

**Engineering Note Page (ENP-2)**

REVISION 2009-10-09

**Please read all notes prior to installation of the component****DESIGN INFORMATION**

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

The responsibility of the undersigned engineer is only limited to the calculation of this building component for the loads and conditions shown on this drawing.

The responsibility of the undersigned is limited to the verification of the structural capacity of the NASCOR floor joists and LVL beams based on placement as shown on the layout. The loads applied are limited to the gravity effects of the specified loads. The structural integrity of the building and the effect of wind, uplift, seismic, lateral or other forces, calculation of adequate support and anchorage of components, as well as the dimensions and design loads used to calculate components are the responsibility of the overall building designer.

Floor joists and OSB rim board are designed to carry uniformly distributed loads only. Point loads should be transferred through the floor cavity with squash blocks. Structural elements such as walls, posts, connectors, and squash blocks are the responsibility of the overall building designer.

The undersigned engineer disclaims any responsibility for damages as a result of being furnished faulty or incorrect information, specifications and/or designs.

Installation of NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at <http://www.nascor.ca>.

**CODE**

This building component is designed in accordance with the National Building Code of Canada, the Ontario Building Code, CCMC and Canadian Standards Association guidelines.

**COMPONENT**

1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies must be connected as per the document "Multi-ply Connection Details".
4. Pass-thru squash block framing is required at all point loads over bearings.

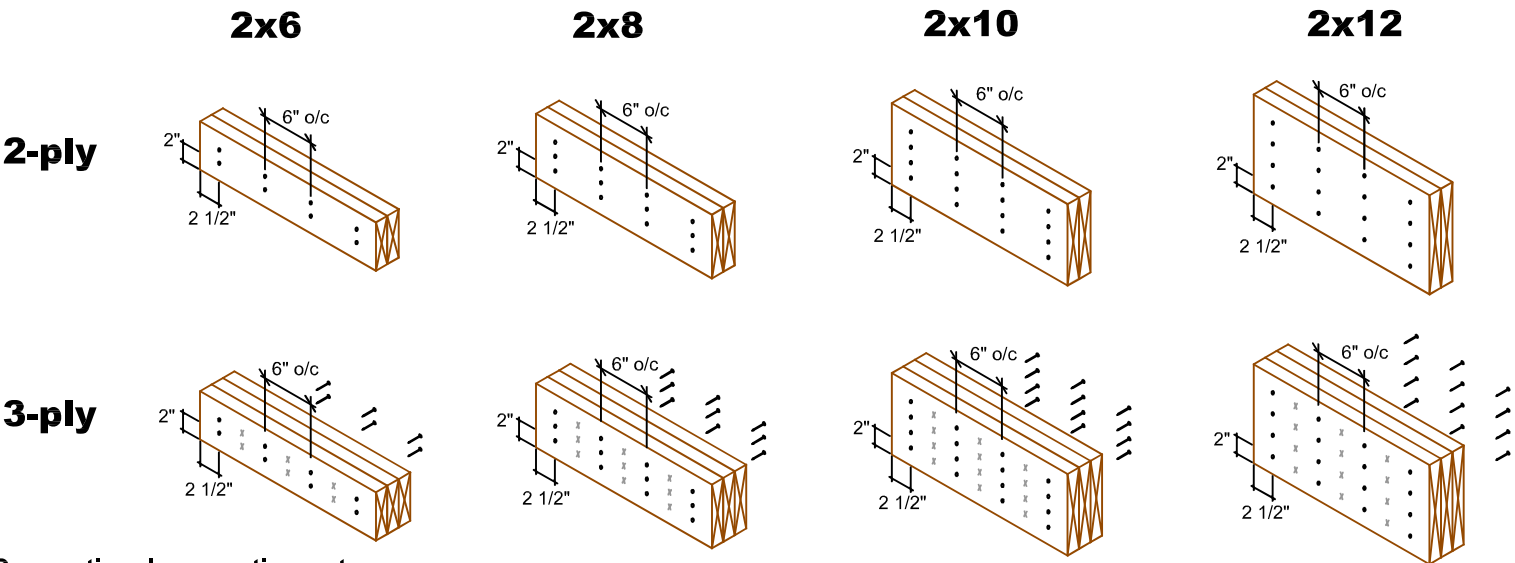
**HANDLING AND INSTALLATION**

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



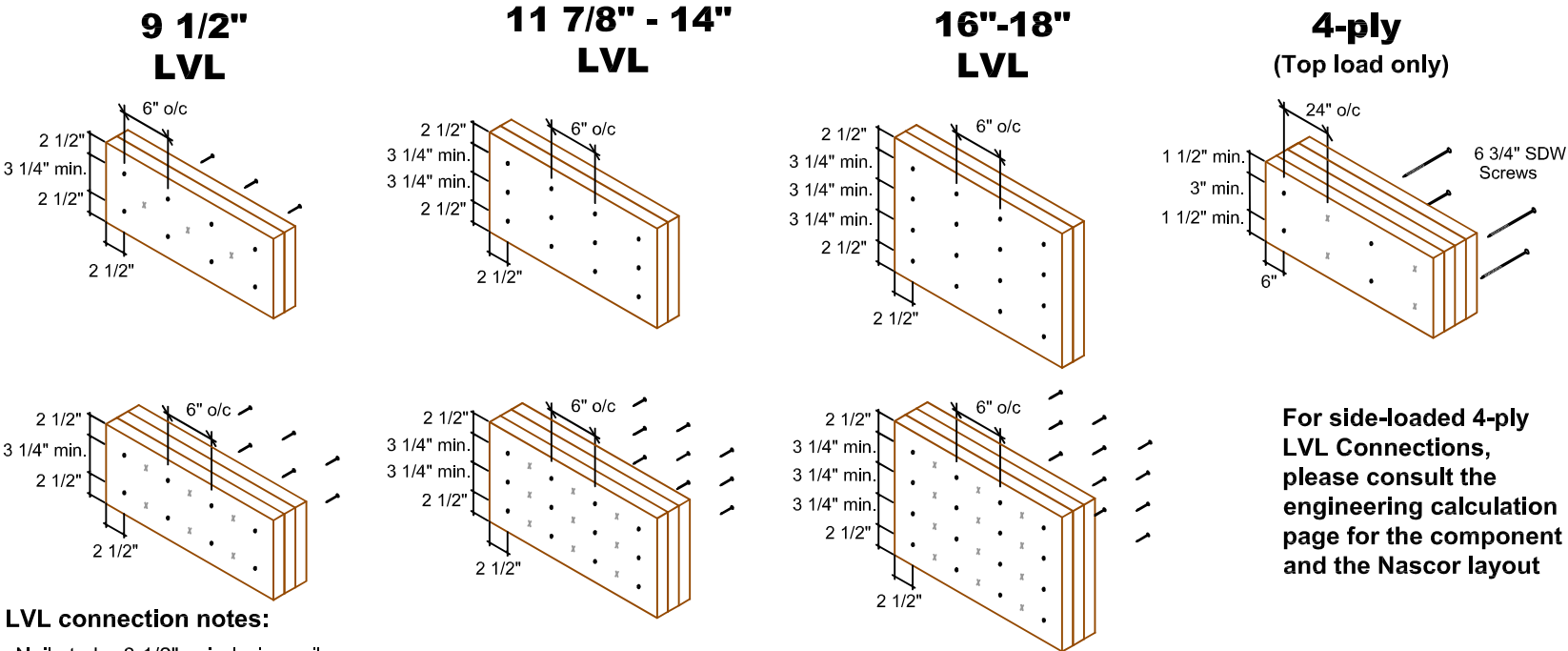
# MULTIPLE MEMBER CONNECTIONS

## Conventional Connections (for uniform distributed loads)



- Conventional connection notes:**
- Nails to be 3" 10d spiral wire nails.
  - Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
  - Number of rows and spacing as per details shown, unless noted otherwise.
  - "X" represents nail driven from the opposite side.

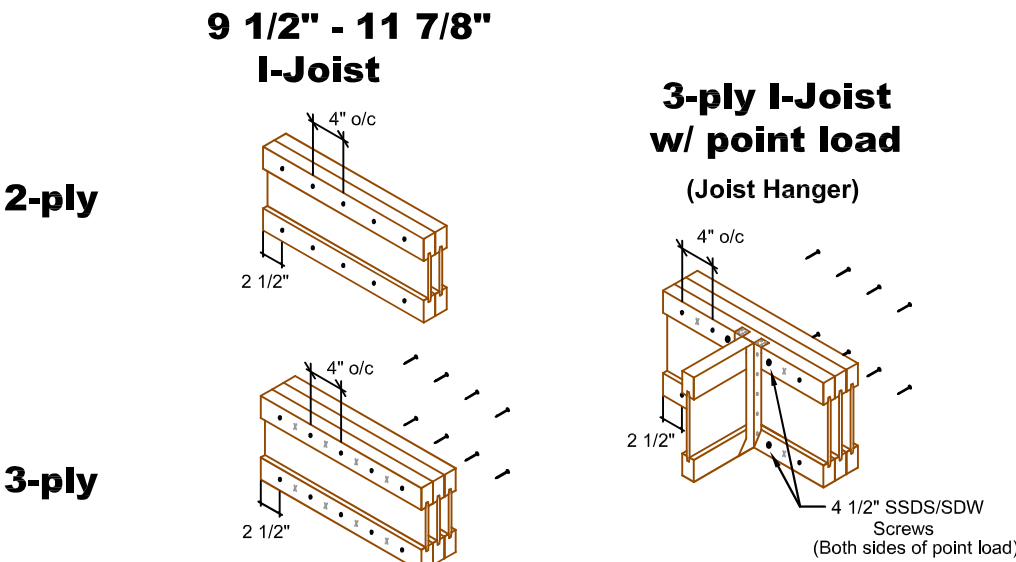
## LVL Connections (for uniform distributed loads)



- LVL connection notes:**
- Nails to be 3 1/2" spiral wire nails.
  - Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
  - Minimum 3 1/4" spacing between rows.
  - Number of rows and spacing as per details shown, unless noted otherwise.
  - "X" represents nail or screw driven from the opposite side.

For side-loaded 4-ply LVL Connections, please consult the engineering calculation page for the component and the Nascor layout

## Vertical I-Joist Connections (for uniform distributed loads)



- Vertical I-Joist connection notes:**
- Nails to be 3" spiral wire nails.
  - Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
  - Number of rows and spacing as per details shown, unless noted otherwise.
  - "X" represents nail driven from the opposite side.

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----- Floor Framing Material -----

Type	Qty.	Product	Length
J1	13	NJ40U12	18' 0"
J2	1	NJH12	12' 0"
J3	1	NJH12	10' 0"
J4	1	NJH12	8' 0"
J5	1	NJH12	6' 0"
J6	6	NJH12	4' 0"
J7	9	NJ60U12	20' 0"
J8	34	NJ60H12	18' 0"
G1	2	1-3/4 x 11-7/8 2.0E Global LVL	10' 0"
G2	1	1-3/4 x 11-7/8 2.0E Global LVL	6' 0"
G3	2	NJ12	4' 0"
G4	2	NJ12	4' 0"
G5	2	NJ12	4' 0"
G6	2	NJ12	20' 0"
G7	2	NJ12	20' 0"
G8	2	NJ12	18' 0"
G9	2	NJ12	18' 0"
G10	2	NJ12	18' 0"
G11	2	NJ12	18' 0"
R1	14	11 7/8" RIMBOARD	12' 0"
R2	2	11 7/8" RIMBOARD	12' 0"

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HATCH AREA REPRESENTS  
CERAMIC TILED FLOOR WITH AN  
ADDITIONAL DEAD LOAD OF 5 PSF



The framing shown on this layout may deviate from the architectural drawing.  
Project engineer to review and approve the deviation prior to construction.

Architectural Drawing Info:  
REGION DESIGN INC.  
8700 Dufferin St., Concord, ON  
Date: July 2016  
Project Number: 02-10-106  
Model: Lot 149 (Juniper 7)

Pass-thru framing squash block is required  
at all point loads over bearings.

Refer to Multiple Member Connection  
Detail to ply to ply nailing or bolting  
requirements.

Rim parallel to joists: 1-1/8" rimboard with  
2"x4" block (1/16" longer than rim depth @ 16"o/c.  
Rim perpendicular to joists: 1-1/8" rimboard with  
All other components and structural elements supporting  
the floor system such as beams, walls, columns and  
foundation walls and footings including anchorage of  
components and bracing for lateral stability are the  
responsibility of others.

SB: SQUASH BLOCKS

----- Connector List -----

ID#	Qty	Model Number
H1	6	LT2-151188
H2	10	LT351188
H3	5	LT251188

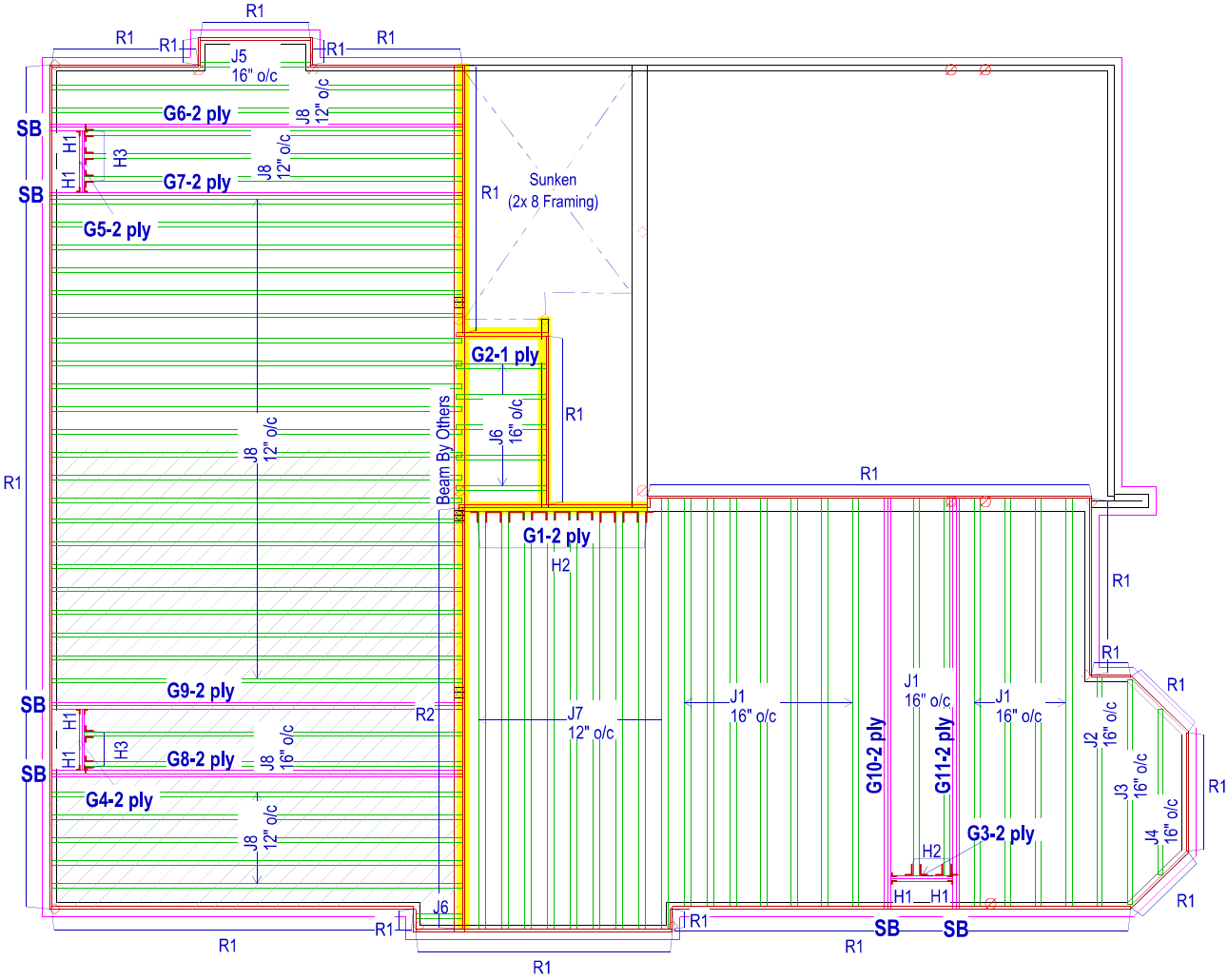
DESIGN ASSUMPTIONS

Loads:(un-factored)  
T/C Live: 40 psf B/C Live: 0 psf  
T/C Dead: 15 psf B/C Dead: 0 psf  
Load Case: Live  
Deflection Criteria:  
L/480 Live L/360 Total  
Building Code: OBC-2012 (Limit States Design)

Building Type: Residential Importance Category: Normal  
Design assumes top edge continuously braced,  
and bottom edge unbraced.  
Joist Design Includes CCMC Vibration Check  
Subfloor: 3/4" OSB Glued and Nailed  
Ceiling: (None)  
Blocking: (None)

All Loads are UN-FACTORED Loads

- NOTES:
1. Framers to verify dimensions on the architectural drawings.
  2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
  3. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
  4. Install single-ply flush window header along inside face of rimboard/rimjoist.
  5. Refer to Nascor specifier guide for installation details.
  6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
  7. Load transfer blocks to be installed under all point loads.
  8. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.



FIRST FLOOR FRAMING

**TOWN OF MILTON**  
PLANNING AND DEVELOPMENT  
BUILDING PERMIT: 17-7101

**BUILDING: REVIEWED**  
**SCOTT SHERRIFFS** JUN 12, 2017  
PLANS EXAMINER DATE

Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relieves the owner from full responsibility for compliance with the provisions of the Ontario Building Code Act and the Ontario Building Code, both as amended, as well as other applicable statutes and regulations of the Province of Ontario, By-laws of the Region of Halton and Town of Milton

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Nascor by KOTT  
14 Anderson Blvd.  
Uxbridge, ON.  
www.nascor.ca

Project Tag:

MILTON, ONT.

GREEN PARK HOMES  
LECCO RIDGE  
LOT 149 (JUNIPER 7 EL.1)

Customer#: Salesman#:RM

Time: 07:27 AM  
Date: 05/08/17  
Designer: SB  
Scale: 1/8" = 1'  
License Name:  
KEYMARK ENTERPRISES, INC.



**Member Data****Description:** CalcG1**Comments:**

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

Application: Floor

Building Code: OBC-2012

0.720" max. LL

Member Weight: 10.1 PLF

Standard Load:

Live Load: 0 PLF

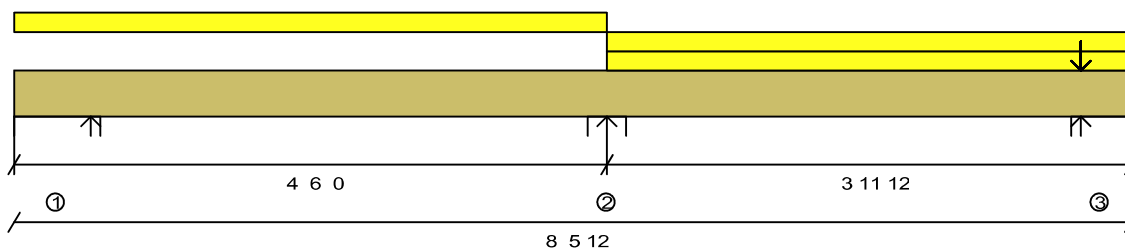
Dead Load: 0 PLF

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 6.00"		612		229		Live
Replacement Uniform (PLF)	Top	4' 6.00"	8' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	4' 6.00"	8' 5.75"		372		139		Live
Point (LBS)	Top	8' 1.13"			19		7		Live
Point (LBS)	Top	8' 1.13"			20		7		Live
Point (LBS)	Top	8' 1.13"			53		20		Live
Point (LBS)	Top	8' 1.13"			0		81		Live
Point (LBS)	Top	8' 1.13"			0		81		Live
Point (LBS)	Top	8' 1.13"			717		269		Live
Point (LBS)	Top	8' 1.13"			717		269		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	2028#	--
2	4' 6.000"	Wall	N/A	N/A	1.627"	4784#	--
3	8' 5.750"	Wall	N/A	N/A	1.500"	4383#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	1039#	375#
2	2400#	947#
3	2155#	920#

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
IS AN INTEGRAL PART OF THIS DRAWING AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.



May 9, 2017

Design spans

3' 10.875"

3' 7.125"

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**Product: 1-3/4 x 11-7/8 2.0E Global LVL 2 ply****PASSES DESIGN CHECKS****NOTE: Pass-thru framing is required at point loads over bearings.****Design assumes continuous lateral bracing along the top chord.****Design assumes no lateral bracing along the bottom chord.****The aspect ratio for the determination of the lateral stability factor is based on the total width of the beam in accordance with Section 6.5.6.3.1 and 6.5.6.3.3 of CSA O86-09.****Pass-Thru Framing Squash Block is  
required at all point loads over bearings****Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements****Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	1684.##	37634.##	4%	2.35'	Odd Spans 1.25D+1.5L
Negative Moment	1825.##	37634.##	4%	4.5'	Total Load 1.25D+1.5L
Negative Unbrcd	1825.##	37634.##	4%	4.5'	Total Load 1.25D+1.5L
Shear	1640.##	13217.##	12%	3.52'	Total Load 1.25D+1.5L
TL Deflection	0.0029"	0.1302"	L/999+	2.35'	Odd Spans D+L
LL Deflection	0.0023"	0.0977"	L/999+	2.35'	Odd Spans L

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\*\*Passing is defined as when the member, floor joist, beam or girder, shown on this drawing meets applicable design criteria for Loads, Loading Conditions, and Spans listed on this sheet. The design must be reviewed by a qualified designer or design professional as required for approval. This design assumes product installation according to the manufacturer's specifications.

SB  
Nascor by KOTT  
14 Anderson Blvd.  
Uxbridge, ON.  
www.nascor.ca

**Member Data****Description:** CalcG2**Comments:**

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

Member Weight: 5.0 PLF

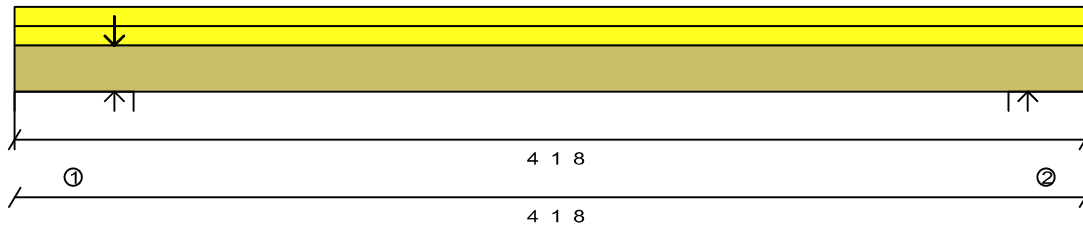
Filename: S:\CUSTOMERS

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 1.50"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 1.50"		40		15		Live
Point (LBS)	Top	0' 4.63"			50		19		Live
Point (LBS)	Top	0' 4.63"			0		81		Live
Point (LBS)	Top	0' 4.63"			0		81		Live
Point (LBS)	Top	0' 4.63"			150		56		Live
Point (LBS)	Top	0' 4.63"			717		269		Live
Point (LBS)	Top	0' 4.63"			717		269		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	3660#	--
2	4' 1.500"	Wall	N/A	N/A	1.500"	242#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	1751#	827#
2	117#	53#

Design spans  
3' 6.250"

May 9, 2017

**Product: 1-3/4 x 11-7/8 2.0E Global LVL 1 ply****PASSES DESIGN CHECKS**

**NOTE: Pass-thru framing is required at point loads over bearings.**  
**Design assumes continuous lateral bracing along the top chord.**  
**Design assumes no lateral bracing along the bottom chord.**

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	213.7#	18817.7#	1%	2.15'	Total Load 1.25D+1.5L
Shear	106.7#	6608.7#	1%	3.03'	Total Load 1.25D+1.5L
TL Deflection	0.0010"	0.1174"	L/999+	2.15'	Total Load D+L
LL Deflection	0.0010"	0.0880"	L/999+	2.15'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: Shear

Point loads over bearings are NOT included in the Design calculations, but ARE included in the Reaction table

**READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
IS AN INTEGRAL PART OF THIS DRAWING AS IT  
CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.**

**Pass-Thru Framing Squash Block is  
required at all point loads over bearings**

**Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements**

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Uxbridge, ON.  
www.nascor.ca



**Member Data****Description:** CalcG3**Comments:****Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

**Building Type:** Residential**Member Type:** Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

**Importance Category:** Normal (Part 9)**Application:** Floor**Building Code:** OBC-2012

0.720" max. LL

**Other Loads****Type****(Description)**

Replacement Uniform (PLF)

**Side**

Top

**Begin**

0' 0.00"

**End**

3' 3.00"

**Trib.  
Width****Other  
Start**

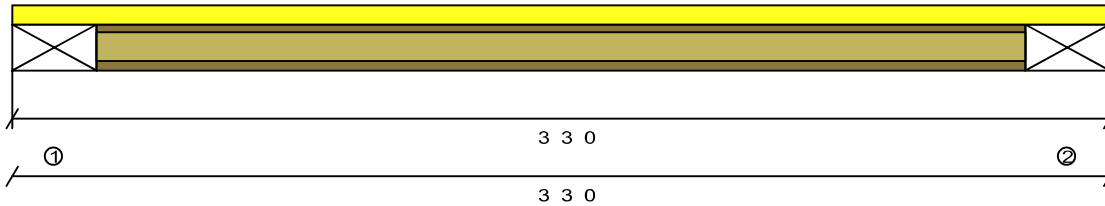
335

**End****Dead  
Start**

126

**End****Category**

Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Girder	N/A	N/A	N/A	907#	--
2	3' 3.000"	Girder	N/A	N/A	N/A	907#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	461#	173#
2	461#	173#

Design spans  
2' 9.000"**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	623.#	9020.#	6%	1.62'	Total Load 1.25D+1.5L
Shear	907.#	3400.#	26%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0049"	0.0917"	L/999+	1.62'	Total Load D+L
LL Deflection	0.0036"	0.0688"	L/999+	1.62'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Shear

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

Web stiffener and minimum bearing length requirements at hanged connections depend on the connection style and are not included in this design.

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
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CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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Uxbridge, ON.  
www.nascor.ca



**Member Data****Description: CalcG4**

Comments:

**Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

Building Code: OBC-2012

0.720" max. LL

**Other Loads****Type**

(Description)

Replacement Uniform (PLF)

Side

Top

Begin

0' 0.00"

End

3' 3.00"

Trib.  
WidthOther  
Start

330

End

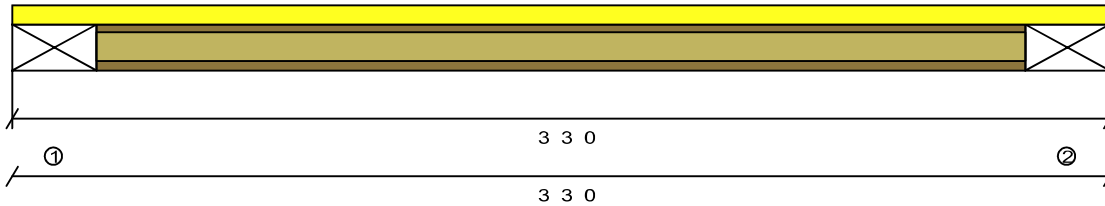
Dead  
Start

165

End

Category

Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Girder	N/A	N/A	N/A	964#	--
2	3' 3.000"	Girder	N/A	N/A	N/A	964#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	454#	227#
2	454#	227#

Design spans

2' 9.000"

**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Lateral support is required at each bearing.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	663.#	9020.#	7%	1.62'	Total Load 1.25D+1.5L
Shear	964.#	3400.#	28%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0053"	0.0917"	L/999+	1.62'	Total Load D+L
LL Deflection	0.0035"	0.0688"	L/999+	1.62'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Shear

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

Web stiffener and minimum bearing length requirements at hanged connections depend on the connection style and are not included in this design.

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
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Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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SB  
Nascor by KOTT  
14 Anderson Blvd.  
Uxbridge, ON.  
www.nascor.ca



**Member Data****Description: CalcG5**

Comments:

**Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

Building Code: OBC-2012

0.720" max. LL

**Other Loads****Type**

(Description)

Replacement Uniform (PLF)

Side

Top

Begin

0' 0.00"

End

3' 3.00"

Trib.  
WidthOther  
Start

330

End

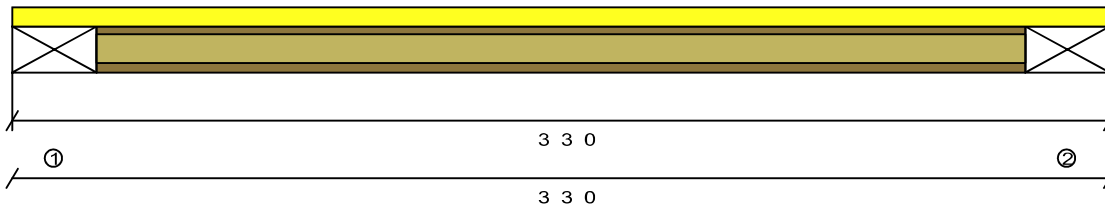
Dead  
Start

124

End

Category

Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Girder	N/A	N/A	N/A	893#	--
2	3' 3.000"	Girder	N/A	N/A	N/A	893#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	454#	170#
2	454#	170#

Design spans  
2' 9.000"**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	614. #	9020. #	6%	1.62'	Total Load 1.25D+1.5L
Shear	893. #	3400. #	26%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0048"	0.0917"	L/999+	1.62'	Total Load D+L
LL Deflection	0.0035"	0.0688"	L/999+	1.62'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Control: Shear

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

Web stiffener and minimum bearing length requirements at hungared connections depend on the connection style and are not included in this design.

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
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IN THE DESIGN OF THIS COMPONENT.

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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14 Anderson Blvd.  
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www.nascor.ca



**Member Data****Description:** CalcG6

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

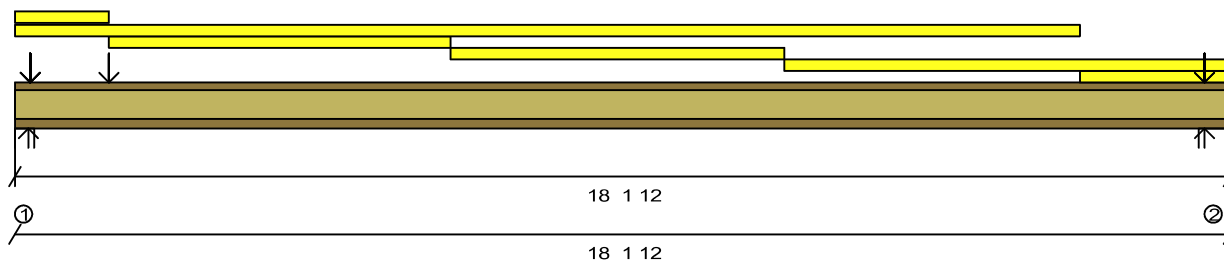
Filename: S:\CUSTOMERS

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	15' 11.00"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.00"	6' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	6' 6.00"	11' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	11' 6.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Top	15' 11.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		162		Live
Point (LBS)	Top	0' 2.75"			972		0		Snow
Point (LBS)	Top	0' 2.75"			1139		855		Live
Point (LBS)	Top	1' 5.00"			495		207		Live
Point (LBS)	Top	17' 9.13"			0		162		Live
Point (LBS)	Top	17' 9.13"			2075		900		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	0' 0.000"	Wall	N/A	N/A	1,500"	5278#	--
2	18' 1.750"	Wall	N/A	N/A	1,500"	5428#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Snow	Dead
1	2048#	972#	1377#
2	2576#	0#	1251#

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ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
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Design spans  
17' 6.500"

May 9, 2017

**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.  
NOTE: Pass-thru framing is required at point loads over bearings.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	4644.##	9020.##	51%	8.11'	Total Load 1.25D+1.5L
Shear	1813.##	3400.##	53%	0'	Total Load 1.25D+1.5L
End Reaction	1813.##	4100.##	44%	0'	Total Load 1.25D+1.5L
TL Deflection	0.3950"	0.5847"	L/532	8.99'	Total Load D+L
LL Deflection	0.2860"	0.4385"	L/736	8.99'	Total Load L

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**Member Data****Description:** CalcG7

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Standard Load:

Live Load: 0 PLF

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Dead Load: 0 PLF

Deck Connection: Nailed

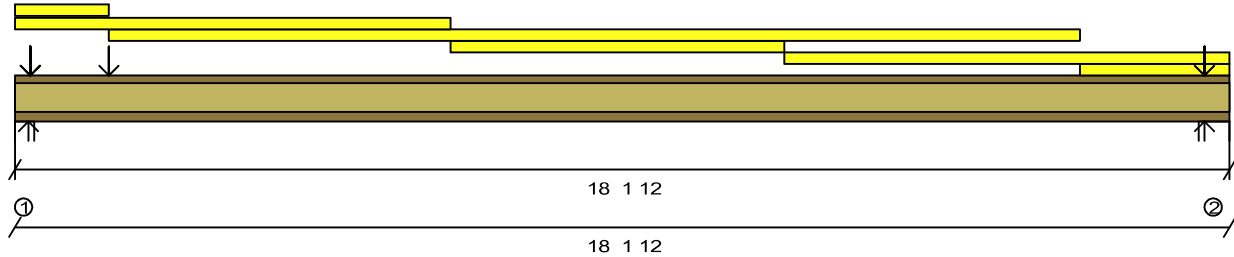
Filename: S:\CUSTOMERS

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	6' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.00"	15' 11.00"		27		10		Live
Replacement Uniform (PLF)	Top	6' 6.00"	11' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	11' 6.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Top	15' 11.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		162		Live
Point (LBS)	Top	0' 2.75"			1005		0		Snow
Point (LBS)	Top	0' 2.75"			1154		868		Live
Point (LBS)	Top	1' 5.00"			495		207		Live
Point (LBS)	Top	17' 9.13"			0		162		Live
Point (LBS)	Top	17' 9.13"			1859		806		Live

**Bearings and Factored Reactions**

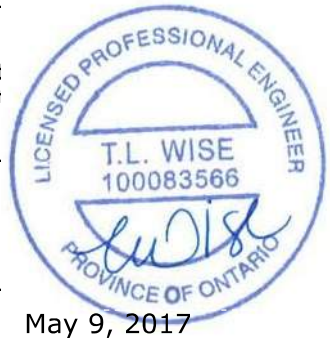
	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	0' 0.000"	Wall	N/A	N/A	1,500"	5334#	--
2	18' 1.750"	Wall	N/A	N/A	1,500"	4987#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Snow	Dead
1	2062#	1005#	1390#
2	2360#	0#	1158#

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Design spans  
17' 6.500"

May 9, 2017

**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.  
NOTE: Pass-thru framing is required at point loads over bearings.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	4644. #	9020. #	51%	8.11'	Total Load 1.25D+1.5L
Shear	1813. #	3400. #	53%	0'	Total Load 1.25D+1.5L
End Reaction	1813. #	4100. #	44%	0'	Total Load 1.25D+1.5L
TL Deflection	0.3950"	0.5847"	L/532	8.99'	Total Load D+L
LL Deflection	0.2860"	0.4385"	L/736	8.99'	Total Load L

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www.nascor.ca



**Member Data****Description:** CalcG8

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

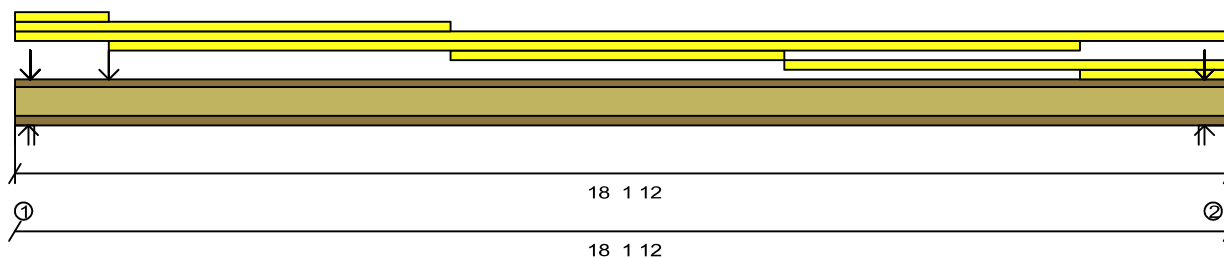
Filename: S:\CUSTOMERS

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	6' 6.00"		27		10		Live
Additional Uniform (PLF)	Top	0' 0.00"	18' 1.75"		0		7		Live
Replacement Uniform (PLF)	Top	1' 5.00"	15' 11.00"		27		10		Live
Replacement Uniform (PLF)	Top	6' 6.00"	11' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	11' 6.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Top	15' 11.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		162		Live
Point (LBS)	Top	0' 2.75"			1005		0		Snow
Point (LBS)	Top	0' 2.75"			1154		953		Live
Point (LBS)	Top	1' 5.00"			495		269		Live
Point (LBS)	Top	17' 9.13"			107		40		Live
Point (LBS)	Top	17' 9.13"			0		162		Live
Point (LBS)	Top	17' 9.13"			1433		647		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	5585#	--
2	18' 1.750"	Wall	N/A	N/A	1.500"	4437#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Snow	Dead
1	2062#	1005#	1591#
2	2041#	0#	1101#

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
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Design spans  
17' 6.500"

May 9, 2017

**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.  
NOTE: Pass-thru framing is required at point loads over bearings.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	5012. #	9020. #	55%	8.11'	Total Load 1.25D+1.5L
Shear	1958. #	3400. #	57%	0'	Total Load 1.25D+1.5L
End Reaction	1958. #	4100. #	47%	0'	Total Load 1.25D+1.5L
TL Deflection	0.4309"	0.5847"	L/488	8.99'	Total Load D+L
LL Deflection	0.2860"	0.4385"	L/736	8.99'	Total Load L

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Uxbridge, ON.  
www.nascor.ca



**Member Data****Description:** CalcG9

Comments:

Member Type: Girder

Application: Floor

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Building Code: OBC-2012

Deflection Criteria: L/480 live, L/360 total

0.720" max. LL

Deck Connection: Nailed

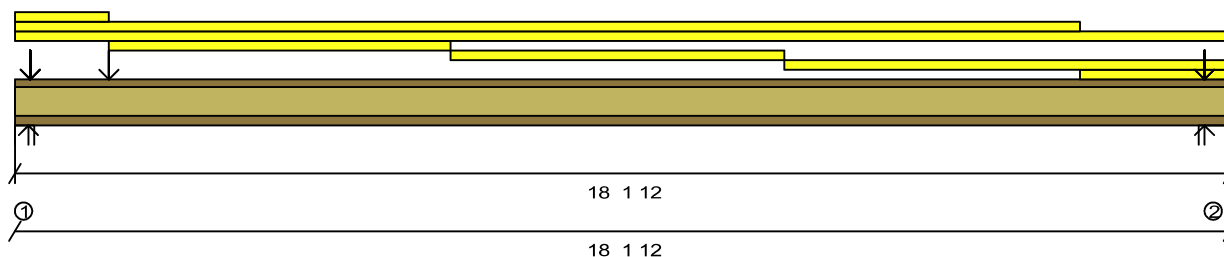
Filename: S:\CUSTOMERS

Building Type: Residential

Importance Category: Normal (Part 9)

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 5.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	15' 11.00"		27		10		Live
Additional Uniform (PLF)	Top	0' 0.00"	18' 1.75"		0		7		Live
Replacement Uniform (PLF)	Top	1' 5.00"	6' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	6' 6.00"	11' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	11' 6.00"	18' 1.75"		27		10		Live
Replacement Uniform (PLF)	Top	15' 11.00"	18' 1.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		162		Live
Point (LBS)	Top	0' 2.75"			1005		0		Snow
Point (LBS)	Top	0' 2.75"			1154		953		Live
Point (LBS)	Top	1' 5.00"			495		269		Live
Point (LBS)	Top	17' 9.13"			107		40		Live
Point (LBS)	Top	17' 9.13"			0		162		Live
Point (LBS)	Top	17' 9.13"			1433		647		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	5585#	--
2	18' 1.750"	Wall	N/A	N/A	1.500"	4437#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Snow	Dead
1	2062#	1005#	1591#
2	2041#	0#	1101#

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Design spans  
17' 6.500"

May 9, 2017

**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.  
NOTE: Pass-thru framing is required at point loads over bearings.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	5012. #	9020. #	55%	8.11'	Total Load 1.25D+1.5L
Shear	1958. #	3400. #	57%	0'	Total Load 1.25D+1.5L
End Reaction	1958. #	4100. #	47%	0'	Total Load 1.25D+1.5L
TL Deflection	0.4309"	0.5847"	L/488	8.99'	Total Load D+L
LL Deflection	0.2860"	0.4385"	L/736	8.99'	Total Load L

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**Member Data****Description: CalcG10**

Comments:

**Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

Importance Category: Normal (Part 9)

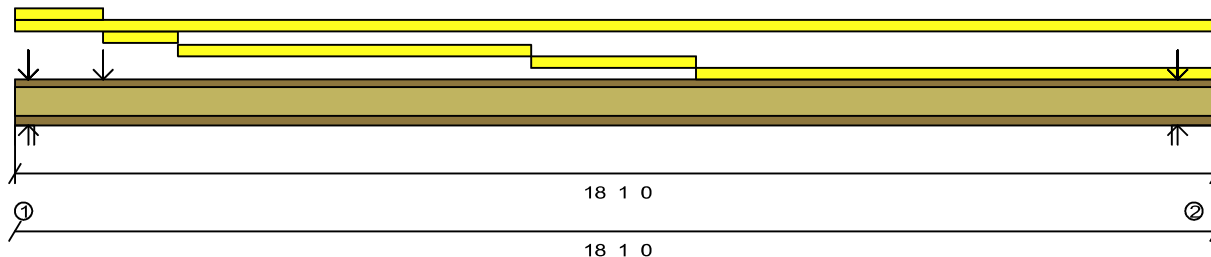
Application: Floor

Building Code: OBC-2012

0.720" max. LL

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 4.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	18' 1.00"		27		10		Live
Replacement Uniform (PLF)	Top	1' 4.00"	2' 5.69"		27		10		Live
Replacement Uniform (PLF)	Top	2' 5.69"	7' 9.31"		27		10		Live
Replacement Uniform (PLF)	Top	7' 9.31"	10' 3.00"		27		10		Live
Replacement Uniform (PLF)	Top	10' 3.00"	18' 1.00"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		162		Live
Point (LBS)	Top	0' 2.75"			194		0		Snow
Point (LBS)	Top	0' 2.75"			714		488		Live
Point (LBS)	Top	1' 4.00"			503		209		Live
Point (LBS)	Top	17' 5.88"			107		40		Live
Point (LBS)	Top	17' 5.88"			0		162		Live
Point (LBS)	Top	17' 5.88"			1428		536		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	0' 0.000"	Wall	N/A	N/A	1,500"	3800#	--
2	18' 1.000"	Wall	N/A	N/A	1,500"	4195#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

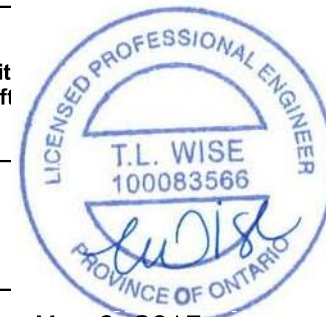
	Live	Snow	Dead
1	1626#	194#	1012#
2	2027#	0#	924#

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IN THE DESIGN OF THIS COMPONENT.

Design spans

17' 3.250"

May 9, 2017

**Product: NJ12 2 ply****PASSES DESIGN CHECKS**

NOTE: Web stiffeners are required at point loads > 0#.  
NOTE: Pass-thru framing is required at point loads over bearings.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	4486.7#	9020.7#	49%	7.99'	Total Load 1.25D+1.5L
Shear	1819.7#	3400.7#	53%	0'	Total Load 1.25D+1.5L
End Reaction	1819.7#	4100.7#	44%	0'	Total Load 1.25D+1.5L
TL Deflection	0.3707"	0.5757"	L/559	8.85'	Total Load D+L
LL Deflection	0.2684"	0.4318"	L/772	8.85'	Total Load L

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**Member Data****Description:** CalcG11**Comments:****Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

**Building Type:** Residential**Member Type:** Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

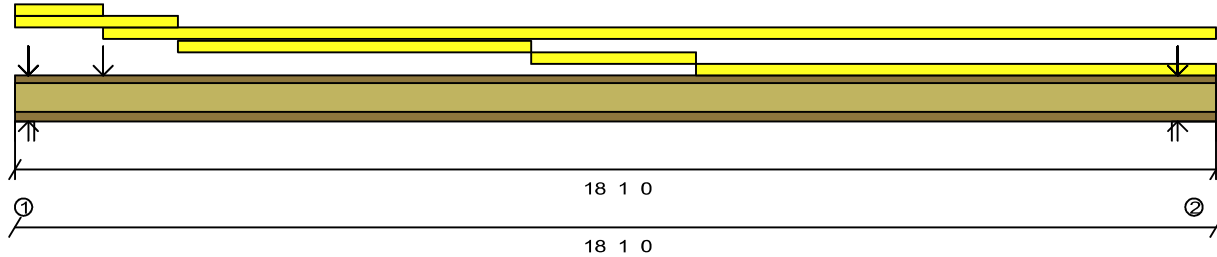
Filename: S:\CUSTOMERS

**Importance Category:** Normal (Part 9)**Application:** Floor**Building Code:** OBC-2012

0.720" max. LL

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	1' 4.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	2' 5.69"		27		10		Live
Replacement Uniform (PLF)	Top	1' 4.00"	18' 1.00"		27		10		Live
Replacement Uniform (PLF)	Top	2' 5.69"	7' 9.31"		27		10		Live
Replacement Uniform (PLF)	Top	7' 9.31"	10' 3.00"		27		10		Live
Replacement Uniform (PLF)	Top	10' 3.00"	18' 1.00"		27		10		Live
Point (LBS)	Top	0' 2.75"			147		0		Snow
Point (LBS)	Top	0' 2.75"			0		162		Live
Point (LBS)	Top	0' 2.75"			543		371		Live
Point (LBS)	Top	1' 4.00"			503		209		Live
Point (LBS)	Top	17' 5.88"			87		33		Live
Point (LBS)	Top	17' 5.88"			0		162		Live
Point (LBS)	Top	17' 5.88"			1428		536		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	0' 0.000"	Wall	N/A	N/A	1,500"	3374#	--
2	18' 1.000"	Wall	N/A	N/A	1,500"	4157#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Snow	Dead
1	1455#	147#	895#
2	2008#	0#	916#

READ ALL NOTES ON THIS PAGE AND ON THE  
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE  
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CONTAINS SPECIFICATIONS AND CRITERIA USED  
IN THE DESIGN OF THIS COMPONENT.

**Design spans**  
17' 3.250"

May 9, 2017

**Product:** NJ12 2 ply**PASSES DESIGN CHECKS**

**NOTE:** Web stiffeners are required at point loads > 0#.  
**NOTE:** Pass-thru framing is required at point loads over bearings.  
Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.  
Lateral support is required at each bearing.

**Pass-Thru Framing Squash Block is  
required at all point loads over bearings**

**Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements**

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**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	4486.7#	9020.7#	49%	7.99'	Total Load 1.25D+1.5L
Shear	1819.7#	3400.7#	53%	0'	Total Load 1.25D+1.5L
End Reaction	1819.7#	4100.7#	44%	0'	Total Load 1.25D+1.5L
TL Deflection	0.3707"	0.5757"	L/559	8.85'	Total Load D+L
LL Deflection	0.2684"	0.4318"	L/772	8.85'	Total Load L

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----- Floor Framing Material -----

Type	Qty.	Product	Length
J1	11	NJH12	16' 0"
J2	5	NJH12	14' 0"
J3	1	NJH12	12' 0"
J4	8	NJH12	10' 0"
J5	1	NJH12	8' 0"
J6	6	NJH12	4' 0"
J7	9	NJ60U12	20' 0"
J8	54	NJ60H12	18' 0"
G1	1	1-3/4 x 11-7/8 2.0E Global LVL	8' 0"
G2	1	1-3/4 x 11-7/8 2.0E Global LVL	4' 0"
G3	1	1-3/4 x 11-7/8 2.0E Global LVL	10' 0"
G4	2	1-3/4 x 11-7/8 2.0E Global LVL	10' 0"
G5	1	1-3/4 x 11-7/8 2.0E Global LVL	4' 0"
R1	15	11 7/8" RIMBOARD	12' 0"
R2	4	11 7/8" RIMBOARD	12' 0"
R3	2	11 7/8" RIMBOARD	12' 0"

----- Miscellaneous Materials -----

Type	Qty.	Product	Length
XXX	2	NJH12	16' 0"

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HATCH AREA REPRESENTS  
CERAMIC TILED FLOOR WITH AN  
ADDITIONAL DEAD LOAD OF 5 PSF



The framing shown on this layout may deviate from the architectural drawing.  
Project engineer to review and approve the deviation prior to construction.

Architectural Drawing Info:  
REGION DESIGN INC.  
8700 Dufferin St., Concord, ON  
Date: July 2016  
Project Number: 02-10-106  
Model: Lot 149 (Juniper 7)

Pass-thru framing squash block is required  
at all point loads over bearings.

Refer to Multiple Member Connection  
Detail to ply to ply nailing or bolting  
requirements.

Rim parallel to joists: 1-1/8" rimboard with  
2"x4" block (1/16" longer than rim depth @ 16"o/c.  
Rim perpendicular to joists: 1-1/8" rimboard with  
All other components and structural elements supporting  
the floor system such as beams, walls, columns and  
foundation walls and footings including anchorage of  
components and bracing for lateral stability are the  
responsibility of others.

----- Connector List -----

ID#	Qty	Model Number
H1	3	HUS1.81/10
H2	7	LT351188
H3	5	LT251188

DESIGN ASSUMPTIONS

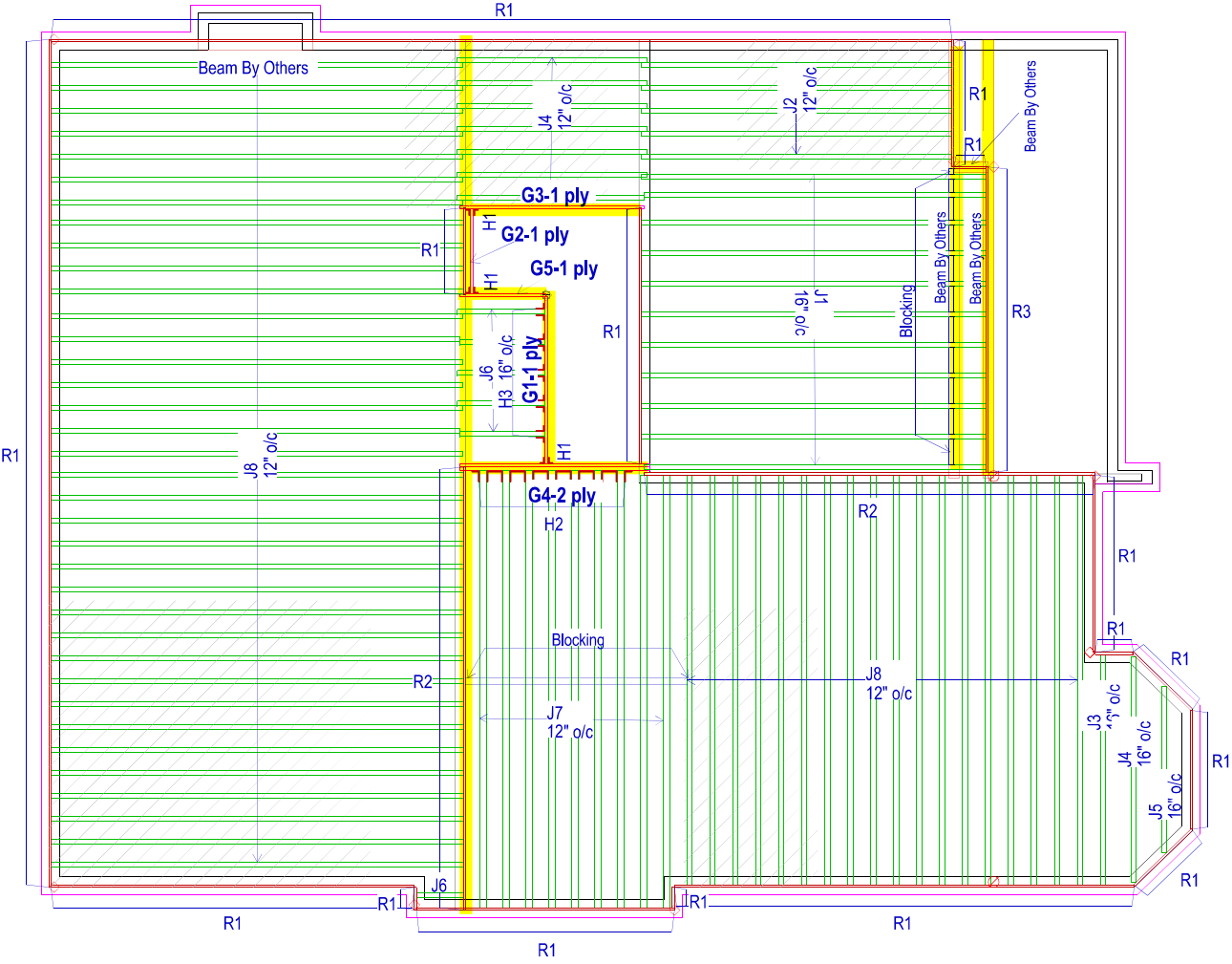
Loads:(un-factored)  
T/C Live: 40 psf B/C Live: 0 psf  
T/C Dead: 15 psf B/C Dead: 0 psf  
Load Case: Live  
Deflection Criteria:  
L/480 Live L/360 Total  
Building Code: OBC-2012 (Limit States Design)

Building Type: Residential Importance Category: Normal  
Design assumes top edge continuously braced,  
and bottom edge unbraced.  
Joist Design Includes CCMC Vibration Check  
Subfloor: 5/8" OSB Glued and Nailed  
Ceiling: 1/2" gypsum  
Blocking: (None)


All Loads are UN-FACTORED Loads

NOTES:

- Framer to verify dimensions on the architectural drawings.
- Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
- Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation details.
- Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
- Load transfer blocks to be installed under all point loads.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.



SECOND FLOOR FRAMING



TOWN OF MILTON

PLANNING AND DEVELOPMENT

BUILDING PERMIT: 17-7101

BUILDING: REVIEWED

SCOTT SHERRIFFS

JUN 12, 2017

PLANS EXAMINER

DATE

Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relieves the owner from full responsibility for compliance with the provisions of the Ontario Building Code Act and the Ontario Building Code, both as amended, as well as other applicable statutes and regulations of the Province of Ontario, By-laws of the Region of Halton and Town of Milton

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Project Tag:

MILTON, ONT.

GREEN PARK HOMES  
LECCO RIDGE  
LOT 149 (JUNIPER 7 EL.1)

Customer#: Salesman#:RM

Time: 03:12 PM

Date: 05/05/17

Designer: SB

Scale: 1/8" = 1'

License Name:

KEYMARK ENTERPRISES, INC.



**Member Data****Description:** CalcG1**Comments:**

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

Building Code: OBC-2012

0.720" max. LL

Member Weight: 5.0 PLF

Standard Load:

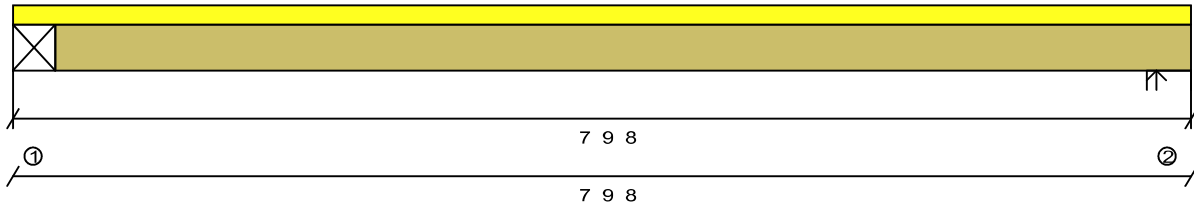
Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	7' 9.50"		75		28		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Girder	N/A	N/A	N/A	560#	--
2	7' 9.500"	Wall	N/A	N/A	1.500"	560#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	273#	121#
2	273#	121#

Design spans  
7' 3.375"**Product: 1-3/4 x 11-7/8 2.0E Global LVL 1 ply****PASSES DESIGN CHECKS**Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	1020.7#	18817.7#	5%	3.93'	Total Load 1.25D+1.5L
Shear	408.7#	6608.7#	6%	0.3'	Total Load 1.25D+1.5L
TL Deflection	0.0140"	0.2427"	L/999+	3.93'	Total Load D+L
LL Deflection	0.0097"	0.1820"	L/999+	3.93'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: Shear

Minimum bearing length requirements at hanged connections depend on the connection style and are not included in this design.

READ ALL NOTES ON THIS PAGE AND ON THE  
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Detail for ply to ply nailing or bolting  
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**Member Data****Description: CalcG2**

Comments:

**Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

Building Code: OBC-2012

0.720" max. LL

Member Weight: 5.0 PLF

**Other Loads****Type**

(Description)

Replacement Uniform (PLF)

**Side**

Top

**Begin**

0' 0.00"

**End**

3' 11.75"

**Trib.  
Width****Other  
Start**

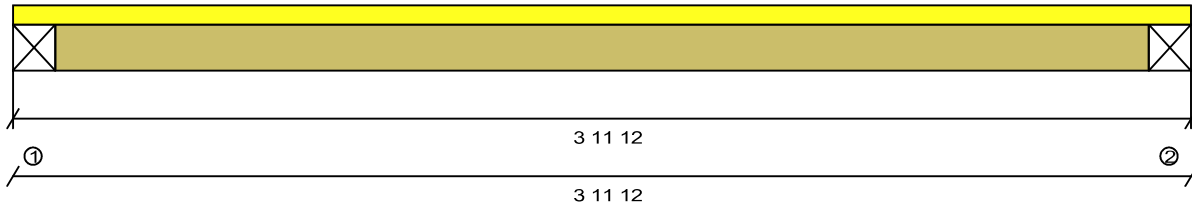
270

**End****Dead  
Start**

101

**End****Category**

Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Girder	N/A	N/A	N/A	991#	--
2	3' 11.750"	Girder	N/A	N/A	N/A	991#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	498#	195#
2	498#	195#

Design spans

3' 8.250"

**Product: 1-3/4 x 11-7/8 2.0E Global LVL 1 ply****PASSES DESIGN CHECKS**Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	914.7#	18817.7#	4%	1.99'	Total Load 1.25D+1.5L
Shear	459.7#	6608.7#	6%	0.16'	Total Load 1.25D+1.5L
TL Deflection	0.0032"	0.1229"	L/999+	1.99'	Total Load D+L
LL Deflection	0.0023"	0.0922"	L/999+	1.99'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: Shear

Minimum bearing length requirements at hanged connections depend on the connection style and are not included in this design.

READ ALL NOTES ON THIS PAGE AND ON THE  
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Detail for ply to ply nailing or bolting  
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**Member Data****Description:** CalcG3

Comments:

Standard Load:

Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

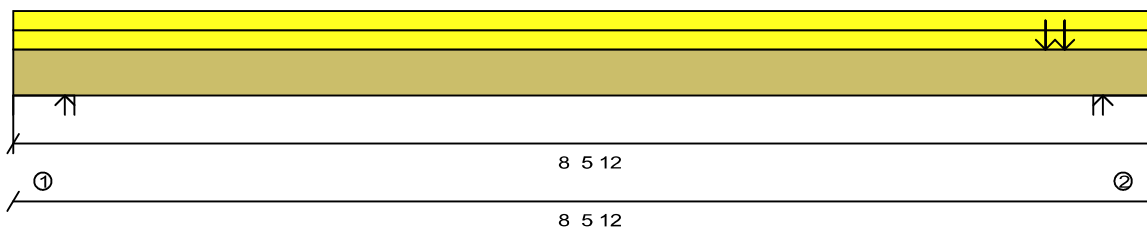
Building Code: OBC-2012

0.720" max. LL

Member Weight: 5.0 PLF

**Other Loads****Type****(Description)**

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	8' 5.75"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	8' 5.75"		27		10		Live
Point (LBS)	Top	7' 8.00"			540		202		Live
Point (LBS)	Top	7' 9.75"			518		220		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	391#	--
2	8' 5.750"	Wall	N/A	N/A	1.572"	2311#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	186#	90#
2	1146#	474#

Design spans

7' 8.500"

**Product: 1-3/4 x 11-7/8 2.0E Global LVL 1 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	1003.7#	18817.7#	5%	5.4'	Total Load 1.25D+1.5L
Shear	316.7#	6608.7#	4%	0.4'	Total Load 1.25D+1.5L
TL Deflection	0.0157"	0.2569"	L/999+	4.62'	Total Load D+L
LL Deflection	0.0108"	0.1927"	L/999+	4.62'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: TL Deflection

READ ALL NOTES ON THIS PAGE AND ON THE  
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Pass-Thru Framing Squash Block is  
required at all point loads over bearings

Refer to Multiple Member Connection  
Detail for ply to ply nailing or bolting  
requirements

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**Member Data****Description: CalcG4**

Comments:

**Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

Building Type: Residential

Member Type: Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

Filename: S:\CUSTOMERS

Importance Category: Normal (Part 9)

Application: Floor

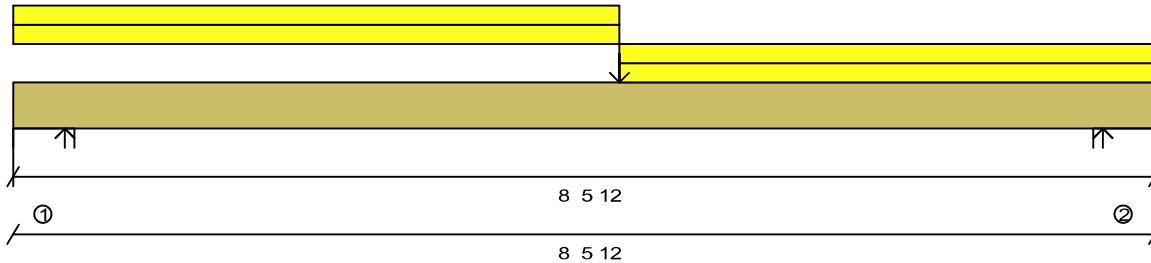
Building Code: OBC-2012

0.720" max. LL

Member Weight: 10.1 PLF

**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 6.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 6.00"		387		145		Live
Replacement Uniform (PLF)	Top	4' 6.00"	8' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	4' 6.00"	8' 5.75"		387		145		Live
Point (LBS)	Top	4' 6.00"			281		158		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	0' 0.000"	Wall	N/A	N/A	1,500"	3368#	--
2	8' 5.750"	Wall	N/A	N/A	1,500"	3477#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	1671#	690#
2	1724#	713#

Design spans  
7' 8.500"

May 9, 2017

**Product: 1-3/4 x 11-7/8 2.0E Global LVL 2 ply****PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

The aspect ratio for the determination of the lateral stability factor is based on the total width of the beam in accordance with Section 6.5.6.3.1 and 6.5.6.3.3 of CSA O86-09.

**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	7160. #	37634. #	19%	4.5'	Total Load 1.25D+1.5L
Shear	2659. #	13217. #	20%	7.32'	Total Load 1.25D+1.5L
TL Deflection	0.0533"	0.2569"	L/999+	4.24'	Total Load D+L
LL Deflection	0.0375"	0.1927"	L/999+	4.24'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"

Control: TL Deflection

Manufacturer's installation guide MUST be consulted for multi-ply connection details and alternatives

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Refer to Multiple Member Connection  
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**Member Data****Description:** CalcG5**Comments:****Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

**Building Type:** Residential**Member Type:** Girder

Top Lateral Bracing: Continuous

Bottom Lateral Bracing: None

Moisture Condition: Dry

Deflection Criteria: L/480 live, L/360 total

Deck Connection: Nailed

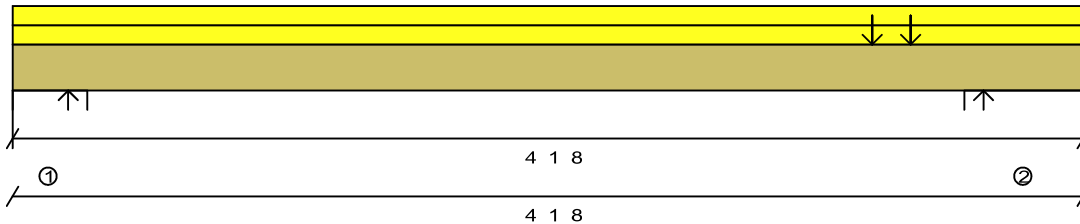
Filename: S:\CUSTOMERS

**Importance Category:** Normal (Part 9)**Application:** Floor**Building Code:** OBC-2012

0.720" max. LL

**Member Weight:** 5.0 PLF**Other Loads**

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Replacement Uniform (PLF)	Top	0' 0.00"	4' 1.50"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	4' 1.50"		27		10		Live
Point (LBS)	Top	3' 3.75"			540		202		Live
Point (LBS)	Top	3' 5.50"			518		220		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	0' 0.000"	Wall	N/A	N/A	1.500"	347#	--
2	4' 1.500"	Wall	N/A	N/A	1.500"	2036#	--

**Maximum Unfactored Load Case Reactions**

Used for applying point loads (or line loads) to carrying members

	Live	Dead
1	169#	74#
2	1013#	413#

**Design spans**  
3' 6.250"**Product:** 1-3/4 x 11-7/8 2.0E Global LVL 1 ply**PASSES DESIGN CHECKS**Design assumes continuous lateral bracing along the top chord.  
Design assumes no lateral bracing along the bottom chord.**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	709.7#	18817.7#	3%	3.31'	Total Load 1.25D+1.5L
Shear	272.7#	6608.7#	4%	0.23'	Total Load 1.25D+1.5L
TL Deflection	0.0018"	0.1174"	L/999+	2.16'	Total Load D+L
LL Deflection	0.0013"	0.0880"	L/999+	2.16'	Total Load L

(Actual is factored load effects, Limit is design resistance)

Bearing length from point load of top loaded beams assumed to be 3.50"  
Control: ShearREAD ALL NOTES ON THIS PAGE AND ON THE  
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