

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	10-00-00	9 1/2" NI-40x	1	10
J2	18-00-00	11 7/8" NI-40x	1	9
J3	16-00-00	11 7/8" NI-40x	, 1	24
J4	12-00-00	11 7/8" NI-40x	1	2
J5	10-00-00	11 7/8" NI-40x	1	12
J6	6-00-00	11 7/8" NI-40x	1	1
J7	20-00-00	11 7/8" NI-80	1	14
B1L	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B2 ~	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3 /	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5 /	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B4 ~	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B6~	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B7 -	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B8 /	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary							
Qty	Manuf	Product					
5	H1	IUS2.56/11.88					
10	H1	IUS2.56/11.88					
5	H2	IUS3.56/11.88					
1	H3	HUS1.81/10					
1	H4	HGUS410					

REFER TO THE NORDIC **INSTALLATION** GUIDE FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. CERAMIC TILE APPLICATION AS PER O.B.C. 9.30.6.

LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft<sup>2</sup> TILED AREAS: 20 lb/ft2

SUBFLOOR: 5/8" GLUED AND NAILED



FROM PLAN DATED:

**MARCH 2017** 

**BUILDER: GREENYORK HOMES** 

SITE: **OSTIENCE** 

**MODEL:** AUBURN 2

**ELEVATION: 1** 

LOT:

**CITY: BRAMPTON** 

SALESMAN: RD **DESIGNER:** LBV **REVISION:** 

**DATE:** 2017-06-06

1st FLOOR

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER, ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER, ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS □AS PER PLAN WORK□ DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION.
MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM

MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCREDULE 1 FORM
FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.
INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY
HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE
WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ
ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 30877 THROUGH DWG# TAM 30863-17 INCLUSIVE DATED 6157

SEALED STRUCTURAL COMPONENTS ONLY:

SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.

A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS, AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/160 DEEPER THAN JOIS DEPTH, SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

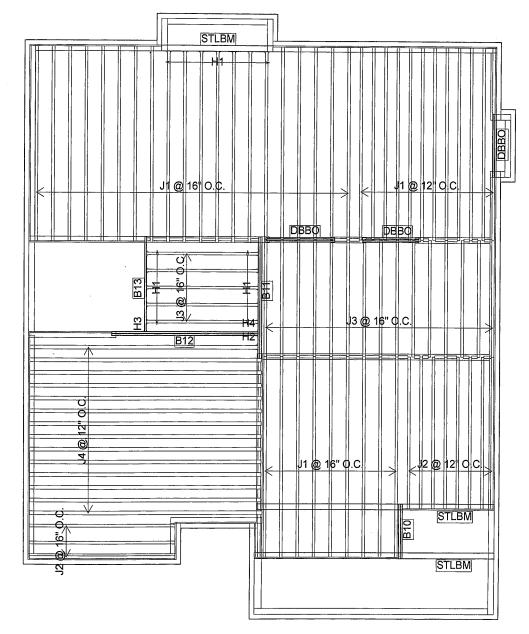
I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHATE OF ASTRICTARY REGISTERED UNDER SUBSECTION 32.5 OF THE ONTARIO BUILDING CODE TAM QUALLED A HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC

DWG # TAN BCIN: FIRM: 26064 29991 SEALED STRUCTURAL

COMPONENTS ONLY

S. KATSOULAKOS



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	11 7/8" NI-40x	1	41
J2	12-00-00	11 7/8" NI-40x	1	11
J3	10-00-00	11 7/8" NI-40x	1	20
J4	20-00-00	11 7/8" NI-80	1	14
B12 🔨	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2 ·
B11 🗸	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13 <	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10 /	6-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary							
Qty	Manuf	Product					
5	H1	IUS2.56/11.88					
5	H1	IUS2.56/11.88					
7	H1	IUS2.56/11.88					
1	H2	IUS3.56/11.88					
1	H3	HUS1.81/10					
1	H4	HGUS410					

MUILU. REFER TO THE NORDIC **INSTALLATION GUIDE** FOR PROPER STORAGE AND INSTALLATION. **SQUASH BLOCKS** OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR **HOLES** INCLUDING **DUCT CHASE** AND FIELD CUT OPENINGS SEE FIGURE 7 TABLES 1 &2 OF THE

INSTALLATION GUIDE. CERAMIC TILE

APPLICATION AS PER O.B.C. 9.30.6.

### LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft<sup>2</sup> DEAD LOAD: 20.0 lb/ft2 TILED AREAS: 20 lb/ft2

SUBFLOOR: 5/8" GLUED AND NAILED



FROM PLAN DATED:

**MARCH 2017** 

**BUILDER:** 

**GREENYORK HOMES** 

SITE: OSTIENCE

**MODEL:** AUBURN 2

**ELEVATION:** 1

LOT:

**CITY:** BRAMPTON

SALESMAN: RD **DESIGNER:** LBV **REVISION:** 

**DATE:** 2017-06-06

2nd FLOOR

61517

BCIN: 26064; FIRM: 29991

ENGINEERING ONLY - DIMENSIONS TO BE VERIFIED ON SITE SUPPORTING STRUCTURE TO BE VERIFIED BY QUALIFIED BUILDING DESIGNER. ALL CONVENTIONAL FRAMING TO BE SPECIFIED, REVIEWED, AND CONFIRMED BY BUILDING DESIGNER PRIOR TO JOIST(S) AND FLOOR BEAM(S) INSTALLATION. ALL NOTES DESIGNATING MORE OR LESS DAS PER PLAN WORKD DO NOT REPRESENT A PART OF THE SCOPE OF WORK WITHIN THE BOUNDARIES OF THE SEAL. THIS WORK IS DELEGATED TO A QUALIFIED BUILDING DESIGNER HAVING RESPONSIBILITY FOR THIS PROJECT. ALL BEAMS NOT ADDRESSED IN THIS DESCRIPTION AND LABELLED ON THIS LAYOUT ARE BEAMS SPECIFIED BY BUILDING DESIGNER AND/OR PROJECT ENGINEER AND ARE TO BE REVIEWED AND CONFIRMED BY THE SAME DESIGNER(S) PRIOR TO FABRICATION TO ENSURE ADEQUATE LOAD CAPACITY WITH RESPECT TO THE FLOOR SYSTEM COMPONENTS REVIEWED IN THIS SUBMISSION. MUNICIPALITY HAVING JURISDICTION TO OBTAIN LOT SPECIFIC SCHEDULE 1 FORM FROM THIS OFFICE PRIOR TO BUILDING PERMIT APPROVAL.

INSTALLERS OF THIS FLOOR SYSTEM AND THEIR COMPANIES HAVE THE RESPONSIBILITY OF ENSURING THEY HAVE A COPY OF THE NORDIC INSTALLATION GUIDE AND ANY OTHER MANUFACTURER'S PRODUCT LITERATURE WHICH WILL AID IN THE OVERALL PROPER INSTALLATION OF THIS FLOOR SYSTEM. INSTALLERS ARE TO READ ALL PRODUCT LITERATURE AND INSTALLATION GUIDELINES BEFORE PROCEEDING. THE SUPPLIER AND SEALING ENGINEER OF THIS FLOOR SYSTEM ARE NOT RESPONSIBLE FOR SURPLUS OR DEFICIT OF PRODUCTS AT PROJECT'S END. THIS LAYOUT IS A GUIDE ONLY. CONFIRMATION OF ALL QUANTITIES, LENGHTS, AND DETAILS REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 30872 THROUGH DWG# TAM 3087677 INCLUSIVE DATED 67577

SEALED STRUCTURAL COMPONENTS ONLY:
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED
LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PEF
PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER SUPPORTED
JOIST EXCEEDING A REACTION OF 1500 LBS (FACTORED)-SEE DETAILS.
A COMPLETE FRAMING PLAN REQUIRES THE NORDIC PUBLISHED LITERATURE, WHICH INCLUDES INSTALLATION
REQUIREMENTS, HANDLING AND STORAGE GUIDELINES, AND FORMS AN INTEGRAL PART OF THIS SEALED
DOCUMENT. INSTALL SQUASH BLOCKS FOR TRANSFERRING POINT LOADS FROM GIRDER TRUSSES, HEADERS,
AND BEAMS DOWN TO FOUNDATION COMPONENTS. FOR PROPER INSTALLATION, SEE NORDIC LITERATURE.

AND BEAMS DOWN TO FOUNDATION COMPONENTS, FOR PROPER INSTALLATION, SEE NORDIC LITERATURE. PROVIDE 2 X 4 OR 2 X 6 STUD GRADE OR BETTER SQUASH BLOCKS, MATCHING SUPPORTED WALL WIDTH ABOVE BLOCKS. INSTALL SQUASH BLOCKS ON EACH SIDE OF JOIST. BLOCKING TO BE 1/160 DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BE REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING A HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATE

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

26064 29991 BCIN: SEALED STRUCTURAL COMPONENTS ONLY



## **Schedule 1: Designer Information**

Use one form for each individual who review	vs and takes res	militaria (no la la compania de la c	CONTRACTOR OF THE PROPERTY OF	o me project.		
A. Project Information		Application	MANAGEMENT CONTRACTOR	Letter		
Building number, street name			Unit no.	Lot/con.		
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other des	•			
B. Individual who reviews and take:	s responsibili	ity for design activitie	\$			
Name	at the state of th	Firm				
SAM KATSOULAKOS, P. ENG.		MICRO CITY EN	GINEERING SERVI			
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.		
Municipality GLENCOE	Postal code N0L 1M0	Province ONTARIO	E-mail			
Telephone number (519) 287-2242 Business	Fax number (519) 287-575	0	Cell number			
C. Design activities undertaken by	,		Building Code T	able 3.5.2.1 of		
Division C	maividuai ide	nuneu in Section B. 1	Bulluling Code in	ane 3.3.2.1. 01		
	п шис	– House	⊠ Building:	Structural		
☐ House☐ Small Buildings		g Services	☐ Plumbing			
☐ Small Buildings☐ Large Buildings		on, Lighting and Power		– All Buildings		
☐ Complex Buildings		otection		ewage Systems		
Description of designer's work GREENYO						
1ST FLOOR (SCHEDULE IS NOT ISSUEI	AS LOT SPE	CIFIC)		-		
REVIEW PRÈ-ENGINEERED FLOOR SYS	TEM COMPON	ENT DRAWINGS AND LA	YOUT PLACEMEN	T PLAN SUPPLIED BY		
TAMARACK ROOF TRUSSES INC. (SEE [	DWG #TAM3088	34-17 DATED 6-15-17).		_		
SUPPORTING STRUCTURE TO BE REVI	EWED AND VEI	RIFED BY QUALIFIED BU	JILDING DESIGNER	₹.		
D. Declaration of Designer						
I, <u>SAM KATSOULAKOS, P. ENG</u>			_declare that (choos	se one as appropriate):		
(print nam I review and take responsibili C, of the Building Code. I am	ty for the desigr	n work on behalf of a firm ne firm is registered, in the	registered under sul appropriate classes	bsection 3.2.4.of Division s/categories.		
Individual BCIN:2606	64					
Firm BCIN: 2999	91					
☐ I review and take responsibilit under subsection 3.2.5.of Div Individual BCIN:	ty for the design ision C, of the B	and am qualified in the a building Code.	ppropriate category	as an "other designer"		
Basis for exemption from registration:  The design work is exempt from the registration and qualification requirements of the Building Code.  Basis for exemption from registration and qualification:						
I certify that:	-					
The information contained in this s	chedule is true	to the best of my knowled	ge.			
I have submitted this application was a submitted the						
		~	n			
Date (a)	577	Signature of Designer				

#### NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the
  Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG#TAM 3086 417-5 DWG#TAM 3086617-5

61533

### **Schedule 1: Designer Information**

Use one form for each individual who review A. Project Information	ws and takes re			the project.
Building number, street name		Application n	Harry Constitution and Committee and Committ	1 -1/-
building number, street name			Unit no.	Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other descr	iption	
B. Individual who reviews and take	s responsibil	ity for design activities		
Name	makan di Santaga Santaga mengangan kenangan dan di Santaga Santaga Santaga Santaga Santaga Santaga Santaga San	Firm		
SAM KATSOULAKOS, P. ENG.		MICRO CITY ENG	INEERING SERVI	CES INC.
Street address R.R #1, PO BOX 61			Unit no.	Lot/con.
Municipality	Postal code	Province	E-mail	
GLENCOE	NOL 1MO	ONTARIO		
Telephone number	Fax number		Cell number	
(519) 287-2242 Business	(519) 287-575			
C. Design activities undertaken by Division C]	individual ide	ntified in Section B. [B	uilding Code Ta	able 3.5.2.1. of
☐ House	☐ HVAC	– House	☑ Building S	Structural
☐ Small Buildings		g Services	☐ Plumbing	
☐ Large Buildings		on, Lighting and Power		– All Buildings
Complex Buildings		otection	☐ On-site S	ewage Systems
Description of designer's work GREENYC 2ND FLOOR (SCHEDULE IS NOT ISSUE	DAGLOT COE	<u>OSTIENSE – MODEL: AUE</u>	<u> 3URN 2 – ELEV. 1</u>	
REVIEW PRE-ENGINEERED FLOOR SYS			OUT PLACEMENT	T PLAN SUPPLIED BY
TAMARACK ROOF TRUSSES INC. (SEE I			OOTT ENGLMEN	THE WOOLT EILD BY
SUPPORTING STRUCTURE TO BE REVII	EWED AND VEI	RIFED BY QUALIFIEÓ BUIL	DING DESIGNER	₹.
D. Declaration of Designer				
I, <u>SAM KATSOULAKOS, P. ENG</u>		d	eclare that (choos	e one as appropriate):
(print nam				
I review and take responsibili C, of the Building Code. I am	ty for the desigr qualified, and th	n work on behalf of a firm requention is registered, in the a	gistered under sub ppropriate classes	section 3.2.4.of Division //categories.
				v
Individual BCIN:2606	64			
Firm BCIN: 2999	91			
☐ I review and take responsibilit			ropriate category a	as an "other designer"
under subsection 3.2.5.of Divi	sion C, of the B	uilding Code.		
Individual BCIN:				
Basis for exemption from	registration:			
☐ The design work is exempt from		on and qualification requirer	nents of the Buildi	na Code.
_	_	qualification:		
I certify that:	5			
1. The information contained in this s	chedule is true t	o the best of my knowledge		
I have submitted this application w		•		
		,		
				_
		0' ' ' ' '		
Date (s	21571	Signature of Designer	//	

#### NOTE:

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

DWG#TAM3088517-S 67577 DWG#TAM30887-17-S

## NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
BURLINGTON
June 6, 2017 15:19

PROJECT J4 1ST FLR

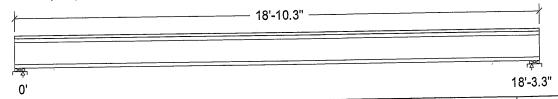
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 6.4

#### Loads:

Load	Type	Distribution Pa	at-	Location	[ft]	Magnitud		Unit
12000	71	l t	ern	Start	End	Start _	End	
Load1	Dead	Full Area				20.00		psi
Load2	Live	Full Area				40.00		psf

## Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



Unfactored: Dead	189		189
Live	377		377
Factored:			801
Total	801		
Bearing:			
Resistance			2336
Joist	2336		10829
Support	10829		10021
Des ratio			0.34
Joist	0.34		0.07
Support	0.07		#2
Load case	#2		4-3/8
Length	4-3/8	·	1-3/4
Min req'd	1-3/4		No
Stiffener	No		1.00
Kd	1.00		1.00
KB support	1.00		769
fcp sup	769		1.15
KZCD SUD	1.15		

\*Minimum bearing length for joists is 2" for exterior supports

## Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c.

Supports: All - Lumber Sill plate, No.1/No.2

Total length: 18'-10.3"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling

This section PASSES the design code check.

## Limit States Design using CSA O86-14 and Vibration Criterion:

	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Design Value	Unit	Analysis/Design
Criterion	Analysis Value	5001911	lbs	Vf/Vr = 0.33
Shear	Vf = 777	Vr = 2336		· - / ·
Moment(+)	Mf = 3548	Mr = 11609	lbs-ft	Mf/Mr = 0.31
	$0.09 = \langle L/999 \rangle$	0.61 = L/360	in	0.16
Perm. Defl'n		0.46 = L/480	lin	0.41
Live Defl'n	$0.19 = \langle L/999 \rangle$	0.10		0.31
Total Defl'n	0.28 = L/771	0.91 = L/240	in	La a La Taranta
Bare Defl'n	$0.21 = \langle L/999 \rangle$	0.61 = L/360	in or or	0.34 O.34
	10.0	Lv = 20'-6	ft	
Vibration	Timax = 0	= 0.034	i & & //	0.76
Defl'n	= 0.026	- 0.034	17910	1 Shahard 19

DWB NO. TAM 3086917
STRUCTURAL
COMPONENT ONLY

S. KATSOULAKQS

BONINCE OF ON

J4 1ST FLR

#### Nordic Sizer - Canada 6.4

Page 2

Additiona	l Data:									
	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#	
	2336	1.00	1.00	_	_	-	-	-	#2	
Mr+	11609	1.00	1.00	-	1.000	-	-	_	#2	
	J47.1	T T T T O 11		-	_	_	-	-	#2	
CRITICAL L		INATIONS	S:							
Shear	: LC #2	= 1.2	5D + 1.5I							
Moment(+	) : LC #2	= 1.2	5D + 1.5I							
Deflecti	on: LC #1									
			D + 1.0L							
			D + 1.0L							
	LC #2	= 1.0	D + 1.0L	(bare	joist)					
Bearing	: Suppo	rt 1 -	LC #2 = 3	L.25D +	1.5L					
	Suppo	rt 2 -	LC #2 = 3	L.25D +	1.5L	, ,	m			
Load Typ	es: D=dea	d W=wi	nd S=sno	ow H=e	arth, grou	ındwate	r E=ear	tnquake		
	L=liv	e(use,o	ccupancy	Ls=1	ive(stora	ige, equ	ipment)	r=rrre		
Load Pat	terns: s=	S/2 L=	L+Ls _=1	no patt	ern load	in thi	s span			
	Combinat	ions (L	Cs) are 1	listed	in the Ar	alysis	output			
CALCULATI	IONS:									
Deflecti	on: Elef	f =	613e06 l	o-in2	K= 6.18e	06 lbs				
"Live" d	eflection	= Defl	ection f	com all	non-deac	l loads	(live,	wind, s	now)	

**Design Notes:** 

CONFORMS TO OBG 2012

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



DWG NO . TAM 3086617 STRUCTURAL COMPONENT ONLY



COMPANY TAMARACK LUMBER BURLINGTON June 6, 2017 13:55 PROJECT J3 GRD FLR

### **Design Check Calculation Sheet**

Nordic Sizer - Canada 6.4

#### Loads:

1 1	Loudo:							1	
	Load	Туре	Distribution	Pat- tern	Location Start	[ft] End	Magnitude Start End	<del></del>	
	Load1 Load2	Dead Live	Full Area Full Area				20.00 40.00	psi psf	

Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):

(00)0110 (100); = 011110	•	1
<u> </u>	15'-0.4"	
4		14'-5.4"
0'		

	Ū		
Unfactored: Dead Live	200 401		200
Factored:	0.5.0		852
Total	852		
Bearing: Resistance Joist Support	2336 6726		2336 7735
Des ratio			0.36
Joist	0.36		0.11
Support	0.13		#2
Load case	#2		4-3/8
Length	4-3/8		1-3/4
Min req'd	1-3/4		No
Stiffener	No		1.00
Kd	1.00		1.00
KB support	1.00		769
fcp sup	769		1.15
Kzcp sup	1.00	for initials in 2" for exterior supports	

\*Minimum bearing length for joists is 2" for exterior supports

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

## Nordic Joist 11-7/8" NI-40x Floor joist @ 16" o.c.

Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Lumber Wall, No.1/No.2; Total length: 15'-0.4"; 5/8" nailed and glued OSB sheathing

This section PASSES the design code check.

## Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion         Analysis Value         Design         Value         Unit         Analysis/Design           Shear         Vf = 819         Vr = 2336         lbs         Vf/Vr = 0.35           Moment(+)         Mf = 2958         Mr = 6255         lbs-ft         Mf/Mr = 0.47           Perm. Defl'n         0.07 = <l 999<="" td="">         0.48 = L/360         in         0.14           Live Defl'n         0.14 = <l 999<="" td="">         0.36 = L/480         in         0.38           Total Defl'n         0.21 = L/834         0.72 = L/240         in         0.29           Bare Defl'n         0.16 = <l 999<="" td="">         0.48 = L/360         in         0.34           Vibration         Lmax = 14'-5         Lv = 17'-2         ft         XATSOULAKOS         57           Defl'n         0.026         = 0.046         in         0.48         XATSOULAKOS         57</l></l></l>	Limit States Design using CoA Coo-14 and Visitation										
Perm. Bell in Live Defl'n $0.14 = \langle L/999 \rangle$ $0.36 = L/480 \rangle$ in $0.72 = L/240 \rangle$ $0.16 = \langle L/999 \rangle$ $0.48 = L/360 \rangle$ in $0.16 = \langle L/999 \rangle$ Lw = $17'-2 \rangle$ Lw = $17'-2 \rangle$ $0.38 \rangle$ (MATSOULAKOS $0.38 \rangle$ $0.38 \rangle$ $0.36 \rangle$	Criterion Shear Moment(+)	Analysis Value Vf = 819 Mf = 2958	Design Value Vr = 2336 Mr = 6255	lbs lbs-ft	$\frac{Mf/Mr}{OFESSION} = 0.47$						
Vibration $L_{\text{max}} = 14'-5$ $L_{\text{V}} = 17'-2$ ft $L_{\text{V}} = 17'-2$ $L_{\text{V}} = 17'-$	Live Defl'n Total Defl'n	$0.14 = \langle L/999 \\ 0.21 = L/834$	0.36 = L/480 0.72 = L/240 0.48 = L/360	in S	61512 60.38						
	Vibration	Lmax = 14'-5	1 7 7 7	in Q	S. KATSOULAKOS 5.57						

WO NO . TAM 30869-1 STRUCTURAL COMPONENT ONLY

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J3 GRD FLR

### Nordic Sizer - Canada 6.4

Page 2

Additional					TZT	r/m	KS	KN	LC#	
FACTORS:	f/E	KD	KH		KL	KT		-	#2	
Vr	2336	1.00	1.00	_	-	-	· -		#2	
Mr+	6255	1.00	1.00	_	1.000	-	-	_	#2	
EI	371.1 m		_	-	-	-	_	-	# 4	
CRITICAL LO			S:				-			
Chear	: LC #2	= 1.2	5D + 1.5I	_						
Momont (+	) : LC #2	= 1.2	5D + 1.5I							
Dofforti	on: LC #1	= 1.0	D (perma	anent)						
Derrecti	T.C #2	= 1.0	D + 1.0L	(live	:)					
	T.C #2	= 1.0	D + 1.0L	(tota	1)					
	IC #2	= 1 0	D + 1.0L	(bare	oist)					
Desardona	LC #2	- 1.0 rt 1 -	LC #2 = 1	1.25D +	1.5L					
Bearing	Curro	x+ 2 -	IC #2 = 1	1.25D +	- 1.5L					
T 1	D-doo	d M-1.71	nd S=sno	ow H=∈	earth, grou	undwate	r E=ear	cthquake	<u> </u>	
Load Typ	es: D-dea	.u w-wi	ccupancy	Ls=1	ive(stor	age,equ	ipment)	f=fire	<del>)</del>	
	terns: s=	c (2 T –	TTT = =	no natt	ern load	in thi	.s span			
Load Pat	terns: s= Combinat	5/2 11	Ca/ 220	lieted	in the A	nalvsis	output			
All Load	Combinat	ions (L	CS) are .	TISCEA	111 0110 11				4	
CALCULATI	IONS:				v_ 6 10	-06 1hs	:			
Deflecti	on: Elef	f =	448eU6 1	o-⊥n∠	N- 0.10	d loads	: (live.	wind, s	snow)	
"Live" d	on: Elei leflectior	n = Defl	ection i	rom all	L Mon-dea	u roaus				_
										n (

**Design Notes:** 

CONFORMS TO OBC 2012

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

ROVINCE OF OF DWG NO . TAM 3086217 STRUCTURAL

COMPONENT ONLY

## NORDIC STRUCTURES

COMPANY TAMARACK LUMBER BURLINGTON June 6, 2017 13:54 PROJECT J7 GRD FLR

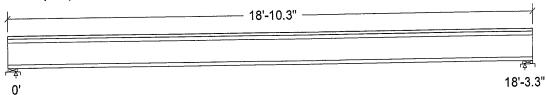
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 6.4

### Loads:

Load	Туре	Distribution 1	Pat- tern	Location Start	[ft] End	Magnitud Start	e End	Unit
			CCLII	Deare		20.00		psf
Load1	Dead	Full Area				40.00	1.	psf
Load2	Live	Full Area				40.00		PUI

## Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



Unfactored: Dead Live	189 377		189 377
Factored:		·	801
Total	801		
Bearing:			
Resistance			2336
Joist	2336		9417
Support	9417		
Des ratio			0.34
Joist	0.34		0.09
Support	0.09		#2
Load case	#2		4-3/8
Length	4-3/8		1-3/4
Min req'd	1-3/4		No
Stiffener	No		1.00
Kd	1.00		1.00
KB support	1.00		769
fcp sup	769		1.00
Kzcp sup	1.00		

\*Minimum bearing length for joists is 2" for exterior supports

## Nordic Joist 11-7/8" NI-80 Floor joist @ 12" o.c.

Supports: All - Lumber Sill plate, No.1/No.2

Total length: 18'-10.3"; 5/8" nailed and glued OSB sheathing

This section PASSES the design code check.

## Limit States Design using CSA O86-14 and Vibration Criterion:

Limit Otatoo Dooig domg											
Criterion	Analysis Value	Design Value	Unit	Analysis/Design							
Criterion			lbs	Vf/Vr = 0.33							
Shear	Vf = 777	• =									
Moment(+)	Mf = 3548	Mr = 11609	lbs-ft	Mf/Mr = 0.31							
	111	0.61 = L/360	in	0.16							
Perm. Defl'n		0.02		0.41							
Live Defl'n	$0.19 = \langle L/999$	0.46 = L/480	in	15 CE S S 10 18. W.							
	1	0.91 = L/240	l in 🖋	0.31							
Total Defl'n	0.28 = L/771		#	K 34							
Bare Defl'n	$0.21 = \langle L/999$	0.61 = L/360	in 🎻	(1572) Ego. 34							
	1010	Lv = 19'-11	ft /g								
Vibration	Lmax = 18'-3		130	201							
Defl'n	= 0.028	= 0.034	in is	fr. 81							
DETT II		L	1/3	A MATCOLLIAKOS MIL							
			3 460	S KAISOULANOO SO I							

DWO NO . TAM 30670-17 STRUCTURAL COMPONENT ONLY

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#### Nordic Sizer - Canada 6.4

Page 2

Additional	Data:							7/37	LC#		
FACTORS:	f/E	KD	KH	ΚZ	KL	KT	KS	KN			
Vr	2336	1.00	1.00	-	-	-	-	_	#2		
Mr+	11609	1.00	1.00	-	1.000	-	-	-	#2		
ET	547.1 m	illion	-		_		_	-	#2		
CRITICAL LO	OAD COMB	INATIONS	S:								
	: LC #2		5D + 1.51	J							
Momont /+	) : LC #2										
Doflocti	on: LC #1	= 1.01	D (perma	nent)							
Derrecti	JH. EC #2	= 1 01	D + 1.0L	(live	: )						
	TC #2	= 1 01	D + 1.0L	(tota	1)						
	IC #2	= 1.01	D + 1.0L	(bare	ioist)						
D	_	r+ 1 - 1	LC #2 = 3	1.25D +	1.5L						
Bearing	. Suppo	rt 2 -	LC #2 = 1	1.25D +	- 1.5L						
		d M-wi	nd Segn	ow H=e	earth, grou	indwate	r E=ear	thquake			
Load Typ	es: D=dea	a /1160 0	acunanay	yw n c N T.s=l	ive(stora	ae,eau	ipment)	f=fire			
_ , _ ,	terns: s=	e (use, o	ccupancy	no patt	ern load	in thi	s span				
Load Pat	terns: s= Combinat	:5/2 L	гтгэ:	lietad	in the Ar	alvsis	output				
		lons (L	CS) are	TISCEC	III CIIC III	14115-0					
CALCULATIONS:											
Deflection: EIeff = 613e06 lb-in2 K= 6.18e06 lbs  "Live" deflection = Deflection from all non-dead loads (live, wind, snow)											
"Live" d	eflection	r = Deil	ection I	rom arı	_ non-dead	1 10005	\				
										20000	012

### **Design Notes:**

CONFORMS TO OBG 2012

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.



## NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
BURLINGTON
June 6, 2017 13:53

PROJECT J2 GRD FLR

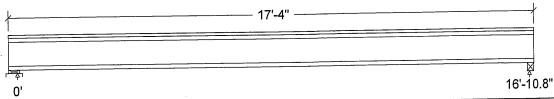
### **Design Check Calculation Sheet**

Nordic Sizer - Canada 6.4

### Loads:

Load	Type	Distribution	Pat-	Location	[ft]	Magnitu	de	Unit
Load	1 1 1 1 1		tern	Start	End	Start_	End	
Load1	Dead	Full Area				20.00		psf
Load2	Live	Full Area				40.00		psf

## Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



Unfactored: Dead Live	175 350	172 344
Factored:   Total	743	730
Bearing:		
Resistance Joist Support	2336 6726	2135 -
Des ratio Joist	0.32	0.34
Support	0.11	#2
Load case	#2	#4 2-5/8
Length	4-3/8	1-3/4
Min req'd	1-3/4	No
Stiffener	No	1.00
Kd	1.00	
KB support	1.00	_
fcp sup	769	_
Kzcp sup	1.00	

\*Minimum bearing length for joists is 2" for exterior supports

Nordic Joist 11-7/8" NI-40x Floor joist @ 12" o.c.

Supports: 1 - Lumber Sill plate, No.1/No.2; 2 - Steel Beam, W; Total length: 17'-4.0"; 5/8" nailed and glued OSB sheathing This section PASSES the design code check.

### Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 718	Vr = 2336	lbs	Vf/Vr = 0.31
	Mf = 3034	Mr = 6255	lbs-ft	Mf/Mr = 0.49
Moment(+) Perm. Defl'n	$0.10 = \langle L/999 \rangle$	0.56 = L/360	in	0.17
	$0.10 = \langle L/999 \rangle$	0.42 = L/480	in	SEESSIDA 0.45
Live Defl'n	$0.19 = \frac{1}{10000000000000000000000000000000000$	0.84 = L/240	in do	0.34
Total Defl'n	0.29 = L/922	0.56 = L/360	in /o	61512 160.39
Bare Defl'n	161 11	$L_{V} = 18'-4$	ft /5/	61511
Vibration	Lmax = 16'-11 $= 0.029$	= 0.037	in la	FO. 78
Defl'n	_ = 0.029	0.037	1000	KATSOULAKOS 3
			13 3	. 1011 90

DWO NO.TAM 30671.15 STRUCTURAL COMPONENT ONLY

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#### Nordic Sizer - Canada 6.4

Page 2

<b>Additional</b>	Data:					*				
FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN		
Vr	2336	1.00	1.00	-	_	-	-	-	#2	
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#2	
ΕI	371.1 m	illion	-	_	-	-	-	-	#2	
CRITICAL LC										
Shear										
Moment(+)										
Deflectio										
			D + 1.0L							
	LC #2	= 1.0	D + 1.0L	(tota	1)					
			D + 1.0L							
Bearing										
	Suppo	rt 2 - 1	LC #2 = 1	L.25D +	1.5L		_			
Load Type	es: D=dea	d W=wi:	nd S=sno	ow H=e	arth,grou	ındwate:	r E=ear	thquake		-
					ive(stora			r=rire		
Load Patt	erns: s=	S/2 L=	L+Ls _=r	no patt	ern load	in thi	s span			
All Load	Combinat	ions (L	Cs) are 1	Listed	in the Ar	nalysis	output			
CALCULATIO	ONS:									
Deflectio	n: Elef	f =	433e06 lk	o-in2	K= 6.18€	e06 lbs				
"Live" de	eflection	= Defl	ection fi	com all	non-dead	l loads	(live,	wind, sr	now)	

**Design Notes:** 

CONFORMS TO OBC 2012

- 1. WoodWorks analysis and design are in accordance with the 2010 National Building Code of Canada (NBC Part 4) and the CSA O86-14 Engineering Design in Wood standard (May 2014 edition).
- 2. Please verify that the default deflection limits are appropriate for your application.
- 3. Refer to technical documentation for installation guidelines and construction details.
- 4. Nordic I-joists are listed in CCMC evaluation report 13032-R.
- 5. Joists shall be laterally supported at supports and continuously along the compression edge.
- 6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component based on the design criteria and loadings shown.

S. KATSOULAKOS ST.

DWO NO . TAM 3067/17 STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B12(i2363)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:02

BC CALC® Design Report

**Build 5033** Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

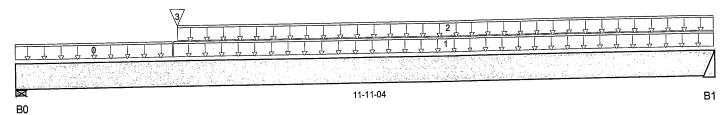
File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B12(i2363)

Specifier:

Designer: Company:

Misc:



Total Horizontal Product Length = 11-11-04

Reaction Summary (Dov	vn / Uplift) (lbs) Live	De ad	Snow	Wind	
B0, 3-15/16"	851/0	515/0			
B1	408/0	279/0			

Load Summary  Tag Description Load Type Ref. S	Start End	1.00	0.65	1.00	1.15	
O         FC3 Floor Material         Unf. Lin. (lb/ft)         L         00           1         FC3 Floor Material         Unf. Lin. (lb/ft)         L         02           2         FC3 Floor Material         Unf. Lin. (lb/ft)         L         02	00-00-00 02-08-00 02-08-00 11-11-04 02-08-14 11-11-04 02-08-14 02-08-14	21 19	12 11 9 434			n/a n/a n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
	4.505 ft-lbs	38,727 ft-lbs	11.6%	1	02-08-14
Pos. Moment	1,834 lbs	14,464 lbs	12.7%	1	01-03-13
End Shear	L/999 (0.072")	•	n/a	4	05-07-09
Total Load Defl.	L/999 (0.044")	n/a	n/a	5	05-07-09
Live Load Defl.	•	n/a	n/a	4	05-07-09
Max Defl.	0.072"		n/a	•	00-00-00
Span / Depth	11.7	n/a	IVA		00 00 11

	4-	Dim . (L x W)	De man d	De man d/ Re sistance Support	Resistance Member	Material
Bearing Sup B0 Wall/P B1 Hange	late	3-15/16" x 3-1/2 2" x 3-1/2"		26.2% n/a	11.5% 11.2%	Unspecified HGUS410

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA CONFORMS TO OBC 2012

Design based on Dry Service Condition. Importance Factor: Normal Part code: Part 9



DWG NO . TAM 30872-17 STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B12(i2363)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:02

BC CALC® Design Report



**Build 5033** Job Name:

Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

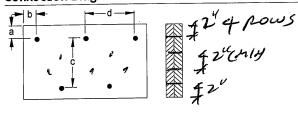
File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B12(i236

Specifier: Designer: Company.

Misc:

**Connection Diagram** 



a minimum = 2"

c = 7-7/8"

b minimum = 3"

Calculated Side Load = 149.1 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

ARDOX SPIRAL

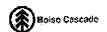
#### Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWO NO . TAN 3087217 STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B11(i2327)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:04

Trib

BC CALC® Design Report



Build 5033

Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl

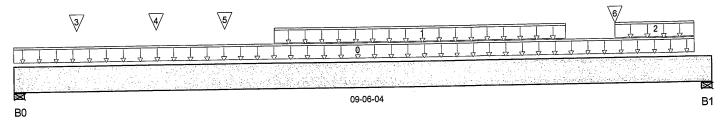
Description: Designs\Flush Beams\1st Floor\Flush Beams\B11(i2327)

Specifier:

Designer:

Company.

Misc:



Total Horizontal Product Length = 09-06-04

Reaction Summary (Down /	Uplift) (lbs) Live	De ad	Snow	Wind	
B0, 4-1/4"	1,227 / 0	732/0			
B1. 5-1/2"	876/0	510/0			

					Live	Dead	Snow Wir	id itib.
	ad Summary  Description	Load Type	Ref. Start	En d	1.00	0.65	1.00 1.1	
0 1 2 3 4	FC3 Floor Material Smoothed Load FC3 Floor Material J4(i2325) B11(i2363)	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 00-00-00 L 03-06-04 L 08-02-04 L 00-10-04 L 01-11-01	09-03-08 07-06-04 09-03-08 00-10-04 01-11-01 02-10-04	188 35 390 412	5 95 17 195 281 107		n/a n/a n/a n/a n/a n/a
5 6	J3(i2368) J3(i2378)	Conc. Pt. (lbs) Conc. Pt. (lbs)	L 02-10-04 L 08-02-04	08-02-04		105		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,870 ft-lbs	38,727 ft-lbs	12.6%	1	04-02-04
End Shear	2.299 lbs	14.464 lbs	15.9%	1	01-04-02
Total Load Defl.	L/999 (0.05")	n/a	n/a	4	04-08-04
Live Load Defl.	<u>∠</u> /999 (0.031")		n/a	5	04-08-04
	0.05"	n/a	n/a	4	04-08-04
Max Defl. Span / Depth	8.9	n/a	n/a		00-00-00

Poorin	g Supports	Dim.(L x W)	De man d	De man d/ Re s istance Support	De mand/ Resistance Member	Material
B0	Wall/Plate Wall/Plate	4-1/4" x 3-1/2" 5-1/2" x 3-1/2"	2,756 lbs 1,952 lbs	34.7% 19%	15.2% 8.3%	Un specified Un specified



STRUCTURAL COMPONENT ONLY

Notes



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B11(i2327)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:04

BC CALC® Design Report **Build 5033** 

File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B11(i232

Specifier:

Designer: Company:

Customer: Code reports:

Job Name:

Address:

CCMC 12472-R

Misc:

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA CONFORMS TO OBC 2012

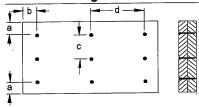
O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

City, Province, Postal Code:,

#### Connection Diagram



a minimum = 2" c = 3-15/16" ij  $b \min = 3$ "

Calculated Side Load = 451.7 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 16d 5 Nails

'ARDOX SPIRAL

#### Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWO NO . TAM 30873.17 STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B10(i2385)



Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 16:12:59

BC CALC® Design Report

Build 5033 Job Name:

Address: City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl

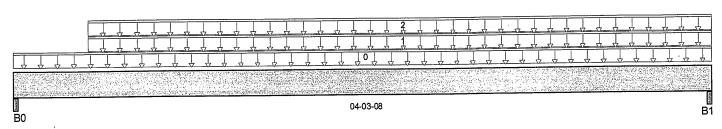
Description: Designs\Flush Beams\1st Floor\Flush Beams\B10(i2385)

Specifier:

Designer: LBV

Company:

Misc:



Total Horizontal Product Length = 04-03-08

Reaction Summary (D	own / Uplift) (lbs) Live	De ad	Snow	Wind	
B0, 5-1/2"	217/0	428/0	410/0		
B1. 5-1/2"	223/0	434/0	421/0		

L 1 C		,		Live	Dead	Snow Wind	Trib.
Load Summary Tag Description	Load Type	Ref. Start	En d	1.00	0.65	1.00 1.15	
0 WALL	Unf. Lin. (lb/ft)	L 00-00-00	04-03-08	83	175	173	n/a
1 LOWROOF	Unf. Lin. (lb/ft)	L 00-05-08	04-03-08	11	10	23	n/a
2 FC3 Floor Material	Unf. Lin. (lb/ft)	L 00-05-08	04-03-08	10	5		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	916 ft-lbs	38,727 ft-lbs	2.4%	13	02-01-12
End Shear	418 lbs	14,464 lbs	2.9%	13	01-05-06
Total Load Defl.	L/999 (0.002")	n/a	n/a	45	02-01-12
Live Load Defl.	L/999 (0.001")	n/a	n/a	61	02-01-12
Max Defl.	0.002"	n/a	n/a	45	02-01-12
Span / Depth	3.5	n/a	n/a		00-00-00

				De mand/ Resistance		
Beari	ng Supports	Dim.(LxW)	Demand	Support	Member	Material
B0	Beam	5-1/2" x 3-1/2"	1,259 lbs	12.2%	5.4%	Unspecified
B1	Beam	5-1/2" x 3-1/2"	1,284 lbs	12.5%	5.5%	Unspecified

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA CONFORMS TO OBC 2012 O86.

Unbalanced snow loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



DWG NO . TAM 3087 STRUCTURAL COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B10(i2385)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 16:12:59

BC CALC® Design Report

\*

Build 5033

Job Name: Address:

City, Province, Postal Code:BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B10(i238

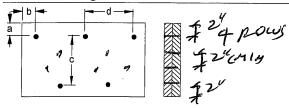
Specifier:

Designer: LBV

Company.

Misc:

#### **Connection Diagram**



a minimum = 2" c = 7-7/8" b minimum = 3" d = 6

Member has no side loads. Connectors are: 16d April Nails

3½" ARDOX SPIRAL

#### Disclosure

Completeness and accuracy of input must be verified by anyone w ho w ould rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance w ith current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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STRUGTURAL COMPONENT ONLY



## Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B13(i2336)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:10

BC CALC® Design Report

Build 5033 Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

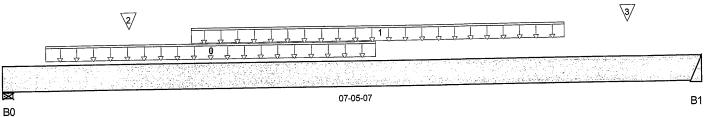
File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B13(i2336)

Specifier:

Designer: Company:

Misc:



Total Horizontal Product Lengt	h = 07-05-07
--------------------------------	--------------

Reaction Summary (Dov	vn / Uplift) (lbs) Live	De ad	Snow	Wind	
B0, 5-1/2"	1,203/0	626/0			
B1	834/0	439/0			

				Live	Dead	Snow	Wind	Trib.
Load Summa Tag Descriptio	Load Type	Ref. Start	En d	1.00	0.65	1.00	1.15	
0 Us er Load 1 Smoothed 2 J3 (i2378) 3 J3 (i2368)	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 00-05-08 L 02-00-00 L 01-04-00 L 06-08-00	03-11-08 06-00-00 01-04-00 06-08-00	188 227	120 94 114 106			n/a n/a n/a n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,123 ft-lbs	19,364 ft-lbs	21.3%	1	03-05-11
End Shear	2,016 lbs	7,232 lbs	27.9%	1	01-05-06
	L/999 (0.051")	n/a	n/a	6	03-09-09
Total Load Defl.	L/999 (0.033")	n/a	n/a	8	03-09-09
Live Load Defl.	0.051"	n/a	n/a	6	03-09-09
Max Defl.	0.051	n/a	n/a	_	00-00-00
Span / Depth	1	11/a	IIIa		••••

D. aul	- « Supporto	Dim . (L x W)	Demand	De mand/ Re sistance Support	De mand/ Resistance Member	Material
B0 B1	n <b>g Supports</b> Wall/Plate Hanger	5-1/2" x 1-3/4" 2" x 1-3/4"	2,588 lbs 1,799 lbs	50.4% n/a	22% 42.1%	Unspecified HUS1.81/10

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA CONFORMS TO OBG 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

#### Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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### Boise Cascade Single 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B1L(i2297)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:11

Build 5033

Job Name:

Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B1L(i2297

Specifier:

Designer:

Company.

Misc:

1 1 1 1 1 1 1 1 1 1 1 1		
		<del>, , , , , , , , , , , , , , , , , , , </del>
		1961, 1960, 1961, 1961, 1961, 1962, 1963, 1964 22 20 1961, 1961, 1961, 1964, 1965, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1964, 1
⊴ .	09-07-12	E C

Total Horizontal Product Length = 09-07-12

Reaction Summary (Down / Uplift) (lbs)							
Be aring	Live	De ad	Snow	Wind			
B0, 5-1/2"	68 / 0	347/0					
B1, 5-1/2"	68 / 0	347/0					

Lo	ad Summary			Live	e Dead	Snow Wind	Trib.
	g Description	Load Type	Ref. Start	En d 1.00	0.65	1.00 1.15	
ō	Us er Load	Unf. Lin. (lb/ft)	L 00-00-00	09-07-12	60		n/a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L 00-00-00	09-07-12 14	7		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	986 ft-1bs	8,258 ft-lbs	11.9%	0	04-09-14
End Shear	360 lbs	3,761 lbs	9.6%	0	01-03-00
Total Load Defl.	L/999 (0.048")	n/a	n/a	4	04-09-14
Live Load Defl.	L/999 (0.008")	n/a	n/a	5	04-09-14
Max Defl.	0.048"	n/a	n/a	4	04-09-14
Span / Depth	11.2	n/a	n/a		00-00-00

					Demand/ Resistance	MR - 4 - via I
Beari	ng Supports	Dim . (L x W)	Demand	Support	Member	Material
B0	Wall/Plate	5-1/2" x 1-3/4"	485 lbs	14.5%	6.4%	Unspecified
B1	Wall/Plate	5-1/2" x 1-3/4"	485 lbs	14.5%	6.4%	Unspecified

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

CONFORMS TO OBC 2012

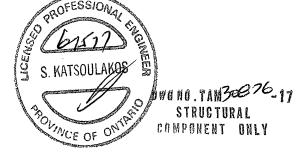
Design based on Dry Service Condition.

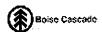
Importance Factor: Normal Part code: Part 9

#### Disclosure

Completeness and accuracy of input must be verified by anyone w ho w ould rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance w ith current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\...\B7(i2353)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:13

BC CALC® Design Report

\*

Build 5033

Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

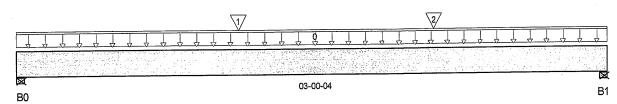
File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B7(i2353)

Specifier:

Designer: Company.

Misc:



Total Horizontal Product Length = 03-00-04

Reaction Summary	(Down / Uplift) ( lbs ) Live	De ad	Snow	Wind	
B0, 3-1/2"	760/0	524/0			
B1, 2-3/4"	780/0	528/0			

Land Commons			Li	ive	Dead	Snow Wind	Trib.
Load Summary Tag Description	Load Type	Ref. Start	End 1.	.00	0.65	1.00 1.15	
0 E12(i846)	Unf. Lin. (lb/ft)	L 00-00-00	03-00-04 30	08	235		n/a
1 J3(i2332)	Conc. Pt. (lbs)	L 01-01-08	01-01-08 3	05	153		n/a
2 .13(i2344)	Conc. Pt. (lbs)	L 02-01-08	02-01-08 3	05	153		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,192 ft-lbs	38,727 ft-lbs	3.1%	1	01-05-12
End Shear	1.453 lbs	14,464 lbs	10%	1	01-03-06
Total Load Defl.	L/999 (0.001")	n/a	n/a	4	01-06-08
Live Load Defl.	L/999 (0.001")	n/a	n/a	. 5	01-06-08
Max Defl.	0.001"	n/a	n/a	4	01-06-08
Span / Depth	2.7	n/a	n/a		00-00-00

				De man d/	De mand/		
				Resistance	Resistance		
Beau	ring Supports	Dim . (L x W)	De m an d	Support	Member	Material	
B0	Wall/Plate	3-1/2" x 3-1/2"	1,795 lbs	27.4%	12%	Unspecified	
B1	Wall/Plate	2-3/4" x 3-1/2"	1,831 lbs	35.6%	15.6%	Unspecified	

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA 086.

CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



DWG NO. TAM 30677.17
STRUCTURAL
COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\...\B7(i2353)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:13

BC CALC® Design Report

File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B7(i235)

Specifier: Designer:

Company. Misc:

City, Province, Postal Code:, Customer:

**Build 5033** 

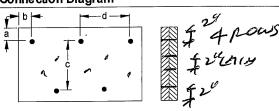
Job Name:

Address:

Code reports:

CCMC 12472-R

### Connection Diagram



a minimum = 2" b minimum = 3" c = 7-7/8" d = 2

Calculated Side Load = 429.5 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 16d Composition Nails

ARDOX SPIRAL

#### Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWG NO . TAM 30672.19 STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\...\B5(i2313)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:15

BC CALC® Design Report



CCMC 12472-R

Build 5033

Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

•

File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B5(i2313)

Specifier: Designer: Company.

Misc:

2/		
	, , , , , , , , , , , , , , , , , , , ,	4 4 4 4 4 4
B0	09-07-04	. В1

Total Horizontal Product Length = 09-07-04

Reaction Summary (Down / Uplift) ( lbs )							
Bearing	Live	De ad	Snow	Wind			
B0, 5-1/2"	1,412 / 0	784/0					
B1 <sup>°</sup>	298/0	207/0					

Lood Cummons			1	Live	Dead	Snow Wind	Trib.
Load Summary Tag Description	Load Type	Ref. Start	End '	1.00	0.65	1.00 1.15	
0 FC1 Floor Material	Unf. Lin. (lb/ft)	L 00-00-00	01-03-00	17	9 .	•	n/a
1 FC1 Floor Material	Unf. Lin. (lb/ft)	L 01-03-00	09-07-04	33	17		n/a
2 B4(i2365)	Conc. Pt. (lbs)	L 01-03-14	01-03-14	1,411	726		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,836 ft-lbs	38,727 ft-lbs	7.3%	1	01-05-06
End Shear	2.678 lbs	14,464 lbs	18.5%	1	01-05-06
Total Load Defl.	L/999 (0.028")	n/a	n/a	· 4	04-06-02
Live Load Defl.	L/999 (0.017")	n/a	n/a	5	04-06-02
Max Defl.	0.028"	n/a	n/a	4	04-06-02
Span / Depth	9.2	n/a	n/a		00-00-00

				Demand/ Resistance	Demand/ Resistance	
Beari	ing Supports	Dim . (L x W)	Demand	Support	Member	Material
B0	Wall/Plate	5-1/2" x 3-1/2"	3,099 lbs	30.1%	13.2%	Unspecified
B1	Hanger	2" x 3-1/2"	707 lbs	n/a	8.3%	HGUS410

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

O86.

CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



DWG NO.TAM 300017 STRUCTURAL COMPONENT ONLY

Page 1 of 2



#### Basment\...\B5(i2313) Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:15

BC CALC® Design Report

**Build 5033** 

Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

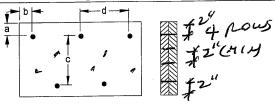
File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B5(i231)

Specifier: Designer: Company:

Misc:

Connection Diagram



a minimum = 2" b minimum = 3" c = 7-7/8"

Calculated Side Load = 314.9 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 16d & Nails

312" ARDOX SPIRAL

#### Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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STOVINCE OF ONTE

DWG NO. TAN 3087817 STRUCTURAL COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\...\B6(i2326)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:18

BC CALC® Design Report



Build 5033 Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

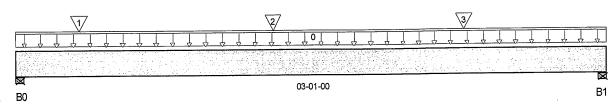
File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B6(i2326)

Specifier:

Designer: Company:

Misc:



Total Horizontal Product Length = 03-01-00

Reaction Summary (	Down / Uplift) ( lbs ) Live	De ad	Snow	Wind	
B0, 3-1/2"	606/0	446/0			
B1, 3-1/2"	<del>44</del> 1/0	363/0			

Lood Summon			Live	Dead	Snow Wind	Trib.
Load Summary Tag Description	Load Type	Ref. Start	En d 1.00	0.65	1.00 1.15	
0 E7(i851)	Unf. Lin. (lb/ft)	L 00-00-00	03-01-00	81		n/a
1 J2(i2316)	Conc. Pt. (lbs)	L 00-04-00	00-04-00 349	174		n/a
2 J2(i2359)	Conc. Pt. (lbs)	L 01-04-00	01-04-00 349	174		n/a
3 J2(i2335)	Conc. Pt. (lbs)	L 02-04-00	02-04-00 349	174		n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	779 ft-1bs	38,727 ft-lbs	2%	1	01-04-00
End Shear	608 lbs	14,464 lbs	4.2%	1	01-03-06
Total Load Defl.	L/999 (0.001")	n/a	n/a	4	01-06-07
Live Load Defl.	L/999 (0")	n/a	n/a	5	01-06-07
Max Defl.	0.001"	n/a	n/a	4	01-06-07
Span / Depth	2.7	n/a	n/a		00-00-00

				Resistance	Resistance	
Bear	ing Supports	Dim . (L x W)	Demand	Support	Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	1,467 lbs	22.4%	9.8%	Unspecified
B1	Wall/Plate	3-1/2" x 3-1/2"	1,114 lbs	17%	7.5%	Unspecified

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



DWG NO.TAM3097917 STRUCTURAL COMPONENT ONLY



#### Basment\...\B6(i2326) Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:18

BC CALC® Design Report

**Build 5033** 

Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl

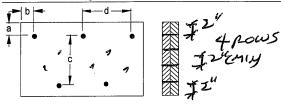
Description: Designs\Flush Beams\Basment\Flush Beams\B6(i232)

Specifier: Designer:

Company.

Misc:

### Connection Diagram



a minimum = 2"

c = 7-7/8"

b minimum = 3"

#### Calculated Side Load = 721.0 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

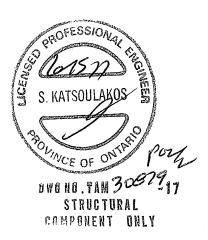
Connectors are: 16d 🚀 🔗 Nails

ARDOX SPIRAL

#### Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered w ood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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# Boise Cascade Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B2(i2239)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:21

Build 5033

Job Name:

Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl

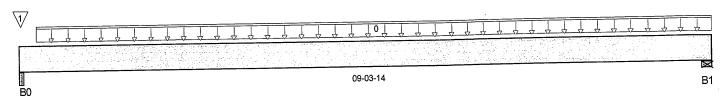
Description: Designs\Flush Beams\Basment\Flush Beams\B2(i2239)

Specifier:

Designer:

Company:

Misc:



#### Total Horizontal Product Length = 09-03-14

Reaction Summary (Down	/ Uplift) (lbs) Live	De ad	Snow	Wind	
B0, 2-5/8"	144/0	111/0			
B1, 4-3/8"	114/0	86 / 0			

				Live	Dead	Snow Wind	Trib.
Load Summary	Load Type	Ref. Start	En d	1.00	0.65	1.00 1.15	
Tag Description		L 00-02-12	09-03-14	24	12		n/a
0 FC1 Floor Material	Unf. Lin. (lb/ft)	_ 00 0=					n/a
1 14(i888)	Conc. Pt. (lbs)	L 00-00-04	00-00-04	39	31		11/4

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	578 ft-lbs	19,364 ft-lbs	3%	1	04-07-01
End Shear	249 lbs	7,232 lbs	3.4%	1	01-02-08
	L/999 (0.012")	n/a	n/a	4	04-07-01
Total Load Defl.	L/999 (0.007")	n/a	n/a	5	04-07-01
Live Load Defl.	0.012"	n/a	n/a	4	04-07-01
Max Defl. Span / Depth	9	n/a	n/a		00-00-00

De evin	a Supports	Dim . (L x W)	Demand	De man d/ Re sistance Su pport	De mand/ Re sistance Me mbe r	Material
B0 B1	n <b>g Supports</b> Beam Wall/Plate	2-5/8" x 1-3/4" 4-3/8" x 1-3/4"	356 lbs 279 lbs	14.5% 6.8%	6.3% 3%	Unspecified Unspecified

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

#### Disclosure

Completeness and accuracy of input must be verified by anyone w ho would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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DWO NO . TAM 3 STRUCTURAL COMPONENT ONLY



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\...\B3(i2340)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:22

BC CALC® Design Report

\*

CCMC 12472-R

Build 5033 Job Name:

Address:

City, Province, Postal Code:,

Customer:

Code reports:

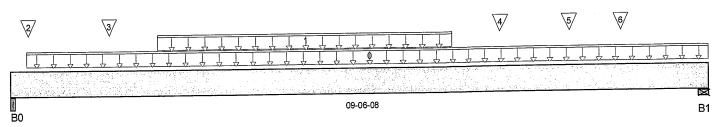
File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B3(i2340)

Specifier:

Designer: Company:

Misc:



Total Horizontal Product Length = 09-06-08

Reaction Summary (Down / Uplift) (lbs)									
Be aring	Live	Dead	Snow	vviii u					
B0, 5-1/4"	1,212/0	713/0							
B1, 4-3/8"	1,058 / 0	632/0							

	ad Summary Description	Load Type	Re f	. Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	09-06-08	15	7			n/a
-	Smoothed Load	Unf. Lin. (lb/ft)	L	02-00-02	06-00-02	170	85			n/a
2	13(i889)	Conc. Pt. (lbs)	L	00-02-14	00-02-14	362	221			n/a
2	,	Conc. Pt. (lbs)	ı	01-04-02	01-04-02	266	133			n/a
3	J5(i2248)	Conc. Pt. (lbs)	_	06-08-02	06-08-02	195	97			n/a
4	J5(i2249)			07-07-10	07-07-10		203			n/a
5	B5 (i2313)	Conc. Pt. (lbs)		• • • • • • • • • • • • • • • • • • • •	08-04-02		167			n/a
6	J7(i2358)	Conc. Pt. (lbs)	L	08-04-02	00-04-02	333	107			11144

	Factored	Factored Resistance	Demand / Resistance	Load Case	Location
Controls Summary	Demand			1	05-04-02
Pos. Moment	4,575 ft-lbs	38,727 ft-lbs	11.8%		••••
End Shear	2.199 lbs	14,464 lbs	15.2%	1	08-02-04
Total Load Defl.	L/999 (0.048")	n/a	n/a	4	04-10-02
Live Load Defl.	L/999 (0.03")	n/a	n/a	5	04-10-02
	0.048"	n/a	n/a	4	04-10-02
Max Defl.	7.7				00-00-00
Span / Depth	9	n/a	n/a		00-00-00

				De mand/ Resistance		
Beari	ng Supports	Dim . (L x W)	Demand	Support	Member	Material
B0	Beam	5-1/4" x 3-1/2"	2,710 lbs	27.6%	12.1%	Unspecified
B1	Wall/Plate	4-3/8" x 3-1/2"	2,377 lbs	29.1%	12.7%	Unspecified

Notes



DWO NO .TAM 300/17 STRUGTURAL COMPONENT ONLY



#### Basment\...\B3(i2340) Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:22

BC CALC® Design Report

File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B3(i234

Specifier: Designer:

Misc:

Company.

City, Province, Postal Code:, Customer:

**Build 5033** 

Job Name:

Address:

Code reports:

CCMC 12472-R

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

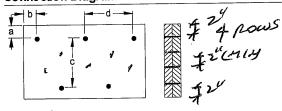
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA CONFORMS TO OBC 2012

O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

#### **Connection Diagram**



c = 7-7/8" a minimum = 2" d= 🍎 6 b minimum = 3"

Calculated Side Load = 400.8 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 16d ARDOX SPIRAL

#### Disclosure

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DWG NO . TAM 3066 (19 STRUCTURAL COMPONENT ONLY



## Boise Cascade Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B4(i2365)

BC CALC® Design Report



Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:24

**Build 5033** 

Job Name:

Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl

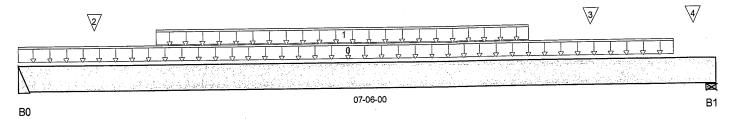
Description: Designs\Flush Beams\Basment\Flush Beams\B4(i2365)

Specifier:

Designer:

Company.

Misc:



Total Horizontal Product Length = 07-06-00

Reaction Summary (	Down / Uplift) (lbs) Live	De ad	Snow	Wind	
BO	1,429 / 0	735/0			
B1, 5-1/2"	1,451 / 0	760/0			

	1.0				Live	Dead	Snow	Wind	Trib.
	ad Summary g Description	Load Type	Ref. Start	En d	1.00	0.65	1.00	1.15	
0 1 2 3	Us er Load Smoothed Load J5 (i2249) J5 (i2248)	Unf. Lin. (lb/ft) Unf. Lin. (lb/ft) Conc. Pt. (lbs) Conc. Pt. (lbs)	L 01-05-12 L 00-09-12	07-00-08 05-05-12 00-09-12 06-01-12	170 195	120 85 97 133			n/a n/a n/a n/a
4	13(i889)	Conc. Pt. (lbs)	L 07-03-00	07-03-00	<b>4</b> 7	35			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,461 ft-lbs	19,364 ft-lbs	28.2%	1	03-05-12
End Shear	2,441 lbs	7,232 lbs	33.7%	1	06-00-10
Total Load Defl.	L/999 (0.069")	n/a	n/a	4	03-07-12
Live Load Defl.	L/999 (0.046")	n/a	n/a	5	03-07-12
Max Defl.	0.069"	n/a	n/a	4	03-07-12
Span / Depth	7.1	n/a	n/a		00-00-00

Bearing Supports		Dim . (L x W)	De man d	Resistance Support	Resistance Member	Material	
B0	Hanger	2" x 1-3/4"	3,063 lbs	n/a	71.7%	HUS1.81/10	
B1	Wall/Plate	5-1/2" x 1-3/4"	3,126 lbs	60.8%	26.6%	Unspecified	

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA

O86.

CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

ROVINGE OF ON

DWG NO . TAM 308877 STRUCTURAL COMPONENT ONLY



## Boise Cascade Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\Flush Beams\B4(i2365)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:24

BC CALC® Design Report

Build 5033

Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B4(i236)

Specifier: Designer: Company. Misc:

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

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ROLINCE OF ONTRE

DWG NO.TAM 3089 STRUCTURAL COMPONENT ONLY



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basment\...\B8(i2360)

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:27

BC CALC® Design Report



Build 5033

Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

File Name: AUBURN 2 EL 1.mmdl

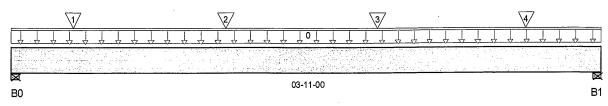
Description: Designs\Flush Beams\Basment\Flush Beams\B8(i2360)

Specifier:

Designer:

Company: Misc:

CCMC 12472-R



Total Horizontal Product Length = 03-11-00

Reaction Summary (Down / Uplift) (lbs)									
Be aring (	Live	De ad	Snow	Wind					
B0, 3-1/2"	1,523 / 0	945/0							
B1, 3-1/2"	1,489/0	928/0							
Load Summary				Live	Dead	Snow Wind	Trib.		

Lo	ad Summary					Live	Dead	Snow	Wind	Trib.
	g Description	Load Type	Re f	. Start	En d	1.00	0.65	1.00	1.15	
0	E13(i837)	Unf. Lin. (lb/ft)	L	00-00-00	03-11-00	382	272			n/a
1	J7(i2355)	Conc. Pt. (lbs)	L	00-05-00	00-05-00	379	190			n/a
2	J7(i2318)	Conc. Pt. (lbs)	L	01-05-00	01-05-00	379	190			n/a
3	J7(i2349)	Conc. Pt. (lbs)	L	02-05-00	02-05-00	379	190			n/a
4	J7(i2362)	Conc. Pt. (lbs)	L	03-05-00	03-05-00	379	190			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
End Shear	2,478 lbs	14,464 lbs	17.1%	1	01-03-06
Total Load Defl.	L/999 (0.004")	n/a	n/a	4	01-11-06
Live Load Defl.	L/999 (0.003")	n/a	n/a	5	01-11-06
Max Defl.	0.004"	n/a	n/a	4	01-11-06
Span / Depth	3.5	n/a	n/a		00-00-00

			Demand/ Resistance	Demand/ Resistance		
Bear	ring Supports	Dim. (L x W)	De man d	Support	Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	3,467 lbs	53%	23.2%	Unspecified
B1	Wall/Plate	3-1/2" x 3-1/2"	3,393 lbs	51.9%	22.7%	Unspecified

#### Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86. CONFORMS TO DBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9



DWG NO.TAM308821 STRUCTURAL COMPONENT ONLY



#### Basment\...\B8(i2360) Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:27

BC CALC® Design Report

Build 5033

Job Name: Address:

City, Province, Postal Code:,

Customer:

Code reports:

CCMC 12472-R

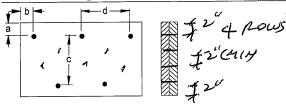
File Name: AUBURN 2 EL 1.mmdl

Description: Designs\Flush Beams\Basment\Flush Beams\B8(i236)

Specifier: Designer:

Company. Misc:

Connection Diagram



a minimum = 2" b minimum = 3" c = 7-7/8"

Calculated Side Load = 823.1 lb/ft

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 16d Carrier Nails
3½ ARDOX SPIRAL

#### Disclosure

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> POVINCE OF ONTH DVG NO. TAN 30883, 17

STRUCTURAL COMPONENT ONLY

Page 2 of 2