

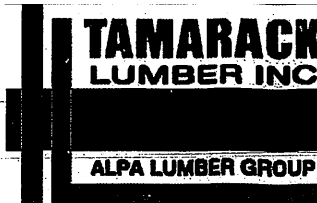
Products				
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	11 7/8" NI-40x	1	14
J2	12-00-00	11 7/8" NI-40x	1	12
J3	10-00-00	11 7/8" NI-40x	1	6
J4	6-00-00	11 7/8" NI-40x	1	1
J5	20-00-00	11 7/8" NI-80	1	39
B2 ✓	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4 ✓	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 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 ✓	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B1 ✓	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	6

Connector Summary		
Qty	Manuf	Product
6	H1	IUS2.56/11.88
11	H2	IUS3.56/11.88
1	H3	HUS1.81/10
1	H3	HUS1.81/10

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/ft²  
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:  
OSTIENSE

MODEL: AUBURN 7

ELEVATION: 1

LOT:

CITY: BRAMPTON

SALESMAN: R D  
DESIGNER: LBV  
REVISION:

DATE: 2017-06-08

1st FLOOR

DATE: 6/15/17

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 CAS 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 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.

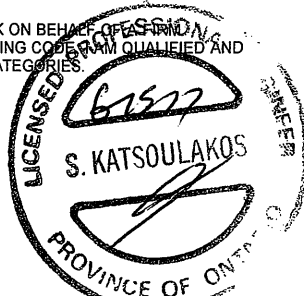
DWG# TAM 30782412 THROUGH DWG# TAM 30786172 INCLUSIVE DATED 6/15/17

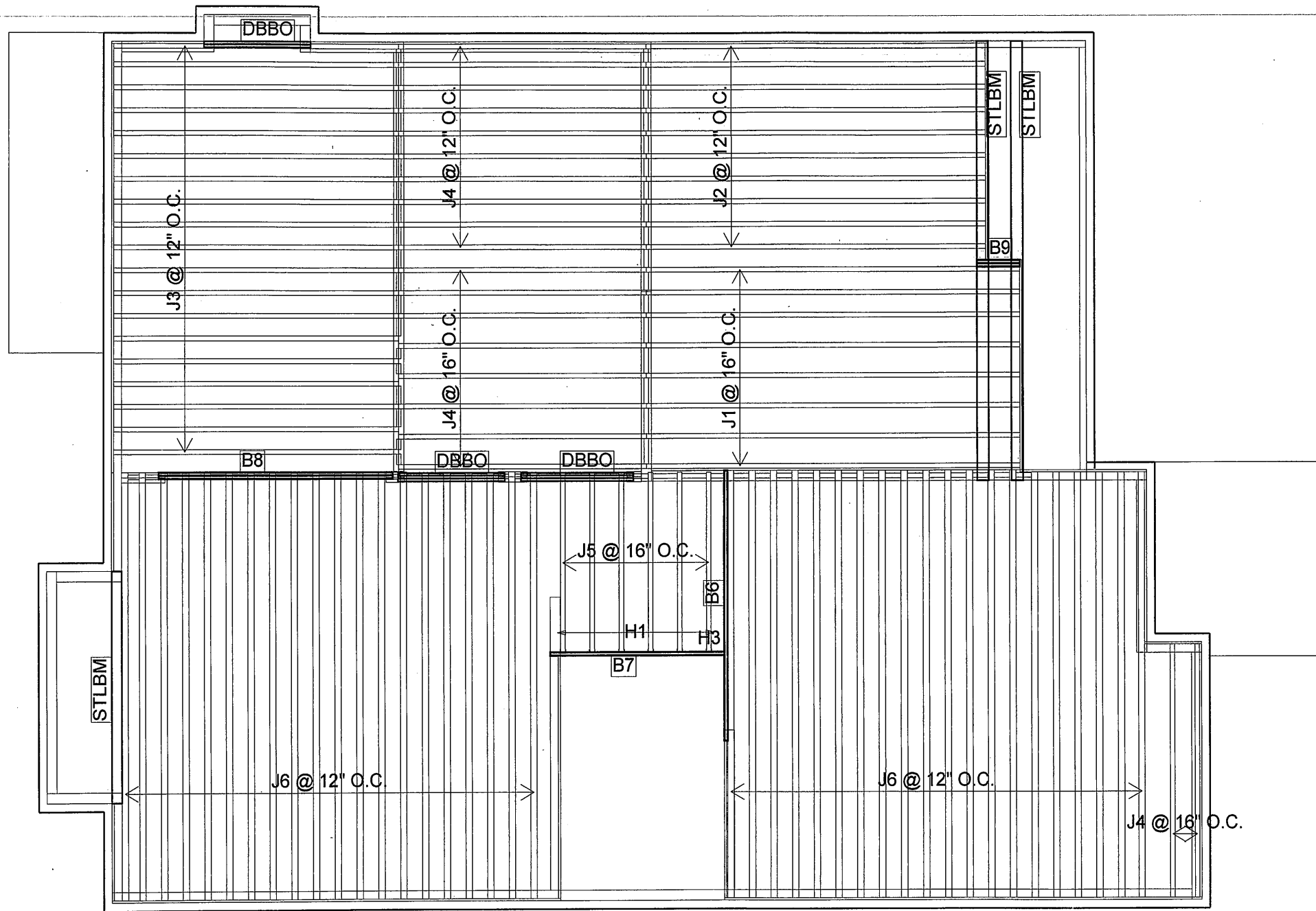
SEALED STRUCTURAL COMPONENTS ONLY:  
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PER PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER 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 BEHALF OF THE FIRM. I AM A REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 30791172  
BCIN: 26064  
FIRM: 29991  
SEALED STRUCTURAL  
COMPONENTS ONLY



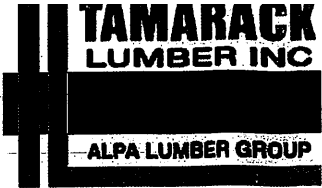


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	8
J2	16-00-00	11 7/8" NI-40x	1	10
J3	14-00-00	11 7/8" NI-40x	1	19
J4	12-00-00	11 7/8" NI-40x	1	20
J5	8-00-00	11 7/8" NI-40x	1	6
J6	20-00-00	11 7/8" NI-80	1	40
B8 ✓	12-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	2
B6 ✓	12-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7 ✓	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B9 ✓	2-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

Connector Summary		
Qty	Manuf	Product
6	H1	IUS2.56/11.88
1	H3	HUS1.81/10

REFER TO THE NORDIC  
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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/ft²  
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:**  
OSTIENSE

**MODEL:** AUBURN 7

**ELEVATION:** 1

**LOT:**

**CITY:** BRAMPTON

**SALESMAN:** R D  
**DESIGNER:** LBV  
**REVISION:**

**DATE:** 2017-06-09

**2nd FLOOR**

**DATE** 6/5/17

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 [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 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, LENGTHS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

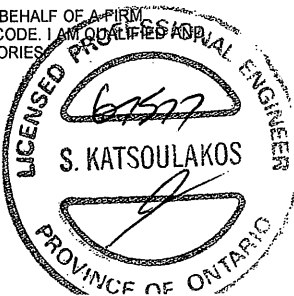
DWG# TAM 3078212 THROUGH DWG# TAM 3079012 INCLUSIVE DATED 6/5/17

**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.  
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I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM REGISTERED UNDER SUBSECTION 3.2.5 OF THE ONTARIO BUILDING CODE. I AM QUALIFIED FOR THE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.


REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 3079212  
BCIN: 26064  
FIRM: 29991  
SEALED STRUCTURAL  
COMPONENTS ONLY



## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project Information</b>				<b>Application number:</b>	
Building number, street name				Unit no.	Lot/con.
Municipality CITY OF BRAMPTON		Postal code	Plan number/ other description		
<b>B. Individual who reviews and takes responsibility for design activities</b>					
Name <b>SAM KATSOULAKOS, P. ENG.</b>			Firm <b>MICRO CITY ENGINEERING SERVICES INC.</b>		
Street address <b>R.R #1, PO BOX 61</b>				Unit no.	Lot/con.
Municipality <b>GLENCOE</b>	Postal code <b>N0L 1M0</b>	Province <b>ONTARIO</b>	E-mail		
Telephone number <b>(519) 287-2242 Business</b>		Fax number <b>(519) 287-5750</b>	Cell number		
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]</b>					
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings		<input type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection		<input checked="" type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems	
Description of designer's work <b>GREENYORK HOMES – OSTIENSE – MODEL: AUBURN 7 – ELEV. 1</b> <b>1ST FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC)</b> REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM30791-17 DATED 6-15-17). SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFIED BY QUALIFIED BUILDING DESIGNER.					
<b>D. Declaration of Designer</b>					
I, <u>SAM KATSOULAKOS, P. ENG</u> declare that (choose one as appropriate): <div style="text-align: center;">(print name)</div> <div> <input checked="" type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.             Individual BCIN: <u>26064</u>             Firm BCIN: <u>29991</u> </div> <div> <input type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.            Individual BCIN: _____             Basis for exemption from registration: _____         </div> <div> <input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code.            Basis for exemption from registration and qualification: _____         </div>					
I certify that: 1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.					
Date		Signature of Designer 			

**NOTE:**


- 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#TAM30791-17-S  
DWG#TAM30793-17-S

61517

## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

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Building number, street name				Unit no.	
Municipality CITY OF BRAMPTON		Postal code	Plan number/ other description		
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Name <b>SAM KATSOULAKOS, P. ENG.</b>			Firm <b>MICRO CITY ENGINEERING SERVICES INC.</b>		
Street address <b>R.R #1, PO BOX 61</b>				Unit no.	
Municipality <b>GLENCOE</b>		Postal code <b>N0L 1M0</b>	Province <b>ONTARIO</b>	E-mail	
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Description of designer's work <b>GREENYORK HOMES – OSTIENSE – MODEL: AUBURN 7 – ELEV. 1</b> <b>2ND FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC)</b> REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM30792-17 DATED 6-15-17). SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFIED BY QUALIFIED BUILDING DESIGNER.					
<b>D. Declaration of Designer</b>					
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DWG#TAM30792-17-S  
DWG#TAM30794-17-S

6/5/17

# NORDIC STRUCTURES

**COMPANY**  
TAMARACK LUMBER  
BURLINGTON  
June 7, 2017 17:26

**PROJECT**  
J5 1ST FLR

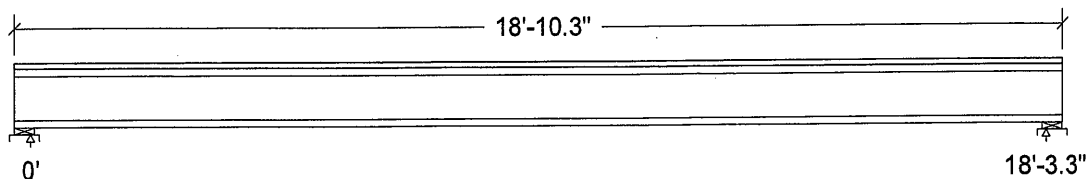
## Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

### Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start End	Magnitude Start End	Unit
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	189		189
Live	377		377
Factored:			
Total	801		801
Bearing:			
Resistance			
Joist	2336		2336
Support	9417		9417
Des ratio			
Joist	0.34		0.34
Support	0.09		0.09
Load case	#2		#2
Length	4-3/8		4-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
Kd	1.00		1.00
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.00		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:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 777	Vr = 2336	lbs	Vf/Vr = 0.33
Moment(+)	Mf = 3548	Mr = 11609	lbs-ft	Mf/Mr = 0.31
Perm. Defl'n	0.09 = <L/999	0.61 = L/360	in	0.16
Live Defl'n	0.19 = <L/999	0.46 = L/480	in	0.41
Total Defl'n	0.28 = L/771	0.91 = L/240	in	0.31
Bare Defl'n	0.21 = <L/999	0.61 = L/360	in	0.34
Vibration	Lmax = 18'-3	Lv = 19'-11	ft	
Defl'n	= 0.028	= 0.034	in	0.81



DWG NO. TAM30780-17  
STRUCTURAL  
COMPONENT ONLY

**Additional Data:**

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	11609	1.00	1.00	-	1.000	-	-	-	#2
EI	547.1 million	-	-	-	-	-	-	-	#2

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake  
L=live(use,occupancy) Ls=live(storage,equipment) f=fireLoad Patterns: s=S/2 L=L+Ls \_=no pattern load in this span  
All Load Combinations (LCs) are listed in the Analysis output**CALCULATIONS:**Deflection: E<sub>I</sub>eff = 613e06 lb-in<sup>2</sup> K= 6.18e06 lbs

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**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.



DWG NO. TAM30180.17  
STRUCTURAL  
COMPONENT ONLY

# NORDIC STRUCTURES

**COMPANY**  
TAMARACK LUMBER  
BURLINGTON  
June 8, 2017 08:04

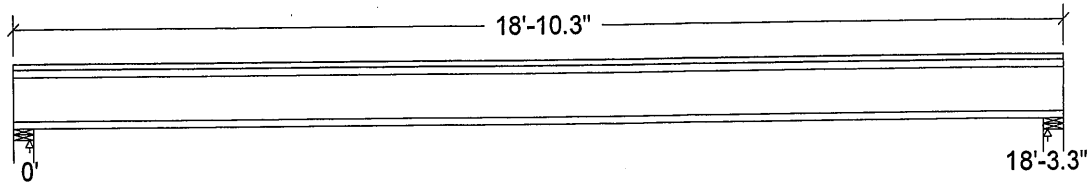
**PROJECT**  
J6 2ND FLR

## Design Check Calculation Sheet Nordic Sizer – Canada 6.4

### Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start End	Magnitude Start End	Unit
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	189		189
Live	377		377
Factored:			
Total	801		801
Bearing:			
Resistance			
Joist	2336		2336
Support	10829		10829
Des ratio			
Joist	0.34		0.34
Support	0.07		0.07
Load case	#2		#2
Length	4-3/8		4-3/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
Kd	1.00		1.00
KB support	1.00		1.00
fcp sup	769		769
Kzcp sup	1.15		1.15

\*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-80 Floor joist @ 12" o.c.

Supports: All - Lumber Wall, 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:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 777	Vr = 2336	lbs	Vf/Vr = 0.33
Moment(+)	Mf = 3548	Mr = 11609	lbs-ft	Mf/Mr = 0.31
Perm. Defl'n	0.09 = <L/999	0.61 = L/360	in	0.16
Live Defl'n	0.19 = <L/999	0.46 = L/480	in	0.41
Total Defl'n	0.28 = L/771	0.91 = L/240	in	0.31
Bare Defl'n	0.21 = <L/999	0.61 = L/360	in	0.34
Vibration	Lmax = 18'-3	Lv = 20'-6	ft	
Defl'n	= 0.026	= 0.034	in	0.76



DWG NO. TAM 3078/17  
STRUCTURAL  
COMPONENT ONLY

**Additional Data:**

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	11609	1.00	1.00	-	1.000	-	-	-	#2
EI	547.1 million	-	-	-	-	-	-	-	#2

**CRITICAL LOAD COMBINATIONS:**

Shear : LC #2 = 1.25D + 1.5L

Moment(+) : LC #2 = 1.25D + 1.5L

Deflection: LC #1 = 1.0D (permanent)

LC #2 = 1.0D + 1.0L (live)

LC #2 = 1.0D + 1.0L (total)

LC #2 = 1.0D + 1.0L (bare joist)

Bearing : Support 1 - LC #2 = 1.25D + 1.5L

Support 2 - LC #2 = 1.25D + 1.5L

Load Types: D=dead W=wind S=snow H=earth,groundwater E=earthquake  
L=live(use,occupancy) Ls=live(storage,equipment) f=fire

Load Patterns: s=S/2 L=L+Ls \_=no pattern load in this span

All Load Combinations (LCs) are listed in the Analysis output

**CALCULATIONS:**Deflection: E<sub>I</sub>eff = 613e06 lb-in<sup>2</sup> K= 6.18e06 lbs

"Live" deflection = Deflection from all non-dead loads (live, wind, snow...)

**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.



DWG NO. TAM 30701/17  
STRUCTURAL  
COMPONENT ONLY



BC CALC® Design Report 

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

June 8, 2017 08:13:24

Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

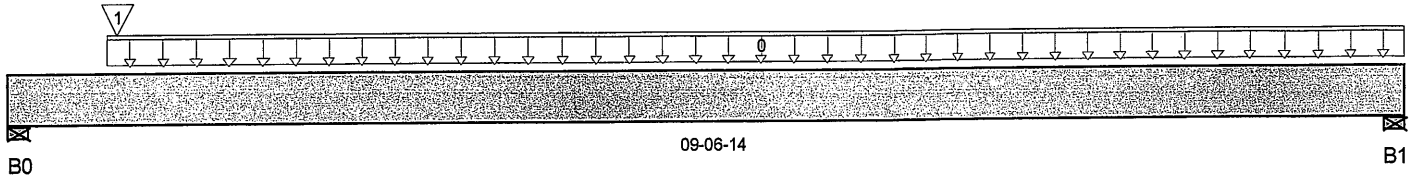
Description: Designs\Flush Beams\Basement\Flush Beams\B4(i2362)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 09-06-14

### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 4"	1,540 / 0	822 / 0		
B1, 4-3/8"	176 / 0	118 / 0		

### Load Summary

Tag Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0 FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-08-00	09-06-14	20	10			n/a
1 B5(i2312)	Conc. Pt. (lbs)	L	00-08-14	00-08-14	1,534	791			n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,570 ft-lbs	19,364 ft-lbs	8.1%	1	01-03-14
End Shear	1,384 lbs	7,232 lbs	19.1%	1	01-03-14
Total Load Defl.	L/999 (0.031")	n/a	n/a	4	04-04-01
Live Load Defl.	L/999 (0.019")	n/a	n/a	5	04-04-01
Max Defl.	0.031"	n/a	n/a	4	04-04-01
Span / Depth	9.1	n/a	n/a		00-00-00

### 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.

### Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0	Wall/Plate 4" x 1-3/4"	3,337 lbs	89.3%	39.1%	Unspecified
B1	Wall/Plate 4-3/8" x 1-3/4"	411 lbs	10.1%	4.4%	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.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

**CONFORMS TO OBC 2012**



1  
DWG NO. TAM 30782-17  
STRUCTURAL  
COMPONENT ONLY

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

June 8, 2017 08:13:25

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

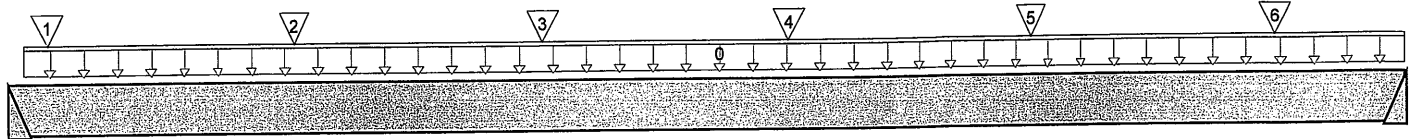
Description: Designs\Flush Beams\Basement\Flush Beams\B5(i2312)

Specifier:

Designer:

Company:

Misc:



B0

07-07-00

B1

Total Horizontal Product Length = 07-07-00

### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0	1,540 / 0	794 / 0		
B1	1,540 / 0	794 / 0		

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	User Load	Unf. Lin. (lb/ft)	L	00-01-00	07-07-00	240	120			n/a
1	J3(i2306)	Conc. Pt. (lbs)	L	00-02-08	00-02-08	152	76			n/a
2	J3(i2387)	Conc. Pt. (lbs)	L	01-06-08	01-06-08	237	119			n/a
3	J3(i2382)	Conc. Pt. (lbs)	L	02-10-08	02-10-08	237	119			n/a
4	J3(i2412)	Conc. Pt. (lbs)	L	04-02-08	04-02-08	126	63			n/a
5	J3(i2428)	Conc. Pt. (lbs)	L	05-06-08	05-06-08	343	172			n/a
6	J3(i2310)	Conc. Pt. (lbs)	L	06-10-08	06-10-08	185	93			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,863 ft-lbs	19,364 ft-lbs	30.3%	1	03-10-08
End Shear	2,526 lbs	7,232 lbs	34.9%	1	06-05-02
Total Load Defl.	L/999 (0.084")	n/a	n/a	4	03-09-08
Live Load Defl.	L/999 (0.055")	n/a	n/a	5	03-09-08
Max Defl.	0.084"	n/a	n/a	4	03-09-08
Span / Depth	7.5	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Hanger	2" x 1-3/4"	3,302 lbs	n/a	77.3%	HUS1.81/10
B1 Hanger	2" x 1-3/4"	3,303 lbs	n/a	77.4%	HUS1.81/10

### Notes





Boise Cascade

**Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B5(i2312)**

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

June 8, 2017 08:13:25

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B5(i2312

Specifier:

Designer:

Company:

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.

Hanger Manufacturer: Unassigned

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.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

**CONFORMS TO OBC 2012****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 30783.17  
STRUCTURAL  
COMPONENT ONLY



# Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basement\...\B3(i2369)

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

June 8, 2017 08:13:28

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

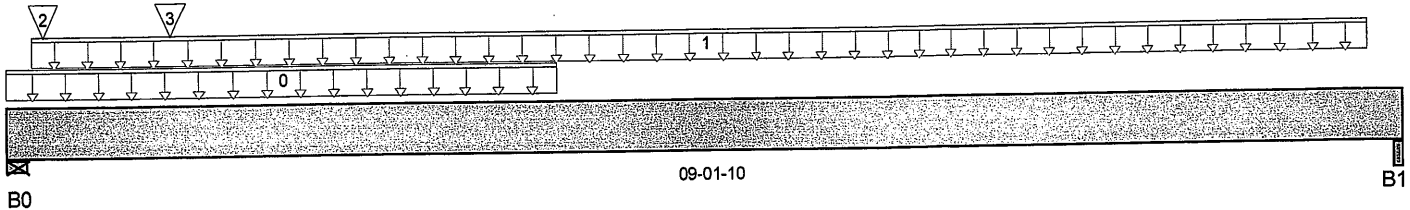
Description: Designs\Flush Beams\Basement\Flush Beams\B3(i2369)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 09-01-10

## Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 6"	2,948 / 0	1,821 / 0		
B1, 5-1/4"	221 / 0	215 / 0		

## Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	4(i867)	Unf. Lin. (lb/ft)	L	00-00-00	03-07-00		81			n/a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-00	08-11-00	27	14			n/a
2	B5(i2312)	Conc. Pt. (lbs)	L	00-02-14	00-02-14	1,546	797			n/a
3	4(i867)	Conc. Pt. (lbs)	L	01-00-14	01-00-14	1,362	706			n/a

## Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	2,195 ft-lbs	38,727 ft-lbs	5.7%	1	02-04-07
End Shear	1,875 lbs	14,464 lbs	13%	1	01-05-14
Total Load Defl.	L/999 (0.019")	n/a	n/a	4	04-02-00
Live Load Defl.	L/999 (0.01")	n/a	n/a	5	04-02-00
Max Defl.	0.019"	n/a	n/a	4	04-02-00
Span / Depth	8.4	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	6" x 3-1/2"	6,699 lbs	59.7%	26.1%	Unspecified
B1 Beam	5-1/4" x 3-1/2"	601 lbs	6.1%	2.7%	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.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



P614

DWG NO. TAM 30784-17  
STRUCTURAL  
COMPONENT ONLY



BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B3(i236

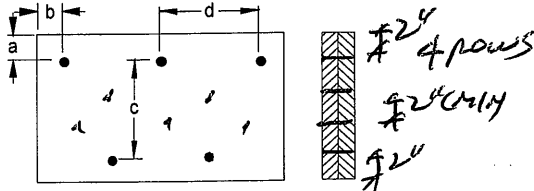
Specifier:

Designer:

Company:

Misc:

### Connection Diagram



a minimum = 2"      c = 7-7/8"  
b minimum = 3"      d = 4"

Calculated Side Load = 362.9 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

**3 1/2" ARDOX SPIRAL**

### Disclosure

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DWG NO. TAM35784-17  
STRUCTURAL  
COMPONENT ONLY

## BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

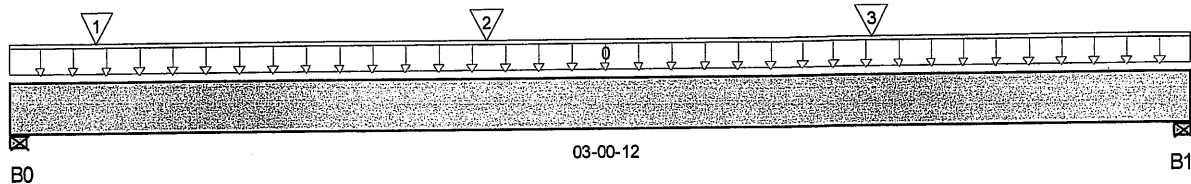
Description: Designs\Flush Beams\Basement\Flush Beams\B1(i2346)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 03-00-12

### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/4"	1,281 / 0	782 / 0		
B1, 3-1/2"	1,034 / 0	661 / 0		

### Load Summary

Tag Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0 E25(i845)	Unf. Lin. (lb/ft)	L	00-00-00	03-00-12	384	273			n/a
1 J5(i2348)	Conc. Pt. (lbs)	L	00-02-12	00-02-12	379	190			n/a
2 J5(i2370)	Conc. Pt. (lbs)	L	01-02-12	01-02-12	379	190			n/a
3 J5(i2419)	Conc. Pt. (lbs)	L	02-02-12	02-02-12	379	190			n/a

Controls Summary	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,476 ft-lbs	38,727 ft-lbs	3.8%	1	01-04-11
End Shear	1,799 lbs	14,464 lbs	12.4%	1	01-03-02
Total Load Defl.	L/999 (0.001")	n/a	n/a	4	01-06-04
Live Load Defl.	L/999 (0.001")	n/a	n/a	5	01-06-04
Max Defl.	0.001"	n/a	n/a	4	01-06-04
Span / Depth	2.7	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/4" x 3-1/2"	2,899 lbs	47.7%	20.9%	Unspecified
B1 Wall/Plate	3-1/2" x 3-1/2"	2,377 lbs	36.3%	15.9%	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.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012



DWG NO. TAM30785-17  
STRUCTURAL  
COMPONENT ONLY

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B1(i2346)

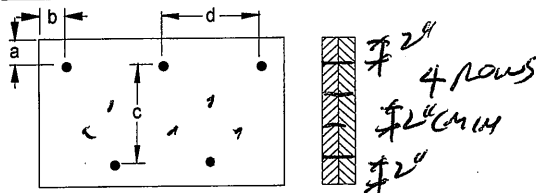
Specifier:

Designer:

Company:

Misc:

### Connection Diagram



a minimum = 2" c = 7-7/8"  
b minimum = 3" d = 4"

Calculated Side Load = 789.6 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

3 1/2" ARDOX SPIRAL

### Disclosure

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DWG NO. TAM 3078517  
STRUCTURAL  
COMPONENT ONLY

BC CALC® Design Report



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

June 8, 2017 08:13:33

Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

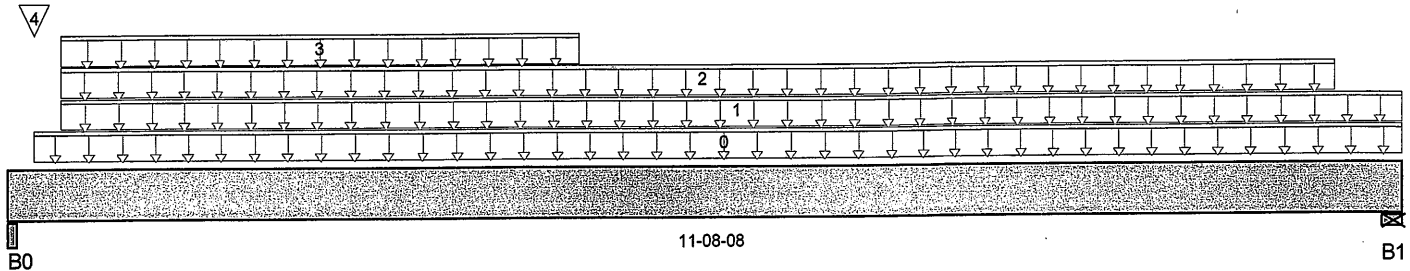
Description: Designs\Flush Beams\Basement\Flush Beams\B2(i2318)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 11-08-08

#### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/4"	1,027 / 0	887 / 0		
B1, 4-3/8"	340 / 0	520 / 0		

#### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	11-08-08	19	10			n/a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-05-04	11-08-08	3				n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-05-04	11-01-10		60			n/a
3	User Load	Unf. Lin. (lb/ft)	L	00-05-04	04-09-04	240	120			n/a
4	9(1900)	Conc. Pt. (lbs)	L	00-02-10	00-02-10	71	47			n/a

#### Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,927 ft-lbs	19,364 ft-lbs	25.4%	1	04-04-04
End Shear	1,838 lbs	7,232 lbs	25.4%	1	01-05-02
Total Load Defl.	L/871 (0.152")	0.552"	27.6%	4	05-07-12
Live Load Defl.	L/999 (0.072")	n/a	n/a	5	05-05-10
Max Defl.	0.152"	n/a	n/a	4	05-07-12
Span / Depth	11.1	n/a	n/a		00-00-00

#### Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Beam	5-1/4" x 1-3/4"	2,649 lbs	54%	23.6%	Unspecified
B1 Wall/Plate	4-3/8" x 1-3/4"	1,160 lbs	28.4%	12.4%	Unspecified

#### Notes







Boise Cascade

**Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Basement\Flush Beams\B2(i2318)**

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

June 8, 2017 08:13:33

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

Description: Designs\Flush Beams\Basement\Flush Beams\B2(i231

Specifier:

Designer:

Company:

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 O86.

**CONFORMS TO OBC 2012**

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

**Disclosure**

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DWG NO. TAM3078617  
STRUCTURAL  
COMPONENT ONLY

**BC CALC® Design Report**


Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

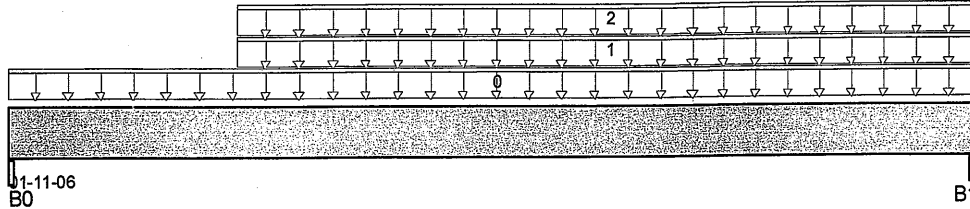
Description: Designs\Flush Beams\1st Floor\Flush Beams\B9(i2170)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 01-11-06

**Reaction Summary (Down / Uplift) ( lbs )**

Bearing	Live	Dead	Snow	Wind
B0, 6"	39 / 0	145 / 0	61 / 0	
B1, 4-7/8"	64 / 0	155 / 0	100 / 0	

**Load Summary**

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	User Load	Unf. Lin. (lb/ft)	L	00-00-00	01-11-06		100			n/a
1	User Load	Unf. Lin. (lb/ft)	L	00-05-08	01-11-06	50	45	108		n/a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-05-08	01-11-06	20	10			n/a

**Controls Summary**

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	69 ft-lbs	38,727 ft-lbs	0.2%	13	01-00-04
End Shear	190 lbs	14,464 lbs	1.3%	13	01-05-14
Span / Depth	1.2	n/a	n/a		00-00-00

**Bearing Supports**

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Beam	6" x 3-1/2"	203 lbs	2.8%	1.2%	Unspecified
B1 Beam	4-7/8" x 3-1/2"	376 lbs	4.1%	1.8%	Unspecified

**Notes**

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 O86.

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

Unbalanced snow loads determined from building geometry were used in selected products verification.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

**CONFORMS TO OBC 2012**

 DWG NO. TAM 30782.17  
 STRUCTURAL  
 COMPONENT ONLY



BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

Description: Designs\Flush Beams\1st Floor\Flush Beams\B9(i2170)

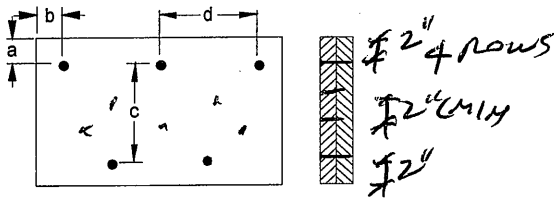
Specifier:

Designer:

Company:

Misc:

Connection Diagram



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

b minimum = 3" d = 3"

Member has no side loads.

Connectors are: 16d <sup>1</sup>/<sub>4</sub>" Nails

3 1/2" ARDOX SPIRAL

Disclosure

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BC CALC® Design Report



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

June 8, 2017 08:13:37

Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

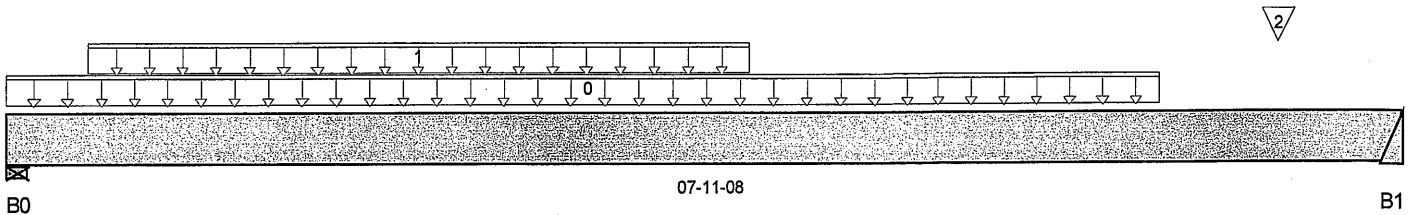
Description: Designs\Flush Beams\1st Floor\Flush Beams\B7(i1943)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 07-11-08

### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	1,346 / 0	698 / 0		
B1	804 / 0	425 / 0		

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	06-07-00	164	82			n/a
1	User Load	Unf. Lin. (lb/ft)	L	00-05-08	04-02-08	240	120			n/a
2	J5(i2140)	Conc. Pt. (lbs)	L	07-03-00	07-03-00	171	85			n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,398 ft-lbs	19,364 ft-lbs	22.7%	1	03-04-07
End Shear	1,977 lbs	7,232 lbs	27.3%	1	01-05-06
Total Load Defl.	L/999 (0.062")	n/a	n/a	4	03-11-10
Live Load Defl.	L/999 (0.041")	n/a	n/a	5	03-11-10
Max Defl.	0.062"	n/a	n/a	4	03-11-10
Span / Depth	7.5	n/a	n/a		00-00-00

### 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.

### Bearing Supports

B0	Wall/Plate	5-1/2" x 1-3/4"	2,892 lbs	56.3%	24.6%	Unspecified
B1	Hanger	2" x 1-3/4"	1,737 lbs	n/a	40.7%	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

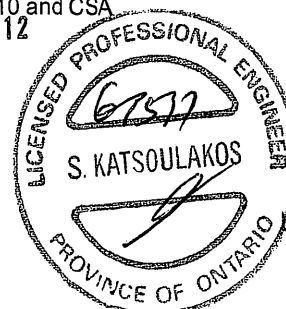
Resistance Factor phi has been applied to all presented results per CSA O86.

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

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012



BOISE CASCADE  
STRUCTURAL  
COMPONENT ONLY

BC CALC® Design Report



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

June 8, 2017 08:13:39

Build 5033

Job Name:

Address:

City, Province, Postal Code:

Customer:

Code reports: CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

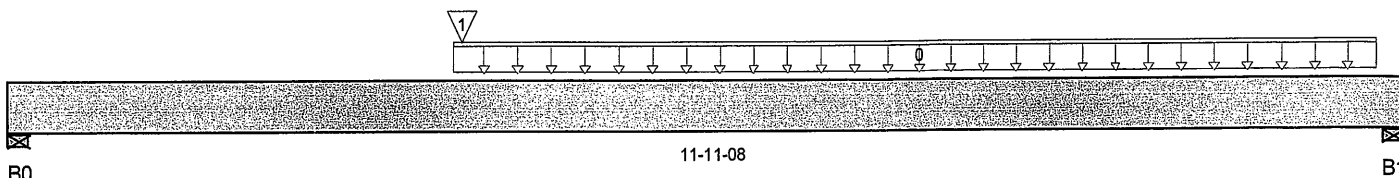
Description: Designs\Flush Beams\1st Floor\Flush Beams\B6(i2127)

Specifier:

Designer:

Company:

Misc:



Total Horizontal Product Length = 11-11-08

### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	586 / 0	345 / 0		
B1, 5-1/2"	327 / 0	206 / 0		

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC3 Floor Material	Unf. Lin. (lb/ft)	L	03-09-08	11-08-12	16	8			n/a
1	B7(i1943)	Conc. Pt. (lbs)	L	03-10-06	03-10-06	789	417			n/a

### Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,487 ft-lbs	19,364 ft-lbs	23.2%	1	03-10-06
End Shear	1,299 lbs	7,232 lbs	18%	1	01-05-06
Total Load Defl.	L/999 (0.119")	n/a	n/a	4	05-06-05
Live Load Defl.	L/999 (0.075")	n/a	n/a	5	05-06-05
Max Defl.	0.119"	n/a	n/a	4	05-06-05
Span / Depth	11.3	n/a	n/a		00-00-00

### Disclosure

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### Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	5-1/2" x 1-3/4"	1,310 lbs	25.5%	11.2%	Unspecified
B1 Wall/Plate	5-1/2" x 1-3/4"	748 lbs	14.6%	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.  
 Design based on Dry Service Condition.  
 Importance Factor : Normal Part code : Part 9

**CONFORMS TO OBC 2012**



DWG NO. TAM 3-789/17  
**STRUCTURAL  
 COMPONENT ONLY**

## BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports:

CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

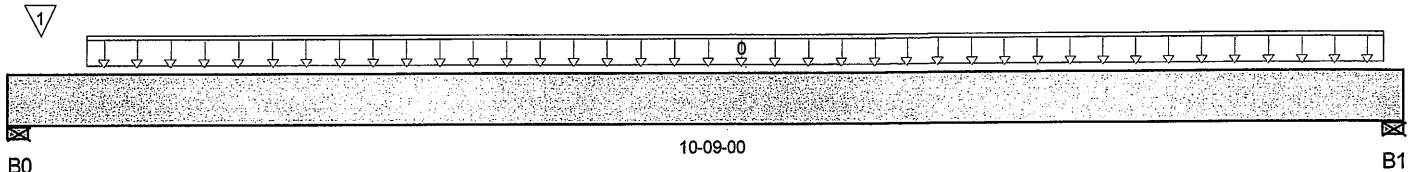
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B8(i2573)

Specifier:

Designer: LBV

Company:

Misc:



Total Horizontal Product Length = 10-09-00

### Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	2,190 / 0	1,149 / 0		
B1, 3-1/2"	2,096 / 0	1,102 / 0		

### Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
0	Smoothed Load	Unf. Lin. (lb/ft)	L	00-07-04	10-07-04	375	188			n/a
1	J6(i3267)	Conc. Pt. (lbs)	L	00-03-00	00-03-00	369	184			n/a

### Controls Summary

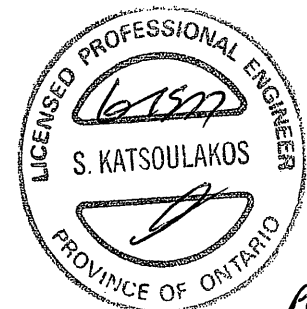
	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	11,193 ft-lbs	25,408 ft-lbs	44.1%	1	05-03-00
End Shear	3,918 lbs	11,571 lbs	33.9%	1	01-01-00
Total Load Defl.	L/412 (0.3")	0.515"	58.3%	4	05-04-12
Live Load Defl.	L/628 (0.197")	0.343"	57.3%	5	05-04-12
Max Defl.	0.3"	n/a	n/a	4	05-04-12
Span / Depth	13	n/a	n/a		00-00-00

Bearing Supports	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	4,720 lbs	47.5%	31.6%	Unspecified
B1 Wall/Plate	3-1/2" x 3-1/2"	4,521 lbs	45.5%	30.3%	Unspecified

### Notes

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: 00-01-08, Bottom: 00-01-08.  
 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.  
 Design based on Dry Service Condition.  
 Importance Factor : Normal Part code : Part 9

CONFORMS TO CBC 2012





Boise Cascade

**Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP 1st Floor\...\B8(i2573)**

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

June 9, 2017 12:32:54

BC CALC® Design Report



Build 5033

Job Name:

Address:

City, Province, Postal Code: BRAMPTON,

Customer:

Code reports: CCMC 12472-R

File Name: AUBURN-7-EL 1.mmdl

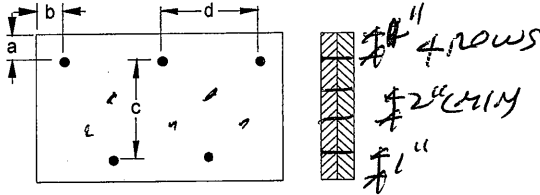
Description: Designs\Dropped Beams\1st Floor\Dropped Beams\B8

Specifier:

Designer: LBV

Company:

Misc:

**Connection Diagram**

a minimum = 2"      c = 1-1/2"  
 b minimum = 3"      d = 6"

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.

Member has no side loads.

Connectors are: 16d Nails

**3 1/2" ARDOX SPIRAL****Disclosure**

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