

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.

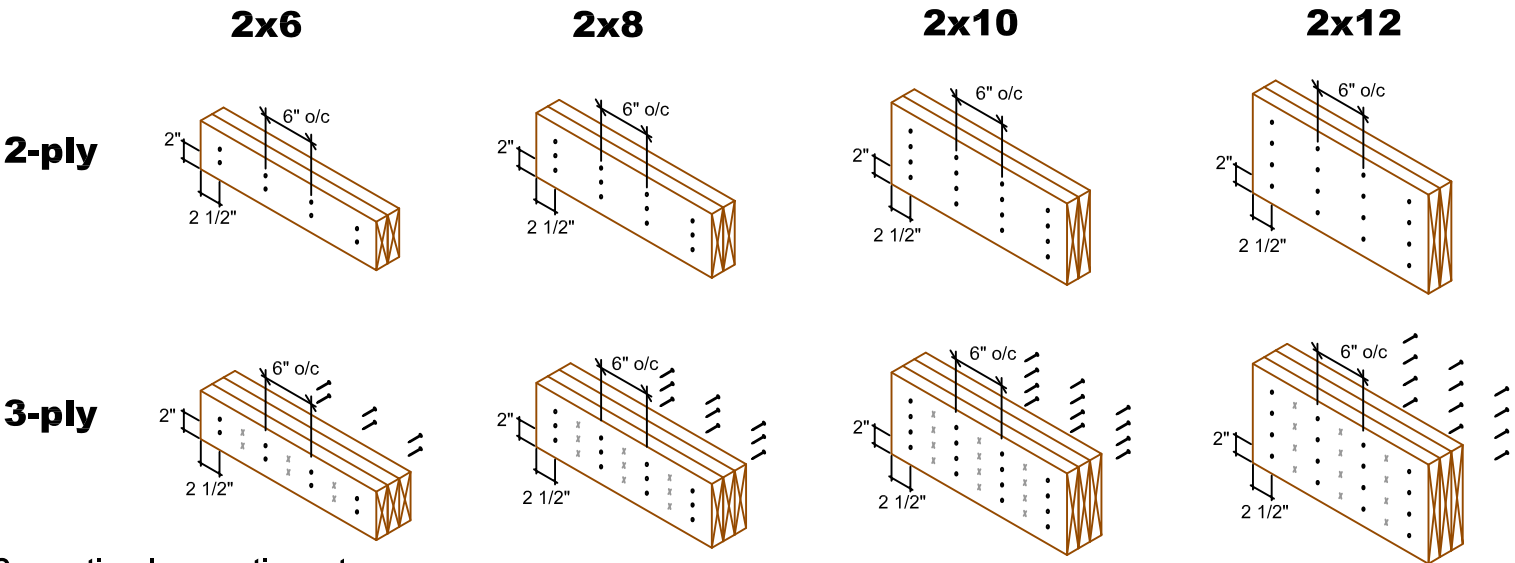
HANDLING AND INSTALLATION

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

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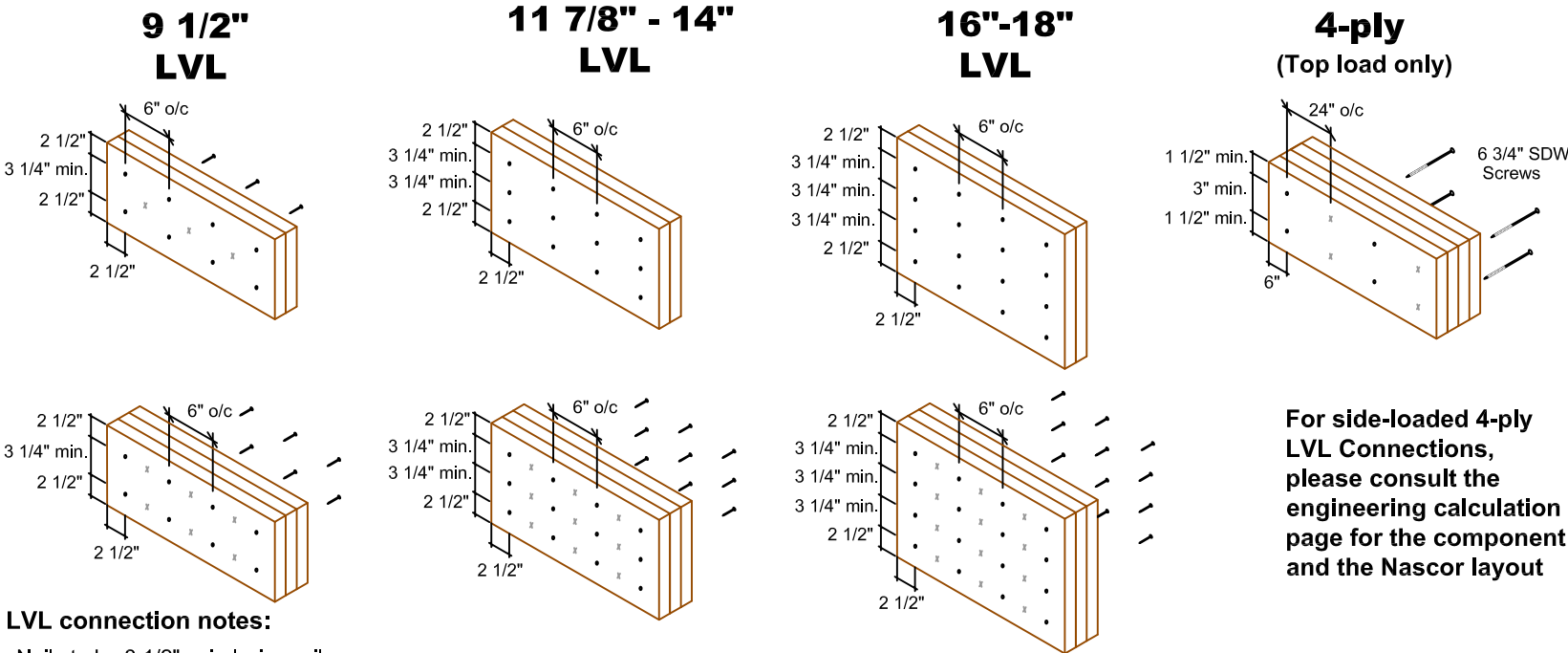
MULTIPLE MEMBER CONNECTIONS

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.

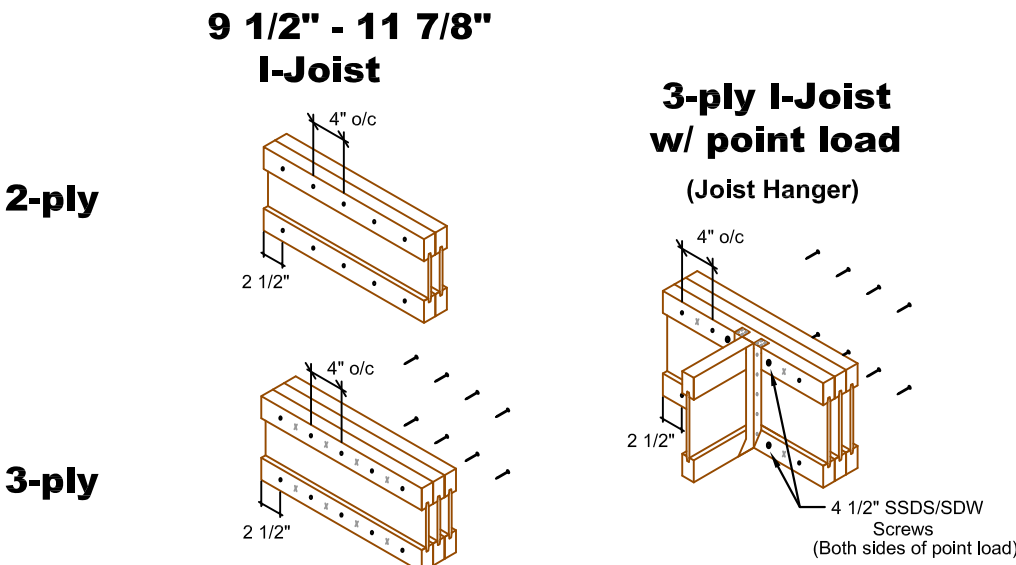
LVL Connections (for uniform distributed loads)



- 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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MULTI -PLY
CONNECTION
DETAILS

Date: November 30, 2016
Scale: NTS

KOTT
3228 Moodie Drive
Ottawa, ON
K2H 7V1
Ph: 613-838-2775
Fx: 613-838-4751



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

Type	Qty.	Product	Length
J1	17	NJH12	18' 0"
J2	23	NJH12	16' 0"
J3	2	NJH12	14' 0"
J4	7	NJH12	10' 0"
J5	5	NJH12	8' 0"
J6	9	NJH12	2' 0"
G1	1	NJH12	2' 0"
G2	1	NJH12	2' 0"
G3	2	NJ12	4' 0"
G4	2	NJ12	4' 0"
G7	1	1 3/4x11 7/8 West Fraser 2.0E-	8' 0"
G8	2	1 3/4x11 7/8 West Fraser 2.0E-	10' 0"
G9	2	1 3/4x11 7/8 West Fraser 2.0E-	8' 0"
G10	2	NJ12	16' 0"
G11	2	NJ12	16' 0"
G12	2	NJ12	16' 0"
G13	2	NJ12	18' 0"
G14	2	NJ12	18' 0"
R1	16	11 7/8" RIMBOARD	12' 0"



HATCH AREA INDICATED REPRESENTS
CERAMIC TILED FLOOR WITH AN
ADDITIONAL DEAD LOAD OF 5.00 PSF

**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.**

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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 (Part 9)
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)

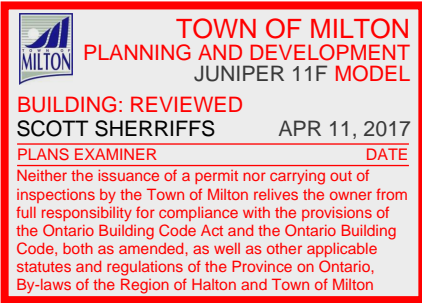
All Loads are UN-FACTORED Loads

NOTES:

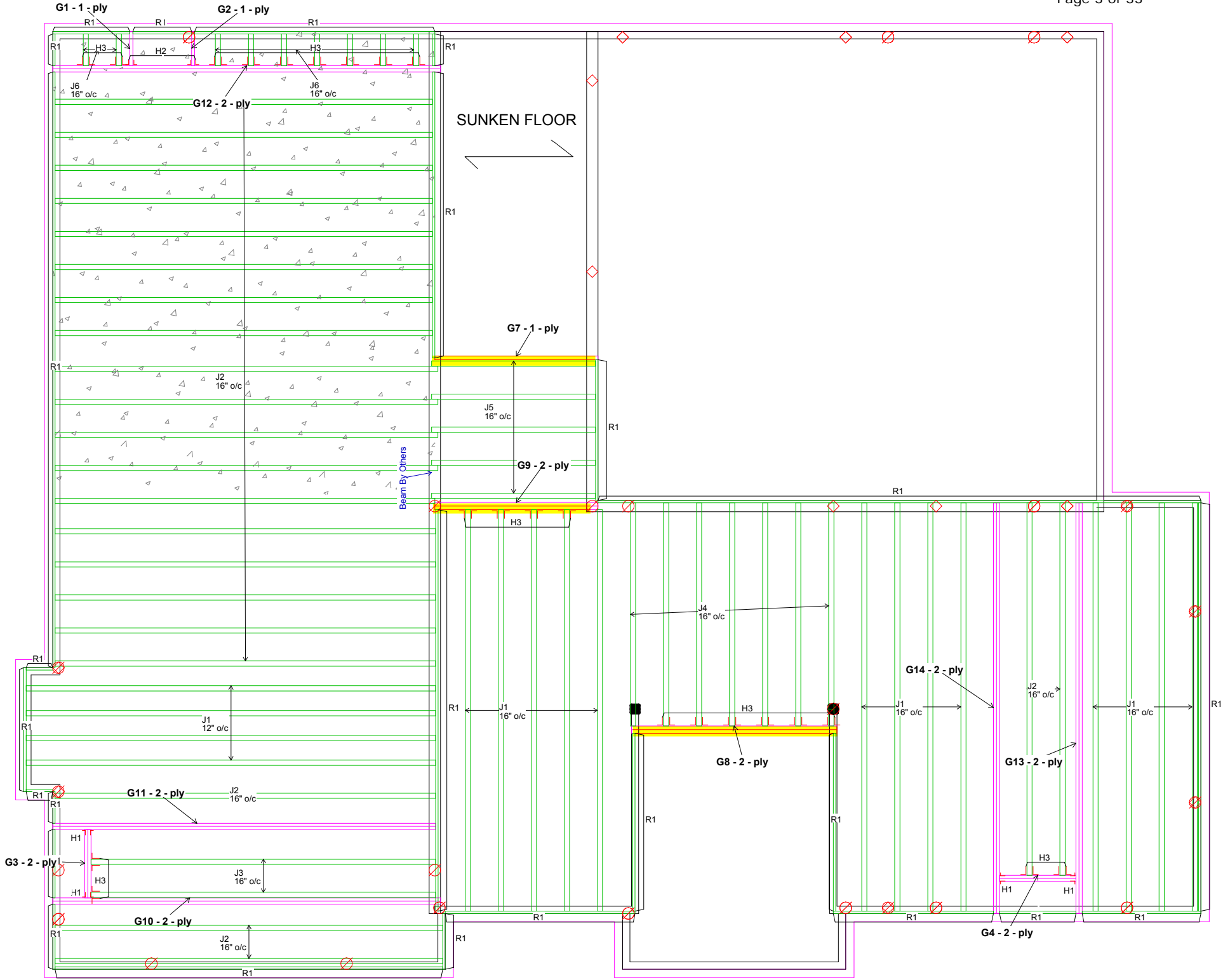
1. Framers to verify dimensions on the architectural drawings.
2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
3. Install 2x4 blocking @ 24" o/c under parallel non-loadbearing walls.
4. Install single-ply flush window header along inside face 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.

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

ID#	Qty	Model Number
H1	4	LT2-151188
H2	2	LT251188
H3	23	LT251188



Rim parallel to joists: 1-1/8" rimboard with
2"x4" block (1/16" longer than rim depth) @ 16" o/c.
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.



FIRST FLOOR FRAMING



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

Project Tag:

JUNIPER 11 EL - 2

GREEN PARK HOMES
LECCO RIDGE
MILTON, ON

SALESMAN: RM

Time: 02:02 PM

DATE: 11/04/16

Designer: SB

Not Scaled

License Name:

KEYMARK ENTERPRISES, INC.



Member Data**Description:** CalcG1**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

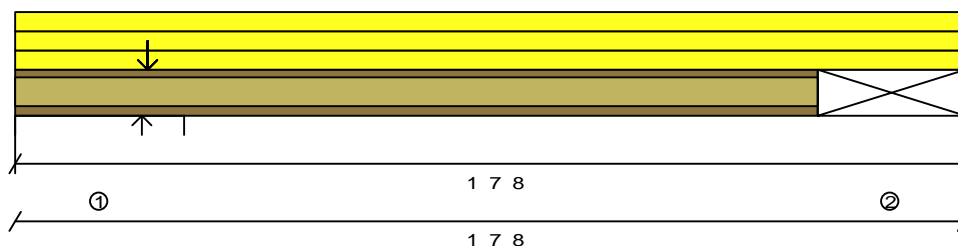
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

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

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Additional Uniform (PLF)	Top	0' 0.00"	1' 7.50"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 7.50"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 7.50"		27		10		Live
Point (LBS)	Top	0' 2.75"			65		20		Snow
Point (LBS)	Top	0' 2.75"			0		130		Live
Point (LBS)	Top	0' 2.75"			57		151		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"	539#	--
2	1' 7.500"	Girder	N/A	N/A	N/A	45#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	78#	65#	312#
2	21#	0#	12#

Design spans

1' 1.875"



March 24, 2017

Product: NJH12 1 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	13.1#	5390.1#	0%	0.8'	Total Load 1.25D+1.5L
End Reaction	539.1#	1735.1#	31%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.0010"	0.0385"	L/999+	0.8'	Total Load D+L
LL Deflection	0.0010"	0.0289"	L/999+	0.8'	Total Load L

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

Control: Max End React.

Shear cannot be calculated because member's length is less than 2d.

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 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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**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

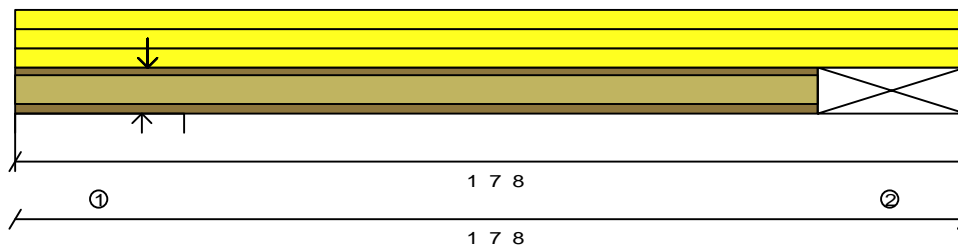
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

Other Loads

Type (Description)	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Additional Uniform (PLF)	Top	0' 0.00"	1' 7.50"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 7.50"		9		3		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 7.50"		27		10		Live
Point (LBS)	Top	0' 2.75"			34		10		Snow
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			29		76		Live
Point (LBS)	Top	0' 2.75"			29		76		Live
Point (LBS)	Top	0' 2.75"			142		142		Live
Point (LBS)	Top	0' 2.75"			327		0		Snow

**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"	1206#	--
2	1' 7.500"	Girder	N/A	N/A	N/A	45#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	220#	361#	444#
2	21#	0#	12#

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**Design spans
1' 1.875"

March 24, 2017

Product: NJH12 1 ply

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.

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PASSES DESIGN CHECKS**Limit States Design**

	Actual	Limit	Capacity	Location	Loading
Positive Moment	13. #	5390. #	0%	0.8'	Total Load 1.25D+1.5L
End Reaction	1206. #	1735. #	69%	0'	Total Load 1.25D+1.00*1.5S+0.5L
TL Deflection	0.0010"	0.0385"	L/999+	0.8'	Total Load D+L
LL Deflection	0.0010"	0.0289"	L/999+	0.8'	Total Load L

(Actual is factored load effects, Limit is design resistance)
Control: Max End React.

Shear cannot be calculated because member's length is less than 2d.

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



Member Data**Description: CalcG3**

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: D:\SAUMIL\GR

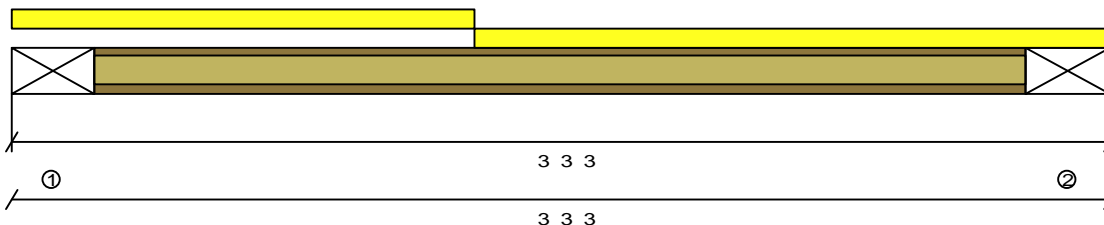
Building Type: Residential

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' 4.50"		280		105		Live
Replacement Uniform (PLF)	Top	1' 4.50"	3' 3.19"		280		105		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	762#	--
2	3' 3.188"	Girder	N/A	N/A	N/A	762#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	387#	145#
2	387#	145#

Design spans

2' 9.188"

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	527.#	9020.#	5%	1.63'	Total Load 1.25D+1.5L
Shear	762.#	3400.#	22%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0041"	0.0922"	L/999+	1.63'	Total Load D+L
LL Deflection	0.0030"	0.0691"	L/999+	1.63'	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

**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****READ ALL NOTES ON THIS PAGE AND ON THE
ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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March 24, 2017

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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: 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: D:\SAUMIL\GR

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' 7.00"

Trib.
WidthOther
Start

305

End

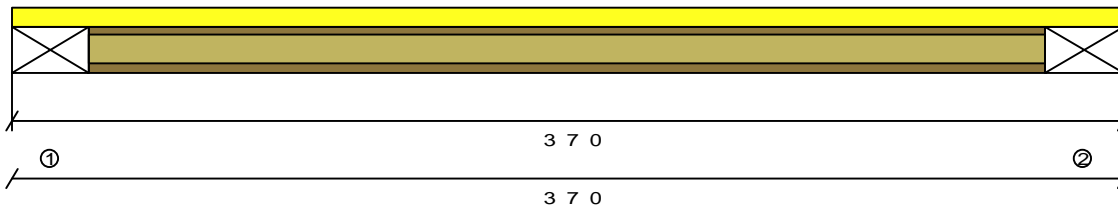
Dead
Start

114

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	926#	--
2	3' 7.000"	Girder	N/A	N/A	N/A	926#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	470#	176#
2	470#	176#

Design spans

3' 1.000"

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	714. #	9020. #	7%	1.79'	Total Load 1.25D+1.5L
Shear	926. #	3400. #	27%	0'	Total Load 1.25D+1.5L
TL Deflection	0.0059"	0.1028"	L/999+	1.79'	Total Load D+L
LL Deflection	0.0043"	0.0771"	L/999+	1.79'	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 hangared connections depend on the connection style and are not included

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

Member Data**Description:** CalcG7**Comments:****Standard Load:**

Live Load: 0 PLF

Dead Load: 0 PLF

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: D:\SAUMIL\GR

Application: Floor

Building Code: OBC-2012

0.720" max. LL

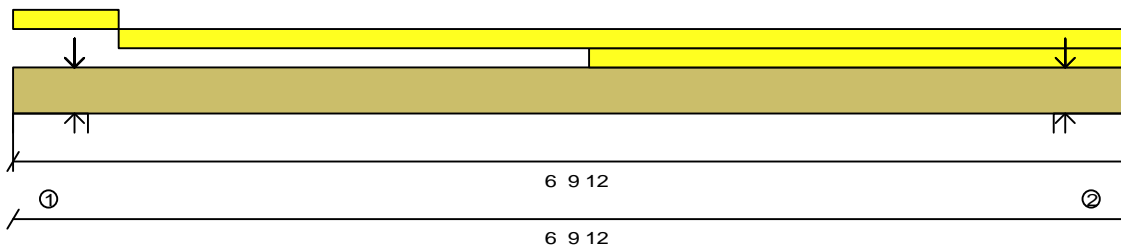
Member Weight: 5.9 PLF

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"	0' 7.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 7.75"	6' 9.75"		27		10		Live
Replacement Uniform (PLF)	Top	3' 6.25"	6' 9.75"		80		30		Live
Point (LBS)	Top	0' 4.63"			0		32		Live
Point (LBS)	Top	0' 4.63"			0		32		Live
Point (LBS)	Top	0' 4.63"			102		38		Live
Point (LBS)	Top	0' 4.63"			102		38		Live
Point (LBS)	Top	0' 4.63"			154		58		Live
Point (LBS)	Top	0' 4.63"			154		66		Live
Point (LBS)	Top	0' 4.63"			247		92		Live
Point (LBS)	Top	6' 5.13"			102		71		Live
Point (LBS)	Top	6' 5.13"			288		116		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"	1875#	--
2	6' 9.750"	Wall	N/A	N/A	1.500"	1348#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	895#	426#
2	647#	302#

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IN THE DESIGN OF THIS COMPONENT.

Design spans

6' 0.500"

March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 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	642. #	17693. #	3%	4.01'	Total Load 1.25D+1.5L
Shear	313. #	6908. #	4%	5.52'	Total Load 1.25D+1.5L
TL Deflection	0.0082"	0.2014"	L/999+	3.53'	Total Load D+L
LL Deflection	0.0056"	0.1510"	L/999+	3.53'	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

**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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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.

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14 Anderson Blvd.
Uxbridge, ON.
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

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: 11.8 PLF

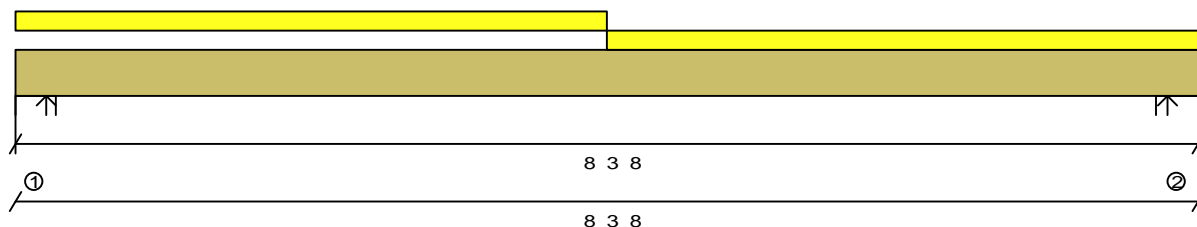
Filename: D:\SAUMIL\GR

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' 1.75"		425		159		Live
Replacement Uniform (PLF)	Top	4' 1.75"	8' 3.50"		425		159		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"	3344#	--
2	8' 3.500"	Wall	N/A	N/A	1.500"	3344#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	1669#	672#
2	1669#	672#

Design spans

7' 10.250"

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Compression edge maximum unbraced length calculation is based on ply width.

Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	6566.##	35386.##	18%	4.15'	Total Load 1.25D+1.5L
Shear	2501.##	13815.##	18%	0.23'	Total Load 1.25D+1.5L
TL Deflection	0.0650"	0.2618"	L/999+	4.15'	Total Load D+L
LL Deflection	0.0463"	0.1964"	L/999+	4.15'	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: TL Deflection

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

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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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

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: 11.8 PLF

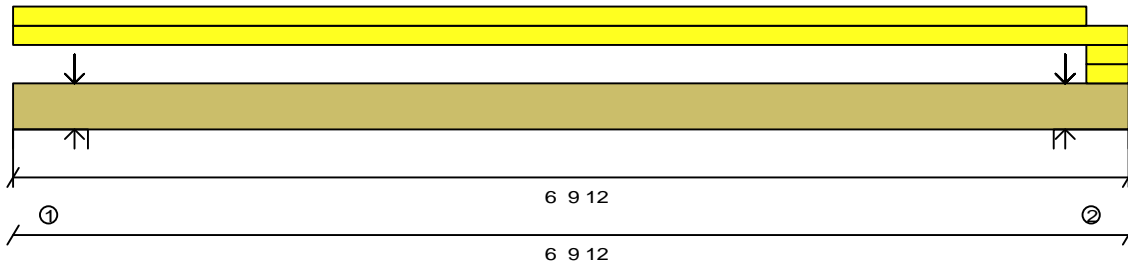
Filename: D:\SAUMIL\GR

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"	6' 6.63"		329		123		Live
Replacement Uniform (PLF)	Top	0' 0.00"	6' 9.75"		27		10		Live
Replacement Uniform (PLF)	Top	6' 6.63"	6' 9.75"		27		10		Live
Replacement Uniform (PLF)	Top	6' 6.63"	6' 9.75"		329		123		Live
Point (LBS)	Top	0' 4.63"			98		69		Live
Point (LBS)	Top	0' 4.63"			277		112		Live
Point (LBS)	Top	0' 4.63"			1044		469		Live
Point (LBS)	Top	6' 5.13"			21		8		Live
Point (LBS)	Top	6' 5.13"			0		32		Live
Point (LBS)	Top	6' 5.13"			0		32		Live
Point (LBS)	Top	6' 5.13"			102		38		Live
Point (LBS)	Top	6' 5.13"			247		92		Live
Point (LBS)	Top	6' 5.13"			247		92		Live
Point (LBS)	Top	6' 5.13"			1044		469		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"	5101#	--
2	6' 9.750"	Wall	N/A	N/A	1.540"	5606#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	2494#	1088#
2	2734#	1203#

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Design spans

6' 0.500"

March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Compression edge maximum unbraced length calculation is based on ply width.

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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	3260. #	35386. #	9%	3.41'	Total Load 1.25D+1.5L
Shear	1451. #	13815. #	10%	0.4'	Total Load 1.25D+1.5L
TL Deflection	0.0217"	0.2014"	L/999+	3.41'	Total Load D+L
LL Deflection	0.0154"	0.1510"	L/999+	3.41'	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

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: CalcG10**

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

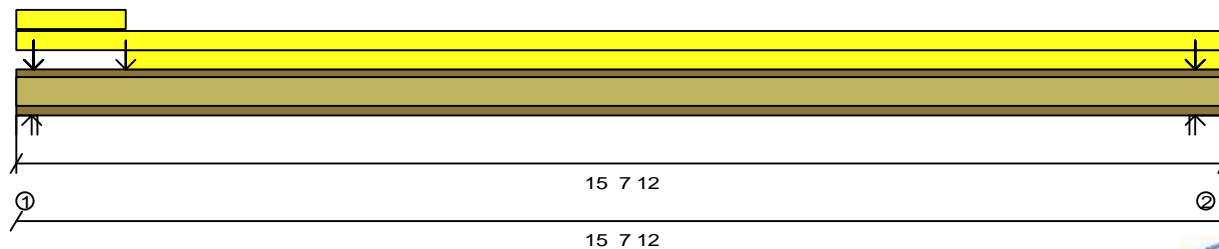
Filename: D:\SAUMIL\GR

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' 7.75"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.00"	15' 7.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			31		0		Snow
Point (LBS)	Top	0' 2.75"			27		18		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			7		68		Live
Point (LBS)	Top	0' 2.75"			91		0		Snow
Point (LBS)	Top	0' 2.75"			53		45		Live
Point (LBS)	Top	1' 5.00"			422		179		Live
Point (LBS)	Top	15' 3.13"			35		13		Live
Point (LBS)	Top	15' 3.13"			35		13		Live
Point (LBS)	Top	15' 3.13"			0		53		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"	1974#	--
2	15' 7.750"	Wall	N/A	N/A	1.500"	1059#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	856#	122#	503#
2	503#	0#	243#

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Design spans

15' 0.500"

March 24, 2017

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

NOTE: Web stiffeners are required at point loads > 0#.
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
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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	3491.1#	9020.1#	38%	6.99'	Total Load 1.25D+1.5L
Shear	1539.1#	3400.1#	45%	0'	Total Load 1.25D+1.5L
End Reaction	1974.1#	4100.1#	48%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.2242"	0.5014"	L/805	7.74'	Total Load D+L
LL Deflection	0.1621"	0.3760"	L/999+	7.74'	Total Load L

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Member Data**Description:** CalcG11**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

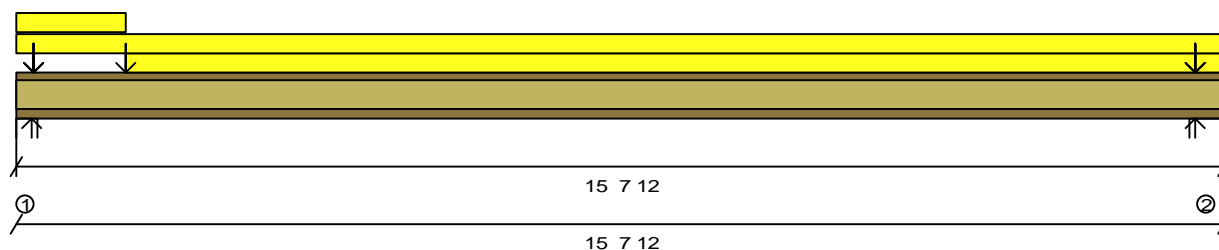
Filename: D:\SAUMIL\GR

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' 7.75"		27		10		Live
Replacement Uniform (PLF)	Top	1' 5.00"	15' 7.75"		27		10		Live
Point (LBS)	Top	0' 2.75"			49		0		Snow
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			268		179		Live
Point (LBS)	Top	1' 5.00"			422		179		Live
Point (LBS)	Top	15' 3.13"			43		16		Live
Point (LBS)	Top	15' 3.13"			0		65		Live
Point (LBS)	Top	15' 3.13"			493		185		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"	2270#	--
2	15' 7.750"	Wall	N/A	N/A	1.500"	1992#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	1037#	49#	551#
2	970#	0#	430#

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Design spans

15' 0.500"

March 24, 2017

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

NOTE: Web stiffeners are required at point loads > 0#.
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.

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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	3491. #	9020. #	38%	6.99'	Total Load 1.25D+1.5L
Shear	1539. #	3400. #	45%	0'	Total Load 1.25D+1.5L
End Reaction	2270. #	4100. #	55%	0'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.2242"	0.5014"	L/805	7.74'	Total Load D+L
LL Deflection	0.1621"	0.3760"	L/999+	7.74'	Total Load L

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

Control: Max End React.

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

Manufacturer's installation guide MUST be consulted to determine if web stiffeners are required at point loads

**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: CalcG12**

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

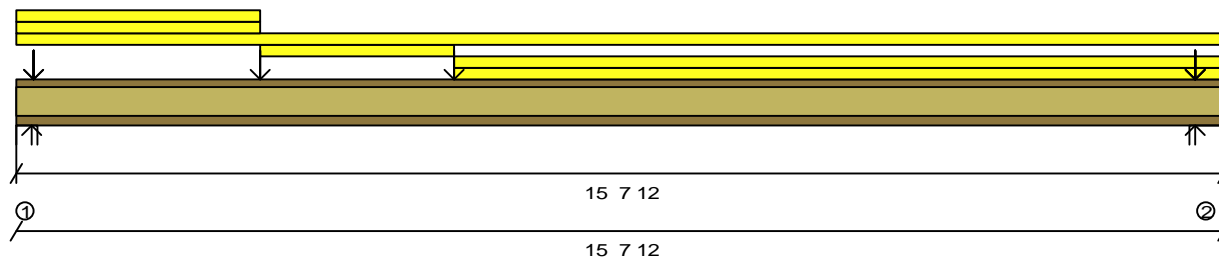
Filename: D:\SAUMIL\GR

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"	3' 2.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	3' 2.00"		30		15		Live
Additional Uniform (PLF)	Top	0' 0.00"	15' 7.75"		0		7		Live
Replacement Uniform (PLF)	Top	3' 2.00"	5' 8.00"		9		3		Live
Replacement Uniform (PLF)	Top	5' 8.00"	15' 7.75"		27		10		Live
Replacement Uniform (PLF)	Top	5' 8.00"	15' 7.75"		30		15		Live
Point (LBS)	Top	0' 2.75"			49		65		Snow
Point (LBS)	Top	0' 2.75"			268		206		Live
Point (LBS)	Top	3' 2.00"			0		11		Live
Point (LBS)	Top	5' 8.00"			0		11		Live
Point (LBS)	Top	15' 3.13"			0		32		Live
Point (LBS)	Top	15' 3.13"			102		38		Live
Point (LBS)	Top	15' 3.13"			247		105		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"	1543#	--
2	15' 7.750"	Wall	N/A	N/A	1.500"	1618#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	608#	49#	485#
2	741#	0#	405#

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Design spans

15' 0.500"

March 24, 2017

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

NOTE: Web stiffeners are required at point loads > 0#.
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
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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	3072. #	9020. #	34%	8.49'	Total Load 1.25D+1.5L
Shear	875. #	3400. #	25%	15.65'	Total Load 1.25D+1.5L
End Reaction	1618. #	4100. #	39%	15.65'	Total Load 1.25D+1.5L
TL Deflection	0.1940"	0.5014"	L/930	7.74'	Total Load D+L
LL Deflection	0.1202"	0.3760"	L/999+	7.74'	Total Load L

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Member Data**Description: CalcG13**

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

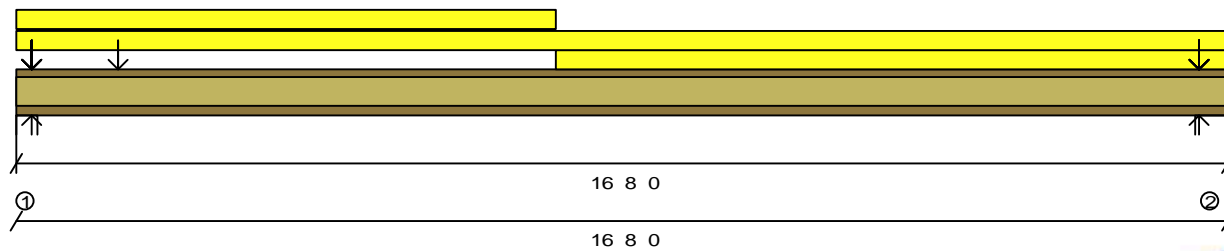
Filename: D:\SAUMIL\GR

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"	7' 5.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	16' 8.00"		27		10		Live
Replacement Uniform (PLF)	Top	7' 5.00"	16' 8.00"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		0		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			0		65		Live
Point (LBS)	Top	0' 2.75"			287		108		Live
Point (LBS)	Top	0' 2.75"			287		108		Live
Point (LBS)	Top	1' 5.00"			508		214		Live
Point (LBS)	Top	16' 3.38"			20		7		Live
Point (LBS)	Top	16' 3.38"			0		65		Live
Point (LBS)	Top	16' 3.38"			185		0		Snow
Point (LBS)	Top	16' 3.38"			247		92		Live
Point (LBS)	Top	16' 3.38"			428		295		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"	3088#	--
2	16' 8.000"	Wall	N/A	N/A	1.500"	2628#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	1472#	0#	703#
2	1160#	185#	636#

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Design spans

16' 0.750"

March 24, 2017

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

NOTE: Web stiffeners are required at point loads > 0#.
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
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Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	4031.1#	9020.1#	44%	7.45'	Total Load 1.25D+1.5L
Shear	1796.1#	3400.1#	52%	0'	Total Load 1.25D+1.5L
End Reaction	3088.1#	4100.1#	75%	0'	Total Load 1.25D+1.5L
TL Deflection	0.2920"	0.5354"	L/659	8.25'	Total Load D+L
LL Deflection	0.2112"	0.4016"	L/912	8.25'	Total Load L

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Member Data**Description: CalcG14**

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

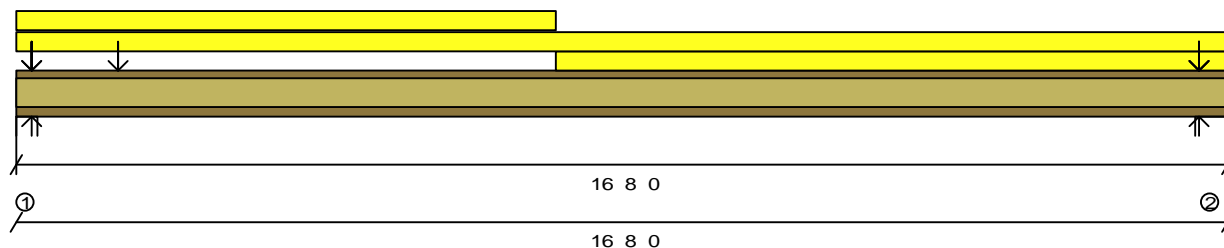
Filename: D:\SAUMIL\GR

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"	7' 5.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	16' 8.00"		27		10		Live
Replacement Uniform (PLF)	Top	7' 5.00"	16' 8.00"		27		10		Live
Point (LBS)	Top	0' 2.75"			0		130		Live
Point (LBS)	Top	0' 2.75"			574		215		Live
Point (LBS)	Top	1' 5.00"			508		214		Live
Point (LBS)	Top	16' 3.38"			43		16		Live
Point (LBS)	Top	16' 3.38"			0		65		Live
Point (LBS)	Top	16' 3.38"			526		197		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"	3088#	--
2	16' 8.000"	Wall	N/A	N/A	1.500"	2120#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	1472#	703#
2	1035#	454#

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ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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Design spans

16' 0.750"

March 24, 2017

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

NOTE: Web stiffeners are required at point loads > 0#.
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	4031. #	9020. #	44%	7.45'	Total Load 1.25D+1.5L
Shear	1796. #	3400. #	52%	0'	Total Load 1.25D+1.5L
End Reaction	3088. #	4100. #	75%	0'	Total Load 1.25D+1.5L
TL Deflection	0.2920"	0.5354"	L/659	8.25'	Total Load D+L
LL Deflection	0.2112"	0.4016"	L/912	8.25'	Total Load L

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

Control: Max End React.

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

Manufacturer's installation guide MUST be consulted to determine if web stiffeners are required at point loads

Floor Framing Material				
Type	Qty.	Product	Length	
J1	15	NJH12	18' 0"	
J2	28	NJH12	16' 0"	
J3	19	NJH12	8' 0"	
J4	5	NJH12	6' 0"	
J5	16	NJH12	4' 0"	
J6	13	NJ60H12	20' 0"	
J7	4	NJ60H12	18' 0"	
G1	2	1 3/4x11 7/8 West Fraser 2.0E-	8' 0"	
G2	2	1 3/4x11 7/8 West Fraser 2.0E-	8' 0"	
G3	1	1 3/4x11 7/8 West Fraser 2.0E-	8' 0"	
G4	1	1 3/4x11 7/8 West Fraser 2.0E-	8' 0"	
G5	1	1 3/4x11 7/8 West Fraser 2.0E-	8' 0"	
G6	1	1 3/4x11 7/8 West Fraser 2.0E-	20' 0"	
G7	1	1 3/4x11 7/8 West Fraser 2.0E-	20' 0"	
G8	2	1 3/4x11 7/8 West Fraser 2.0E-	18' 0"	
G9	2	1 3/4x11 7/8 West Fraser 2.0E-	10' 0"	
G10	1	1 3/4x11 7/8 West Fraser 2.0E-	6' 0"	
G11	1	1 3/4x11 7/8 West Fraser 2.0E-	6' 0"	
G12	1	1 3/4x11 7/8 West Fraser 2.0E-	18' 0"	
G13	1	1 3/4x11 7/8 West Fraser 2.0E-	6' 0"	
G14	1	1 3/4x11 7/8 West Fraser 2.0E-	6' 0"	
G16	1	1 3/4x11 7/8 West Fraser 2.0E-	16' 0"	
G17	1	1 3/4x11 7/8 West Fraser 2.0E-	18' 0"	
R1	14	11 7/8" RIMBOARD	12' 0"	

Miscellaneous Materials				
Type	Qty.	Product	Length	
XXX	1	NJH12	20' 0"	
XXX	1	NJ60H12	12' 0"	

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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 (Part 9)
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

Rim parallel to joists: 1-1/8" rimboard with
2"x4" block (1/16" longer than rim depth) @ 16" o/c.
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	4	HUS1.81/10
H2	6	HUCQ1.81/9-SDS
H3	2	HGUS410
H4	21	LT251188
H5	11	LT251188

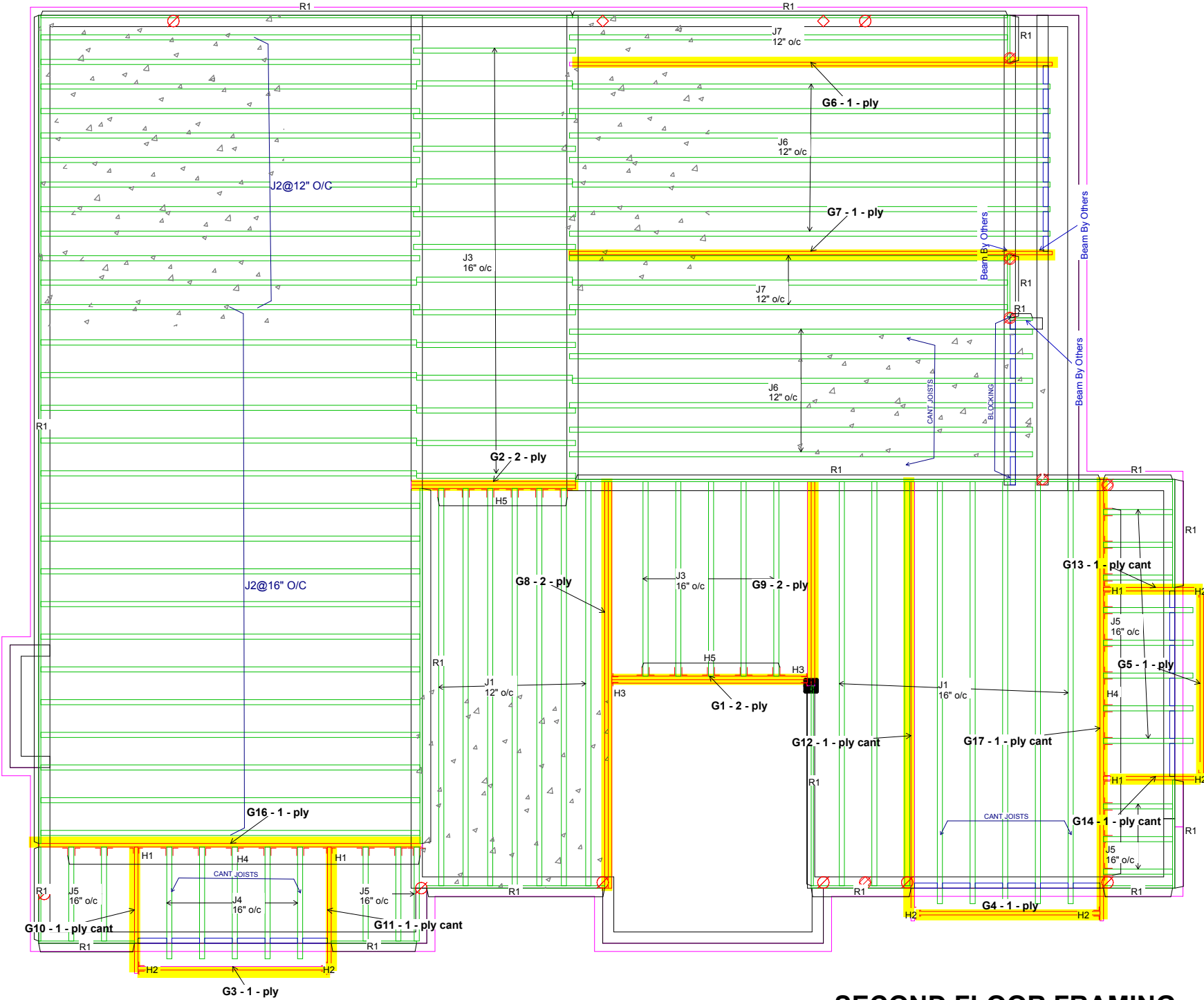
NOTES:

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.

HATCH AREA INDICATED REPRESENTS
CERAMIC TILED FLOOR WITH AN
ADDITIONAL DEAD LOAD OF 5.00 PSF

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.



SECOND FLOOR FRAMING

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 11F MODEL

BUILDING: REVIEWED
SCOTT SHERRIFFS
PLANS EXAMINER

APR 11, 2017
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:

JUNIPER 11 EL - 2

GREEN PARK HOMES
LECCO RIDGE
MILTON, ON

SALESMAN: RM

Time: 08:23 AM
DATE: 11/03/16
Designer: SB
Not Scaled
License Name: KOTT
KEYMARK ENTERPRISES, INC.

Member Data**Description: CalcG1**

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

Standard Load:

Live Load: 0 PLF

Dead Load: 0 PLF

Deck Connection: Nailed

Member Weight: 11.8 PLF

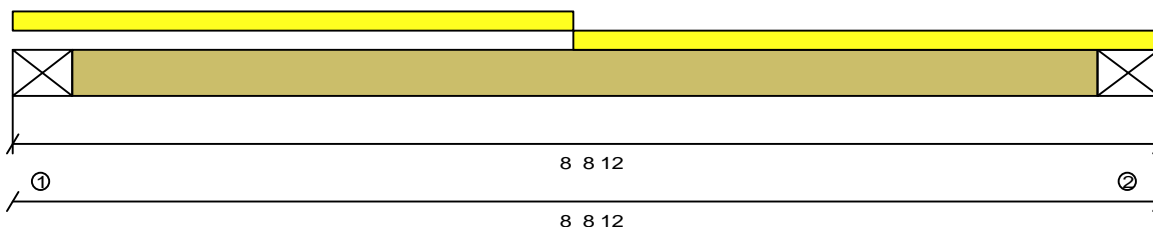
Filename: D:\SAUMIL\GR

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' 3.31"		159		60		Live
Replacement Uniform (PLF)	Top	4' 3.31"	8' 8.75"		399		150		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	1762#	--
2	8' 8.750"	Girder	N/A	N/A	N/A	2684#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	865#	371#
2	1334#	546#

Design spans

7' 9.750"

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Compression edge maximum unbraced length calculation is based on ply width.

Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	4493. #	35386. #	12%	4.76'	Total Load 1.25D+1.5L
Shear	1892. #	13815. #	13%	7.49'	Total Load 1.25D+1.5L
TL Deflection	0.0429"	0.2604"	L/999+	4.36'	Total Load D+L
LL Deflection	0.0303"	0.1953"	L/999+	4.36'	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

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

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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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**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.

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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: 11.8 PLF

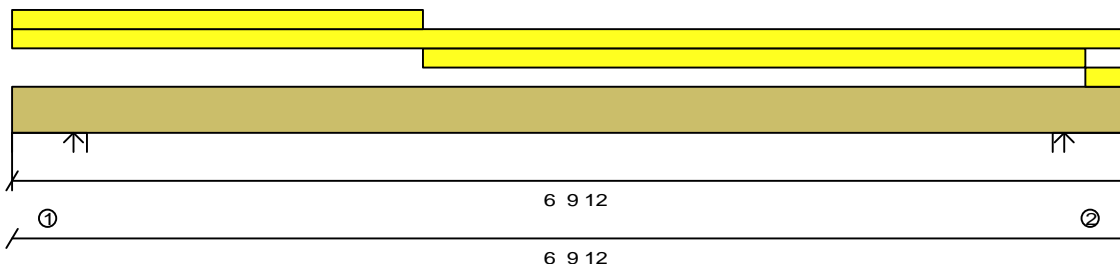
Filename: D:\SAUMIL\GR

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"	2' 6.19"		329		134		Live
Replacement Uniform (PLF)	Top	0' 0.00"	6' 9.75"		27		10		Live
Replacement Uniform (PLF)	Top	2' 6.19"	6' 6.63"		329		134		Live
Replacement Uniform (PLF)	Top	6' 6.63"	6' 9.75"		329		134		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"	2197#	--
2	6' 9.750"	Wall	N/A	N/A	1.500"	2197#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	1074#	470#
2	1074#	470#

Design spans

6' 0.500"

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Compression edge maximum unbraced length calculation is based on ply width.

Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	3319. #	35386. #	9%	3.41'	Total Load 1.25D+1.5L
Shear	1478. #	13815. #	10%	0.4'	Total Load 1.25D+1.5L
TL Deflection	0.0221"	0.2014"	L/999+	3.41'	Total Load D+L
LL Deflection	0.0154"	0.1510"	L/999+	3.41'	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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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: D:\SAUMIL\GR

Importance Category: Normal (Part 9)

Application: Floor

Building Code: OBC-2012

0.720" max. LL

Member Weight: 5.9 PLF

Other Loads**Type**

(Description)

Replacement Uniform (PLF)

Side

Top

Begin

0' 0.00"

End

8' 1.50"

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

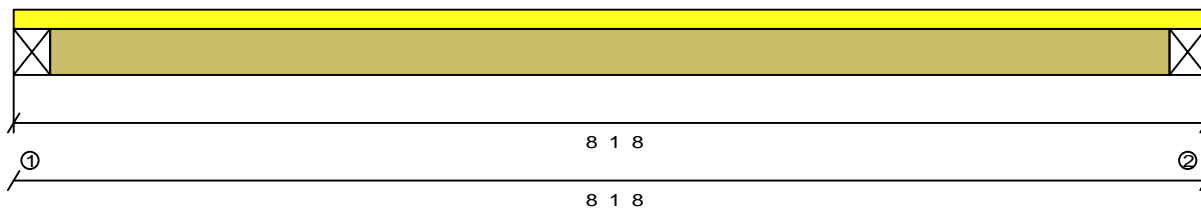
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End**Dead
Start**

81

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	464#	--
2	8' 1.500"	Girder	N/A	N/A	N/A	464#	--

Maximum Unfactored Load Case Reactions

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

	Dead
1	331#
2	331#

Design spans
7' 7.500"**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 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	884. #	11500. #	7%	4.06'	Total Load 1.4D
Shear	343. #	4490. #	7%	0.26'	Total Load 1.4D
TL Deflection	0.0170"	0.2542"	L/999+	4.06'	Total Load D+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: Positive Moment

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

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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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Uxbridge, ON.
www.nascor.ca



Member Data**Description: CalcG4**

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: 5.9 PLF

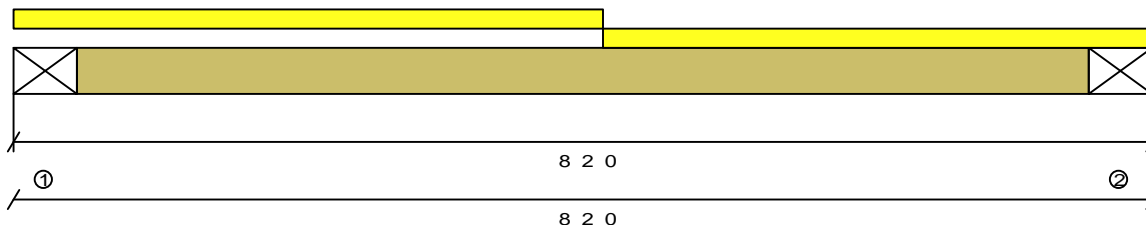
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Building Type: Residential

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' 2.81"		0		81		Live
Replacement Uniform (PLF)	Top	4' 2.81"	8' 2.00"		0		81		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	441#	--
2	8' 2.000"	Girder	N/A	N/A	N/A	441#	--

Maximum Unfactored Load Case Reactions

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

	Dead
1	315#
2	315#

Design spans
7' 3.000"**Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 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	799.>#	11500.>#	6%	4.08'	Total Load 1.4D
Shear	320.#	4490.#	7%	0.47'	Total Load 1.4D
TL Deflection	0.0142"	0.2417"	L/999+	4.08'	Total Load D+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 hangared connections depend on the connection style and are not included in this design.

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required at all point loads over bearings****Refer to Multiple Member Connection
Detail for ply to ply nailing or bolting
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Member Data**Description: CalcG5**

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: 5.9 PLF

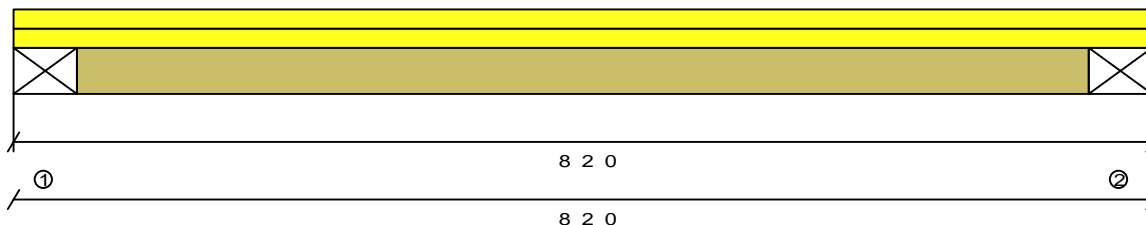
Filename: D:\SAUMIL\GR

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"	8' 2.00"		44		0		Snow
Replacement Uniform (PLF)	Top	0' 0.00"	8' 2.00"		19		100		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	751#	--
2	8' 2.000"	Girder	N/A	N/A	N/A	751#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	69#	158#	384#
2	69#	158#	384#

Design spans

7' 3.000"

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 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	973.1#	11500.1#	8%	4.08'	Total Load 1.4D
Shear	390.1#	4490.1#	8%	0.47'	Total Load 1.4D
TL Deflection	0.0260"	0.2417"	L/999+	4.08'	Total Load D+S+0.5L
LL Deflection	0.0087"	0.1812"	L/999+	4.08'	Total Load S+0.5L

(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

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

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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

Member Weight: 5.9 PLF

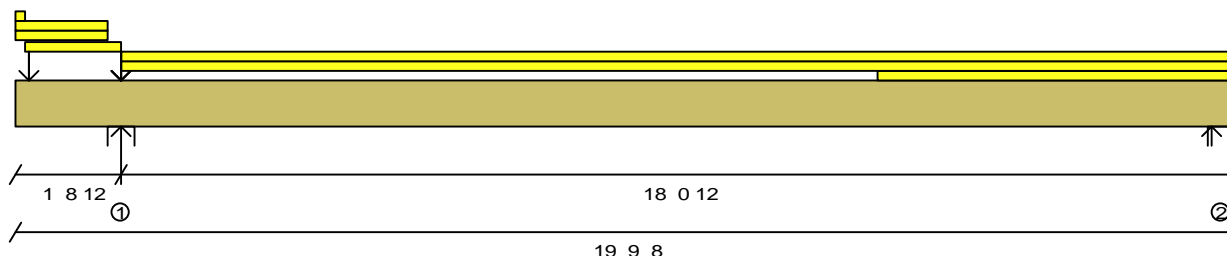
Filename: D:\SAUMIL\GR

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"	0' 2.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 6.00"		94		0		Snow
Replacement Uniform (PLF)	Top	0' 0.00"	1' 6.00"		41		122		Live
Replacement Uniform (PLF)	Top	0' 2.00"	1' 8.75"		27		10		Live
Replacement Uniform (PLF)	Top	1' 8.75"	19' 9.50"		27		10		Live
Replacement Uniform (PLF)	Top	1' 8.75"	19' 9.50"		27		10		Live
Additional Uniform (PLF)	Top	14' 0.00"	19' 9.50"		0		7		Live
Point (LBS)	Top	0' 2.75"			32		75		Snow
Point (LBS)	Top	1' 8.75"			31		72		Snow
Point (LBS)	Top	1' 8.75"			146		146		Live
Point (LBS)	Top	1' 8.75"			336		0		Snow

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	1' 8.750"	Wall	N/A	N/A	1.500"	2196#	--
2	19' 9.500"	Wall	N/A	N/A	1.500"	1017#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	731#	516#	674#
2	471#	-7#	248#

READ ALL NOTES ON THIS PAGE AND ON THE
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**Design spans**

1' 8.750" (left cant) 17' 8.125"

March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.
Design assumes no lateral bracing along the bottom chord.

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	4324.1#	17693.1#	24%	10.57'	Even Spans 1.25D+1.5L
Negative Moment	510.1#	17693.1#	2%	1.73'	Total Load 1.25D+1.00*1.5S+0.5L
Negative Unbrcd	510.1#	12759.1#	3%	1.73'	Cants Only 1.25D+1.00*1.5S+0.5L
Shear	916.1#	6908.1#	13%	1.74'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.3655"	0.5892"	L/580	10.57'	Even Spans D+L
LL Deflection	0.2515"	0.4419"	L/843	10.57'	Even Spans L
TL Defl., Lt.	-0.1054"	0.2000"	2L/393	0'	Even Spans D+L
LL Defl., Lt.	-0.0751"	0.2000"	2L/552	0'	Even Spans 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

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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.

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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

Member Weight: 5.9 PLF

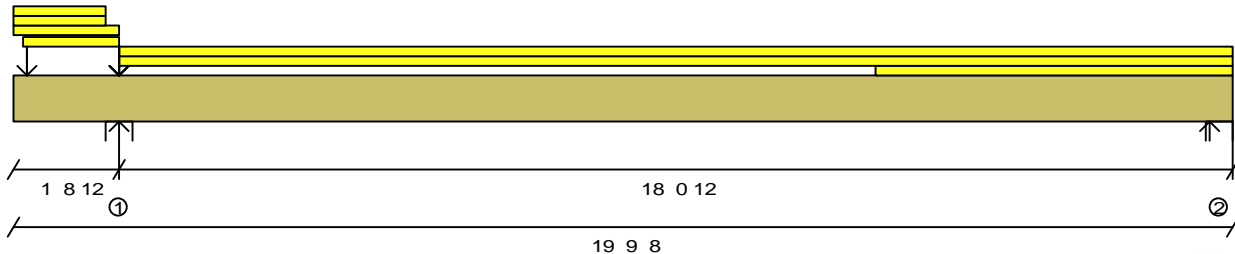
Filename: D:\SAUMIL\GR

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' 6.00"		94		0		Snow
Replacement Uniform (PLF)	Top	0' 0.00"	1' 6.00"		41		122		Live
Replacement Uniform (PLF)	Top	0' 0.00"	1' 8.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 2.00"	1' 8.75"		27		10		Live
Replacement Uniform (PLF)	Top	1' 8.75"	19' 9.50"		27		10		Live
Replacement Uniform (PLF)	Top	1' 8.75"	19' 9.50"		27		10		Live
Additional Uniform (PLF)	Top	14' 0.00"	19' 9.50"		0		7		Live
Point (LBS)	Top	0' 2.75"			32		75		Snow
Point (LBS)	Top	1' 8.75"			53		0		Snow
Point (LBS)	Top	1' 8.75"			23		86		Live
Point (LBS)	Top	1' 8.75"			121		121		Live
Point (LBS)	Top	1' 8.75"			279		0		Snow

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	1' 8.750"	Wall	N/A	N/A	1.500"	2248#	--
2	19' 9.500"	Wall	N/A	N/A	1.500"	1016#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	772#	481#	679#
2	471#	-7#	247#

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ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE
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IN THE DESIGN OF THIS COMPONENT.

**Design spans**

1' 8.750" (left cant) 17' 8.125"

March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.
Design assumes no lateral bracing along the bottom chord.

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	4316.##	17693.##	24%	10.57'	Even Spans 1.25D+1.5L
Negative Moment	542.##	17693.##	3%	1.73'	Total Load 1.25D+1.00*1.5S+0.5L
Negative Unbrcd	542.##	12442.##	4%	1.73'	Cants Only 1.25D+1.00*1.5S+0.5L
Shear	919.##	6908.##	13%	1.74'	Total Load 1.25D+1.5L+1.00*0.5S
TL Deflection	0.3646"	0.5892"	L/581	10.57'	Even Spans D+L
LL Deflection	0.2515"	0.4419"	L/843	10.57'	Even Spans L
TL Defl., Lt.	-0.1049"	0.2000"	2L/395	0'	Even Spans D+L
LL Defl., Lt.	-0.0751"	0.2000"	2L/552	0'	Even Spans 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

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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.

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

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: 11.8 PLF

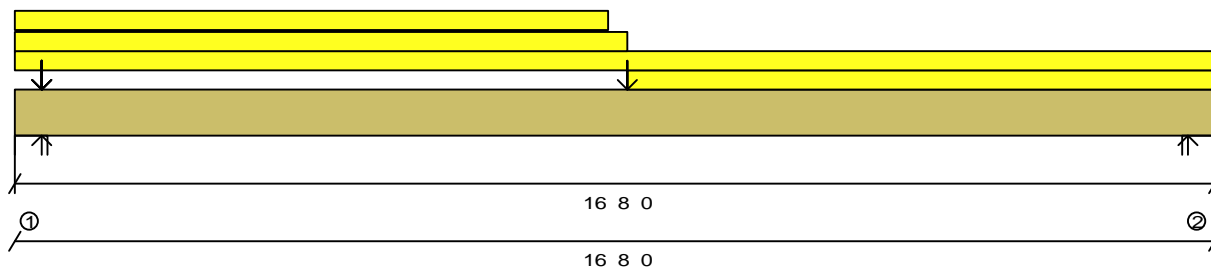
Filename: D:\SAUMIL\GR

Building Type: Residential

Importance Category: Normal (Part 9)

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

	Side	Begin	End	Trib. Width	Other Start	End	Dead Start	End	Category
Additional Uniform (PLF)	Top	0' 0.00"	8' 3.00"		0		7		Live
Replacement Uniform (PLF)	Top	0' 0.00"	8' 6.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	16' 8.00"		27		10		Live
Replacement Uniform (PLF)	Top	8' 6.00"	16' 8.00"		27		10		Live
Point (LBS)	Top	0' 4.63"			315		0		Snow
Point (LBS)	Top	0' 4.63"			137		200		Live
Point (LBS)	Top	0' 4.63"			796		797		Live
Point (LBS)	Top	0' 4.63"			1830		0		Snow
Point (LBS)	Top	8' 6.00"			916		401		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	1.642"	5977#	--
2	16' 8.000"	Wall	N/A	N/A	1.500"	1925#	--

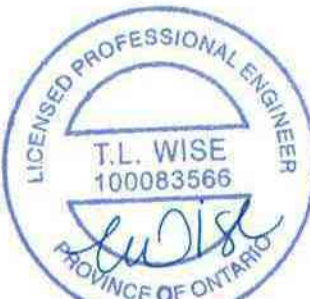
Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	1805#	2145#	1485#
2	891#	0#	471#

Design spans

15' 10.750"



March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Compression edge maximum unbraced length calculation is based on ply width.

Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	11354. #	35386. #	32%	8.5'	Total Load 1.25D+1.5L
Shear	1807. #	13815. #	13%	15.49'	Total Load 1.25D+1.5L
TL Deflection	0.3441"	0.5299"	L/554	8.33'	Total Load D+L
LL Deflection	0.2266"	0.3974"	L/841	8.33'	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

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

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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

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: 11.8 PLF

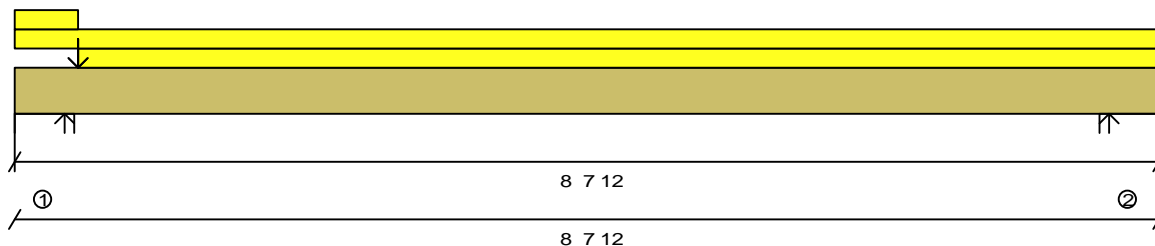
Filename: D:\SAUMIL\GR

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"	0' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 0.00"	8' 7.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 5.75"	8' 7.75"		27		10		Live
Point (LBS)	Top	0' 5.75"			192		72		Live
Point (LBS)	Top	0' 5.75"			1412		587		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"	3663#	--
2	8' 7.750"	Wall	N/A	N/A	1.500"	510#	--

Maximum Unfactored Load Case Reactions

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

	Live	Dead
1	1795#	777#
2	229#	133#

Design spans

7' 10.500"



March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 2 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Compression edge maximum unbraced length calculation is based on ply width.

Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	1086.1#	35386.1#	3%	3.93'	Total Load 1.25D+1.5L
Shear	391.1#	13815.1#	2%	7.47'	Total Load 1.25D+1.5L
TL Deflection	0.0112"	0.2625"	L/999+	4.32'	Total Load D+L
LL Deflection	0.0072"	0.1969"	L/999+	4.32'	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

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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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.

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Member Data**Description: CalcG10**

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: 5.9 PLF

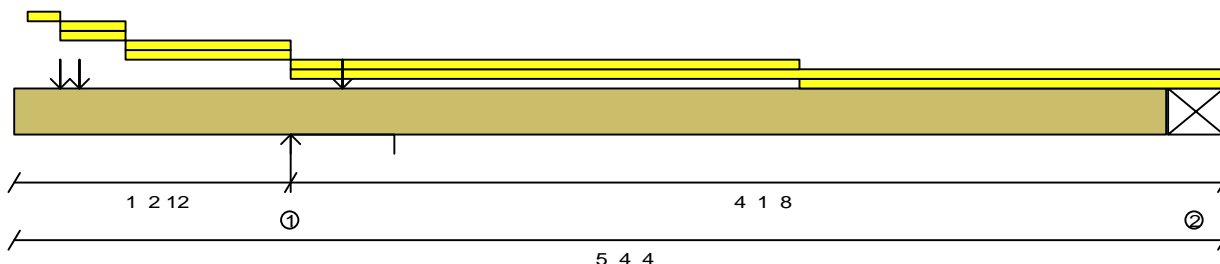
Filename: D:\SAUMIL\GR

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' 0.75"	0' 2.50"		0		81		Live
Replacement Uniform (PLF)	Top	0' 2.50"	0' 6.00"		9		3		Live
Replacement Uniform (PLF)	Top	0' 2.50"	0' 6.00"		0		81		Live
Replacement Uniform (PLF)	Top	0' 6.00"	1' 2.75"		27		10		Live
Replacement Uniform (PLF)	Top	0' 6.00"	1' 2.75"		0		81		Live
Replacement Uniform (PLF)	Top	1' 2.75"	3' 5.75"		27		10		Live
Replacement Uniform (PLF)	Top	1' 2.75"	5' 4.25"		27		10		Live
Replacement Uniform (PLF)	Top	3' 5.75"	5' 4.25"		27		10		Live
Point (LBS)	Top	0' 2.50"			0		374		Live
Point (LBS)	Top	0' 3.50"			0		65		Live
Point (LBS)	Top	1' 5.50"			35		80		Snow

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	1' 2.750"	Wall	N/A	N/A	1.500"	1220#	--
2	5' 4.250"	Girder	N/A	N/A	N/A	83#	-112#

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	128#	35#	809#
2	103#	0#	-79#

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Design spans

1' 2.750" (left cant) 3' 10.500"

March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.
Design assumes no lateral bracing along the bottom chord.

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	33. #	17693. #	0%	4.33'	Even Spans 0.9D+1.5L
Negative Moment	708. #	11500. #	6%	1.23'	Total Load 1.4D
Negative Unbrcd	708. #	8565. #	8%	1.23'	Total Load 1.4D
Shear	546. #	4490. #	12%	0.25'	Total Load 1.4D
TL Deflection	-0.0030"	0.1291"	L/999+	2.78'	Cants Only D+L
LL Deflection	0.0011"	0.0968"	L/999+	3.17'	Even Spans L
TL Defl., Lt.	0.0034"	0.2000"	2L/999+	0'	Cants Only D+L
LL Defl., Lt.	0.0010"	0.2000"	2L/999+	0'	Even Spans 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 hungared connections depend on the connection style and are not included in this design.

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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.

Member Data**Description:** CalcG11**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: 5.9 PLF

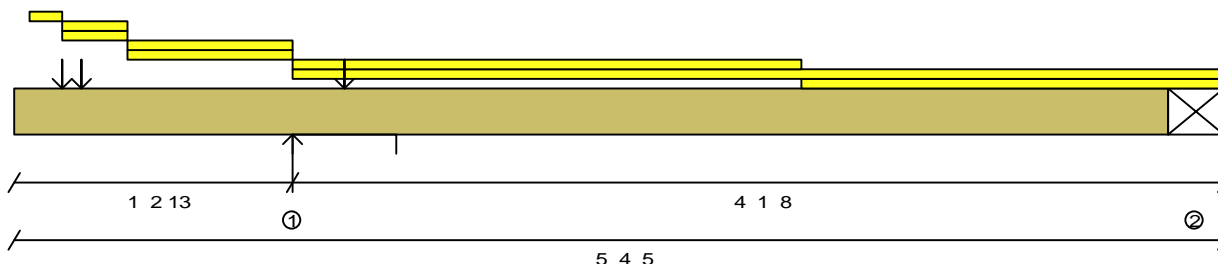
Filename: D:\SAUMIL\GR

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' 0.81"	0' 2.56"		0		81		Live
Replacement Uniform (PLF)	Top	0' 2.56"	0' 6.06"		9		3		Live
Replacement Uniform (PLF)	Top	0' 2.56"	0' 6.06"		0		81		Live
Replacement Uniform (PLF)	Top	0' 6.06"	1' 2.81"		27		10		Live
Replacement Uniform (PLF)	Top	0' 6.06"	1' 2.81"		0		81		Live
Replacement Uniform (PLF)	Top	1' 2.81"	3' 5.81"		27		10		Live
Replacement Uniform (PLF)	Top	1' 2.81"	5' 4.31"		27		10		Live
Replacement Uniform (PLF)	Top	3' 5.81"	5' 4.31"		27		10		Live
Point (LBS)	Top	0' 2.56"			0		374		Live
Point (LBS)	Top	0' 3.56"			0		65		Live
Point (LBS)	Top	1' 5.56"			35		80		Snow

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	1' 2.812"	Wall	N/A	N/A	1.500"	1219#	--
2	5' 4.312"	Girder	N/A	N/A	N/A	83#	-111#

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	128#	35#	808#
2	103#	0#	-79#

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**Design spans**

1' 2.812" (left cant) 3' 10.500"

March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.
Design assumes no lateral bracing along the bottom chord.

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

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

Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	33.7#	17693.7#	0%	4.34'	Even Spans 0.9D+1.5L
Negative Moment	706.7#	11500.7#	6%	1.23'	Total Load 1.4D
Negative Unbrcd	706.7#	8555.7#	8%	1.23'	Total Load 1.4D
Shear	546.7#	4490.7#	12%	0.25'	Total Load 1.4D
TL Deflection	-0.0030"	0.1292"	L/999+	2.79'	Cants Only D+L
LL Deflection	0.0011"	0.0969"	L/999+	3.17'	Even Spans L
TL Defl., Lt.	0.0034"	0.2000"	2L/999+	0'	Cants Only D+L
LL Defl., Lt.	0.0010"	0.2000"	2L/999+	0'	Even Spans 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 hungared connections depend on the connection style and are not included in this design.

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Member Data**Description: CalcG12**

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: 5.9 PLF

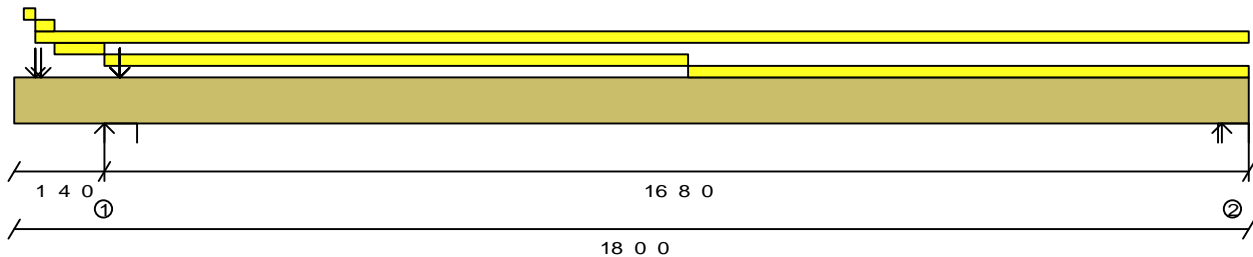
Filename: D:\SAUMIL\GR

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' 2.00"	0' 3.75"		0		81		Live
Replacement Uniform (PLF)	Top	0' 3.75"	0' 7.25"		0		81		Live
Replacement Uniform (PLF)	Top	0' 3.75"	18' 0.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 7.25"	1' 4.00"		0		81		Live
Replacement Uniform (PLF)	Top	1' 4.00"	9' 10.00"		27		10		Live
Replacement Uniform (PLF)	Top	9' 10.00"	18' 0.00"		27		10		Live
Point (LBS)	Top	0' 3.75"			0		366		Live
Point (LBS)	Top	0' 4.75"			0		65		Live
Point (LBS)	Top	1' 6.75"			0		62		Live
Point (LBS)	Top	1' 6.75"			89		89		Live
Point (LBS)	Top	1' 6.75"			205		0		Snow
Point (LBS)	Top	1' 6.75"			371		373		Live
Point (LBS)	Top	1' 6.75"			853		0		Snow

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	1' 4.000"	Wall	N/A	N/A	2.025"	3685#	--
2	18' 0.000"	Wall	N/A	N/A	1.500"	876#	--

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	922#	1058#	1309#
2	434#	0#	180#

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Design spans

1' 4.000" (left cant)

16' 3.375"

March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.
Design assumes no lateral bracing along the bottom chord.

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	3418. #	17693. #	19%	9.82'	Even Spans 1.25D+1.5L
Negative Moment	700. #	11500. #	6%	1.33'	Total Load 1.4D
Negative Unbrd	700. #	9951. #	7%	1.33'	Total Load 1.4D
Shear	843. #	6908. #	12%	1.34'	Total Load 1.25D+1.5L
TL Deflection	0.2401"	0.5427"	L/813	9.47'	Even Spans D+L
LL Deflection	0.1824"	0.4070"	L/999+	9.47'	Even Spans L
TL Defl., Lt.	-0.0536"	0.2000"	2L/597	0'	Even Spans D+L
LL Defl., Lt.	-0.0452"	0.2000"	2L/707	0'	Even Spans L

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Member Data**Description: CalcG13**

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: 5.9 PLF

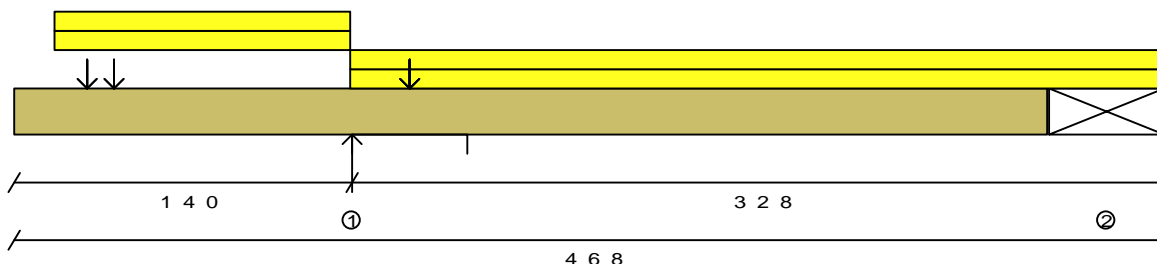
Filename: D:\SAUMIL\GR

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' 2.00"	1' 4.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 2.00"	1' 4.00"		41		93		Snow
Replacement Uniform (PLF)	Top	1' 4.00"	4' 6.50"		27		10		Live
Replacement Uniform (PLF)	Top	1' 4.00"	4' 6.50"		27		10		Live
Point (LBS)	Top	0' 3.50"			168		0		Snow
Point (LBS)	Top	0' 3.50"			73		439		Live
Point (LBS)	Top	0' 4.75"			35		0		Snow
Point (LBS)	Top	0' 4.75"			15		80		Live
Point (LBS)	Top	1' 6.75"			0		0		Live
Point (LBS)	Top	1' 6.75"			23		0		Snow
Point (LBS)	Top	1' 6.75"			10		73		Live

**Bearings and Factored Reactions**

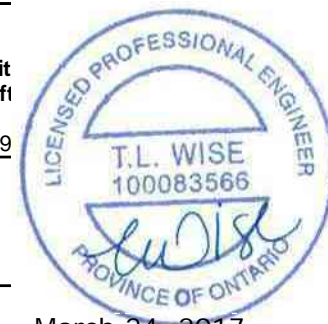
	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravit Uplift
1	1' 4.000"	Wall	N/A	N/A	1.500"	1880#	--
2	4' 6.500"	Girder	N/A	N/A	N/A	--	-379

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	242#	359#	976#
2	73#	-85#	-184#

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**Design spans**

1' 4.000" (left cant) 2' 9.000"

March 24, 2017

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply**PASSES DESIGN CHECKS****Pass-Thru Framing Squash Block is
required at all point loads over bearings**

Design assumes continuous lateral bracing along the top chord.

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

Design assumes no lateral bracing along the bottom chord.

Review gravity uplift reaction force of 379lbs at bearing 2 and ensure that the structure can resist appropriately.

Limit States Design

	Actual	Limit	Capacity	Location	Loading
Positive Moment	0. #	17693. #	0%	4.54'	Total Load 1.25D+1.00*1.5S+0.5L
Negative Moment	851. #	11500. #	7%	1.33'	Total Load 1.4D
Negative Unbrcd	1167. #	11006. #	10%	1.33'	Total Load 1.25D+1.00*1.5S+0.5L
Shear	643. #	4490. #	14%	0.39'	Total Load 1.4D
TL Deflection	-0.0044"	0.0917"	L/999+	2.43'	Cants Only D+S+0.5L
LL Deflection	-0.0015"	0.0687"	L/999+	2.43'	Cants Only S+0.5L
TL Defl., Lt.	0.0053"	0.2000"	2L/999+	0'	Cants Only D+S+0.5L
LL Defl., Lt.	0.0018"	0.2000"	2L/999+	0'	Cants Only S+0.5L

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Member Data**Description: CalcG14**

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: 5.9 PLF

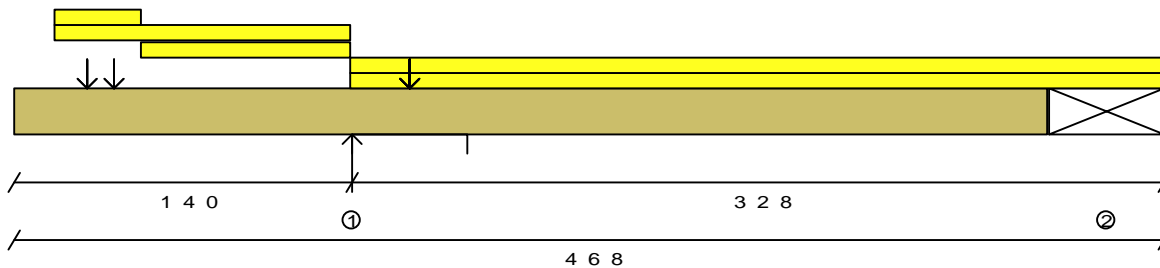
Filename: D:\SAUMIL\GR

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' 2.00"	0' 6.00"		41		93		Snow
Replacement Uniform (PLF)	Top	0' 2.00"	1' 4.00"		27		10		Live
Replacement Uniform (PLF)	Top	0' 6.00"	1' 4.00"		41		93		Snow
Replacement Uniform (PLF)	Top	1' 4.00"	4' 6.50"		27		10		Live
Replacement Uniform (PLF)	Top	1' 4.00"	4' 6.50"		27		10		Live
Point (LBS)	Top	0' 3.50"			168		0		Snow
Point (LBS)	Top	0' 3.50"			73		439		Live
Point (LBS)	Top	0' 4.75"			35		0		Snow
Point (LBS)	Top	0' 4.75"			15		80		Live
Point (LBS)	Top	1' 6.75"			0		0		Live
Point (LBS)	Top	1' 6.75"			8		0		Snow
Point (LBS)	Top	1' 6.75"			15		0		Snow
Point (LBS)	Top	1' 6.75"			3		25		Live
Point (LBS)	Top	1' 6.75"			7		48		Live

**Bearings and Factored Reactions**

	Location	Type	Material	Input Length	Min Required	Gravity Reaction	Gravity Uplift
1	1' 4.000"	Wall	N/A	N/A	1.500"	1880#	--
2	4' 6.500"	Girder	N/A	N/A	N/A	--	-379#

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	242#	359#	976#
2	73#	-85#	-184#

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Design spans

1' 4.000" (left cant) 2' 9.000"

Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 1 ply**PASSES DESIGN CHECKS**

Design assumes continuous lateral bracing along the top chord.

Design assumes no lateral bracing along the bottom chord.

Review gravity uplift reaction force of 379lbs at bearing 2 and ensure that the structure can resist appropriately.

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	0. #	17693. #	0%	4.54'	Total Load 1.25D+1.5L
Negative Moment	851. #	11500. #	7%	1.33'	Total Load 1.4D
Negative Unbrcd	1167. #	11006. #	10%	1.33'	Total Load 1.25D+1.00*1.5S+0.5L
Shear	643. #	4490. #	14%	0.39'	Total Load 1.4D
TL Deflection	-0.0044"	0.0917"	L/999+	2.43'	Cants Only D+S+0.5L
LL Deflection	-0.0015"	0.0687"	L/999+	2.43'	Cants Only S+0.5L
TL Defl., Lt.	0.0053"	0.2000"	2L/999+	0'	Cants Only D+S+0.5L
LL Defl., Lt.	0.0018"	0.2000"	2L/999+	0'	Cants Only S+0.5L

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Member Data**Description:** CalcG16**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: 5.9 PLF

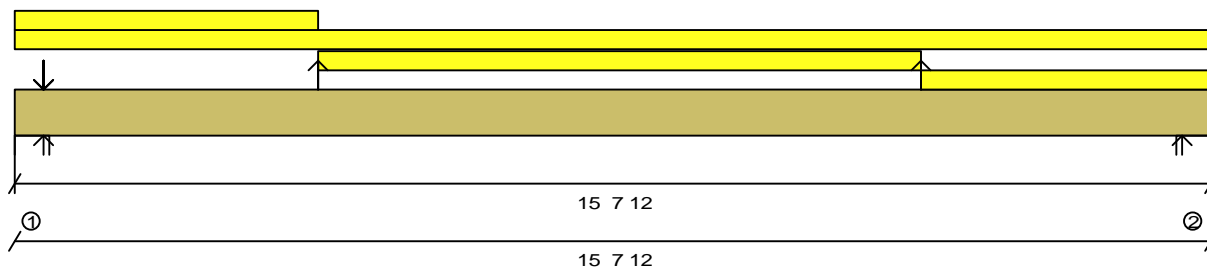
Filename: D:\SAUMIL\GR

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"	3' 11.75"		80		30		Live
Replacement Uniform (PLF)	Top	0' 0.00"	15' 7.75"		27		10		Live
Replacement Uniform (PLF)	Top	3' 11.75"	11' 10.25"		80		29		Live
Replacement Uniform (PLF)	Top	11' 10.25"	15' 7.75"		80		30		Live
Point (LBS)	Top	0' 4.63"			22		22		Live
Point (LBS)	Top	0' 4.63"			49		0		Snow
Point (LBS)	Top	0' 4.63"			0		65		Live
Point (LBS)	Top	3' 11.75"			0		-84		Live
Point (LBS)	Top	11' 10.25"			0		-84		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"	1777#	--
2	15' 7.750"	Wall	N/A	N/A	1.500"	1612#	-55#

Maximum Unfactored Load Case Reactions

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

	Live	Snow	Dead
1	815#	49#	424#
2	793#	0#	338#

Design spans

14' 10.500"



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Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 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	5986. #	17693. #	33%	7.82'	Total Load 1.25D+1.5L
Negative Moment	246. #	11500. #	2%	3.98'	Total Load 1.4D
Negative Unbrcd	246. #	3021. #	8%	3.98'	Total Load 1.4D
Shear	1397. #	6908. #	20%	0.4'	Total Load 1.25D+1.5L
TL Deflection	0.3657"	0.4958"	L/488	7.82'	Total Load D+L
LL Deflection	0.2569"	0.3719"	L/694	7.82'	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

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****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.****RECEIVED
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Product: 1 3/4x11 7/8 West Fraser 2.0E-3100F 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	5510.>#	17693.>#	31%	8.18'	Odd Spans 1.25D+1.5L
Negative Moment	1173.>#	17693.>#	6%	12.19'	Total Load 1.25D+1.00*1.5S+0.5L
Negative Unbrcd	1173.>#	2553.>#	45%	12.19'	Total Load 1.25D+1.00*1.5S+0.5L
Shear	1299.>#	6908.>#	18%	15.85'	Total Load 1.25D+1.5L
TL Deflection	0.3909"	0.5427"	L/499	8.53'	Odd Spans D+L
LL Deflection	0.2950"	0.4070"	L/662	8.53'	Odd Spans L
TL Defl., Rt.	-0.0910"	0.2000"	2L/351	18'	Odd Spans D+L
LL Defl., Rt.	-0.0732"	0.2000"	2L/437	18'	Odd Spans 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: LL Deflection



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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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