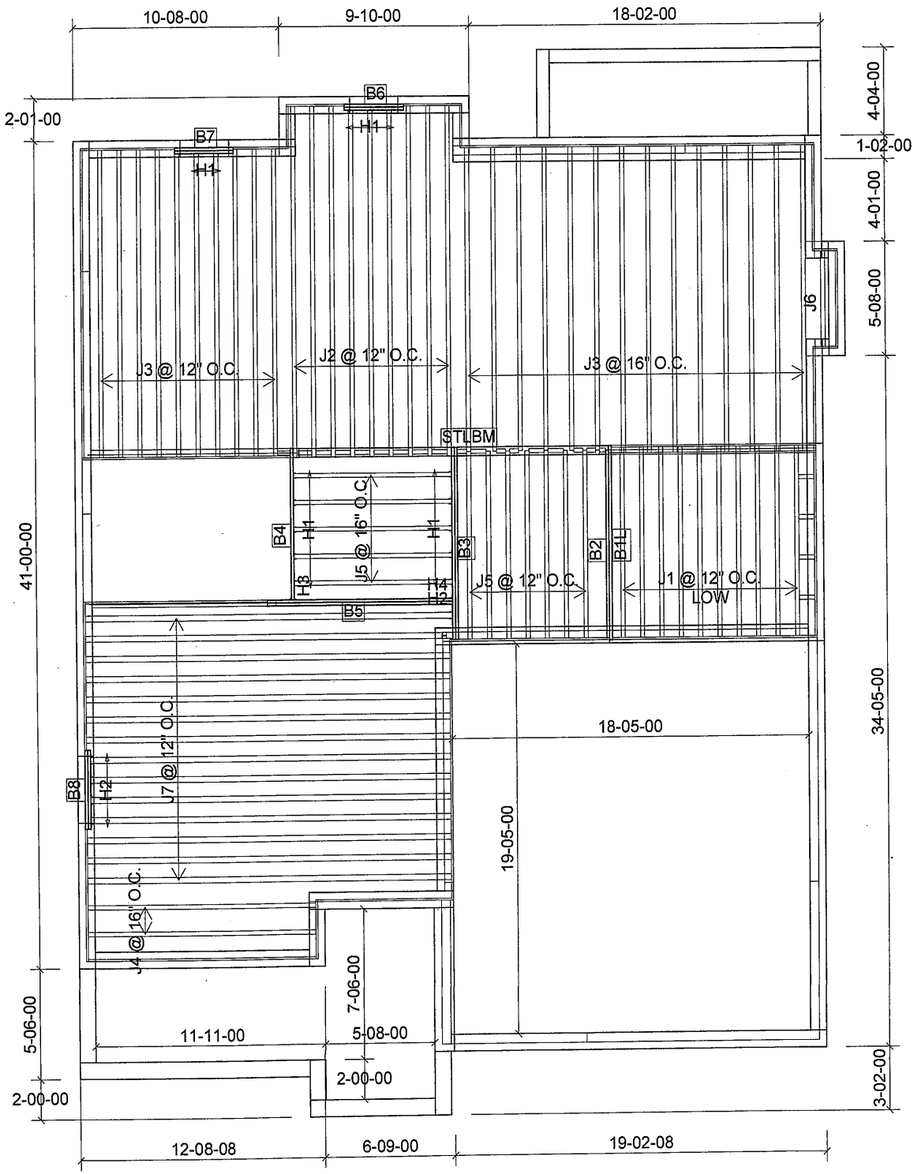


Products				
PlotID	Length	Product	Plies	Net Qty
J1	10-00-00	9 1/2" NI-40x	1	10
J2	18-00-00	11 7/8" NI-40x	1	9
J3	16-00-00	11 7/8" NI-40x	1	24
J4	12-00-00	11 7/8" NI-40x	1	2
J5	10-00-00	11 7/8" NI-40x	1	12
J6	6-00-00	11 7/8" NI-40x	1	1
J7	20-00-00	11 7/8" NI-80	1	14
B1L	10-00-00	1-3/4" x 9-1/2" VERSA-LAM® 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/ft²
DEAD LOAD: 20.0 lb/ft²
TILED AREAS: 20 lb/ft₂

SUBFLOOR: 5/8" GLUED AND NAILED

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED:
MARCH 2017

BUILDER:
GREENYORK HOMES

SITE:
OSTIENCE

MODEL: AUBURN 2

ELEVATION: 1

LOT:

CITY: BRAMPTON

SALESMAN: R D
DESIGNER: LBV
REVISION:

DATE: 2017-06-06

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 □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, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 308777 THROUGH DWG# TAM 308847 INCLUSIVE DATED 6/15/17

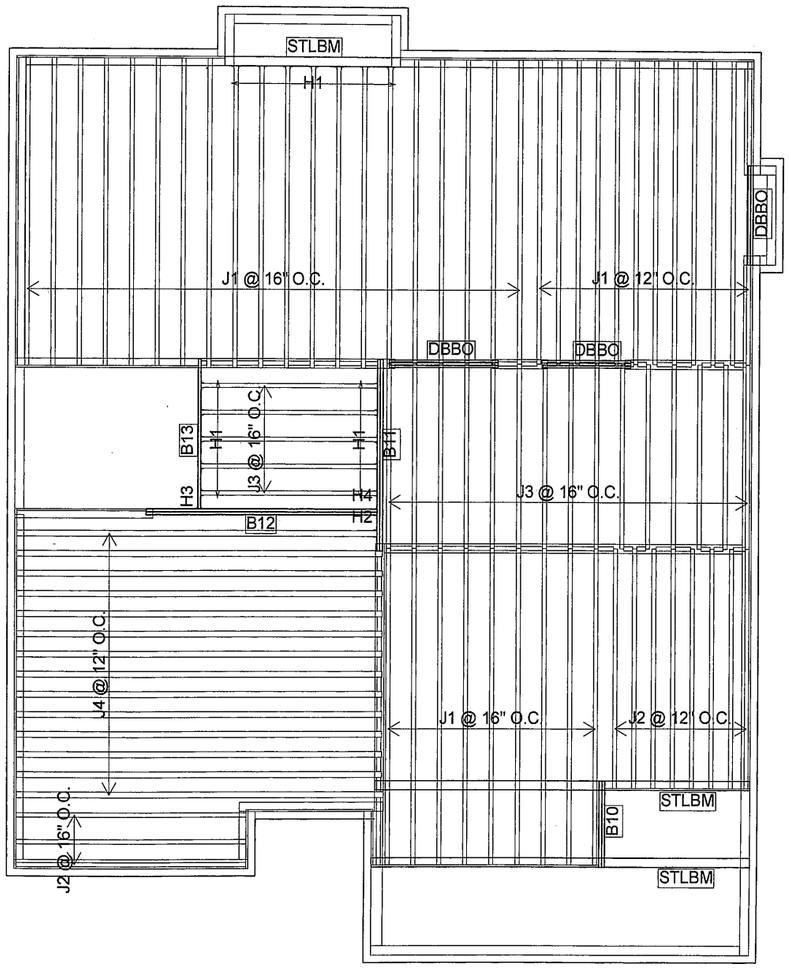
SEALED STRUCTURAL COMPONENTS ONLY:
SEALED, THIRD PARTY LVL TYPE BEAMS, BUILT-UP CONVENTIONAL BEAMS, HEADERS, AND CONCENTRATED LOADED NORDIC WOOD-I JOIST ONLY. 2 X 6 SQUASH BLOCK REQUIRED AT ALL EXTERIOR SUPPORTS OR AS PEF PROJECT ENGINEER'S SPECIFICATIONS. WEB FILLER REINFORCEMENT REQUIRED AT ALL HANGER 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. 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 1/16□ DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

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 AND HE FIRM IS REGISTERED, IN APPROPRIATE CLASSES AND/OR CATEGORIES.

REGISTERED FIRM: MICRO CITY ENGINEERING SERVICES INC.

DWG # TAM 308847
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

LICENSED PROFESSIONAL ENGINEER
6/15/17
S. KATSOULAKOS
PROVINCE OF ONTARIO



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

NOTES:

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

TAMARACK LUMBER INC
ALPA LUMBER GROUP

FROM PLAN DATED:
MARCH 2017

BUILDER:
GREENYORK HOMES

SITE:
OSTIENCE

MODEL: AUBURN 2

ELEVATION: 1

LOT:

CITY: BRAMPTON

SALESMAN: R D
DESIGNER: LBV
REVISION:

DATE: 2017-06-06

2nd 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 □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, LENGHTS, AND DETAILS, REMAINS THE RESPONSIBILITY OF THE FLOOR SYSTEM INSTALLATION CONTRACTOR.

DWG# TAM 30872-17 THROUGH DWG# TAM 30876-17 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 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. 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 1/16□ DEEPER THAN JOIS DEPTH. SEE NORDIC LITERATURE FOR NAILING REQUIREMENT.

I REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK ON BEHALF OF A FIRM I AM 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 30885-17
BCIN: 26064
FIRM: 29991
SEALED STRUCTURAL COMPONENTS ONLY

LICENSED PROFESSIONAL ENGINEER
6/15/17
S. KATSOULAKOS
PROVINCE OF ONTARIO

Schedule 1: Designer Information

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

A. Project Information			Application number:
Building number, street name			Unit no. / Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other description	

B. Individual who reviews and takes responsibility for design activities			
Name **SAM KATSOULAKOS, P. ENG.**		Firm **MICRO CITY ENGINEERING SERVICES INC.**	
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) 287-5750**		Cell number

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work **GREENYORK HOMES – OSTIENSE – MODEL: AUBURN 2 – ELEV. 1**
1ST FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC)
REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM30884-17 DATED 6-15-17).
SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS, P. ENG declare that (choose one as appropriate):
(print name)

☒ 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: 26064

Firm BCIN: 29991

☐ 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: _____

☐ 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:

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 6/15/17 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.
2. 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#TAM30884/17-S
DWG#TAM30886/17-S
6/15/17

Schedule 1: Designer Information

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

A. Project Information			Application number:
Building number, street name			Unit no. / Lot/con.
Municipality CITY OF BRAMPTON	Postal code	Plan number/ other description	

B. Individual who reviews and takes responsibility for design activities			
Name: **SAM KATSOULAKOS, P. ENG.**		Firm: **MICRO CITY ENGINEERING SERVICES INC.**	
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) 287-5750**		Cell number

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

☐ House	☐ HVAC – House	☒ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work **GREENYORK HOMES – OSTIENSE – MODEL: AUBURN 2 – ELEV. 1**
2ND FLOOR (SCHEDULE IS NOT ISSUED AS LOT SPECIFIC)
REVIEW PRE-ENGINEERED FLOOR SYSTEM COMPONENT DRAWINGS AND LAYOUT PLACEMENT PLAN SUPPLIED BY TAMARACK ROOF TRUSSES INC. (SEE DWG #TAM30885-17 DATED 6-15-17).
SUPPORTING STRUCTURE TO BE REVIEWED AND VERIFED BY QUALIFIED BUILDING DESIGNER.

D. Declaration of Designer

I, SAM KATSOULAKOS, P. ENG declare that (choose one as appropriate):
(print name)

☒ 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: 26064

Firm BCIN: 29991

☐ 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: _____

☐ 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:

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 6/5/17 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.
2. 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#TAM30885-17-S
DWG#TAM30887-17-S 6/5/17

NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
BURLINGTON
June 6, 2017 15:19

PROJECT
J4 1ST FLR

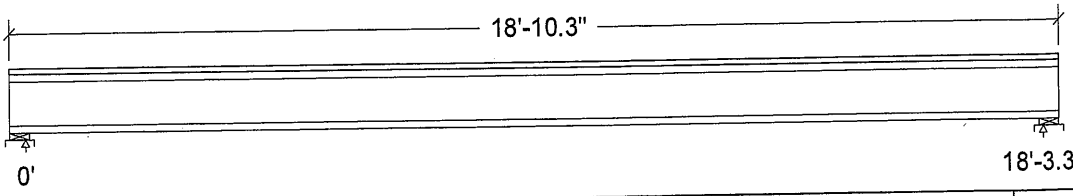
Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

Loads:

Load	Type	Distribution	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			2336
Joist	2336		10829
Support	10829		
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
Kzcp sup	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:

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

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

pc lk

DWG NO. TAM3086B-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:  EIeff =    613e06 lb-in2  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. TAM30866-17
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
BURLINGTON
June 6, 2017 13:55

PROJECT
J3 GRD FLR

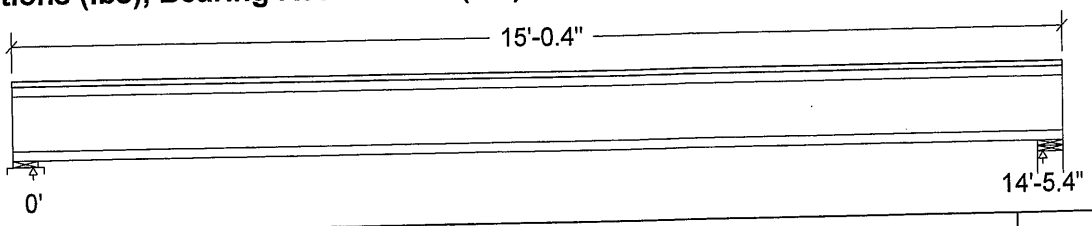
Design Check Calculation Sheet

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	200		200
Live	401		401
Factored:			
Total	852		852
Bearing:			
Resistance			
Joist	2336		2336
Support	6726		7735
Des ratio			
Joist	0.36		0.36
Support	0.13		0.11
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		1.15

*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-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	0.48 = L/360	in	0.14
Live Defl'n	0.14 = <L/999	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	0.48 = L/360	in	0.34
Vibration	Lmax = 14'-5	Lv = 17'-2	ft	
Defl'n	= 0.026	= 0.046	in	0.57

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DWG NO. TAM30869-17
STRUCTURAL
COMPONENT ONLY

p6/6

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#2
EI	371.1 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:  EIeff =    448e06 lb-in2  K=  6.18e06 lbs
"Live" deflection = Deflection from all non-dead loads (live, wind, snow…)
```

CONFORMS TO OBC 2012

Design Notes:

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. TAM30669-17
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

COMPANY
TAMARACK LUMBER
BURLINGTON
June 6, 2017 13:54

PROJECT
J7 GRD FLR

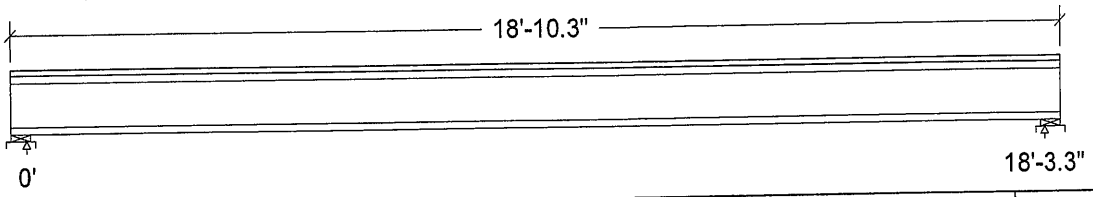
Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start	Location [ft] End	Magnitude Start	Magnitude 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			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:

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

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6577
S. KATSOULAKOS
PROVINCE OF ONTARIO

pg 4

DWG NO. TAM30870-17
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:  EIeff =    613e06 lb-in2  K=  6.18e06 lbs
"Live" deflection = Deflection from all non-dead loads (live, wind, snow…)
```

CONFORMS TO OBC 2012

Design Notes:

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. TAM3067017
STRUCTURAL
COMPONENT ONLY

NORDIC STRUCTURES

COMPANY	PROJECT
TAMARACK LUMBER BURLINGTON June 6, 2017 13:53	J2 GRD FLR

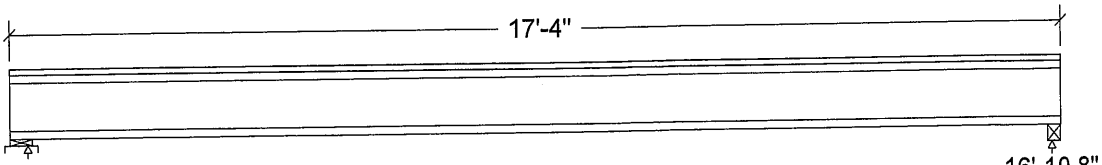
Design Check Calculation Sheet

Nordic Sizer – Canada 6.4

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start	Location [ft] End	Magnitude Start	Magnitude 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	175		172
Live	350		344
Factored:			
Total	743		730
Bearing:			
Resistance			
Joist	2336		2135
Support	6726		-
Des ratio			
Joist	0.32		0.34
Support	0.11		-
Load case	#2		#2
Length	4-3/8		2-5/8
Min req'd	1-3/4		1-3/4
Stiffener	No		No
Kd	1.00		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
Moment(+)	Mf = 3034	Mr = 6255	lbs-ft	Mf/Mr = 0.49
Perm. Defl'n	0.10 = <L/999	0.56 = L/360	in	0.17
Live Defl'n	0.19 = <L/999	0.42 = L/480	in	0.45
Total Defl'n	0.29 = L/705	0.84 = L/240	in	0.34
Bare Defl'n	0.22 = L/922	0.56 = L/360	in	0.39
Vibration	Lmax = 16'-11	Lv = 18'-4	ft	
Defl'n	= 0.029	= 0.037	in	0.78

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6151
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PROVINCE OF ONTARIO

DWG NO. TAM30671-17
STRUCTURAL COMPONENT ONLY

Additional Data:

FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KN	LC#
Vr	2336	1.00	1.00	-	-	-	-	-	#2
Mr+	6255	1.00	1.00	-	1.000	-	-	-	#2
EI	371.1 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:  EIeff =    433e06 lb-in2  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. TAM30871-17
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

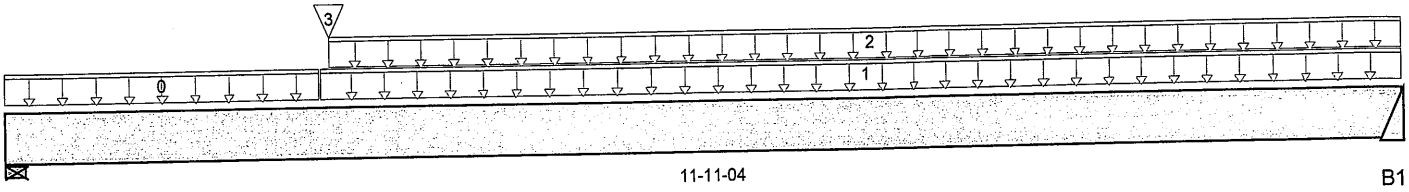
Dry | 1 span | No cantilevers | 0/12 slope (deg)

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 (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-15/16"	851 / 0	515 / 0		
B1	408 / 0	279 / 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	00-00-00	02-08-00	24	12			n/a
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L	02-08-00	11-11-04	21	11			n/a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	02-08-14	11-11-04	19	9			n/a
3	B13(i2336)	Conc. Pt. (lbs)	L	02-08-14	02-08-14	825	434			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,505 ft-lbs	38,727 ft-lbs	11.6%	1	02-08-14
End Shear	1,834 lbs	14,464 lbs	12.7%	1	01-03-13
Total Load Defl.	L/999 (0.072")	n/a	n/a	4	05-07-09
Live Load Defl.	L/999 (0.044")	n/a	n/a	5	05-07-09
Max Defl.	0.072"	n/a	n/a	4	05-07-09
Span / Depth	11.7	n/a	n/a		00-00-00

Bearing Supports

		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-15/16" x 3-1/2"	1,921 lbs	26.2%	11.5%	Unspecified
B1	Hanger	2" x 3-1/2"	961 lbs	n/a	11.2%	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 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

LICENSED PROFESSIONAL ENGINEER
6517
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM3067-17
STRUCTURAL
COMPONENT ONLY

Boise Cascade

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)

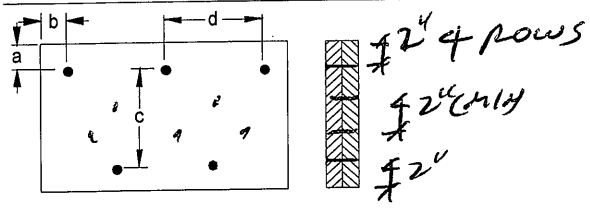
June 6, 2017 15:58:02

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(i23(
Specifier:
Designer:
Company:
Misc:

Connection Diagram



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

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.

Connectors are: Pneumatic Gun Nails

3½" 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.

LICENSED PROFESSIONAL ENGINEER
100517
S. KATSOULAKOS
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DWG NO. TAM3067211
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

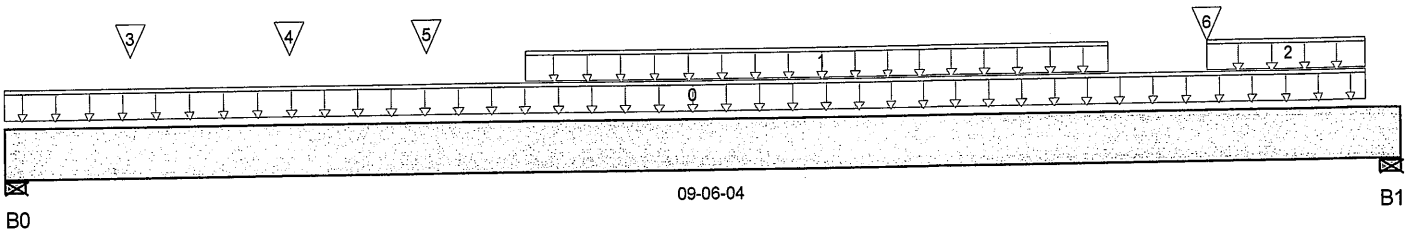
Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:04

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)

Bearing	Live	Dead	Snow	Wind
B0, 4-1/4"	1,227 / 0	732 / 0		
B1, 5-1/2"	876 / 0	510 / 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	00-00-00	09-03-08	9	5			n/a
1	Smoothed Load	Unf. Lin. (lb/ft)	L	03-06-04	07-06-04	188	95			n/a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	08-02-04	09-03-08	35	17			n/a
3	J4(i2325)	Conc. Pt. (lbs)	L	00-10-04	00-10-04	390	195			n/a
4	B11(i2363)	Conc. Pt. (lbs)	L	01-11-01	01-11-01	412	281			n/a
5	J3(i2368)	Conc. Pt. (lbs)	L	02-10-04	02-10-04	213	107			n/a
6	J3(i2378)	Conc. Pt. (lbs)	L	08-02-04	08-02-04	211	105			n/a

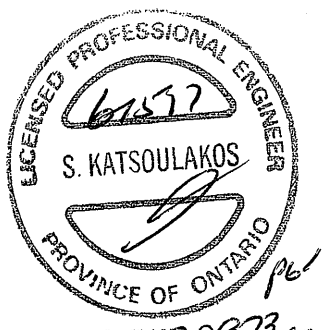
Controls Summary

	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.	L/999 (0.031")	n/a	n/a	5	04-08-04
Max Defl.	0.05"	n/a	n/a	4	04-08-04
Span / Depth	8.9	n/a	n/a		00-00-00

Bearing Supports

		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	4-1/4" x 3-1/2"	2,756 lbs	34.7%	15.2%	Unspecified
B1	Wall/Plate	5-1/2" x 3-1/2"	1,952 lbs	19%	8.3%	Unspecified

Notes



DWG NO. TAM3067317
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

BC CALC® Design Report

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

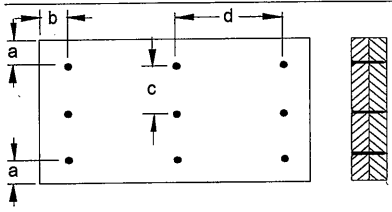
June 6, 2017 15:58:04

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(i23
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

Connection Diagram



a minimum = 2" c = 3-15/16"
b minimum = 3" d = 6"

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 [illegible] Nails

3½" 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.

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM30673-17
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

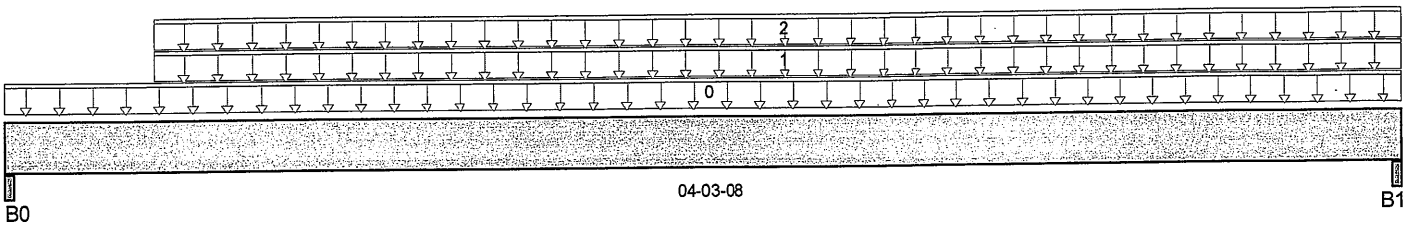
Dry | 1 span | No cantilevers | 0/12 slope (deg)

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 (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	217 / 0	428 / 0	410 / 0	
B1, 5-1/2"	223 / 0	434 / 0	421 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
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

Bearing Supports

		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance 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

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: 00-00-00, 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.
CONFORMS TO OBC 2012
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

LICENSED PROFESSIONAL ENGINEER
61517
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM30874-17
STRUCTURAL
COMPONENT ONLY

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

BC CALC® Design Report

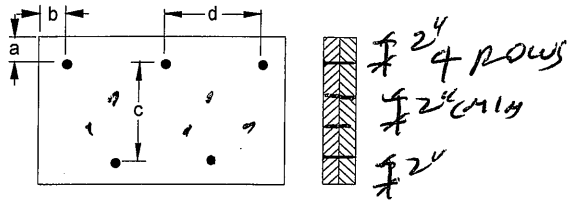
Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 16:12:59

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(i23
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 Common Nails
3½" 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.

LICENSED PROFESSIONAL ENGINEER
6557
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM3067A-17
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

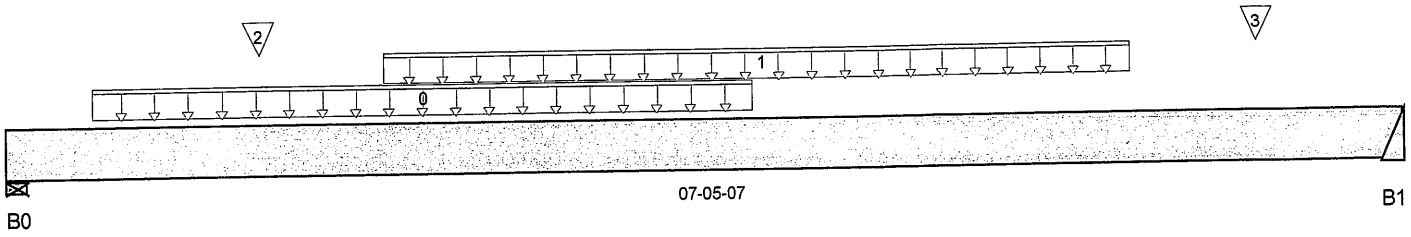
Dry | 1 span | No cantilevers | 0/12 slope (deg)

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 Length = 07-05-07

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	1,203 / 0	626 / 0		
B1	834 / 0	439 / 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	00-05-08	03-11-08	240	120			n/a
1	Smoothed Load	Unf. Lin. (lb/ft)	L	02-00-00	06-00-00	188	94			n/a
2	J3(i2378)	Conc. Pt. (lbs)	L	01-04-00	01-04-00	227	114			n/a
3	J3(i2368)	Conc. Pt. (lbs)	L	06-08-00	06-08-00	212	106			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
Total Load Defl.	L/999 (0.051")	n/a	n/a	6	03-09-09
Live Load Defl.	L/999 (0.033")	n/a	n/a	8	03-09-09
Max Defl.	0.051"	n/a	n/a	6	03-09-09
Span / Depth	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	5-1/2" x 1-3/4"	2,588 lbs	50.4%	22%	Unspecified
B1	Hanger	2" x 1-3/4"	1,799 lbs	n/a	42.1%	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

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.

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM30675-17
STRUCTURAL COMPONENT ONLY

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

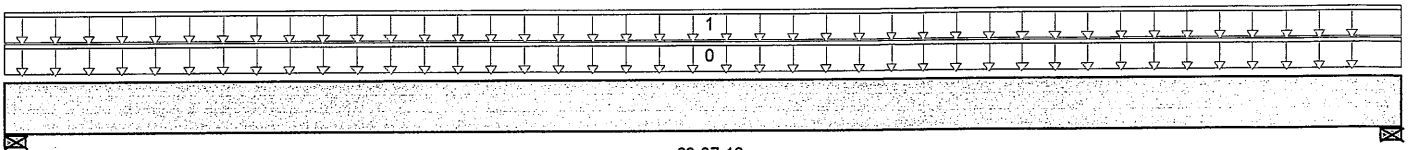
BC CALC® Design Report

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:



Total Horizontal Product Length = 09-07-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	68 / 0	347 / 0		
B1, 5-1/2"	68 / 0	347 / 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	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-lbs	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

Bearing Supports		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance 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.
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.

LICENSED PROFESSIONAL ENGINEER
6157
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM3E076-17
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

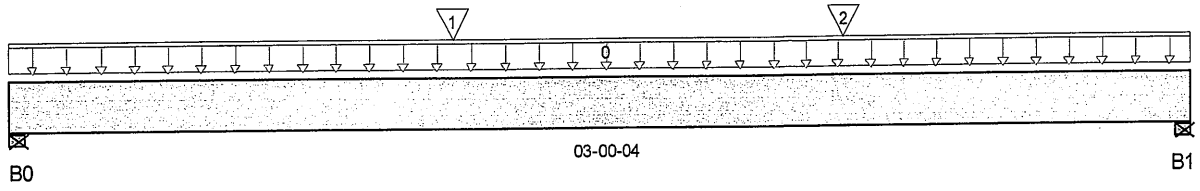
Dry | 1 span | No cantilevers | 0/12 slope (deg)

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)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	760 / 0	524 / 0		
B1, 2-3/4"	780 / 0	528 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	E12(i846)	Unf. Lin. (lb/ft)	L	00-00-00	03-00-04	308	235			n/a
1	J3(i2332)	Conc. Pt. (lbs)	L	01-01-08	01-01-08	305	153			n/a
2	J3(i2344)	Conc. Pt. (lbs)	L	02-01-08	02-01-08	305	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

Bearing Supports		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance 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 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

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

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)

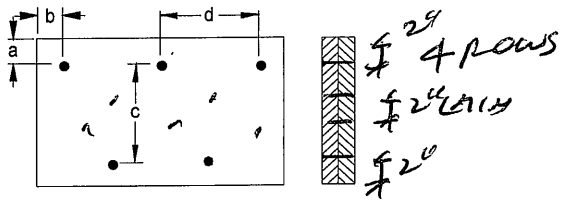
June 6, 2017 15:58:13

BC CALC® Design Report

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(i235
Specifier:
Designer:
Company:
Misc:

Connection Diagram



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

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 [illegible] 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.

LICENSED PROFESSIONAL ENGINEER
61577
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 3087-17
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

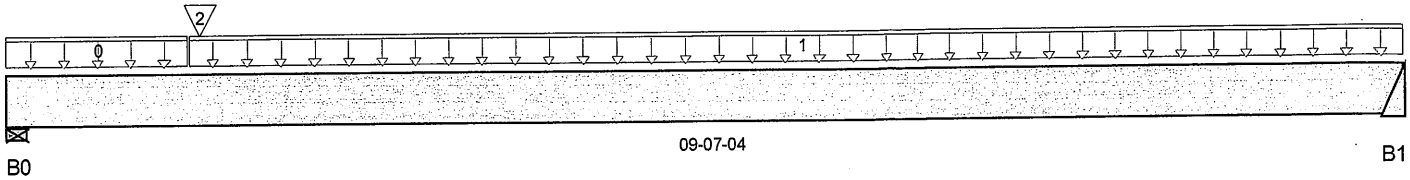
BC CALC® Design Report

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

June 6, 2017 15:58:15

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(i2313)
Specifier:
Designer:
Company:
Misc:



Total Horizontal Product Length = 09-07-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/2"	1,412 / 0	784 / 0		
B1	298 / 0	207 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
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

Bearing Supports

		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance 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 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

LICENSED PROFESSIONAL ENGINEER
6157
S. KATSOULAKOS
PROVINCE OF ONTARIO

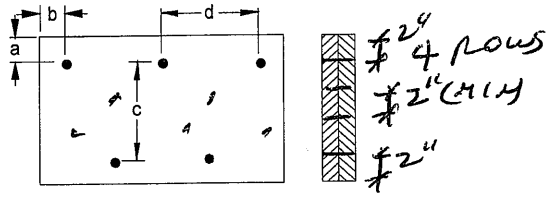
DWG NO. TAM 30878-17
STRUCTURAL
COMPONENT ONLY

BC CALC® Design Report

Build 5033
Job Name:
Address:
City, Province, Postal Code:,
Customer:
Code reports: CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl
Description: Designs\Flush Beams\Basment\Flush Beams\B5(i231
Specifier:
Designer:
Company:
Misc:

Connection Diagram



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

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 [illegible] Nails
3½" 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.

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM30879-17
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

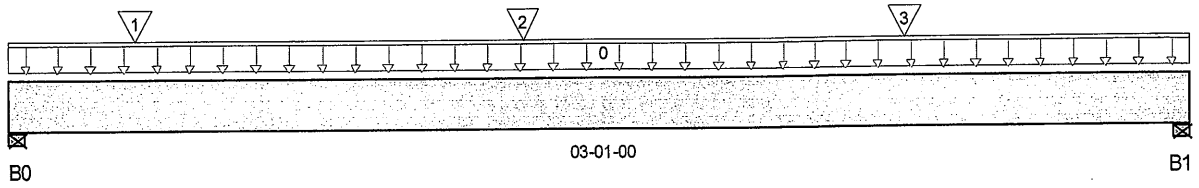
BC CALC® Design Report

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

June 6, 2017 15:58:18

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)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	606 / 0	446 / 0		
B1, 3-1/2"	441 / 0	363 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
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-lbs	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

Bearing Supports		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance 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 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

LICENSED PROFESSIONAL ENGINEER
61577
S. KATSOULAKOS
PROVINCE OF ONTARIO

P6/6

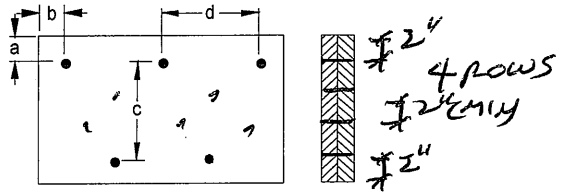
DWG NO. TAM30079-17
STRUCTURAL
COMPONENT ONLY

BC CALC® Design Report

Build 5033
Job Name:
Address:
City, Province, Postal Code:,
Customer:
Code reports: CCMC 12472-R

File Name: AUBURN 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" d = 6"

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 Sinker Nails

3½" 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.

DWG NO. TAM 30879-17
STRUCTURAL
COMPONENT ONLY

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

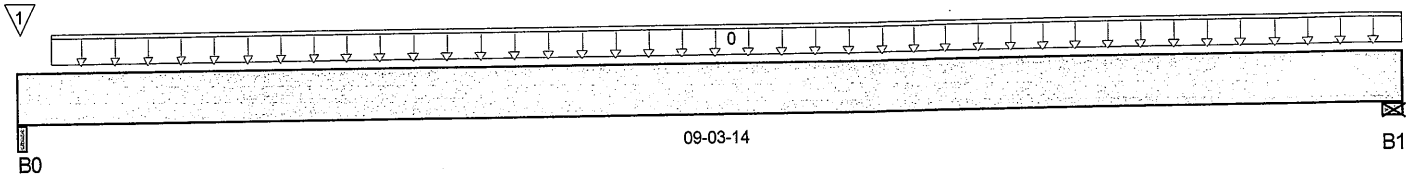
Dry | 1 span | No cantilevers | 0/12 slope (deg)

June 6, 2017 15:58:21

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\B2(i2239)
Specifier:
Designer:
Company:
Misc:



Total Horizontal Product Length = 09-03-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 2-5/8"	144 / 0	111 / 0		
B1, 4-3/8"	114 / 0	86 / 0		

Load Summary

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

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
Total Load Defl.	L/999 (0.012")	n/a	n/a	4	04-07-01
Live Load Defl.	L/999 (0.007")	n/a	n/a	5	04-07-01
Max Defl.	0.012"	n/a	n/a	4	04-07-01
Span / Depth	9	n/a	n/a		00-00-00

Bearing Supports

		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Beam	2-5/8" x 1-3/4"	356 lbs	14.5%	6.3%	Unspecified
B1	Wall/Plate	4-3/8" x 1-3/4"	279 lbs	6.8%	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 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

LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

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.

DWG NO. TAM 306-99
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

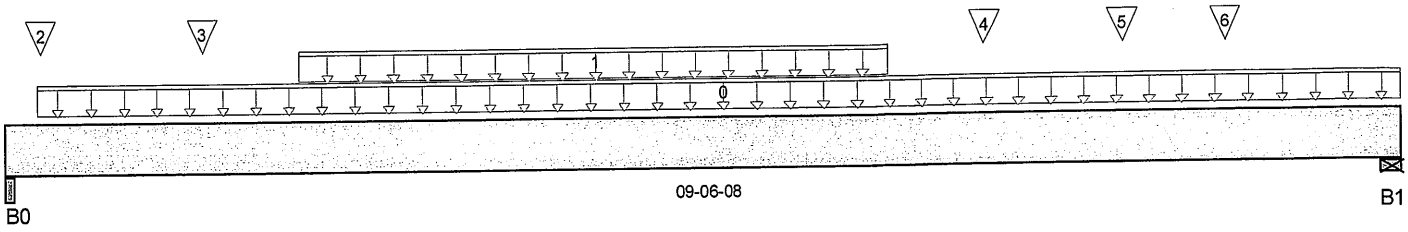
BC CALC® Design Report

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

June 6, 2017 15:58:22

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\B3(i2340)
Specifier:
Designer:
Company:
Misc:



Total Horizontal Product Length = 09-06-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 5-1/4"	1,212 / 0	713 / 0		
B1, 4-3/8"	1,058 / 0	632 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
0	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-02-10	09-06-08	15	7			n/a
1	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
3	J5(i2248)	Conc. Pt. (lbs)	L	01-04-02	01-04-02	266	133			n/a
4	J5(i2249)	Conc. Pt. (lbs)	L	06-08-02	06-08-02	195	97			n/a
5	B5(i2313)	Conc. Pt. (lbs)	L	07-07-10	07-07-10	292	203			n/a
6	J7(i2358)	Conc. Pt. (lbs)	L	08-04-02	08-04-02	333	167			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	4,575 ft-lbs	38,727 ft-lbs	11.8%	1	05-04-02
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
Max Defl.	0.048"	n/a	n/a	4	04-10-02
Span / Depth	9	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 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

DWG NO. TAM 3000/L-17
STRUCTURAL
COMPONENT ONLY

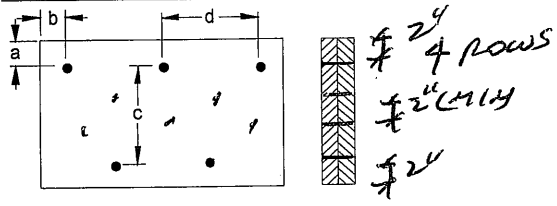
BC CALC® Design Report

Build 5033
Job Name:
Address:
City, Province, Postal Code:,
Customer:
Code reports: CCMC 12472-R

File Name: AUBURN 2 EL 1.mmdl
Description: Designs\Flush Beams\Basment\Flush Beams\B3(i234
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

Connection Diagram



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

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 Common Nails
3½" 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.

LICENSED PROFESSIONAL ENGINEER
61577
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM3000L17
STRUCTURAL
COMPONENT ONLY

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

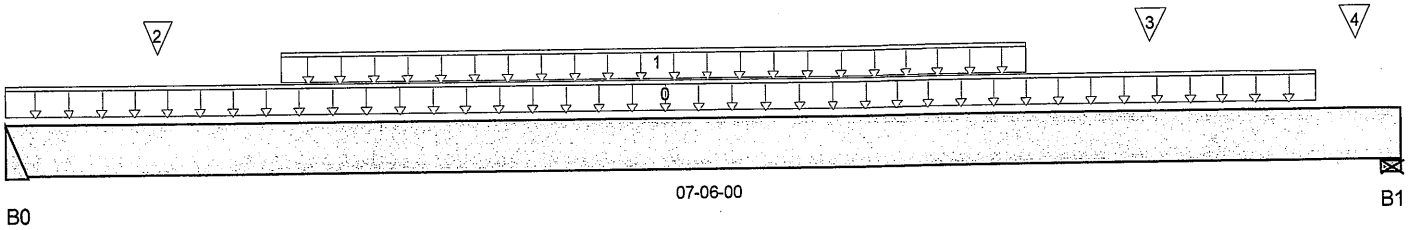
Dry | 1 span | No cantilevers | 0/12 slope (deg)

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(i2365)
Specifier:
Designer:
Company:
Misc:



Total Horizontal Product Length = 07-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0	1,429 / 0	735 / 0		
B1, 5-1/2"	1,451 / 0	760 / 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	07-00-08	240	120			n/a
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-05-12	05-05-12	170	85			n/a
2	J5(i2249)	Conc. Pt. (lbs)	L	00-09-12	00-09-12	195	97			n/a
3	J5(i2248)	Conc. Pt. (lbs)	L	06-01-12	06-01-12	266	133			n/a
4	13(i889)	Conc. Pt. (lbs)	L	07-03-00	07-03-00	47	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)	Demand	Demand/ Resistance Support	Demand/ 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 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

LICENSED PROFESSIONAL ENGINEER
6152
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM3000217
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 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.

LICENSED PROFESSIONAL ENGINEER
6077
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM 30832-17
STRUCTURAL
COMPONENT ONLY

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

Boise Cascade

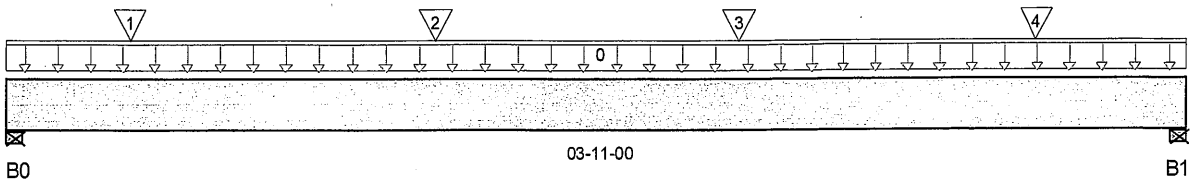
BC CALC® Design Report

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

June 6, 2017 15:58:27

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(i2360)
Specifier:
Designer:
Company:
Misc:



Total Horizontal Product Length = 03-11-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,523 / 0	945 / 0		
B1, 3-1/2"	1,489 / 0	928 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Trib.
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
Pos. Moment	2,563 ft-lbs	38,727 ft-lbs	6.6%	1	02-00-02
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

Bearing Supports		Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance 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 OBC 2012
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 9

LICENSED PROFESSIONAL ENGINEER
6157
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM30883-17
STRUCTURAL
COMPONENT ONLY

Boise Cascade

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)

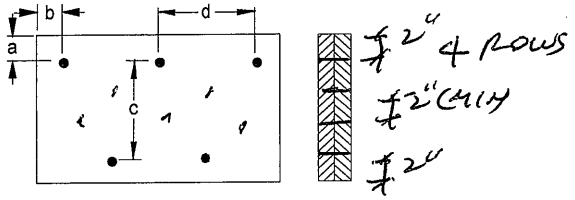
June 6, 2017 15:58:27

BC CALC® Design Report

Build 5033
Job Name:
Address:
City, Province, Postal Code:,
Customer:
Code reports: 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" c = 7-7/8"
b minimum = 3" d = 6"

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 [illegible] Nails

3½" ARDOX SPIRAL

Disclosure

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LICENSED PROFESSIONAL ENGINEER
S. KATSOULAKOS
PROVINCE OF ONTARIO

DWG NO. TAM30883-17
STRUCTURAL
COMPONENT ONLY