber must not be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. Lumber flanges must not be cut or drilled
2. Refer to latest copy of the Lumber product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Lumber 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 5/24/2024

Manufacturer Info

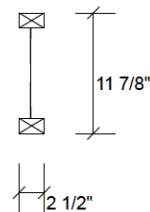
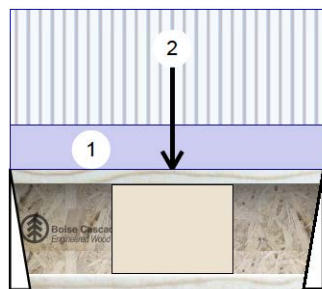
Boise Cascade Wood Products
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www.bc.com
CCMC: 12787

Kott Inc.

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



F1-C AJS 140 11.875" - PASSED MHP 23018 Level Ground Floor



1 Hanger (LF2511)
2 Hanger (LF2511)
2' 7 1/16"
2' 7 1/16"

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	204	76	0	0
2	Vertical	216	81	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	2.000"	Vert	25%	96 / 306	402	L	1.25D+1.5L
2 - Hanger	2.000"	Vert	27%	101 / 324	426	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	432 ft-lb	1'4 1/16"	5305 ft-lb	0.081 (8%)	1.25D+1.5L	L
Unbraced	432 ft-lb	1'4 1/16"	5305 ft-lb	0.081 (8%)	1.25D+1.5L	L
Shear	418 lb	2'5 13/16"	2350 lb	0.178 (18%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/20191)	1'4 1/16"	0.079 (L/360)	0.018 (2%)	D	Uniform
LL Defl inch	0.004 (L/7558)	1'4 1/16"	0.059 (L/480)	0.064 (6%)	L	L
TL Defl inch	0.005 (L/5500)	1'4 1/16"	0.119 (L/240)	0.044 (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.
- 5 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 2-7-1	0-10-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-4-1		Near Face	122 lb	326 lb	0 lb	0 lb	J2

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 5/24/2024

Manufacturer Info

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

Kott Inc.
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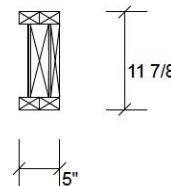
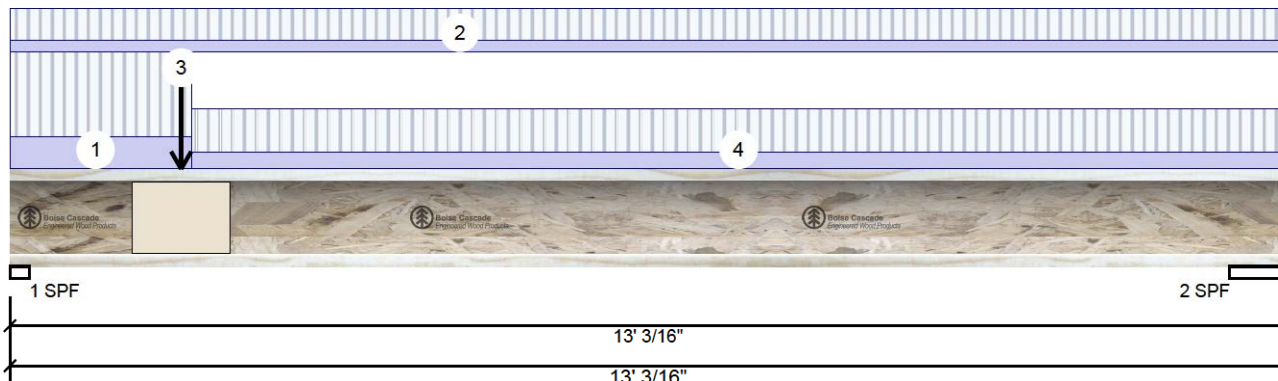


Client: GREENPARK
Project: Dec 06 2023
Address: L 1
REF: C. Motta
CHIEF BUILDING OFFICIAL

Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 8 of 24

F2-A AJS 140 11.875" 2-Ply - PASSIVE MHP 23018 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:	480	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	609	229	0	0
2	Vertical	394	148	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	36%	286 / 914	1200	L	1.25D+1.5L
2 - SPF	6.875"	Vert	20%	185 / 591	775	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2480 ft-lb	5'7 9/16"	10610 ft-lb	0.234 (23%)	1.25D+1.5L	L
Unbraced	2480 ft-lb	5'7 9/16"	10610 ft-lb	0.234 (23%)	1.25D+1.5L	L
Shear	1178 lb	1 5/8"	4700 lb	0.251 (25%)	1.25D+1.5L	L
Perm Defl in.	0.025 (L/5980)	6'1 1/8"	0.412 (L/360)	0.060 (6%)	D	Uniform
LL Defl inch	0.066 (L/2244)	6'1 1/8"	0.309 (L/480)	0.214 (21%)	L	
TL Defl inch	0.091 (L/1632)	6'1 1/8"	0.619 (L/240)	0.147 (15%)	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 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 6 Bottom flange must be laterally braced at a maximum of 11'3 1/4" o.c.



READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. 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 1-10-3	1-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 13-0-3	0-6-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-15		Far Face	96 lb	255 lb	0 lb	0 lb	F1
4	Tie-In	1-10-3 to 13-0-3	0-9-4	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. Lumber must 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 5/24/2024

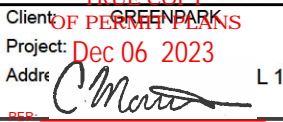
Manufacturer Info

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

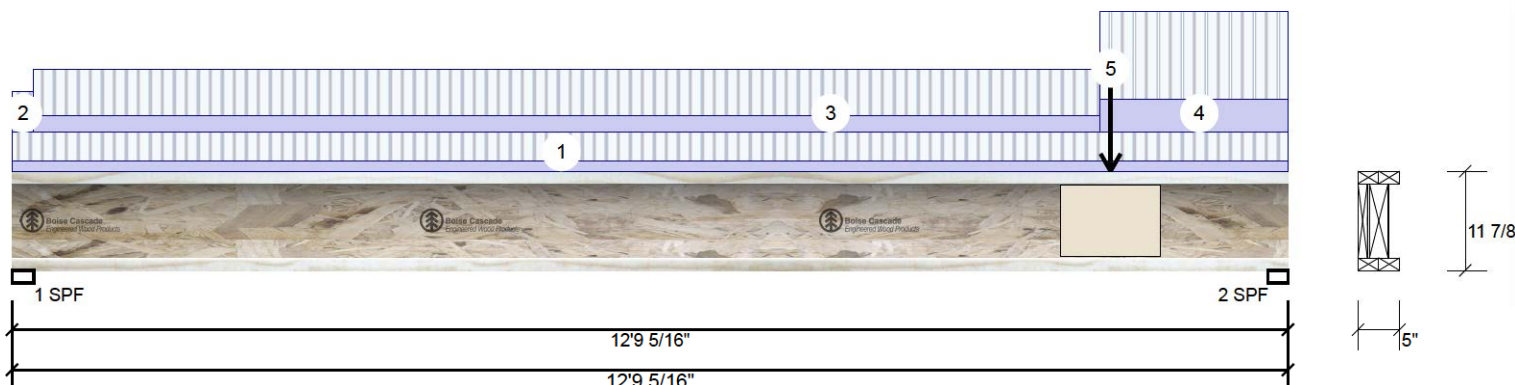
Kott Inc.

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





F2-B AJS 140 11.875" 2-Ply - PASSED MHP 23018 Level Ground Floor



Unfactored Reactions UNPATTERNED Ib (Uplift)

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	348	130	0	0
2	Vertical	547	205	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	20%	163 / 522	685	L	1.25D+1.5L
2 - SPF	2.375"	Vert	32%	256 / 821	1077	L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2309 ft-lb	7' 1/16"	10610 ft-lb	0.218 (22%)	1.25D+1.5L	L
Unbraced	2309 ft-lb	7' 1/16"	10610 ft-lb	0.218 (22%)	1.25D+1.5L	L
Shear	1056 lb	12'7 11/16"	4700 lb	0.225 (22%)	1.25D+1.5L	L
Perm Defl in.	0.023 (L/6395)	6'7 1/4"	0.416 (L/360)	0.056 (6%)	D	Uniform
LL Defl inch	0.063 (L/2396)	6'7 1/4"	0.312 (L/480)	0.200 (20%)	L	L
TL Defl inch	0.086 (L/1743)	6'7 1/4"	0.624 (L/240)	0.138 (14%)	D+L	L



June 23, 2022

- 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 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 6 Bottom flange must be laterally braced at a maximum of 11' o.c.

**READ ALL NOTES ON THIS PAGE AND ON THE
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 12-9-5	0-5-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-10	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-2-10 to 10-10-12	0-9-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	10-10-12 to 12-9-5	1-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	11-0-0		Near Face	76 lb	204 lb	0 lb	0 lb	F1

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

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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This design is valid until 5/24/2024

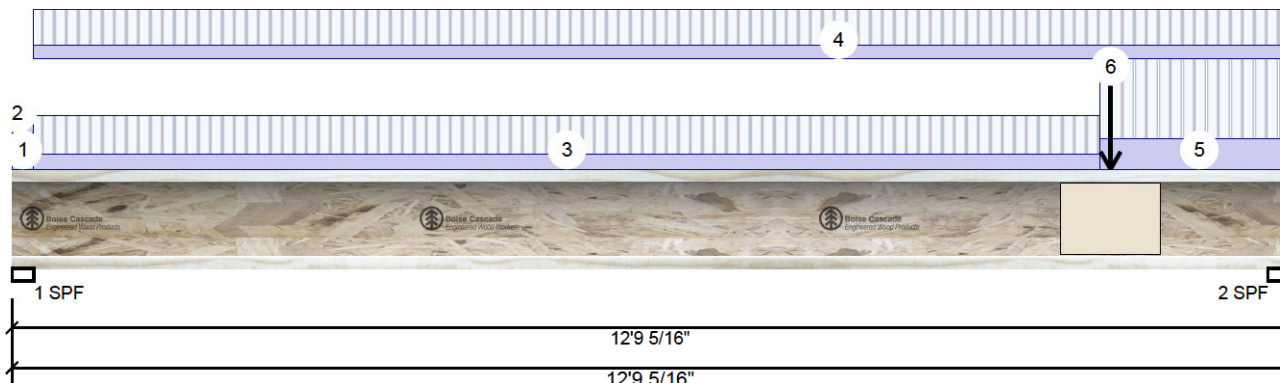


Client: GREENPARK
Project: Dec 06 2023
Address: L 1
REF: CHIEF BUILDING OFFICIAL

Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 10 of 24

F2-C AJS 140 11.875" 2-Ply - PASSIVE MHP 23018 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:	480	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	390	146	0	0
2	Vertical	603	226	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.625"	Vert	22%	183 / 585	768	L	1.25D+1.5L
2 - SPF	2.375"	Vert	35%	283 / 905	1188	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2587 ft-lb	6'11 5/8"	10610 ft-lb	0.244 (24%)	1.25D+1.5L	L
Unbraced	2587 ft-lb	6'11 5/8"	10610 ft-lb	0.244 (24%)	1.25D+1.5L	L
Shear	1165 lb	12'7 11/16"	4700 lb	0.248 (25%)	1.25D+1.5L	L
Perm Defl in.	0.026 (L/5706)	6'7 1/8"	0.416 (L/360)	0.063 (6%)	D	Uniform
LL Defl inch	0.070 (L/2140)	6'7 1/8"	0.312 (L/480)	0.224 (22%)	L	
TL Defl inch	0.096 (L/1556)	6'7 1/8"	0.624 (L/240)	0.154 (15%)	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 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 6 Bottom flange must be laterally braced at a maximum of 11' o.c.



READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. 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 0-2-10	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-2-10	0-4-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tie-In	0-2-10 to 10-10-12	0-8-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Tie-In	0-2-10 to 12-9-5	0-8-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Tie-In	10-10-12 to 12-9-5	1-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	11-0-0		Far Face	81 lb	216 lb	0 lb	0 lb	F1

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. Lumber must 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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(800) 232-0788
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CCMC: 12787

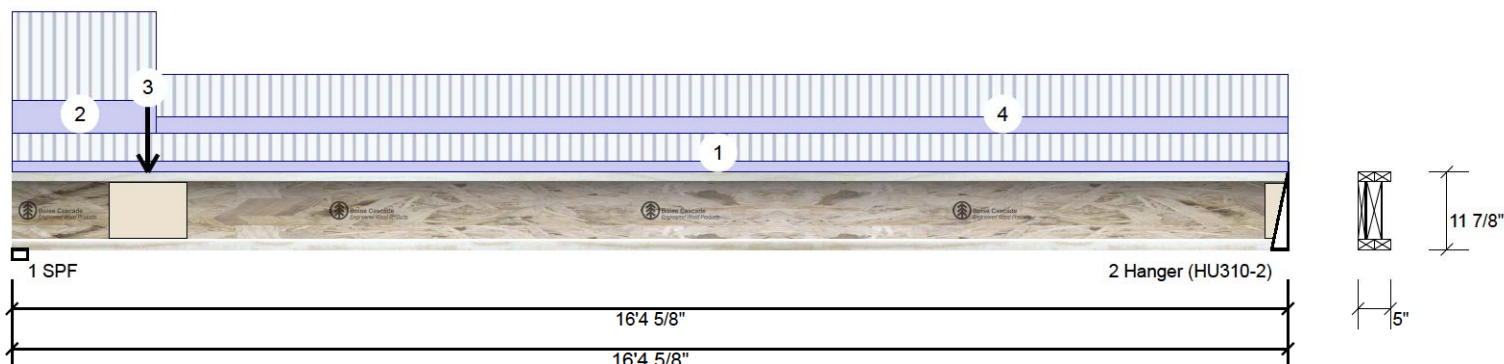
Kott Inc.

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



This design is valid until 5/24/2024

F3-A AJS 140 11.875" **2-Ply - PASSED** MHP 23018 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:	480	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	693	260	0	0
2	Vertical	426	160	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	40%	325 / 1040	1364	L	1.25D+1.5L
2 - Hanger	2.500"	Vert	18%	200 / 639	839	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3576 ft-lb	7'6 7/8"	10610 ft-lb	0.337 (34%)	1.25D+1.5L	L
Unbraced	3576 ft-lb	7'6 7/8"	10610 ft-lb	0.337 (34%)	1.25D+1.5L	L
Shear	1343 lb	1 5/8"	4700 lb	0.286 (29%)	1.25D+1.5L	L
Perm Defl in.	0.057 (L/3386)	7'11 7/8"	0.537 (L/360)	0.106 (11%)	D	Uniform
LL Defl inch	0.152 (L/1269)	7'11 7/8"	0.403 (L/480)	0.378 (38%)	L	L
TL Defl inch	0.209 (L/923)	7'11 7/8"	0.805 (L/240)	0.260 (26%)	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 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 7 Bottom flange must be laterally braced at a maximum of 14'7 11/16" o.c.
- 8 Web stiffeners required at Bearing 2.



**READ ALL NOTES ON THIS PAGE AND ON THE
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 16-4-10	0-5-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-10-3	1-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-15		Near Face	101 lb	270 lb	0 lb	0 lb	F1
4	Tie-In	1-10-3 to 16-4-10	0-8-12	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

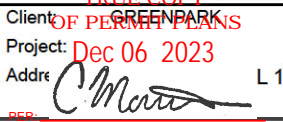
Manufacturer Info

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

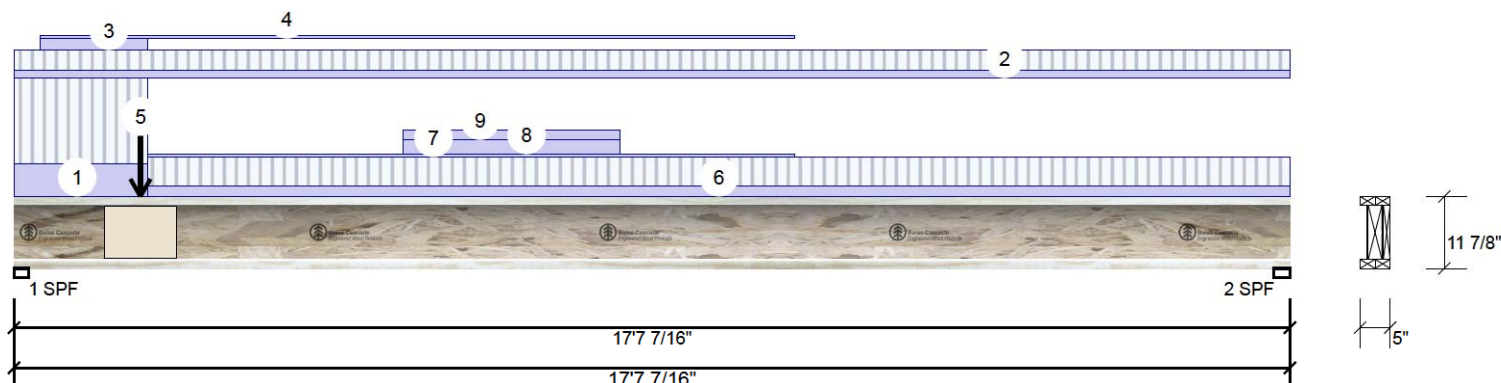


This design is valid until 5/24/2024



Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Level Ground Floor



Unfactored Reactions UNPATTERNED Ib (Uplift)

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	699	397	0	0
2	Vertical	338	167	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	Vert	46%	496 / 1048	1545	L	1.25D+1.5L
2 - SPF	2.625"	Vert	21%	209 / 507	716	L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3658 ft-lb	7'5 7/8"	10610 ft-lb	0.345 (34%)	1.25D+1.5L	L
Unbraced	3658 ft-lb	7'5 7/8"	10610 ft-lb	0.345 (34%)	1.25D+1.5L	L
Shear	1525 lb	1 5/8"	4700 lb	0.324 (32%)	1.25D+1.5L	L
Perm Defl in.	0.091 (L/2289)	8'3 7/16"	0.578 (L/360)	0.157 (16%)	D	Uniform
LL Defl inch	0.156 (L/1330)	8'5 3/4"	0.433 (L/480)	0.361 (36%)	L	L
TL Defl inch	0.247 (L/841)	8'4 15/16"	0.866 (L/240)	0.285 (29%)	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 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 6 Bottom flange must be laterally braced at a maximum of 15'10 7/16" 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 1-10-3	1-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 17-7-7	0-4-4	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-4-6 to 1-10-3		Top	8 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-4-6 to 10-9-7		Top	2 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-8-15		Far Face	209 lb	361 lb	0 lb	0 lb	F1

Continued on page 2...

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. 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

Boise Cascade Wood Products
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(800) 232-0788
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CCMC: 12787

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613-838-2775 / 905-642-4400



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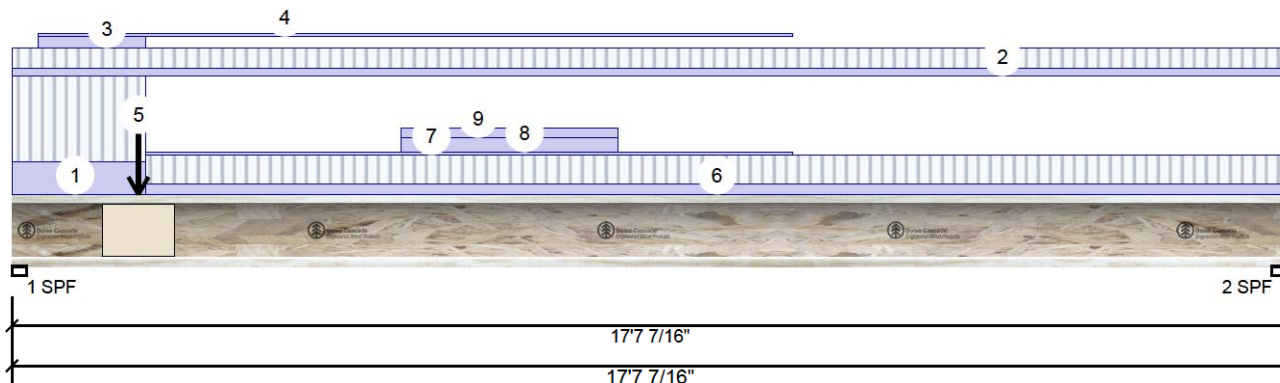


Client: GREENPARK
Project: Dec 06 2023
Address: L 1
Signature: [Handwritten Signature]
Title: CHIEF BUILDING OFFICIAL

Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 13 of 24

F3-B AJS 140 11.875" 2-Ply - PASSIVE MHP 23018 Level Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Tie-In	1-10-3 to 17-7-7	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-10-3 to 10-9-6		Top	2 PLF	0 PLF	0 PLF	0 PLF	
8	Part. Uniform	5-4-7 to 8-4-6		Top	10 PLF	0 PLF	0 PLF	0 PLF	
9	Part. Uniform	5-4-7 to 8-4-6		Top	7 PLF	0 PLF	0 PLF	0 PLF	



June 23, 2022

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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. Lumber not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Lumber flanges must not be cut or drilled
2. Refer to latest copy of the Lumber product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Lumber 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 5/24/2024

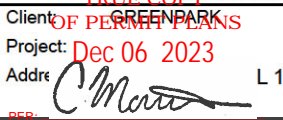
Manufacturer Info

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

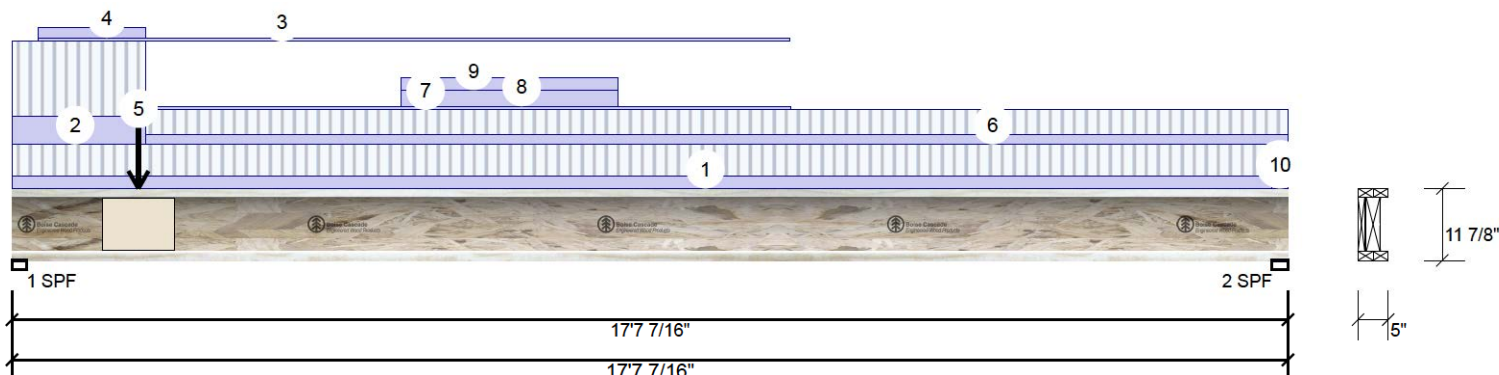
Kott Inc.

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





F3-C AJS 140 11.875" 2-Ply - PASSED MHP 23018 Level Ground Floor



Unfactored Reactions UNPATTERNED Ib (Uplift)

Type:	Girder	Application:	Floor (Residential)	Brg	Direction	Live	Dead	Snow	Wind
Plies:	2	Design Method:	LSD	1	Vertical	800	461	0	0
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012	2	Vertical	440	219	0	0
Deflection LL:	480	Load Sharing:	No						
Deflection TL:	240	Deck:	Not Checked						
Importance:	Normal - II	Vibration:	Not Checked						
General Load									
Floor Live:	40 PSF								
Dead:	15 PSF								

Bearings and Factored Reactions

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4654 ft-lb	7'8 1/2"	10610 ft-lb	0.439 (44%)	1.25D+1.5L	L
Unbraced	4654 ft-lb	7'8 1/2"	10610 ft-lb	0.439 (44%)	1.25D+1.5L	L
Shear	1754 lb	1 5/8"	4700 lb	0.373 (37%)	1.25D+1.5L	L
Perm Defl in.	0.117 (L/1784)	8'4 1/8"	0.578 (L/360)	0.202 (20%)	D	Uniform
LL Defl inch	0.197 (L/1054)	8'6 5/8"	0.433 (L/480)	0.456 (46%)	L	L
TL Defl inch	0.314 (L/662)	8'5 5/8"	0.866 (L/240)	0.362 (36%)	D+L	L



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- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 If sheathing is not attached to the top flange, top flange must be laterally braced at maximum 2' o.c.
- 6 Bottom flange must be laterally braced at a maximum of 15'10 7/16" o.c.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 17-4-13	0-7-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-10-3	1-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Part. Uniform	0-4-6 to 10-8-15		Top	3 PLF	0 PLF	0 PLF	0 PLF	
4	Part. Uniform	0-4-6 to 1-10-3		Top	8 PLF	0 PLF	0 PLF	0 PLF	
5	Point	1-8-15		Near Face	211 lb	360 lb	0 lb	0 lb	F1

Continued on page 2...

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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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CCMC: 12787

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613-838-2775 / 905-642-4400



This design is valid until 5/24/2024

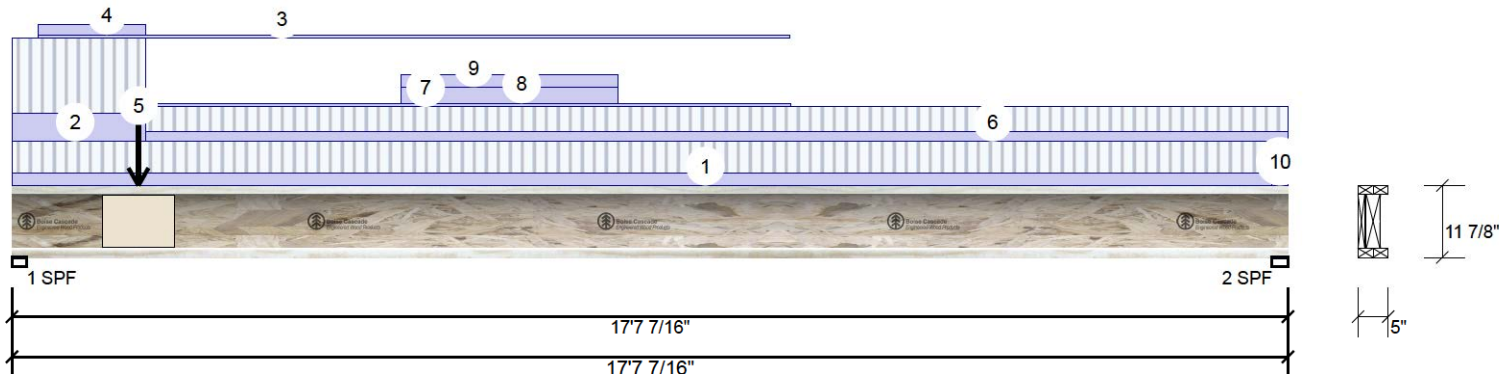


Client: GREENPARK
Project: Dec 06 2023
Address: L 1
Signature: [Handwritten Signature]
Title: CHIEF BUILDING OFFICIAL

Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 15 of 24

F3-C AJS 140 11.875" 2-Ply - PASSIVE MHP 23018 Level Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Tie-In	1-10-3 to 17-7-7	0-6-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Part. Uniform	1-10-3 to 10-9-0		Top	3 PLF	0 PLF	0 PLF	0 PLF	
8	Part. Uniform	5-4-7 to 8-4-6		Top	13 PLF	0 PLF	0 PLF	0 PLF	
9	Part. Uniform	5-4-7 to 8-4-6		Top	10 PLF	0 PLF	0 PLF	0 PLF	
10	Tie-In	17-4-13 to 17-7-7	0-5-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	



June 23, 2022

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Lumber

1. Dry service conditions, unless noted otherwise
2. Lumber 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 5/24/2024

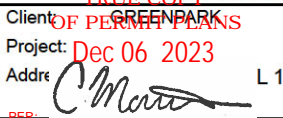
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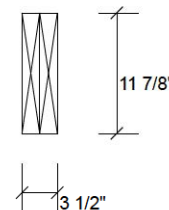
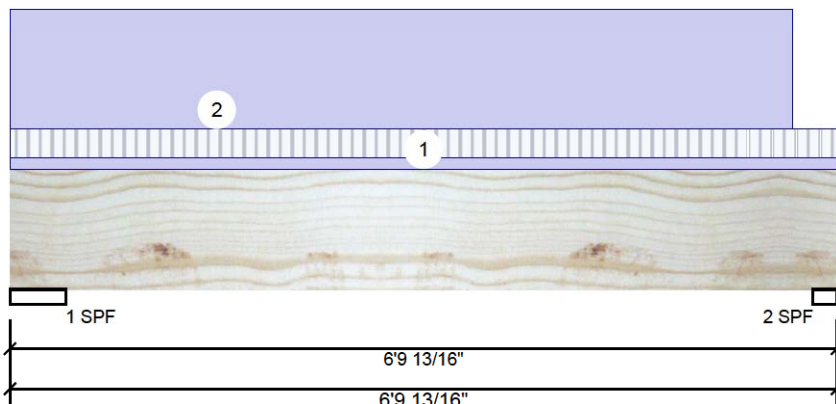
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Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

2-Fly - PASSED Level Group



Unfactored Reactions UNPATTERNED Ib (Uplift)

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	68	342	0	0
2	Vertical	63	288	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	Vert	7%	428 / 102	530	L	1.25D+1.5L
2 - SPF	2.375"	Vert	13%	361 / 94	455	L	1.25D+1.5L

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	739 ft-lb	3'6 7/16"	22612 ft-lb	0.033 (3%)	1.25D+1.5L	L
Unbraced	739 ft-lb	3'6 7/16"	22612 ft-lb	0.033 (3%)	1.25D+1.5L	L
Shear	325 lb	5'7 9/16"	7653 lb	0.043 (4%)	1.25D+1.5L	L
Perm Defl in.	0.005 (L/15727)	3'6 7/16"	0.210 (L/360)	0.023 (2%)	D	Uniform
LL Defl inch	0.001 (L/79075)	3'6 1/2"	0.157 (L/480)	0.006 (1%)	L	L
TL Defl inch	0.006 (L/13118)	3'6 7/16"	0.314 (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 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 bearings.
- 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 6-9-13	0-5-12	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 6-5-8		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				10 PLF				

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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

Forex
APA: PR-L318

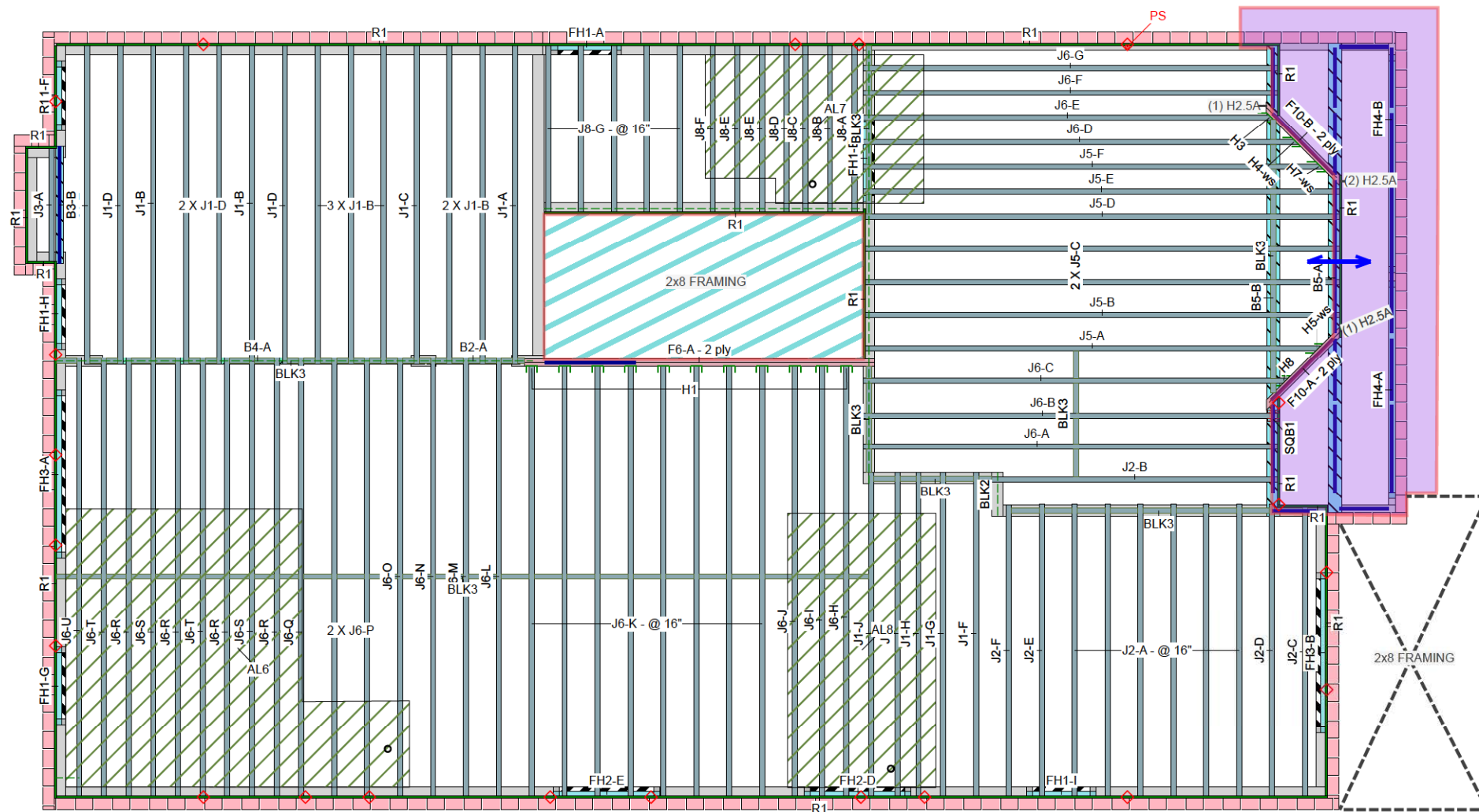
Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400



This design is valid until 5/24/2024

Second Floor

MHP 23018




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






AJS140 I-Joists can be substituted with LP20 I-Joists for 9.5" and 11.875" depths shown on this layout.

Second Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F6	Forex 2.0E-3000Fb LVL	1.75	11.875	1	2	2	16-0-0
F10	Forex 2.0E-3000Fb LVL	1.75	11.875	2	2	4	6-0-0
I Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J5	AJS 140	2.5	11.875			7	20-0-0
J6	AJS 140	2.5	11.875			34	18-0-0
J1	AJS 140	2.5	11.875			19	14-0-0
J2	AJS 140	2.5	11.875			11	12-0-0
J8	AJS 140	2.5	11.875			12	8-0-0
J3	AJS 140	2.5	11.875			1	6-0-0
Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 11.875	1.125	11.875			16	12-0-0
Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK3	AJS 140	2.5	11.875	LinFt		Varies	78-0-0
Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	11	LF2511			12 10d	1 #8x1 1/4WS	
H3	1	SUL2.56/11 (Min)	Left		16 16d	2 10dx1 1/2	
H4	1	SUL2.56/9 (Max)	Left		14 16d	6 10dx1 1/2	
H5	1	SUR2.56/9 (Max)	Right		14 16d	6 10dx1 1/2	
H7	1	SUL2.56/11 (Max)	Left		16 16d	6 10dx1 1/2	
H8	1	SUR2.56/11 (Min)	Right		16 16d	2 10dx1 1/2	
Custom							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
	H2.5A					4	

JOB INFORMATION	
Builder	GREENPARK
Project	ZADORRA ESTATES
Shipping	PENROSE 1- EL 1 OSHAWA, ON
Sales Rep	RALPH MIRIGELLO
Designer	W C
Plotted	June 23, 2022
Layout Name	PENROSE 1-EL 1
Job Path	
DESIGN CRITERIA	
Second Floor	
Design Method	LSD (Canada)
Building Code	NBCC 2015 / OBC 2012
Floor Loads	
Live	40
Dead	15
Deflection Joist	
LL Span L/	480
TL Span L/	240
Deflection Flush Girder	
LL Span L/	480
TL Span L/	240
Deflection Dropped Girder	
LL Span L/	480
TL Span L/	240
Deflection Header	
LL Span L/	480
TL Span L/	240
Decking	OSB
Thickness	5/8"

CCMC References	
Boise - 12472-R , 12787-R	
LP - 12412-R	
Forex - 14056-R	
Kott Inc.	
3228 Moodie Dr, Ottawa	
14 Anderson Blvd, Uxbridge	
Ontario	
613-838-2775 / 905-642-4400	
	

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

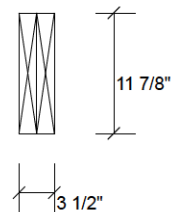
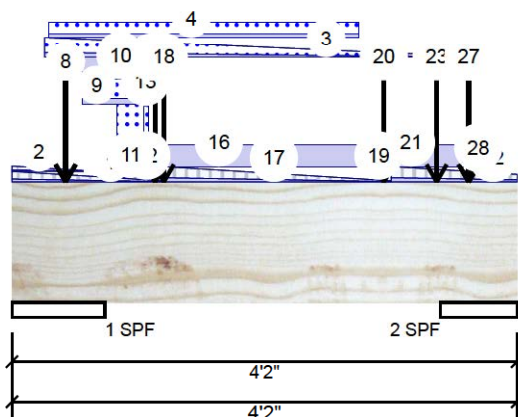
Legend	
WS	Web Stiffener
-ws	In Hanger Label Denotes Web Stiffener
PS	Point Load Support
◇	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 11.875
	AJS 140 11.875
	Forex 2.0E-3000Fb LVL 1.75 X 11.875

Client: GREENPARK
Project: Dec 06 2023
Address: L 1
Signature: [Handwritten Signature]
Title: CHIEF BUILDING OFFICIALDate: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 17 of 24

F10-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level Second Floor

MHP-23018



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	236 (-122)	533	945	0
2	Vertical	65 (-549)	113	294	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	9.192"	Vert	14%	666 / 1654	2320	L	1.25D+1.5S +L
2 - SPF	7.625"	Vert	4%	141 / 506	648 (-722)	L	1.25D+1.5S +L(0.9D +1.5L)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-422 ft-lb	3' 13/16"	30149 ft-lb	0.014 (1%)	1.25D+1.5L	L
Pos Moment	522 ft-lb	1'4 11/16"	34261 ft-lb	0.015 (2%)	1.25D+1.5S +L	L
Unbraced	522 ft-lb	1'4 11/16"	34261 ft-lb	0.015 (2%)	1.25D+1.5S +L	L
Shear	927 lb	2'6 1/2"	10204 lb	0.091 (9%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/69561)	1'8 1/16"	0.096 (L/360)	0.005 (1%)	D	Uniform
LL Defl inch	0.001 (L/34315)	3' 13/16"	0.072 (L/480)	0.014 (1%)	L	L
TL Defl inch	0.001 (L/24245)	1'8 5/16"	0.144 (L/240)	0.010 (1%)	D+S+0.5L	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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 Tie-down connection required at bearing 2 for uplift 722 lb (Combination 0.9D+1.5L, Load Case L).
- 8 Top must be continuously laterally braced.
- 9 Bottom must have sheathing attached or be continuously braced.
- 10 Lateral slenderness ratio based on full section width.



June 23, 2022

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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

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

Forex
APA: PR-L318

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



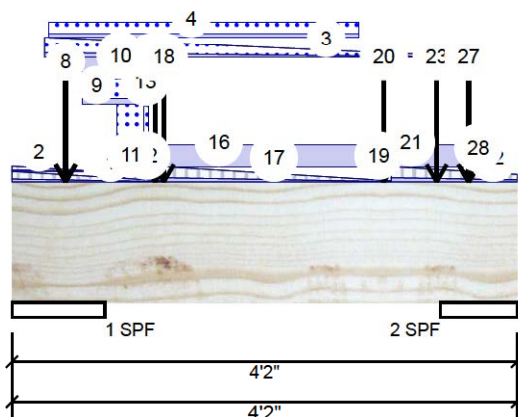
This design is valid until 5/24/2024

Client: GREENPARK
Project: Dec 06 2023
Address: L 1
Signature: [Handwritten Signature]
Title: CHIEF BUILDING OFFICIALDate: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

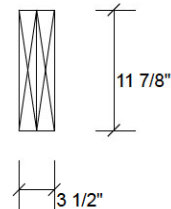
Page 18 of 24

F10-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level Second Floor

MHP-23018



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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-2-14	0-8-5 to 0-0-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-7-1	0-4-3 to 0-0-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Tapered Start	0-3-4		Top	17 PLF	0 PLF	57 PLF	0 PLF	
	End	3-9-12			0 PLF	0 PLF	2 PLF	0 PLF	
4	Part. Uniform	0-3-11 to 2-10-5		Top	13 PLF	0 PLF	44 PLF	0 PLF	
5	Point	0-5-5		Top	9 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Point	0-5-5		Top	191 lb	98 lb	441 lb	0 lb	F4 F4
	Bearing Length	0-5-8							
7	Point	0-5-5		Top	3 lb	0 lb	11 lb	0 lb	
	Bearing Length	0-5-8							
8	Point	0-5-5		Top	16 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
9	Part. Uniform	0-7-0 to 1-1-1		Top	21 PLF	0 PLF	70 PLF	0 PLF	
10	Part. Uniform	0-7-0 to 1-1-1		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Part. Uniform	0-10-6 to 1-1-1		Top	61 PLF	0 PLF	207 PLF	0 PLF	
12	Part. Uniform	1-1-1 to 1-1-8		Top	61 PLF	0 PLF	207 PLF	0 PLF	
13	Part. Uniform	1-1-1 to 1-1-8		Top	21 PLF	0 PLF	70 PLF	0 PLF	
14	Part. Uniform	1-1-1 to 1-2-5		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
15	Point	1-2-3		Far Face	40 lb	107 lb	0 lb	0 lb	J6
16	Part. Uniform	1-2-5 to 2-11-11		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
17	Tie-In	1-2-14 to 3-1-8	1-0-3 to 0-0-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
18	Point	1-3-0		Top	112 lb	0 lb	312 lb	0 lb	Header Column
	Bearing Length	0-5-8							
19	Part. Uniform	2-11-11 to 3-0-15		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
20	Point	3-0-13		Far Face	-252 lb	-671 lb	0 lb	0 lb	J5
21	Part. Uniform	3-0-15 to 3-9-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

Continued on page 3...

Notes

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Lumber

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

chemicals

Handling & Installation

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

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 5/24/2024

Manufacturer Info

Forex
APA: PR-L318

Kott Inc.

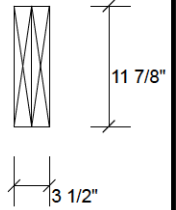
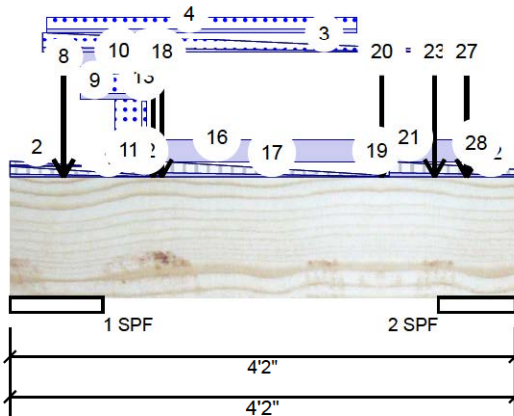
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400

Client: GREENPARK
Project: Dec 06 2023
Address: L 1
REF: C. Motta
CHIEF BUILDING OFFICIALDate: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

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F10-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 2-Ply - PASSED Level Second Floor

MHP 23018



...Continued from page 2

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
22	Tie-In	3-1-8 to 4-2-0	1-0-3 to 0-5-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
23	Point	3-6-0		Top	61 lb	0 lb	140 lb	0 lb	Header Column
	Bearing Length	0-5-8							
24	Point	3-9-3		Top	0 lb	0 lb	1 lb	0 lb	
	Bearing Length	0-5-8							
25	Point	3-9-3		Top	2 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
26	Point	3-9-3		Top	7 lb	0 lb	25 lb	0 lb	
	Bearing Length	0-5-8							
27	Point	3-9-3		Top	28 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
28	Part. Uniform	3-9-14 to 3-10-6		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				10 PLF				



June 23, 2022

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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

Forex
APA: PR-L318

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



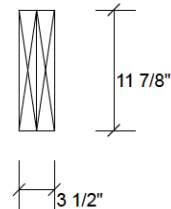
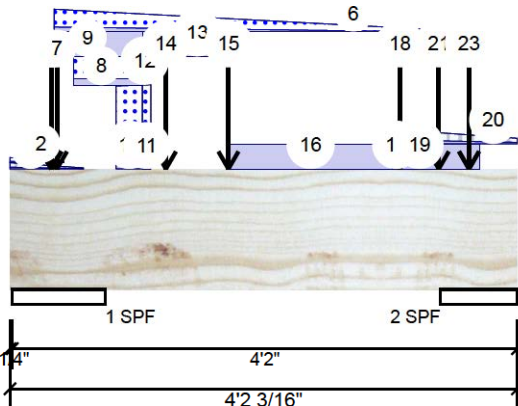
This design is valid until 5/24/2024

Client: GREENPARK
Project: Dec 06 2023
Address: L 1
REF: CHIEF BUILDING OFFICIALDate: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 20 of 24

F10-B Forex 2.0E-3000Fb LVL 1.750 X 11.875" 2-Ply - PASSED Level Second Floor

MHP-23018



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	356 (-595)	546	1311	0
2	Vertical	20 (-835)	2	301	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	9.192"	Vert	24%	683 / 2323	3005 (-401)	LL	1.25D+1.5S +L(0.9D +1.5L)
2 - SPF	7.625"	Vert	3%	3 / 470	473 (-1250)	_L	1.25D+1.5S +L(0.9D +1.5L)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Neg Moment	-1164 ft-lb	1'9 5/8"	28436 ft-lb	0.041 (4%)	1.25D+1.5L +S	LL
Pos Moment	415 ft-lb	1'3 7/16"	34261 ft-lb	0.012 (1%)	0.9D+1.5S +L	_L
Unbraced	415 ft-lb	1'3 7/16"	34261 ft-lb	0.012 (1%)	0.9D+1.5S +L	_L
Shear	1397 lb	2'6 11/16"	9625 lb	0.145 (15%)	1.25D+1.5L +S	LL
Perm Defl in.	0.000 (L/82366)	1'9 5/8"	0.107 (L/360)	0.004 (0%)	D	Uniform
LL Defl inch	0.004 (L/10621)	1'9 5/8"	0.080 (L/480)	0.045 (5%)	L	LL
TL Defl inch	0.004 (L/9408)	1'9 5/8"	0.160 (L/240)	0.026 (3%)	D+L	LL
LL Cant	0.000 (2L/18647)	Lt Cant	0.200 (2L/480)	0.000 (0%)	L	LL
TL Cant	0.000 (2L/17328)	Lt Cant	0.300 (2L/240)	0.000 (0%)	D+L	LL

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 3 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 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.



June 23, 2022

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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

Forex
APA: PR-L318Kott Inc.
3228 Moodie Dr, Ottawa, Ontario
613-838-2775 / 905-642-4400

This design is valid until 5/24/2024



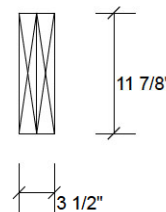
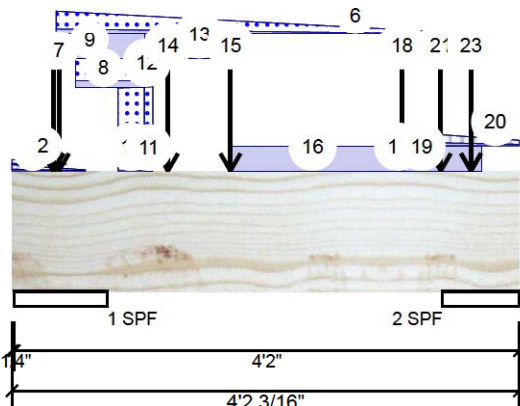
Client: GREENPARK
Project: Dec 06 2023
Address: L 1
Signature: [Handwritten Signature]
Title: CHIEF BUILDING OFFICIAL

Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

Page 21 of 24

F10-B Forex 2.0E-3000Fb LVL 1.750 X 11.875" 2-Ply - PASSED Level Second Floor

MHP-23018



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- 7 Tie-down connection required at bearing 1 for uplift 401 lb (Combination 0.9D+1.5L, Load Case _L).
- 8 Tie-down connection required at bearing 2 for uplift 1250 lb (Combination 0.9D+1.5L, Load Case _L).
- 9 Top must be continuously laterally braced.
- 10 Bottom must have sheathing attached or be continuously braced.
- 11 Lateral slenderness ratio based on full section width.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-7-4	0-4-5 to 0-0-11	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 0-5-6	0-3-9 to 0-0-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	0-4-1		Top	3 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
4	Point	0-4-1		Top	397 lb	199 lb	924 lb	0 lb	F4 F4
	Bearing Length	0-5-8							
5	Point	0-4-1		Top	37 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
6	Tapered Start	0-4-6		Top	17 PLF	0 PLF	57 PLF	0 PLF	
	End	3-10-5			0 PLF	0 PLF	1 PLF	0 PLF	
7	Point	0-4-10		Near Face	63 lb	148 lb	3 lb	0 lb	J6
8	Part. Uniform	0-6-5 to 1-1-2		Top	21 PLF	0 PLF	70 PLF	0 PLF	
9	Part. Uniform	0-6-5 to 1-1-2		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
10	Tapered Start	0-10-8		Top	61 PLF	0 PLF	204 PLF	0 PLF	
	End	1-1-2			62 PLF	0 PLF	206 PLF	0 PLF	
11	Tapered Start	1-1-2		Top	62 PLF	0 PLF	206 PLF	0 PLF	
	End	1-1-15			62 PLF	0 PLF	207 PLF	0 PLF	
12	Part. Uniform	1-1-2 to 1-1-15		Top	21 PLF	0 PLF	70 PLF	0 PLF	
13	Part. Uniform	1-1-2 to 1-9-10		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
14	Point	1-3-7		Top	115 lb	0 lb	317 lb	0 lb	Header Column
	Bearing Length	0-5-8							
15	Point	1-9-10		Near Face	-359 lb	-950 lb	0 lb	0 lb	J6
16	Part. Uniform	1-9-10 to 3-1-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
17	Part. Uniform	3-1-14 to 3-2-10		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

Continued on page 3...

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

Forex
APA: PR-L318

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



This design is valid until 5/24/2024



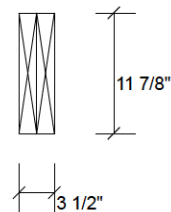
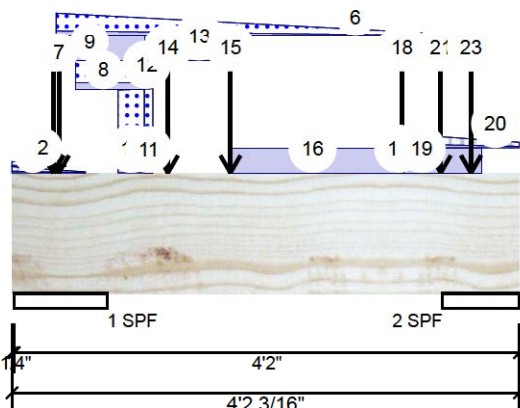
Client: GREENPARK
Project: Dec 06 2023
Address: L 1
RES: CHIEF BUILDING OFFICIAL

Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

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F10-B Forex 2.0E-3000Fb LVL 1.750 X 11.875" 2-Ply - PASSED Level Second Floor

MHP-23018



...Continued from page 2

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
18	Point	3-2-9		Near Face	-182 lb	-480 lb	0 lb	0 lb	J5
19	Part. Uniform	3-2-10 to 3-10-8		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
20	Tie-In	3-3-5 to 4-2-3	0-9-6 to 0-3-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
21	Point	3-6-7		Top	62 lb	0 lb	140 lb	0 lb	Header Column
	Bearing Length	0-5-8							
22	Point	3-9-7		Top	7 lb	0 lb	23 lb	0 lb	
	Bearing Length	0-5-8							
23	Point	3-9-7		Top	26 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Bearing Length	0-5-8							
	Self Weight				10 PLF				



June 23, 2022

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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

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

Forex
APA: PR-L318

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



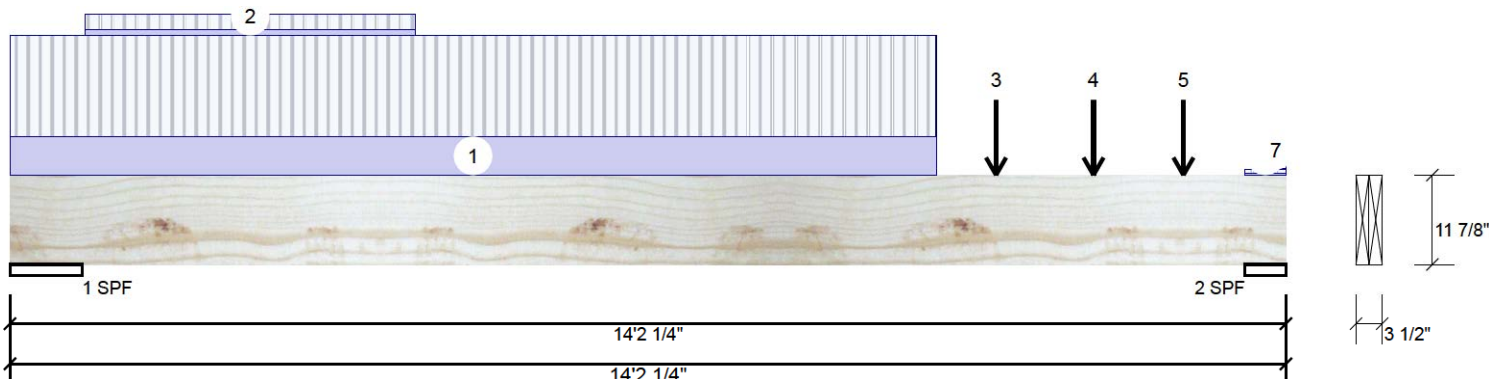
This design is valid until 5/24/2024

Client: GREENPARK
Project: Dec 06 2023
Address: L1
REG: C. Motta
CHIEF ENGINEER (PROFICIAL)Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

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F6-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 24 Ply - PASSED Level Second Floor

MHP-23018



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2015 / OBC 2012
Deflection LL:	480	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	2745	1108	0	0
2	Vertical	2225	944	0	0

Bearings and Factored Reactions

Bearing	Length	Dir.	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	9.625"	Vert	27%	1385 / 4118	5503	L	1.25D+1.5L
2 - SPF	5.500"	Vert	38%	1180 / 3338	4517	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15494 ft-lb	7'2"	34261 ft-lb	0.452 (45%)	1.25D+1.5L	L
Unbraced	15494 ft-lb	7'2"	34261 ft-lb	0.452 (45%)	1.25D+1.5L	L
Shear	5184 lb	12'8 7/8"	11596 lb	0.447 (45%)	1.25D+1.5L	L
Perm Defl in.	0.108 (L/1452)	7'3"	0.435 (L/360)	0.248 (25%)	D	Uniform
LL Defl inch	0.264 (L/593)	7'2 13/16"	0.326 (L/480)	0.809 (81%)	L	L
TL Defl inch	0.372 (L/421)	7'2 7/8"	0.653 (L/240)	0.570 (57%)	D+L	L

Design Notes

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



June 23, 2022

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ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 10-3-9		Near Face	134 PLF	356 PLF	0 PLF	0 PLF	
2	Part. Uniform	0-10-0 to 4-6-1		Top	20 PLF	54 PLF	0 PLF	0 PLF	
3	Point	10-11-9		Near Face	171 lb	416 lb	0 lb	0 lb	J6
4	Point	12-0-9		Near Face	153 lb	359 lb	0 lb	0 lb	J6
5	Point	13-0-9		Near Face	135 lb	320 lb	0 lb	0 lb	J6

Continued on page 2...

Notes

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Lumber

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Handling & Installation

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6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Forex
APA: PR-L318

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



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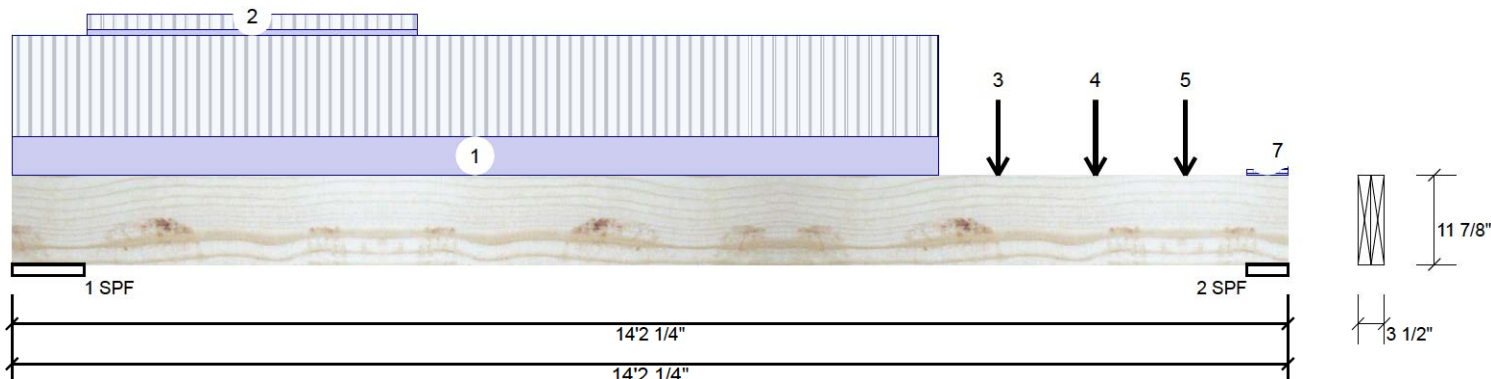
Client: GREENPARK
Project: Dec 06 2023
Address: L 1
Signature: [Handwritten Signature]
Title: CHIEF ENGINEER

Date: 5/31/2022
Input by: W C
Job Name: PENROSE 1-EL 1
Project #: ZADORRA ESTATES

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F6-A Forex 2.0E-3000Fb LVL 1.750" X 11.875" 24 Fly - PASSED Level Second Floor

MHP 23018



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Tie-In	13-8-12 to 14-2-4	0-4-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
7	Tie-In	13-9-14 to 14-2-4	0-3-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				10 PLF				



June 23, 2022

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