

LI: 318279(290684)

Project: Pine Valley

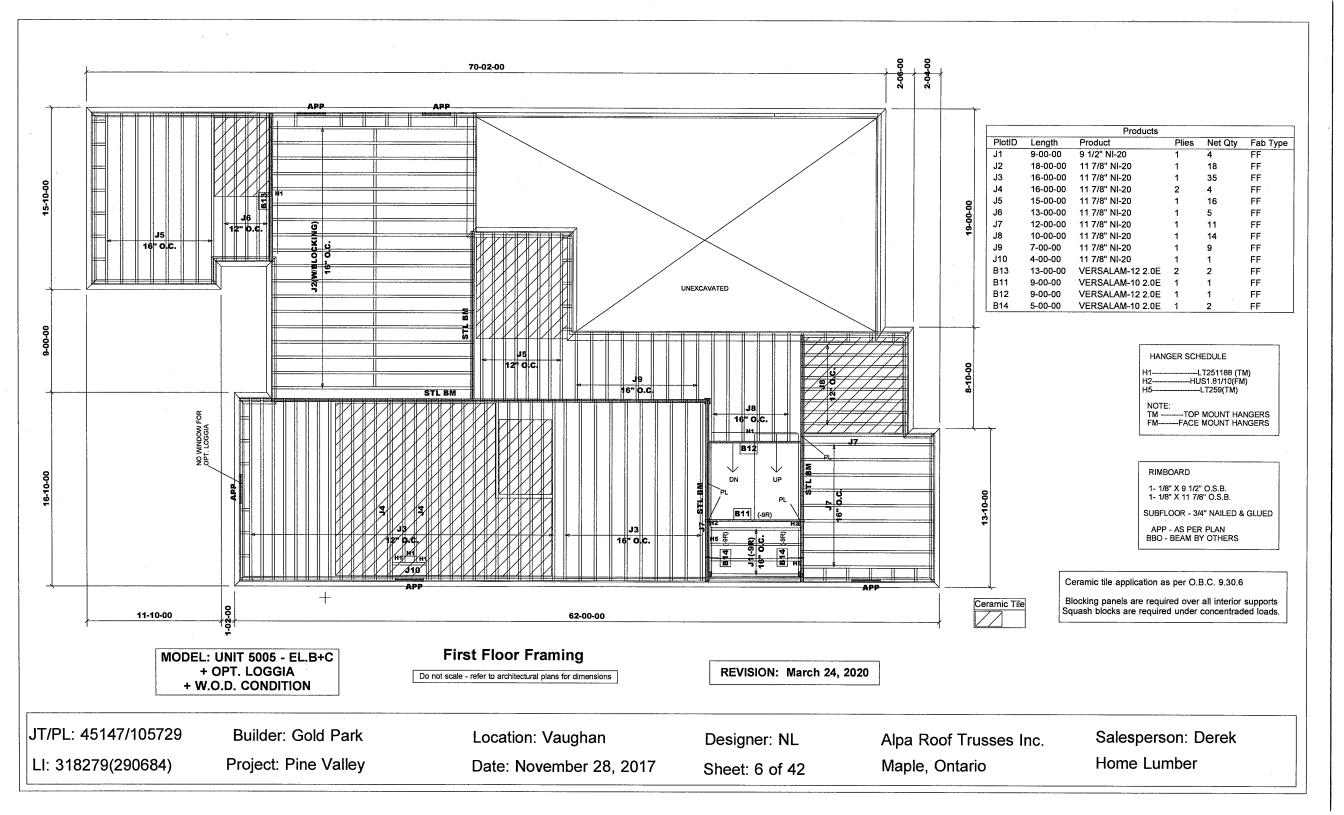
Location: Vaughan

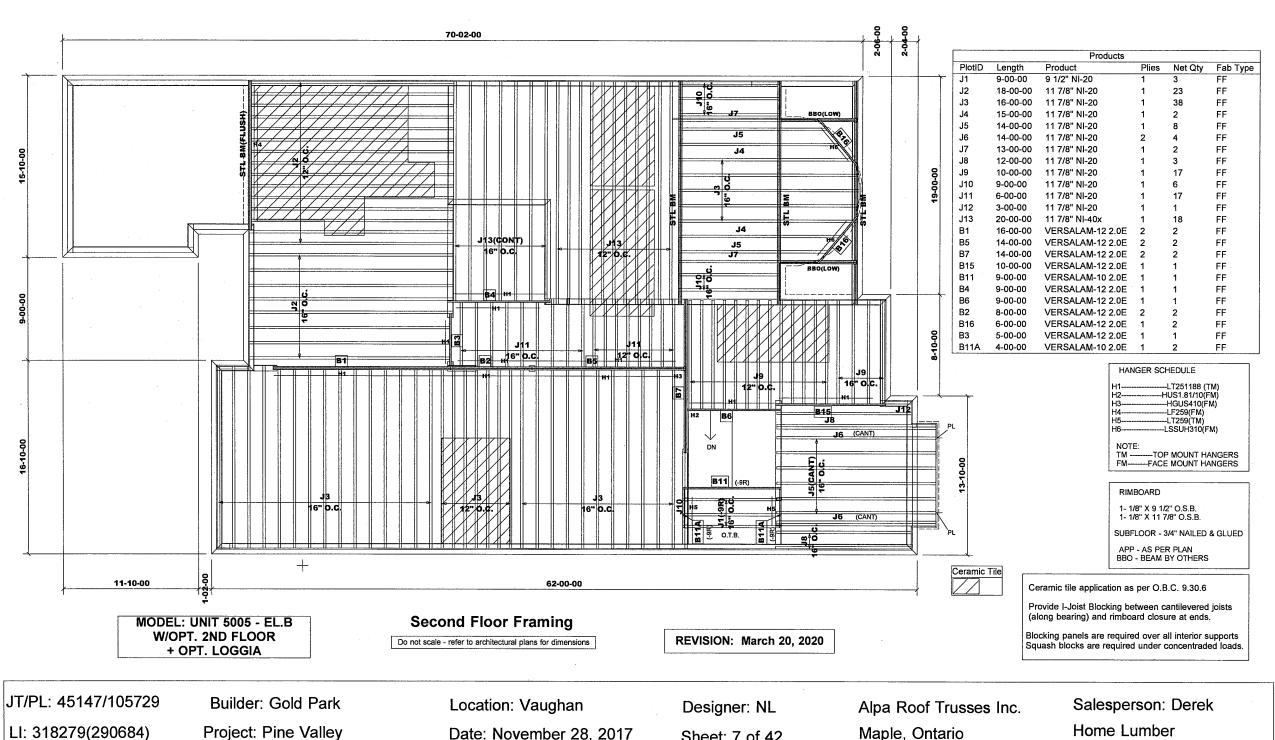
Date: November 28, 2017

Designer: NL

Sheet: 5 of 42

Alpa Roof Trusses Inc. Maple, Ontario



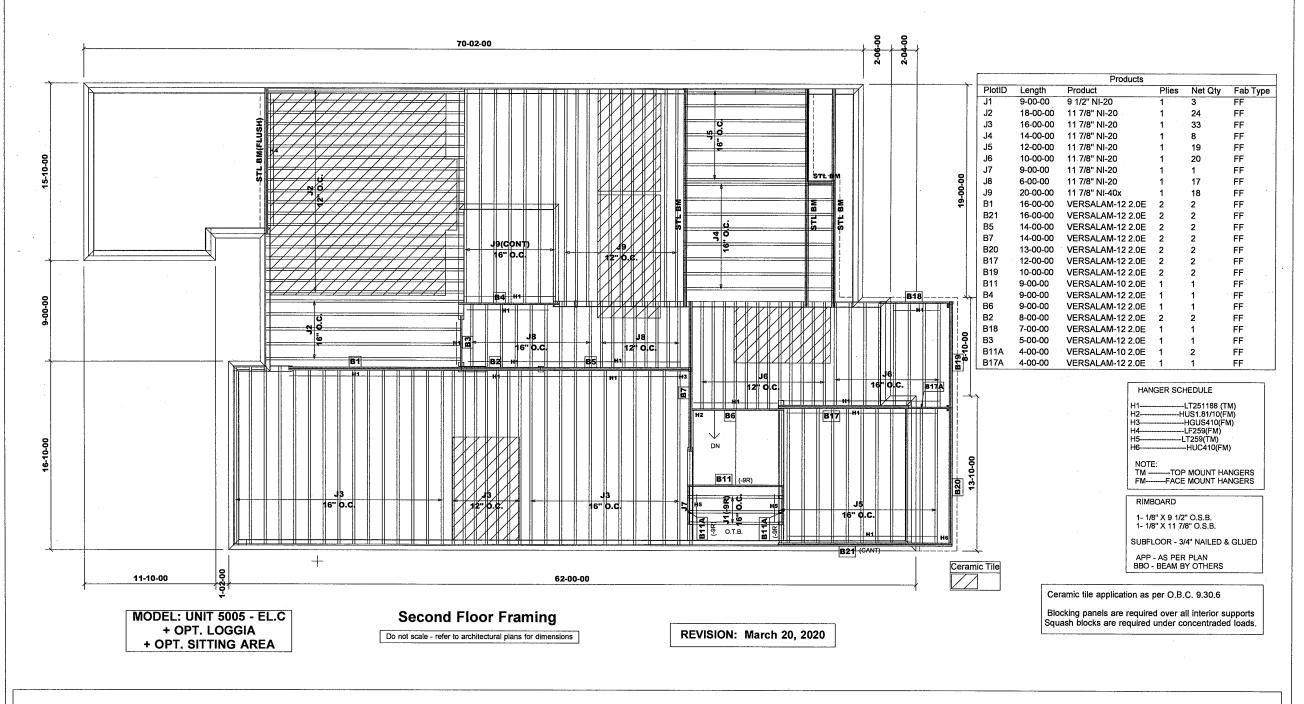


Project: Pine Valley

Date: November 28, 2017

Sheet: 7 of 42

Maple, Ontario



LI: 318279(290684)

Builder: Gold Park

Project: Pine Valley

Location: Vaughan

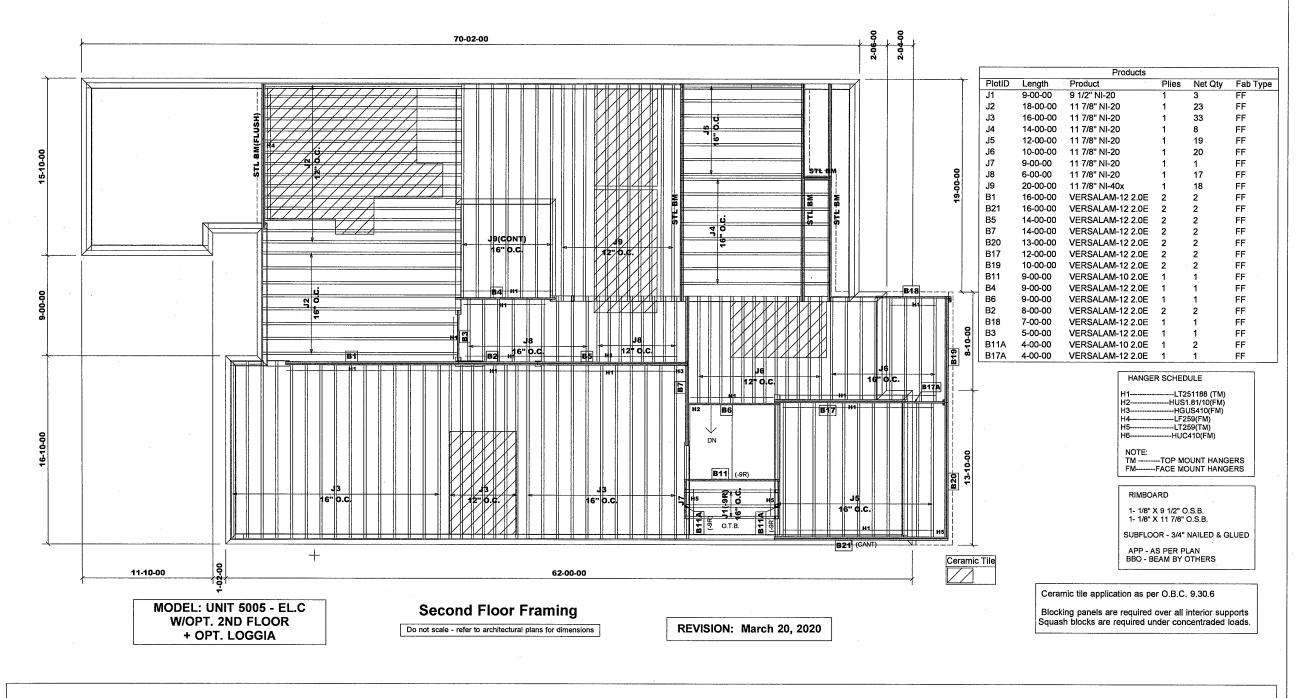
Date: November 28, 2017

Designer: NL

Sheet: 8 of 42

Alpa Roof Trusses Inc. Maple, Ontario

Salesperson: Derek



LI: 318279(290684)

Builder: Gold Park

Location: Vaughan Project: Pine Valley

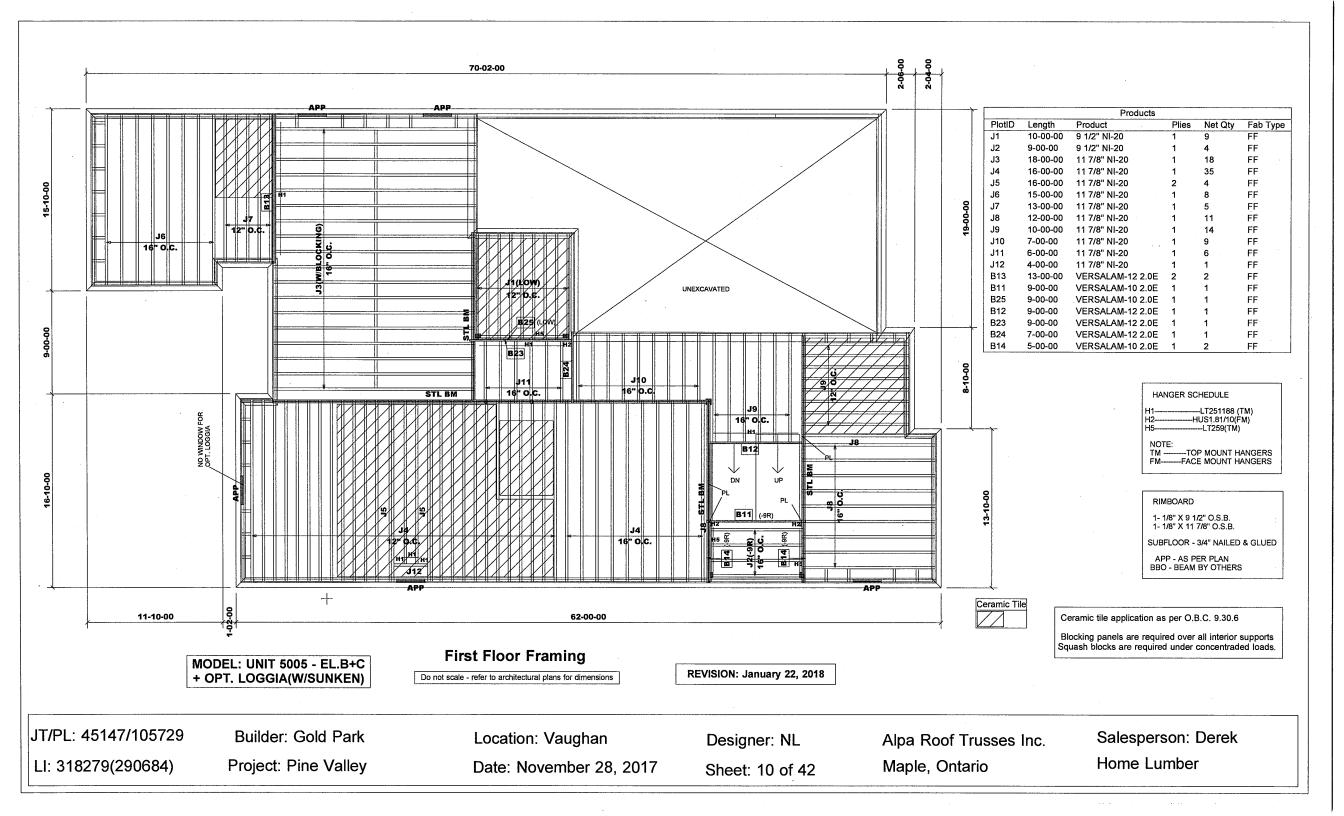
Date: November 28, 2017

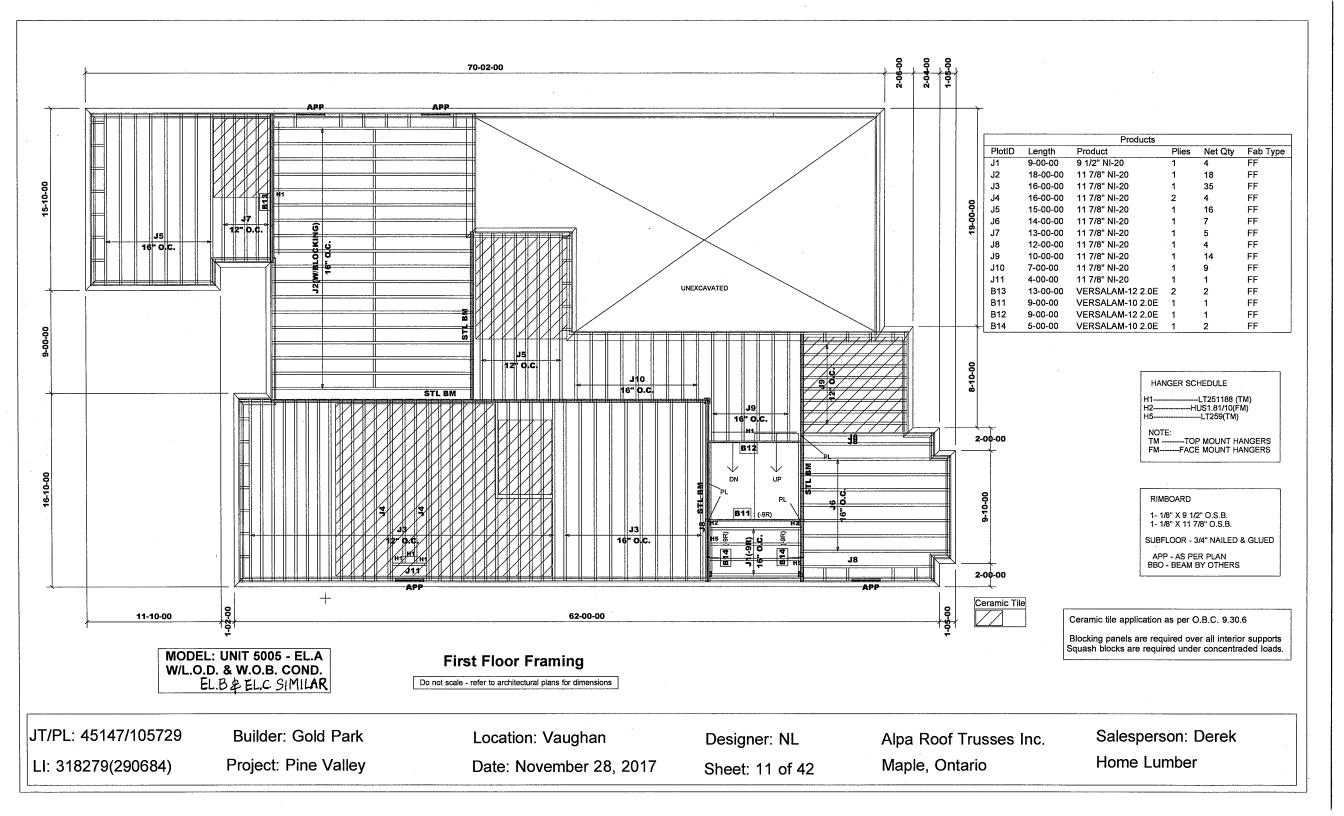
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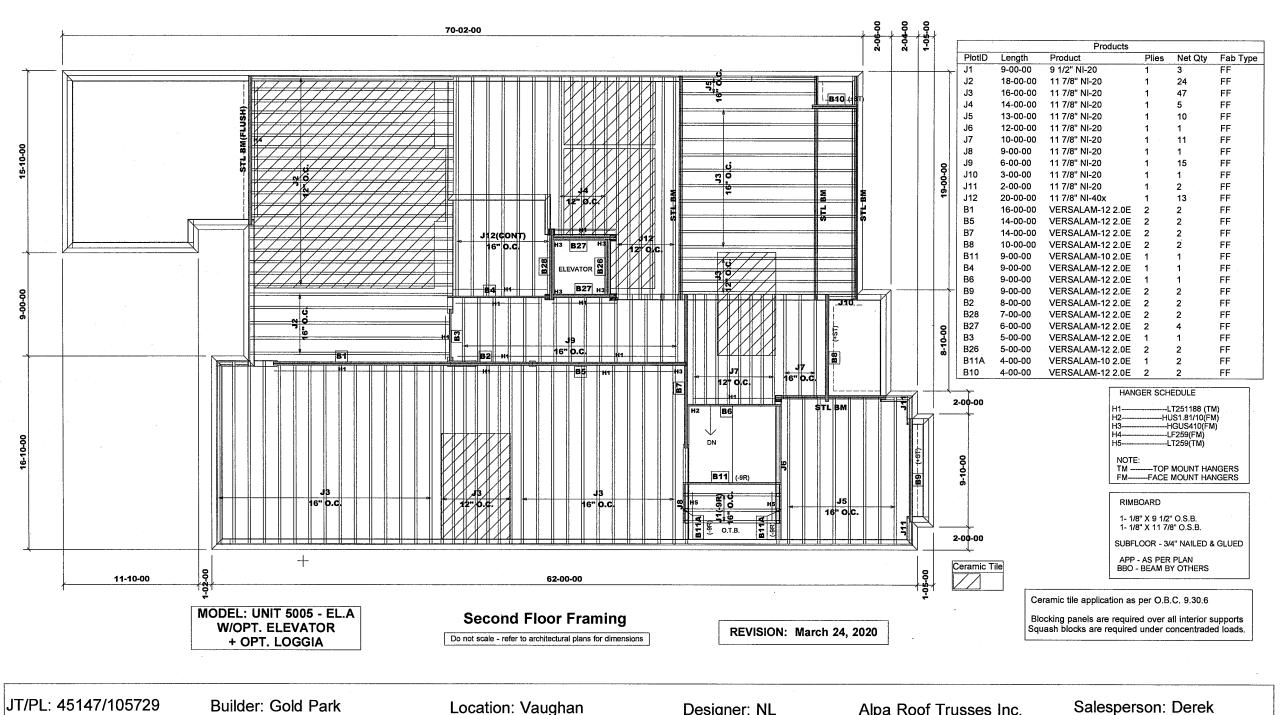
Sheet: 9 of 42

Alpa Roof Trusses Inc. Maple, Ontario

Salesperson: Derek







Builder: Gold Park Project: Pine Valley

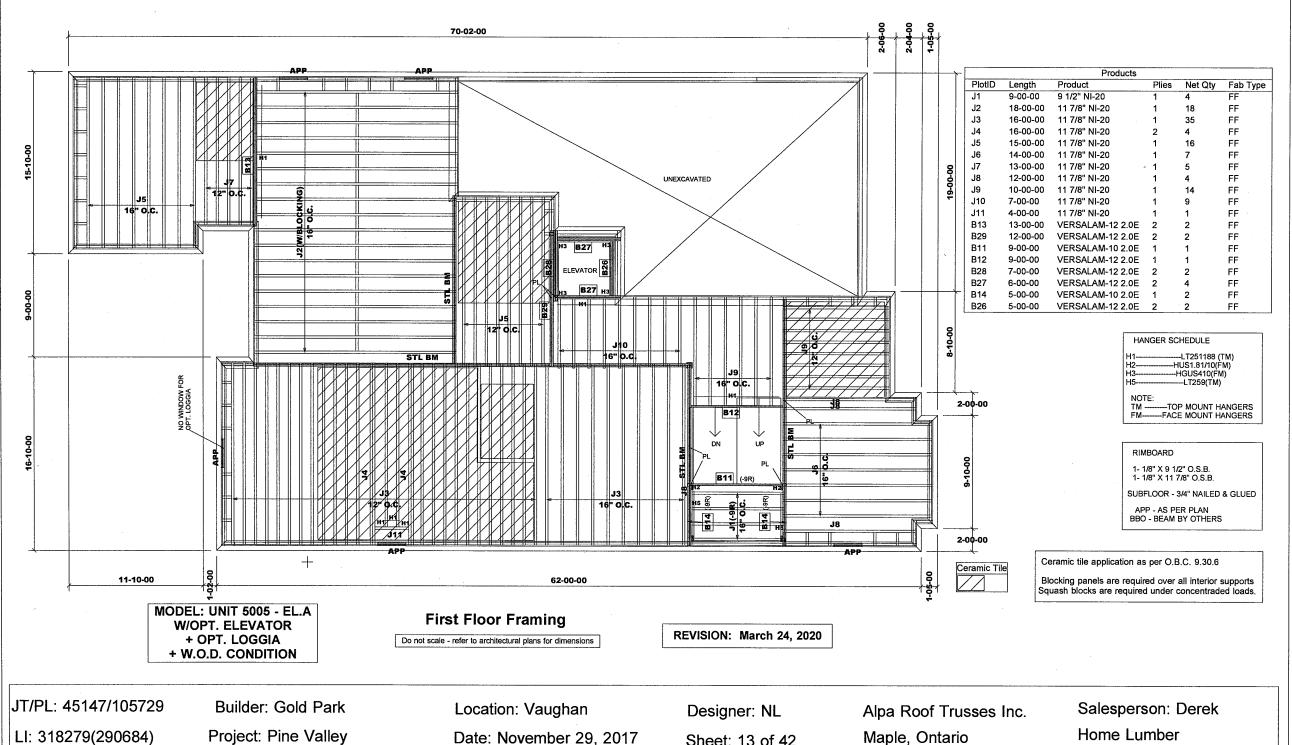
Date: November 29, 2017

Designer: NL

Sheet: 12 of 42

Alpa Roof Trusses Inc. Maple, Ontario

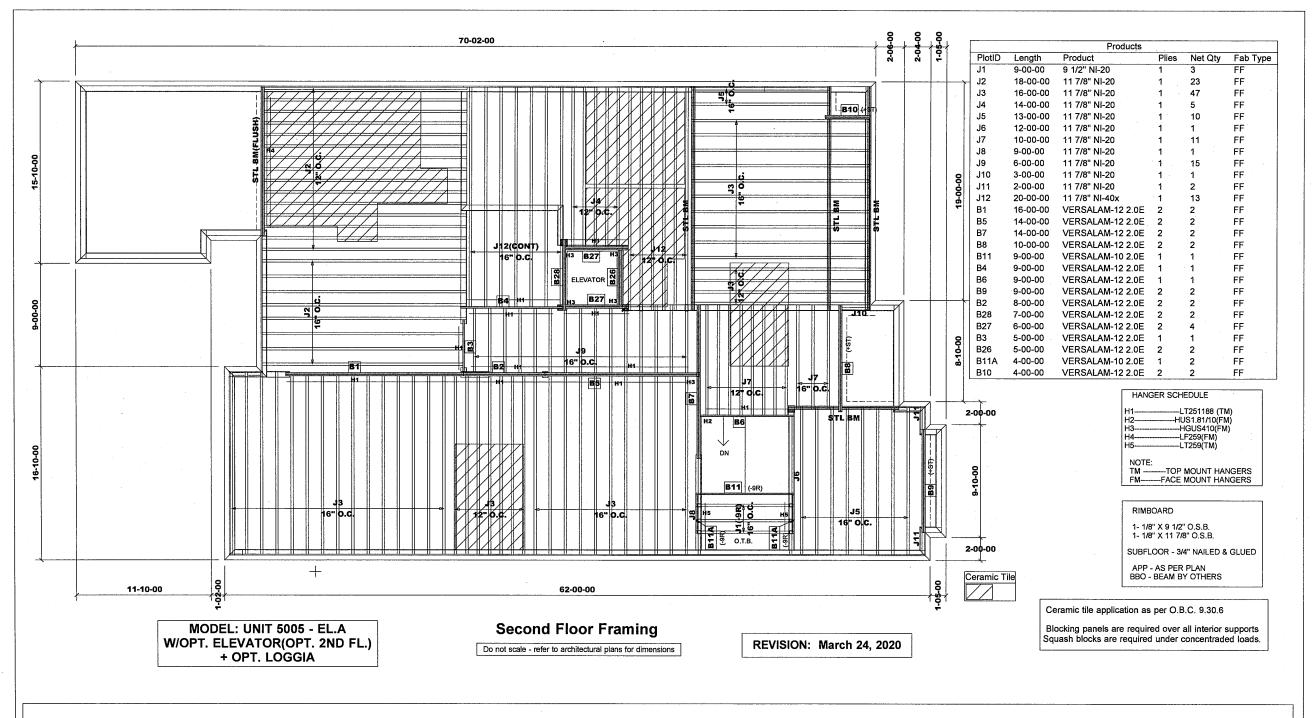
Salesperson: Derek



Project: Pine Valley

Date: November 29, 2017

Sheet: 13 of 42



LI: 318279(290684)

Builder: Gold Park

Project: Pine Valley

Location: Vaughan

Date: November 29, 2017

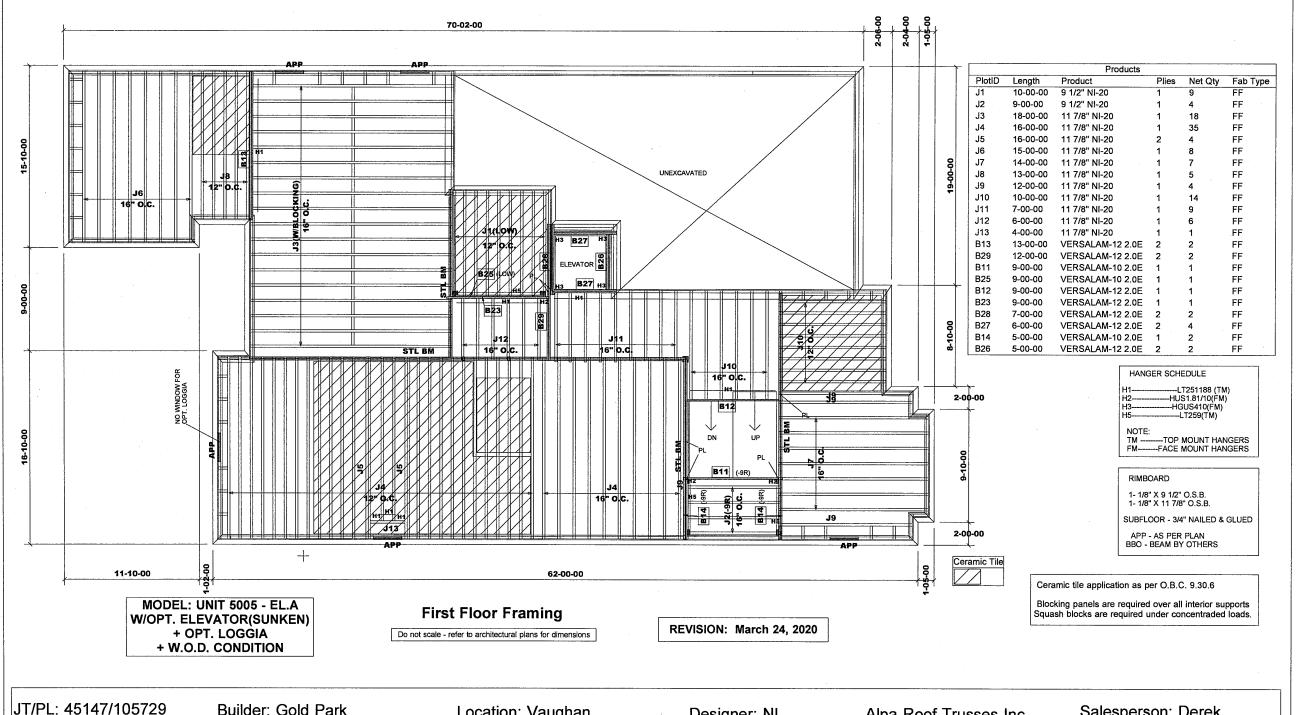
Designer: NL

Sheet: 14 of 42

Alpa Roof Trusses Inc.

Maple, Ontario

Salesperson: Derek



LI: 318279(290684)

Project: Pine Valley

Location: Vaughan

Date: November 29, 2017

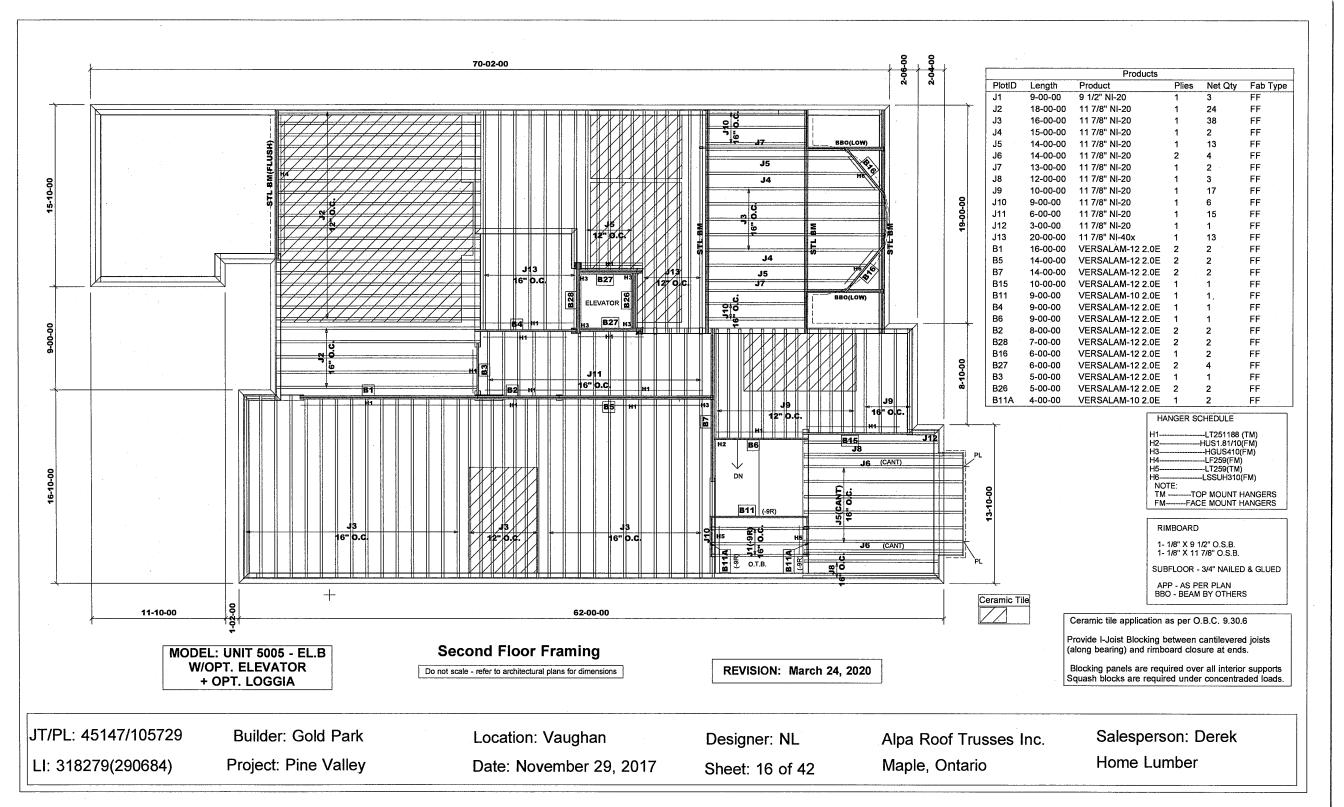
Designer: NL

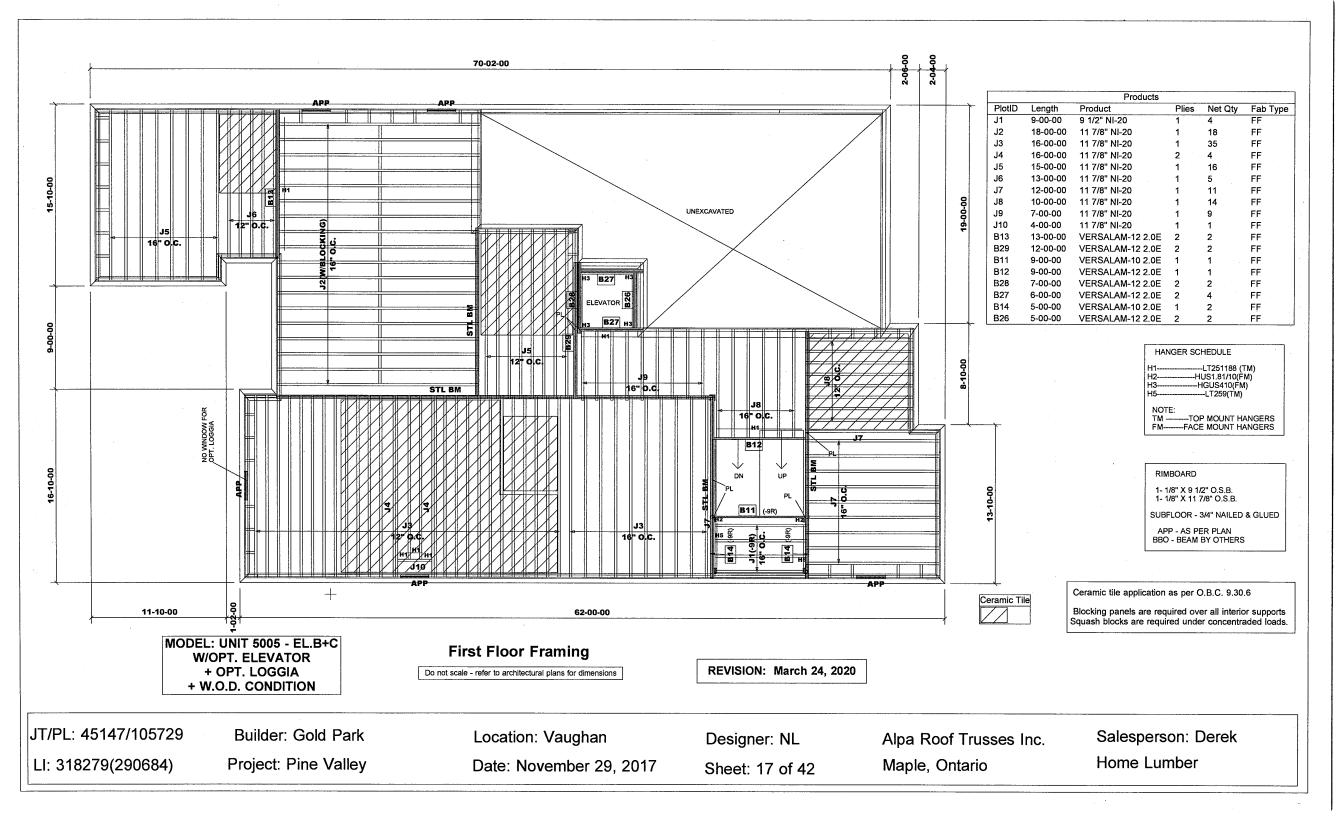
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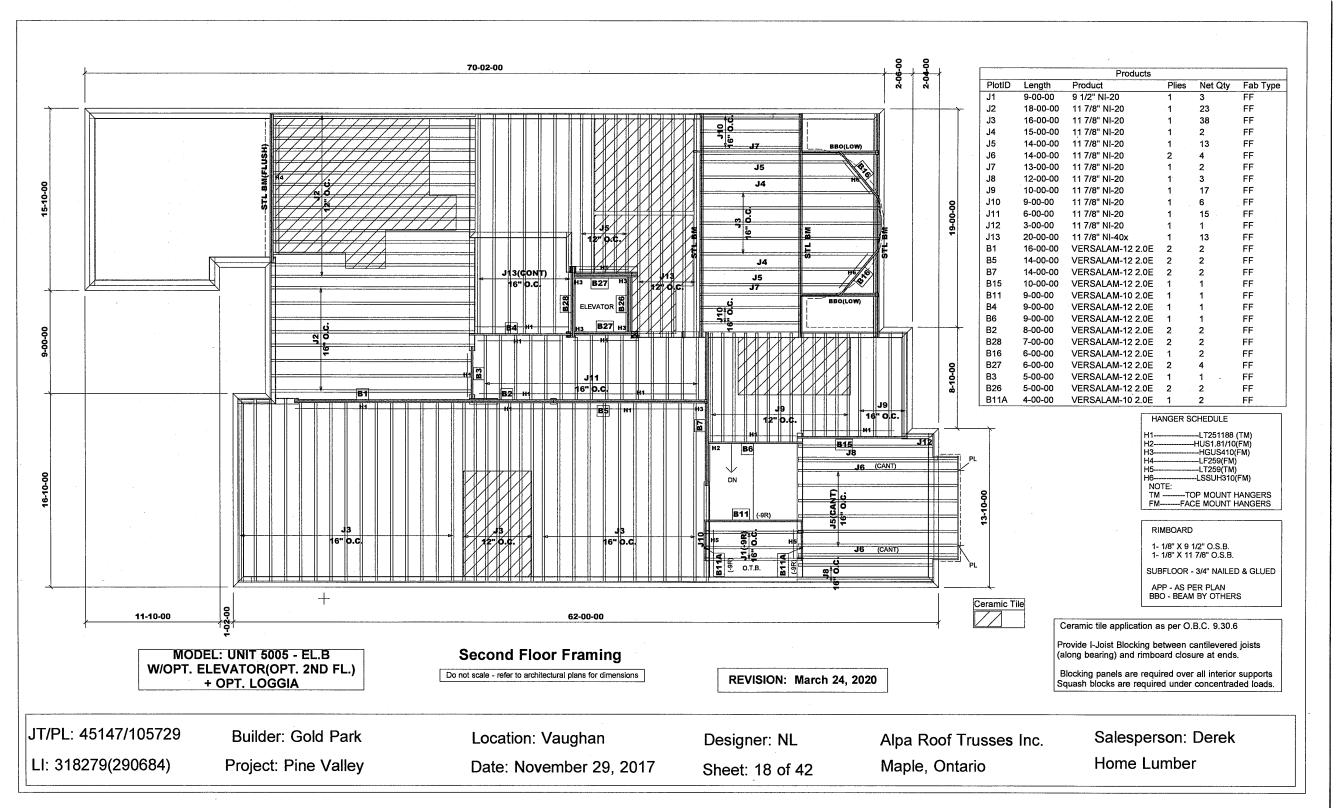
Alpa Roof Trusses Inc.

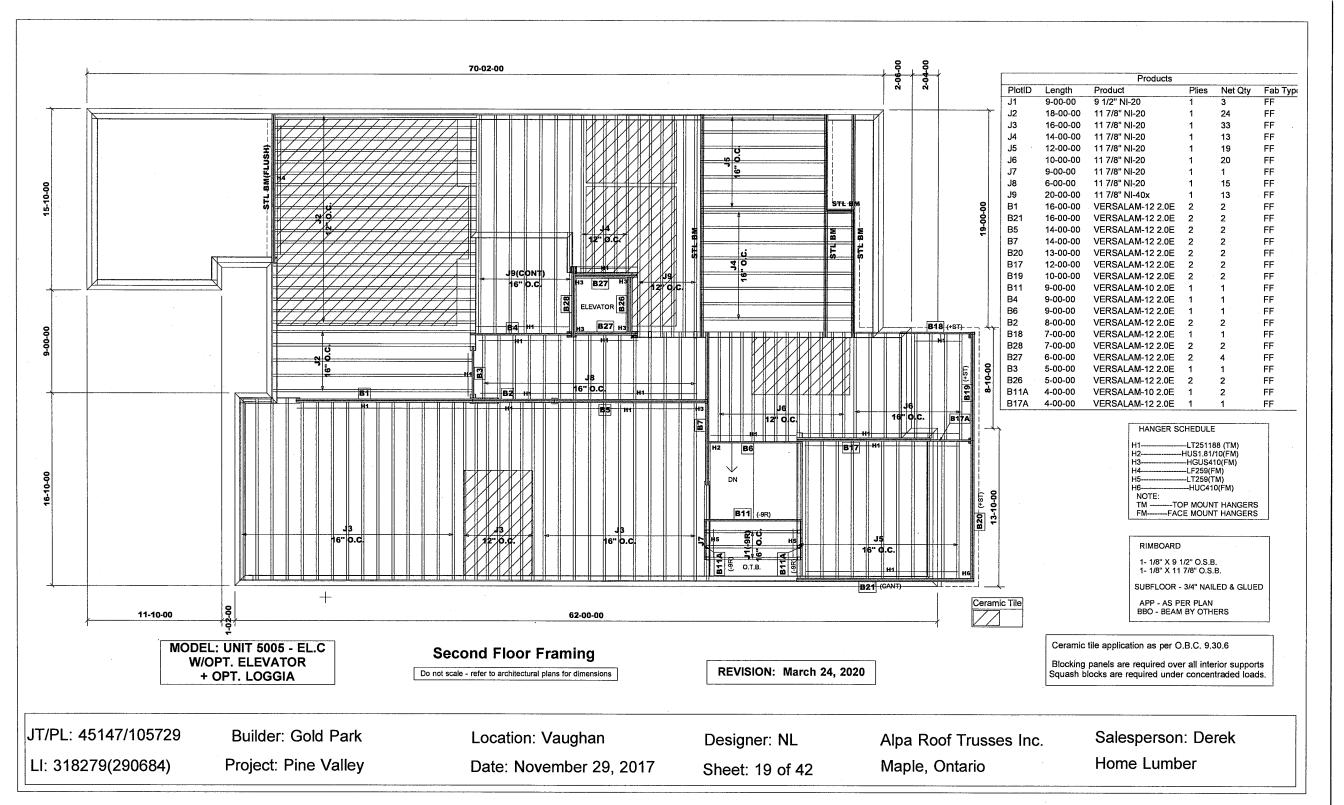
Maple, Ontario

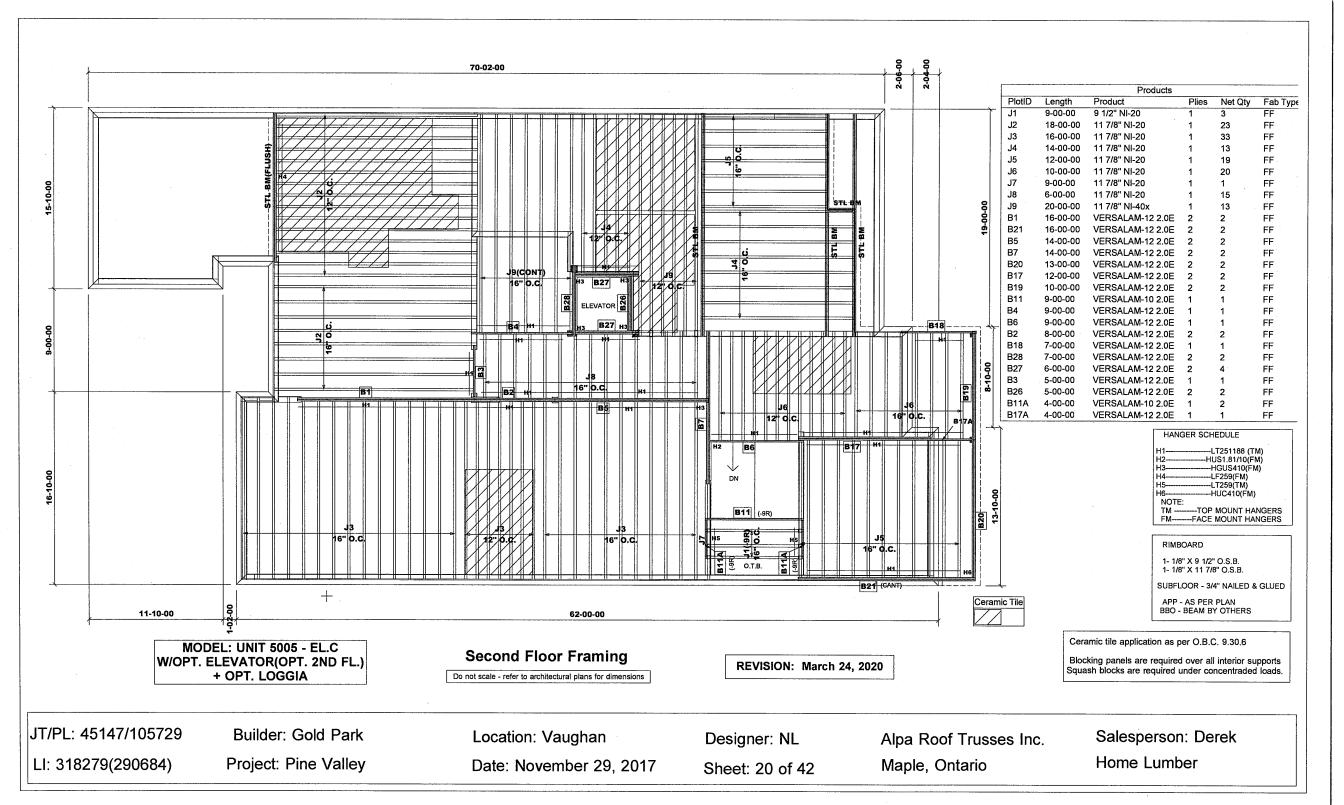
Salesperson: Derek

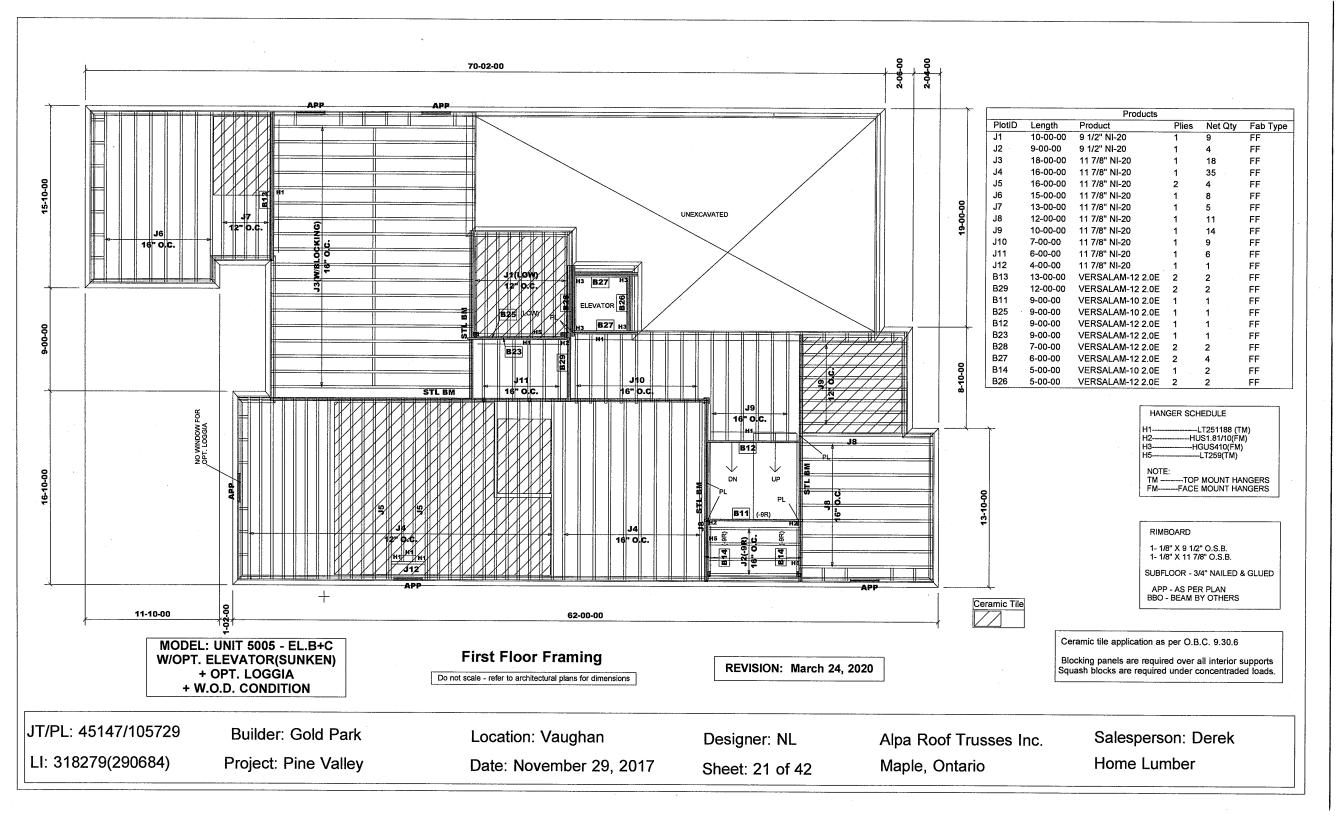


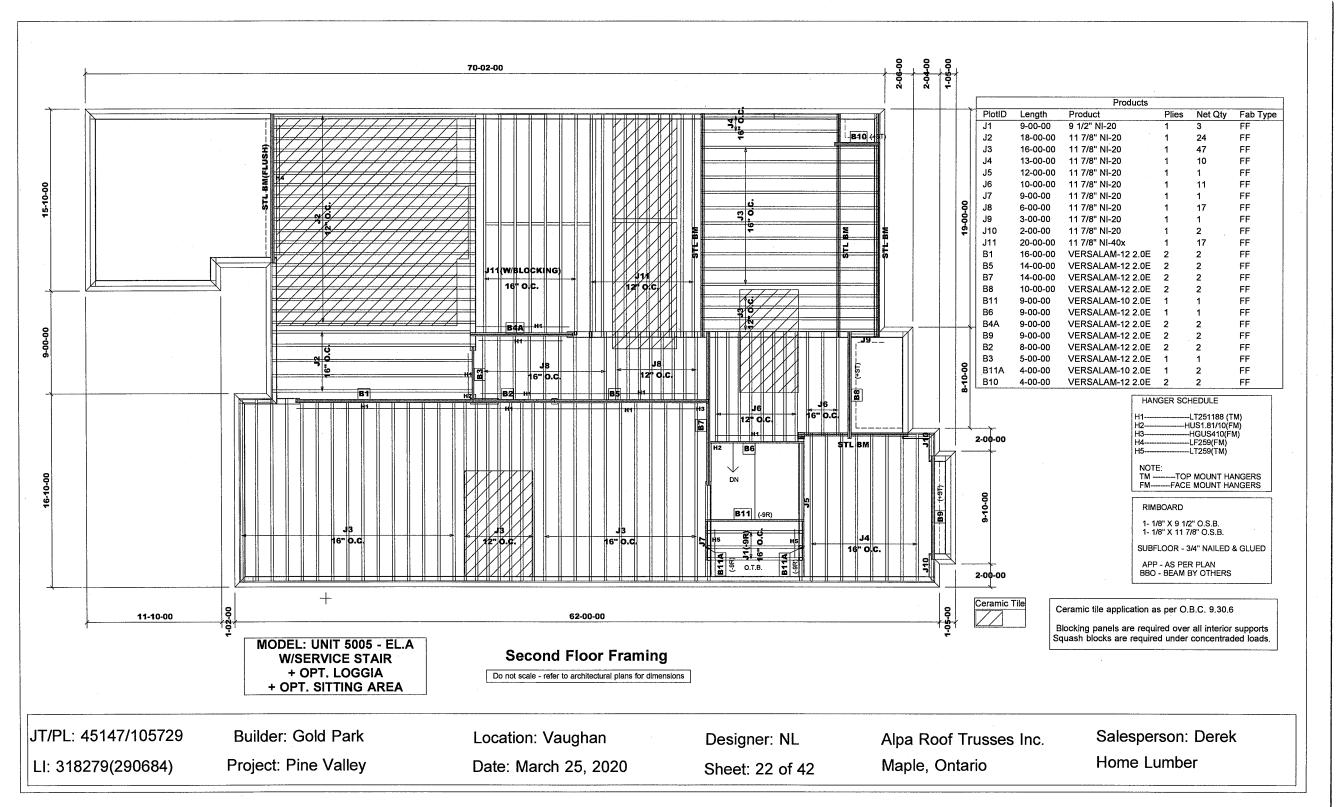


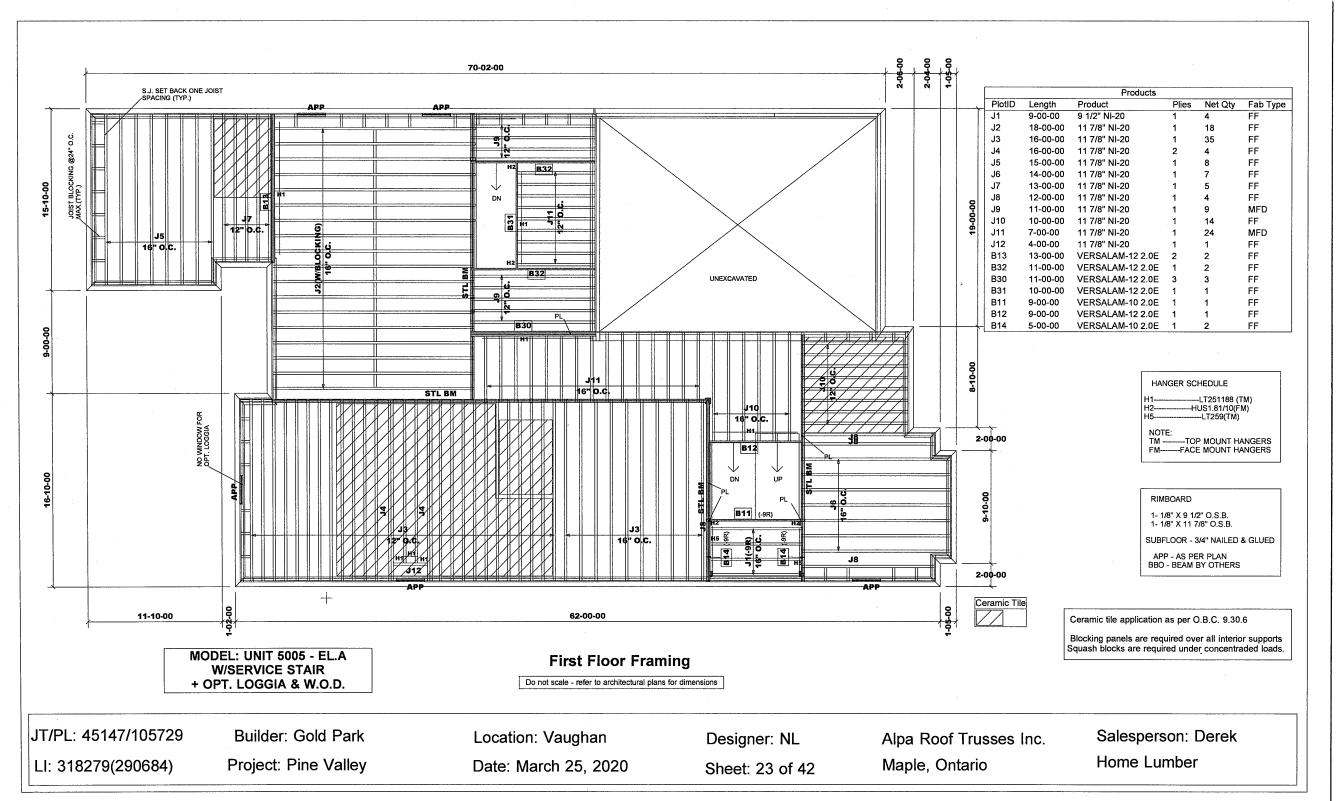


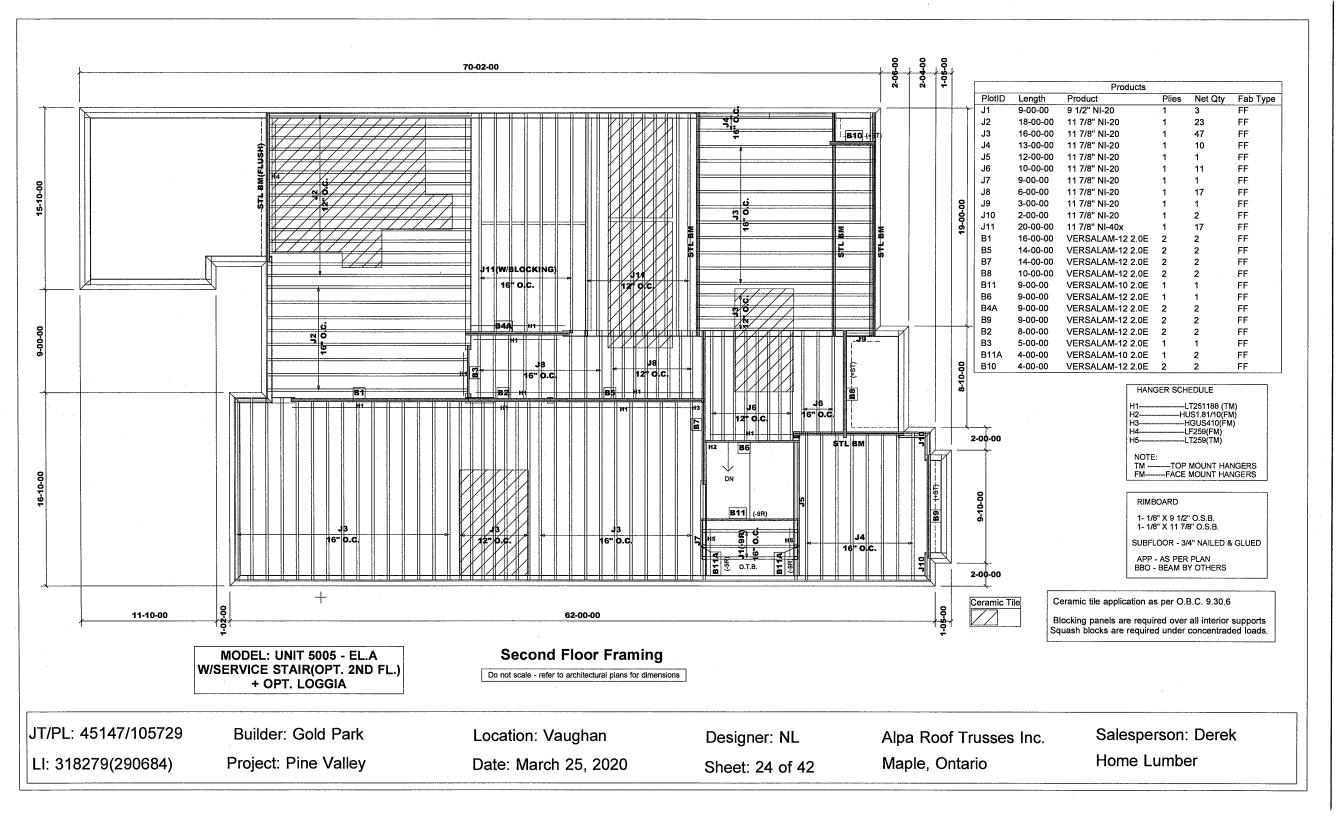


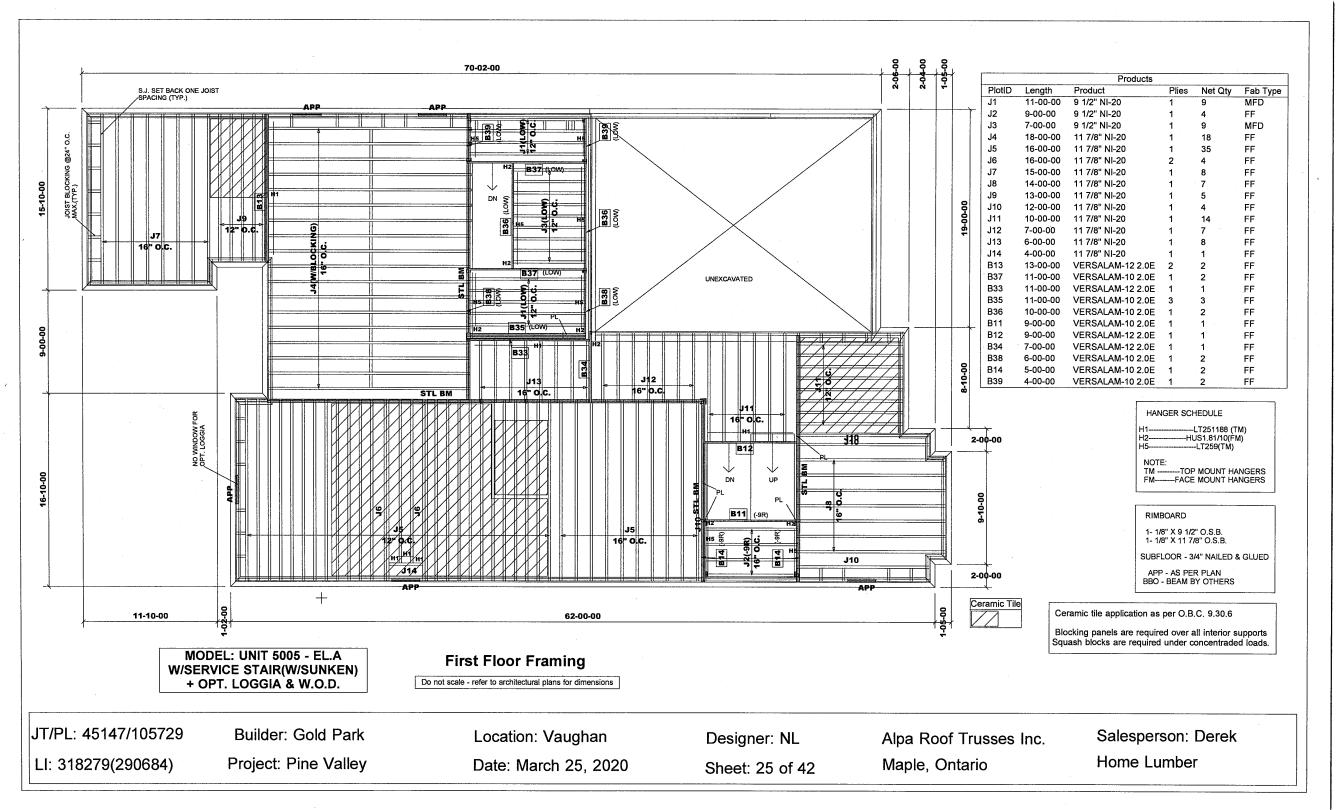


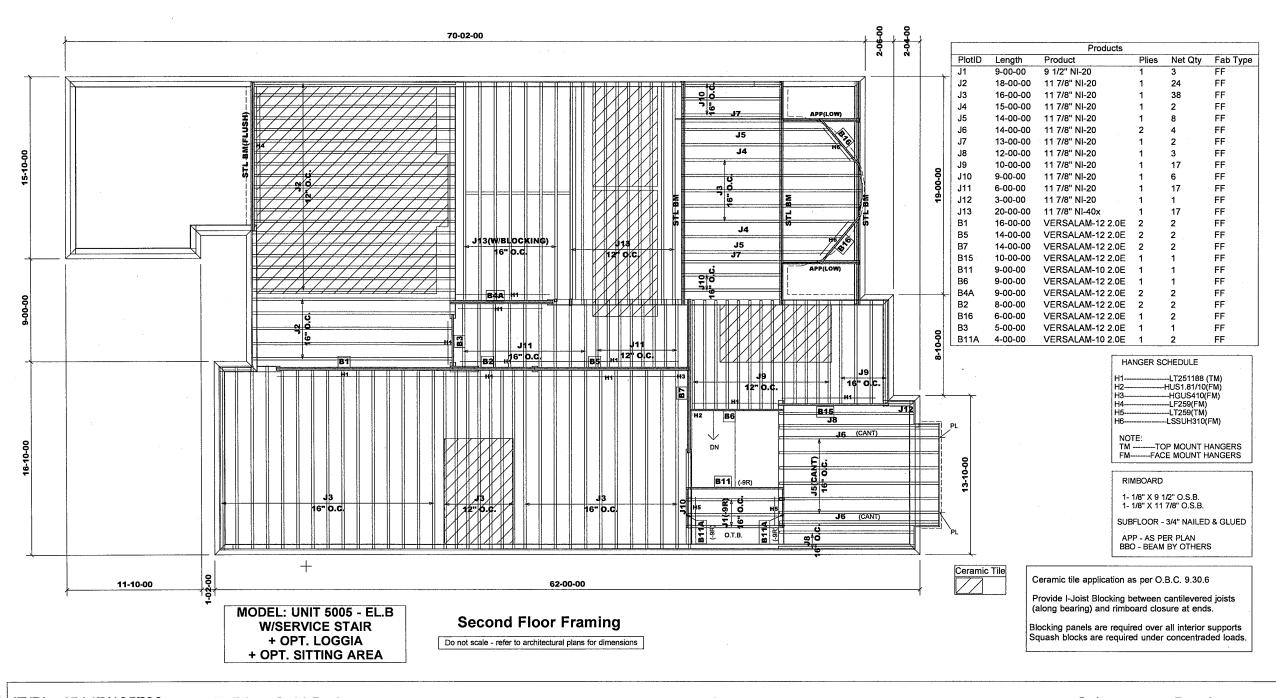












LI: 318279(290684)

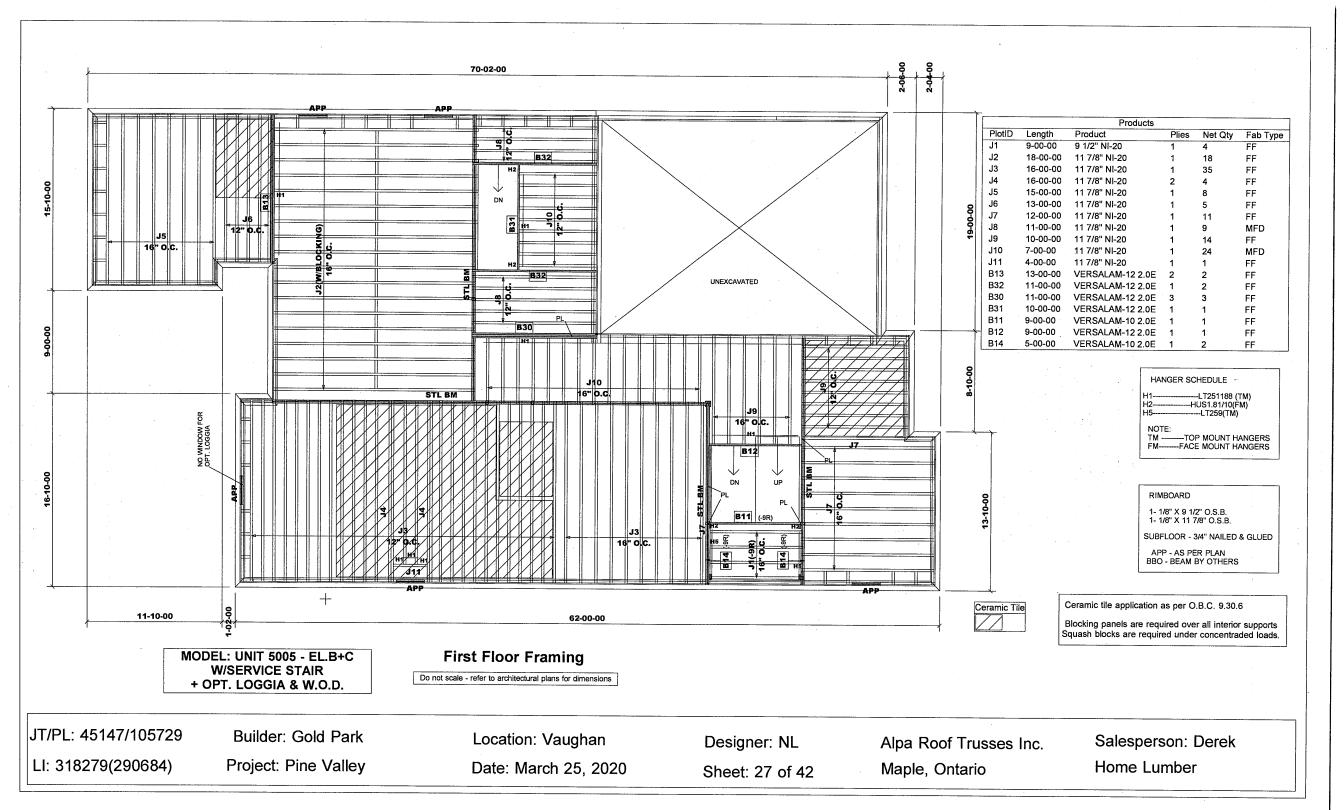
Builder: Gold Park Project: Pine Valley Location: Vaughan

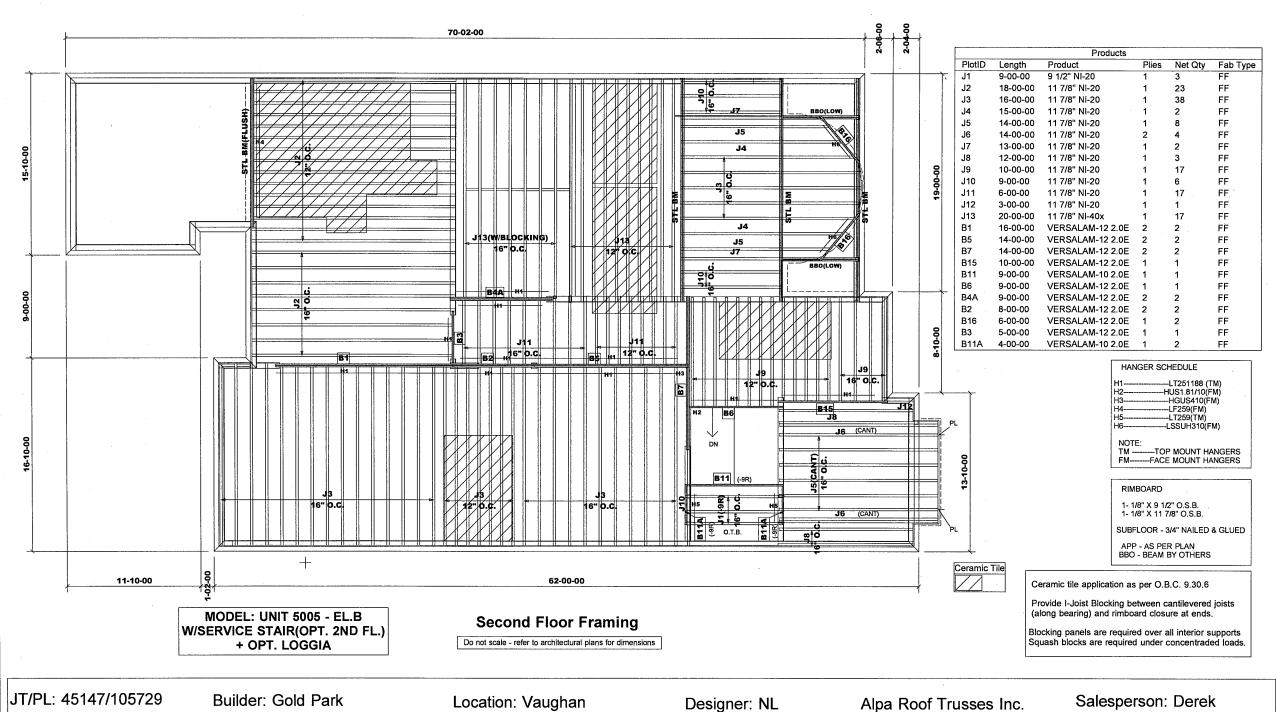
Date: March 25, 2020

Designer: NL

Sheet: 26 of 42

Alpa Roof Trusses Inc. Maple, Ontario Salesperson: Derek
Home Lumber





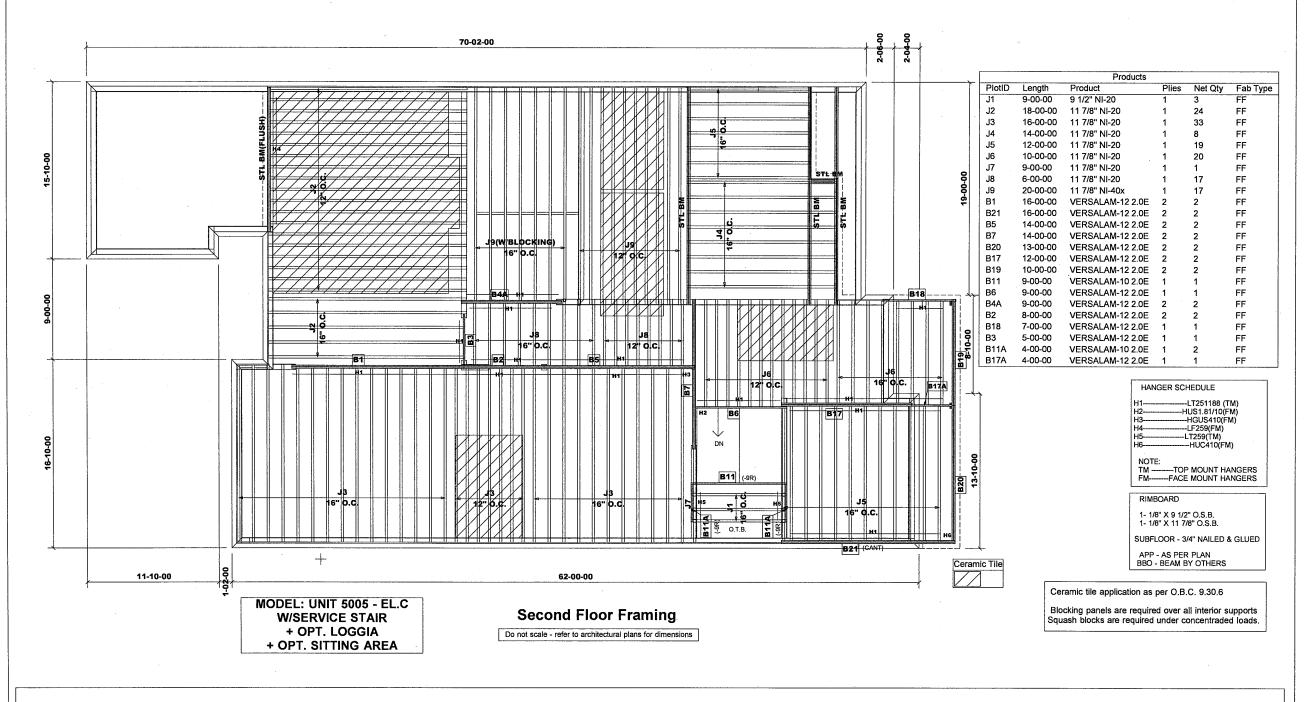
LI: 318279(290684)

Project: Pine Valley

Date: March 25, 2020

Sheet: 28 of 42

Alpa Roof Trusses Inc. Maple, Ontario



Builder: Gold Park Project: Pine Valley

Location: Vaughan

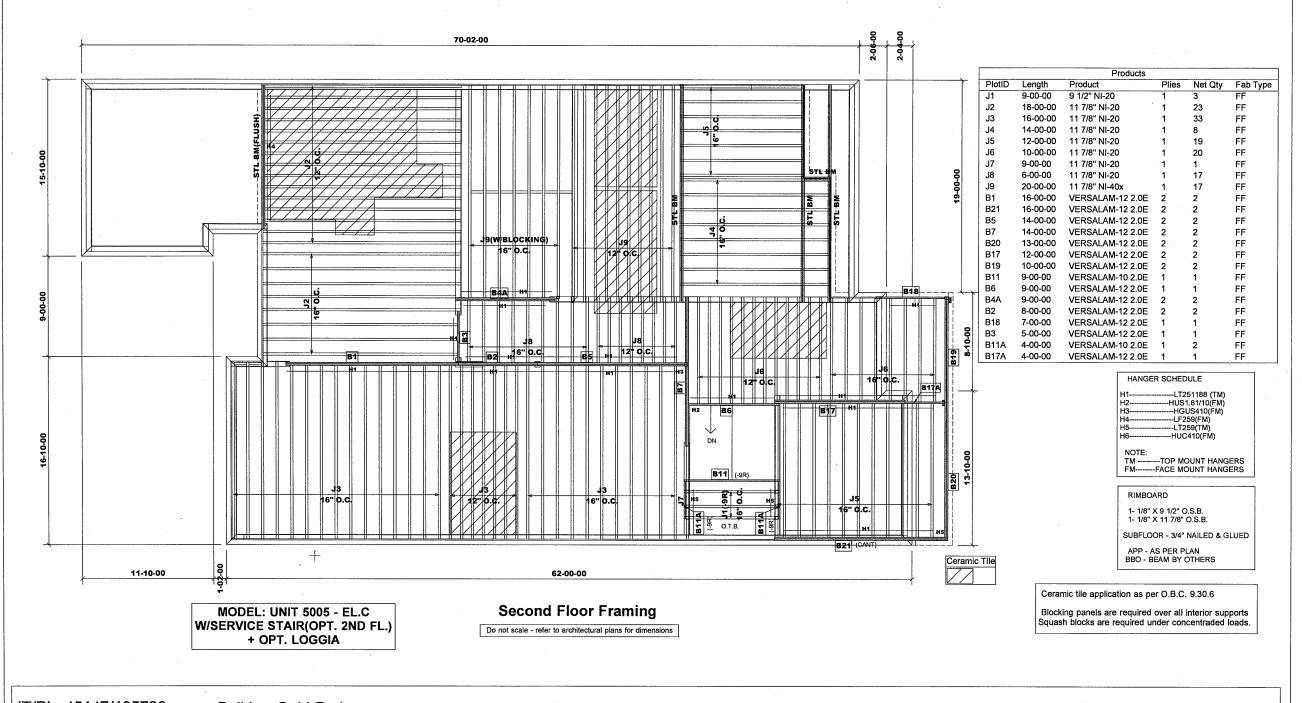
Date: March 25, 2020

Designer: NL

Sheet: 29 of 42 Maple, Ontario

Alpa Roof Trusses Inc.

Salesperson: Derek



Builder: Gold Park Project: Pine Valley

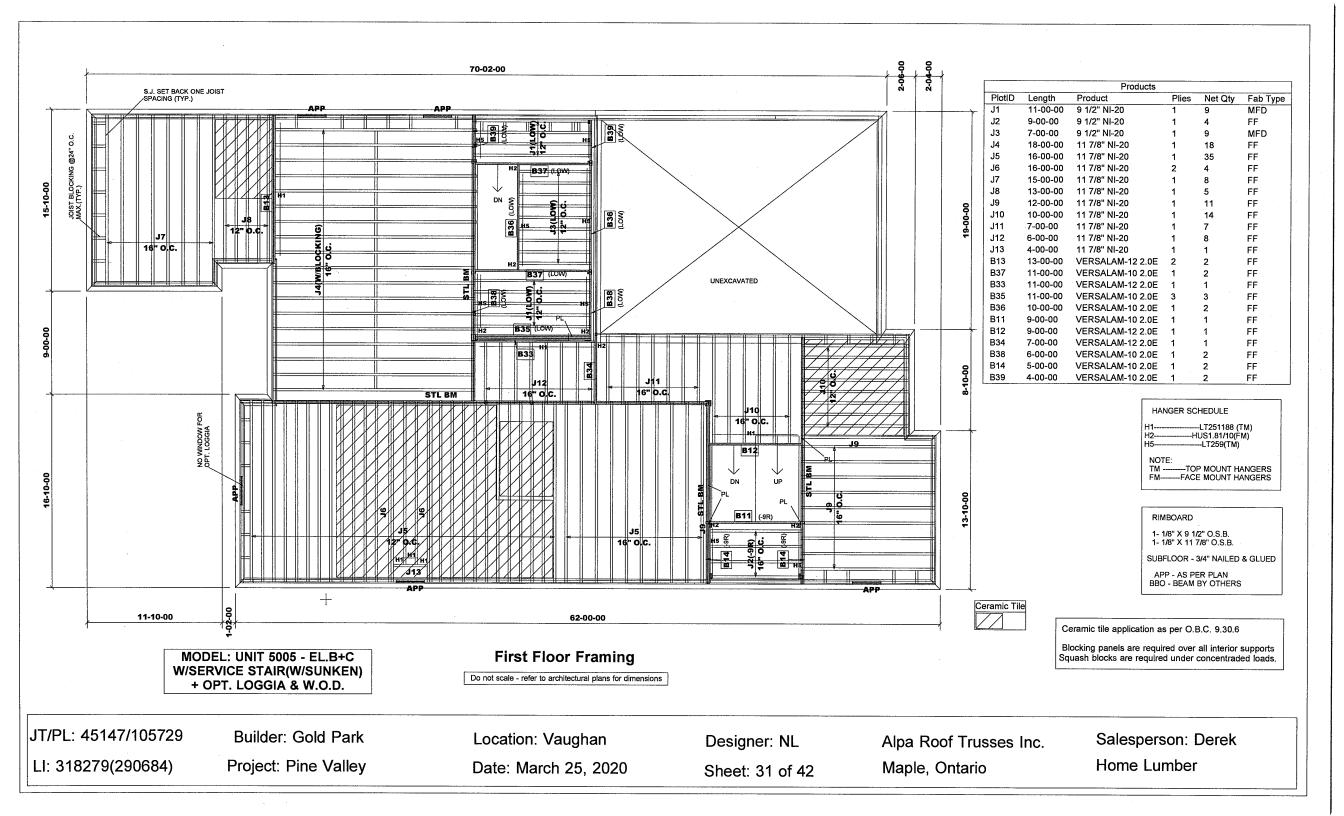
Location: Vaughan Date: March 25, 2020

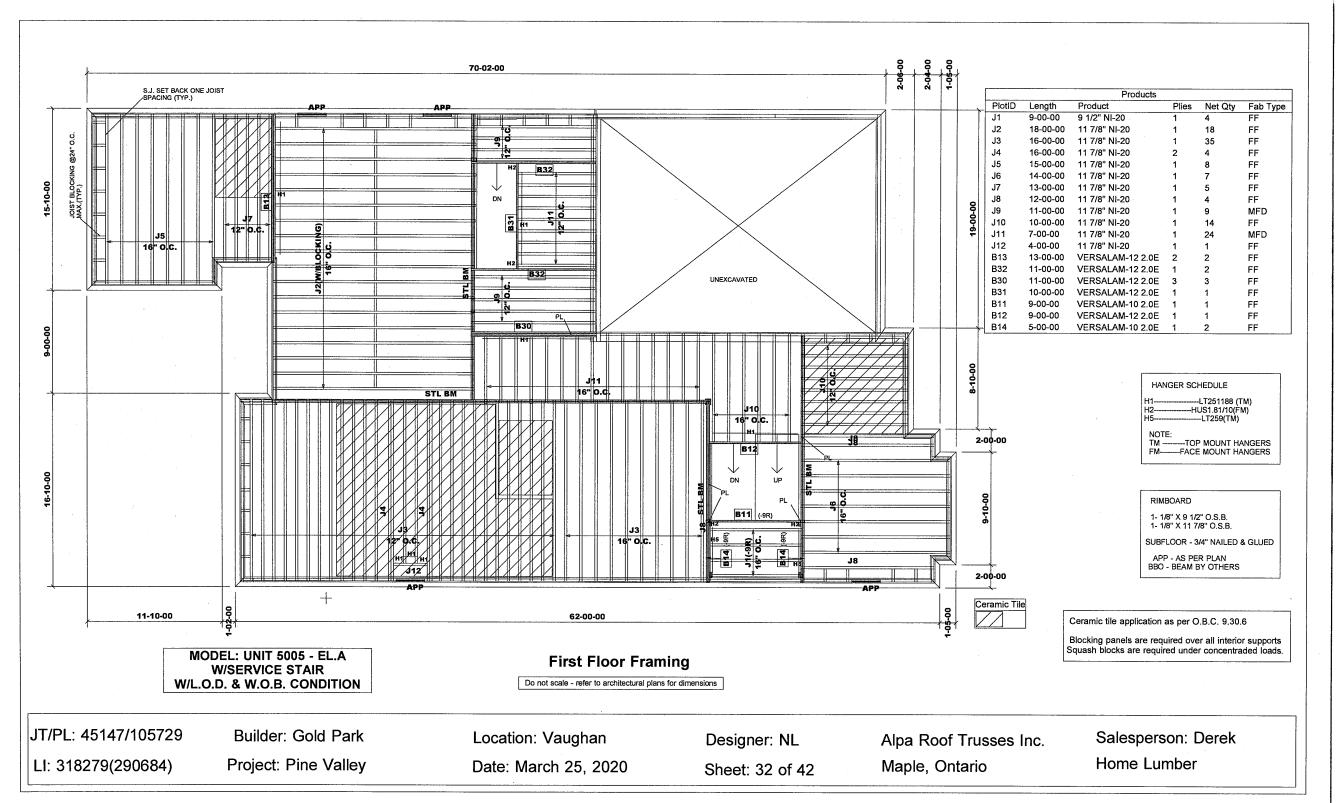
Designer: NL

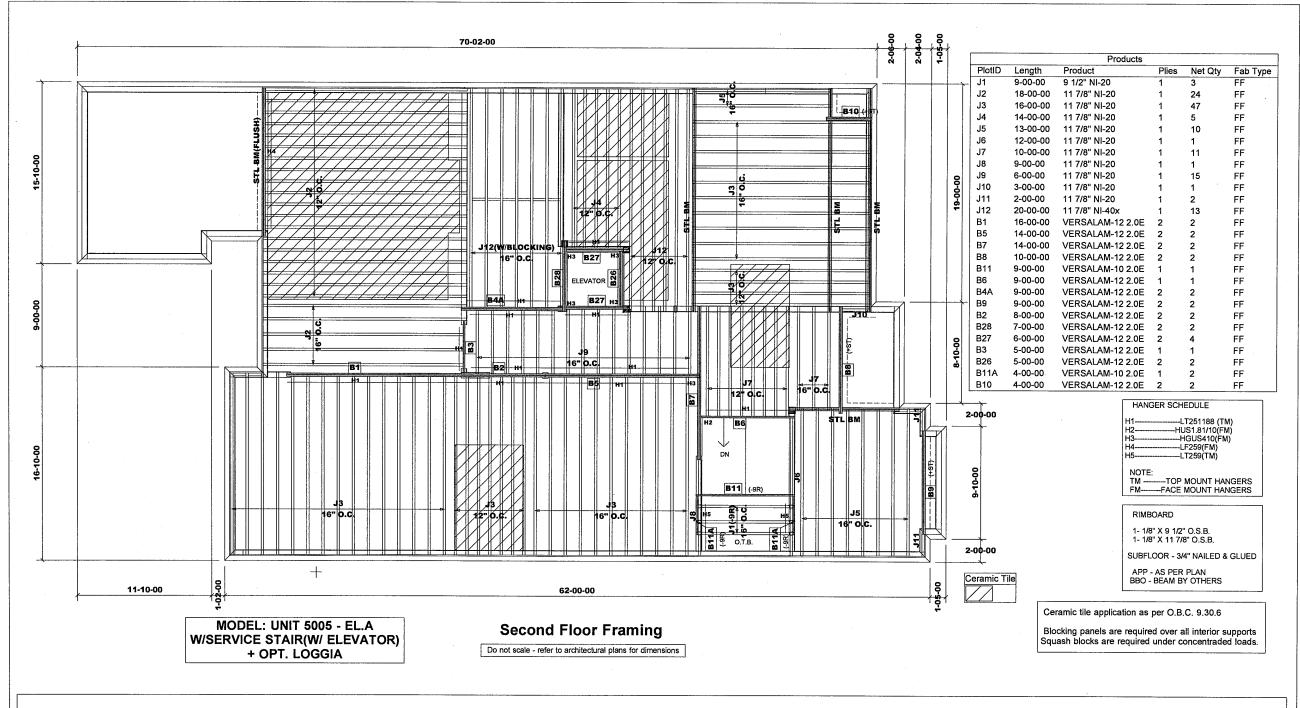
Sheet: 30 of 42

Alpa Roof Trusses Inc. Maple, Ontario

Salesperson: Derek







LI: 318279(290684)

Builder: Gold Park
Project: Pine Valley

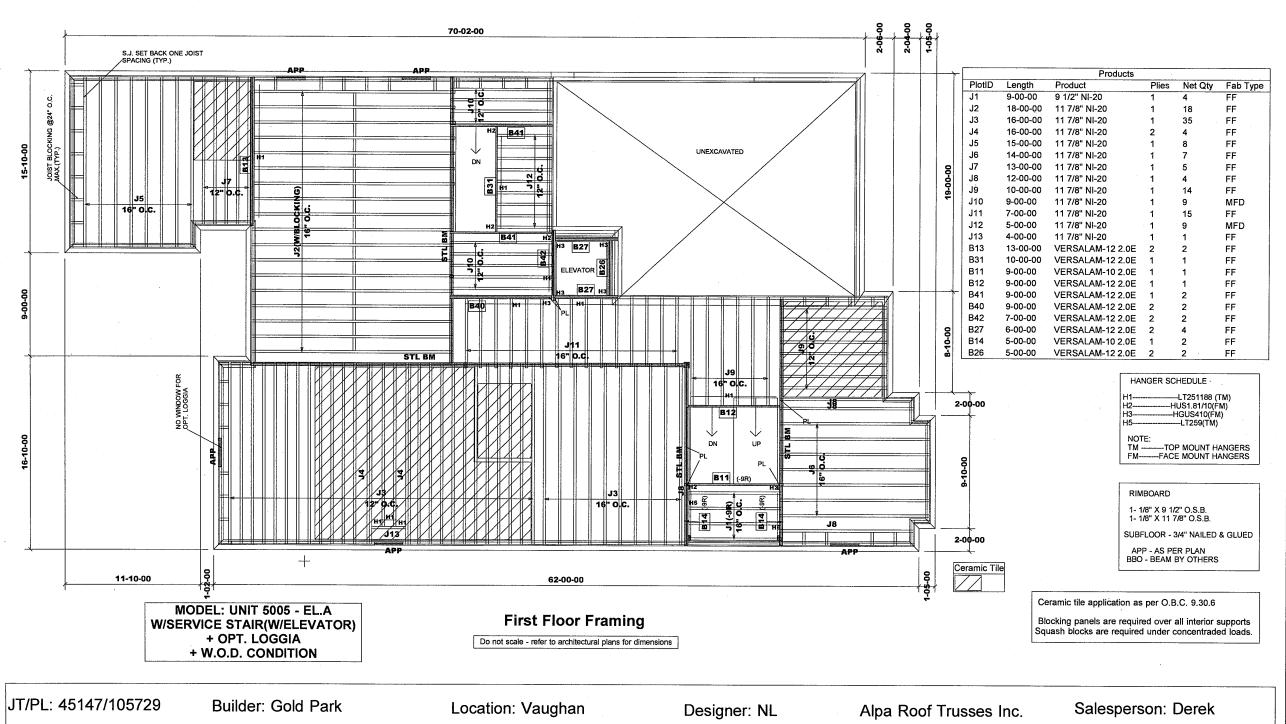
Location: Vaughan

Date: March 25, 2020

Designer: NL

Sheet: 33 of 42

Alpa Roof Trusses Inc. Maple, Ontario Salesperson: Derek
Home Lumber



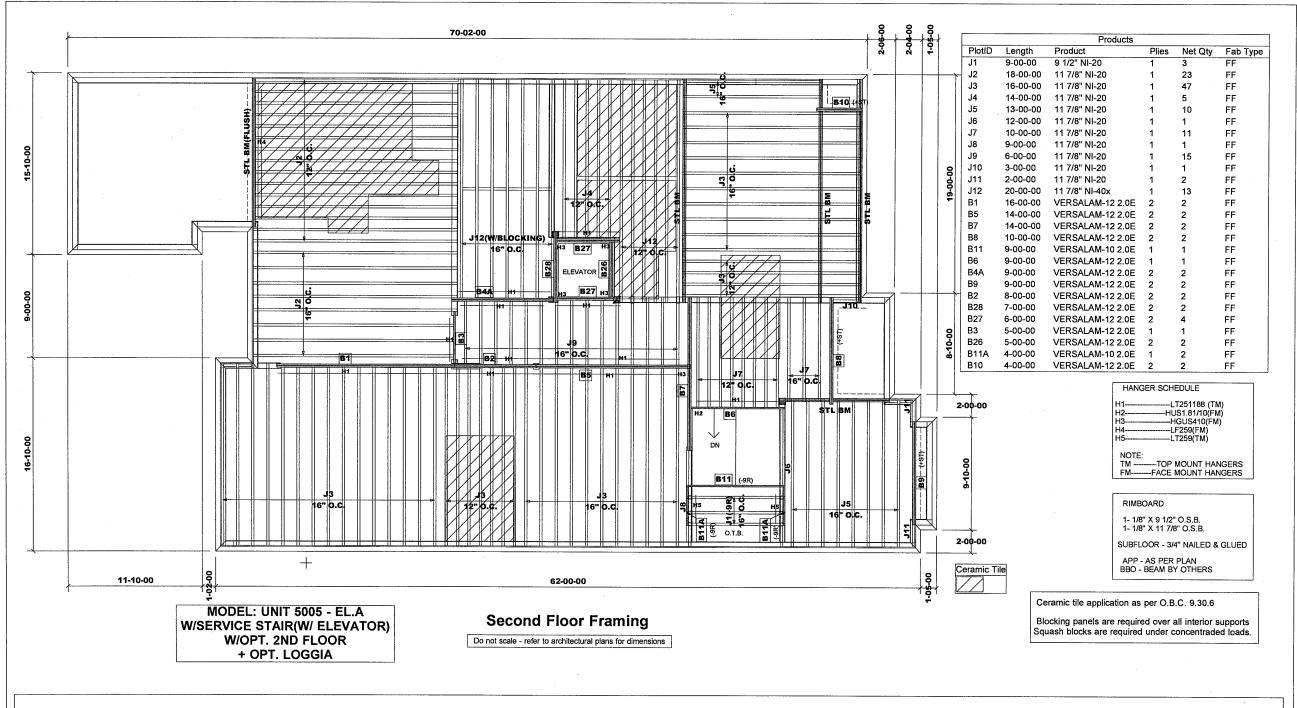
Project: Pine Valley

LI: 318279(290684)

Date: March 25, 2020

Sheet: 34 of 42

Maple, Ontario



LI: 318279(290684)

Builder: Gold Park

Project: Pine Valley

Location: Vaughan

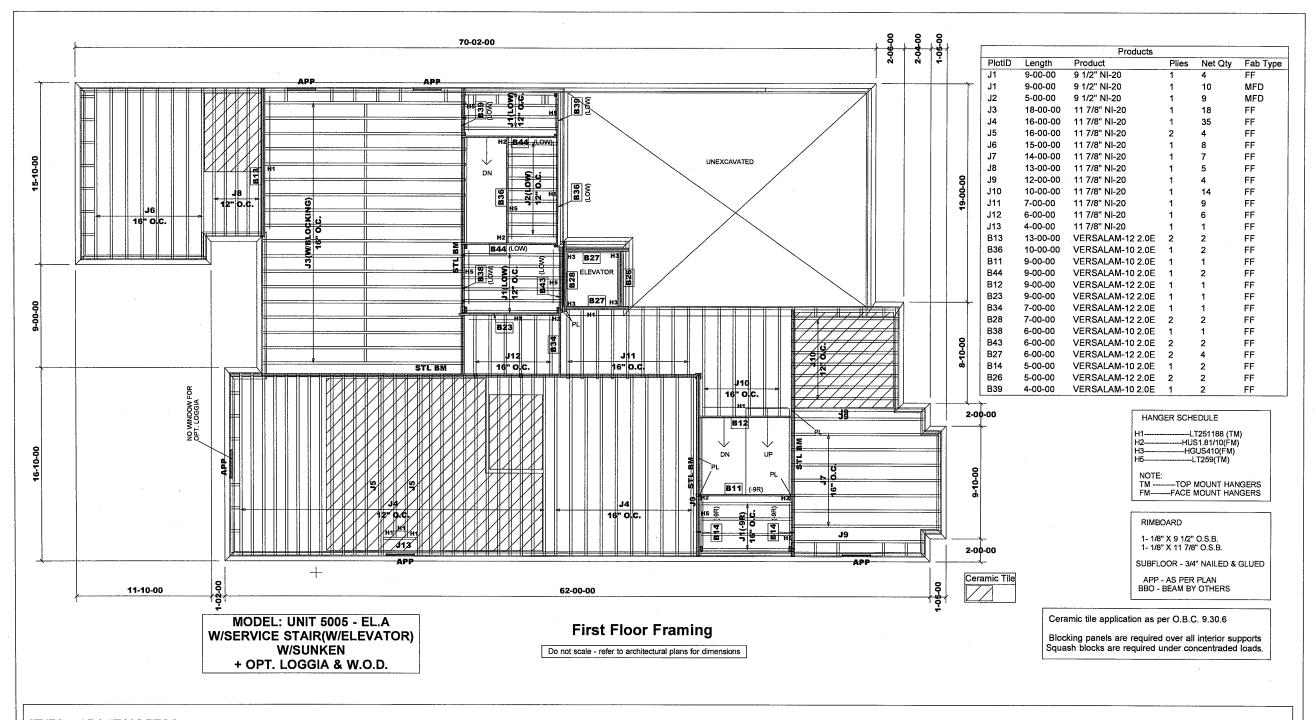
Date: March 25, 2020

Designer: NL

Sheet: 35 of 42

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Derek
Home Lumber



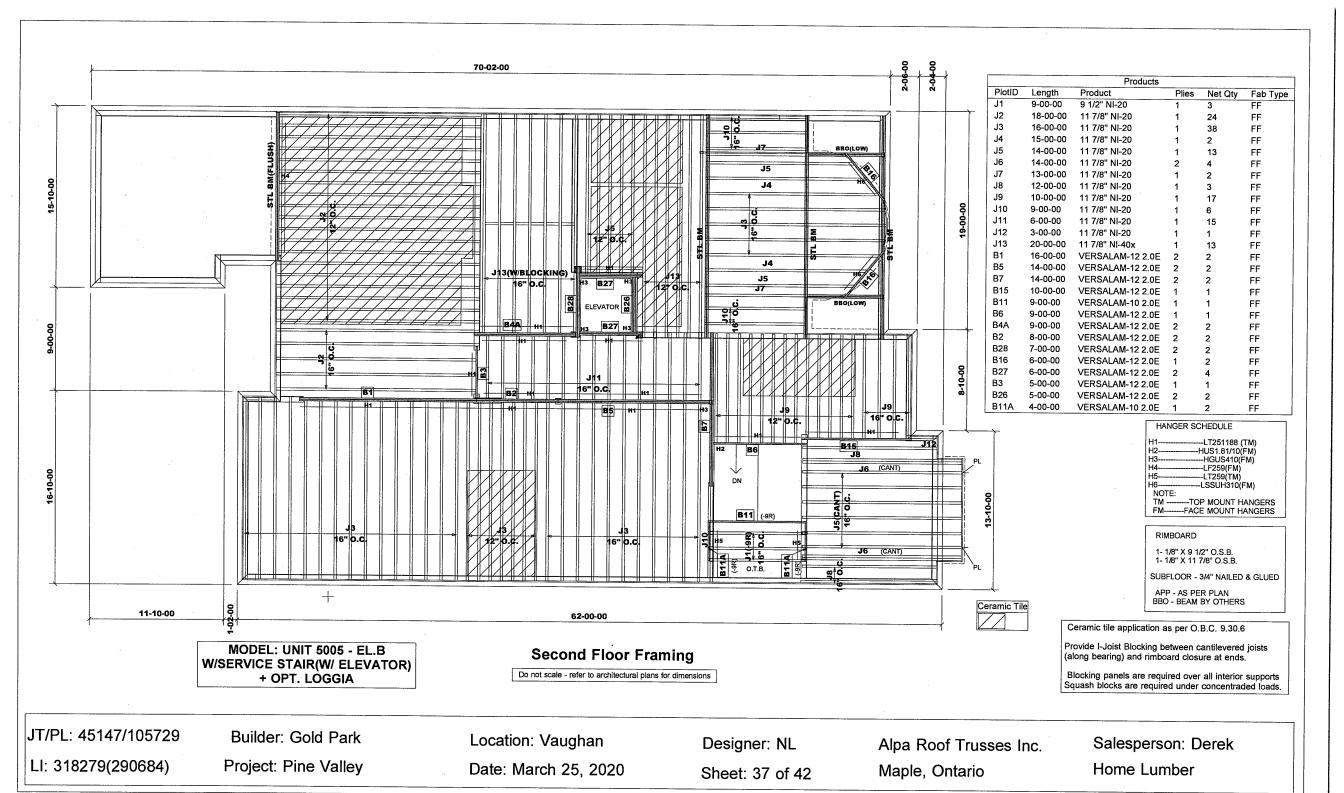
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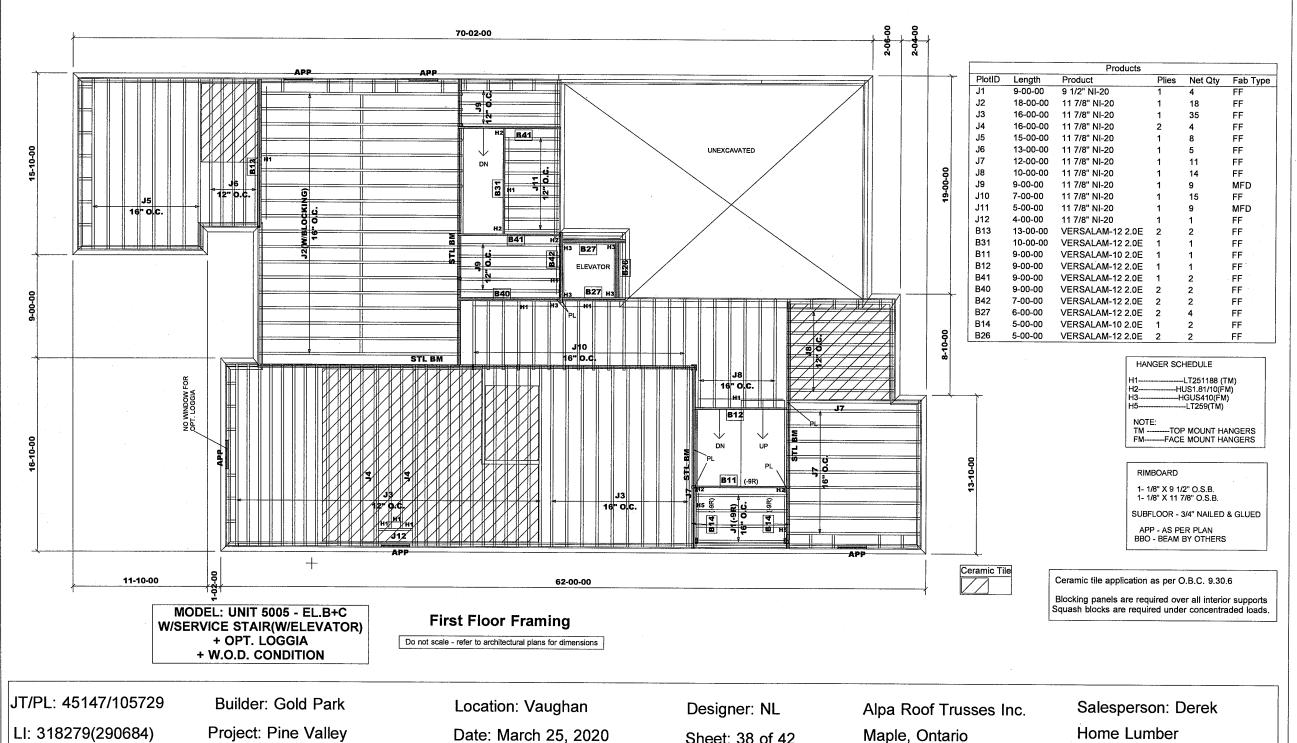
Date: March 25, 2020

Designer: NL

Alpa Roof Trusses Inc. Maple, Ontario Sheet: 36 of 42

Salesperson: Derek

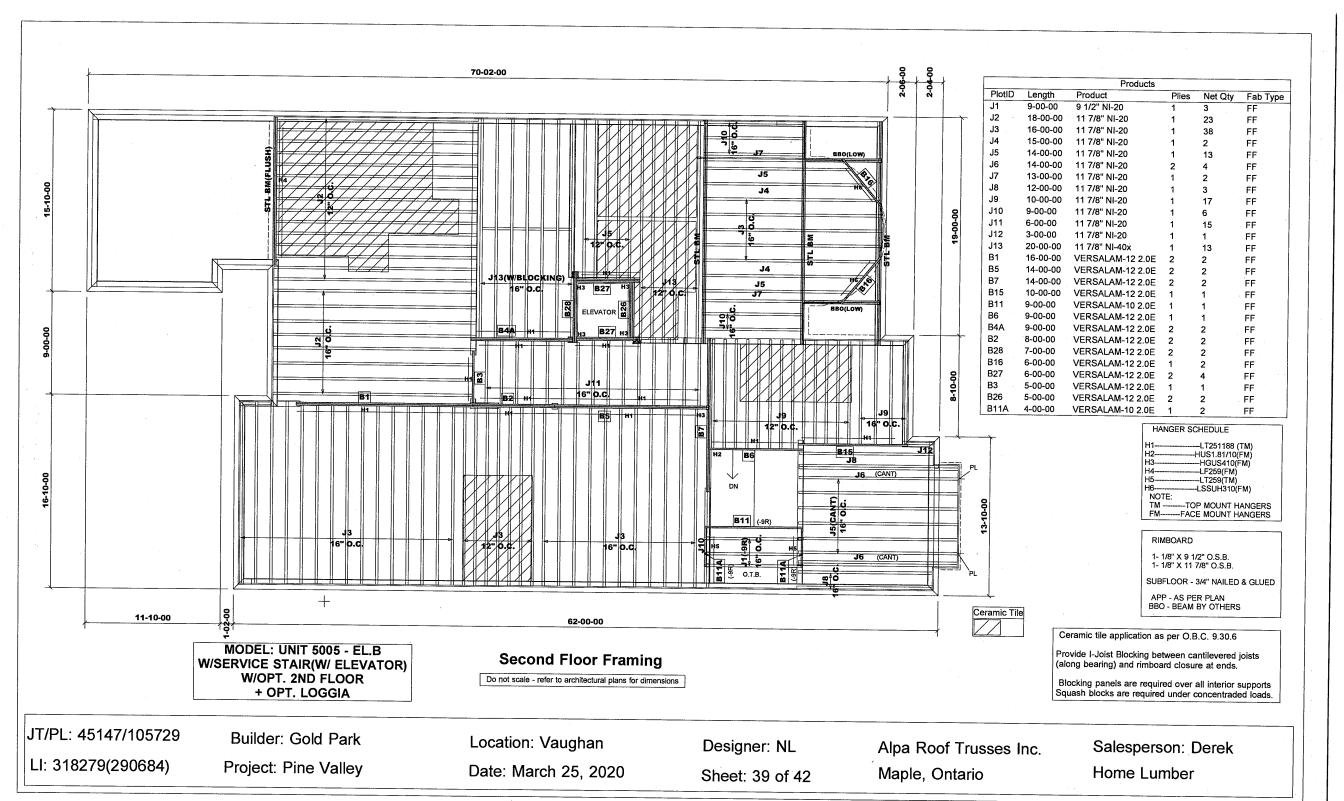


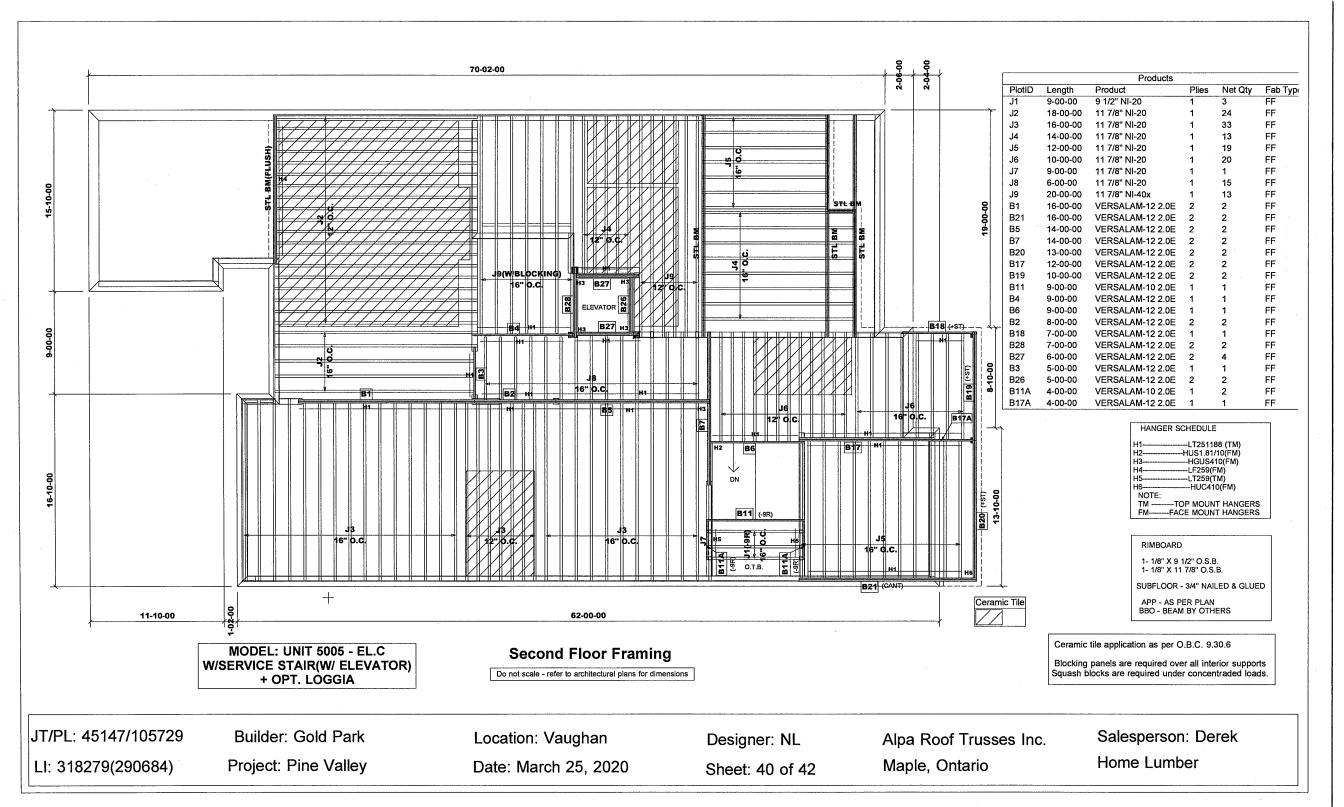


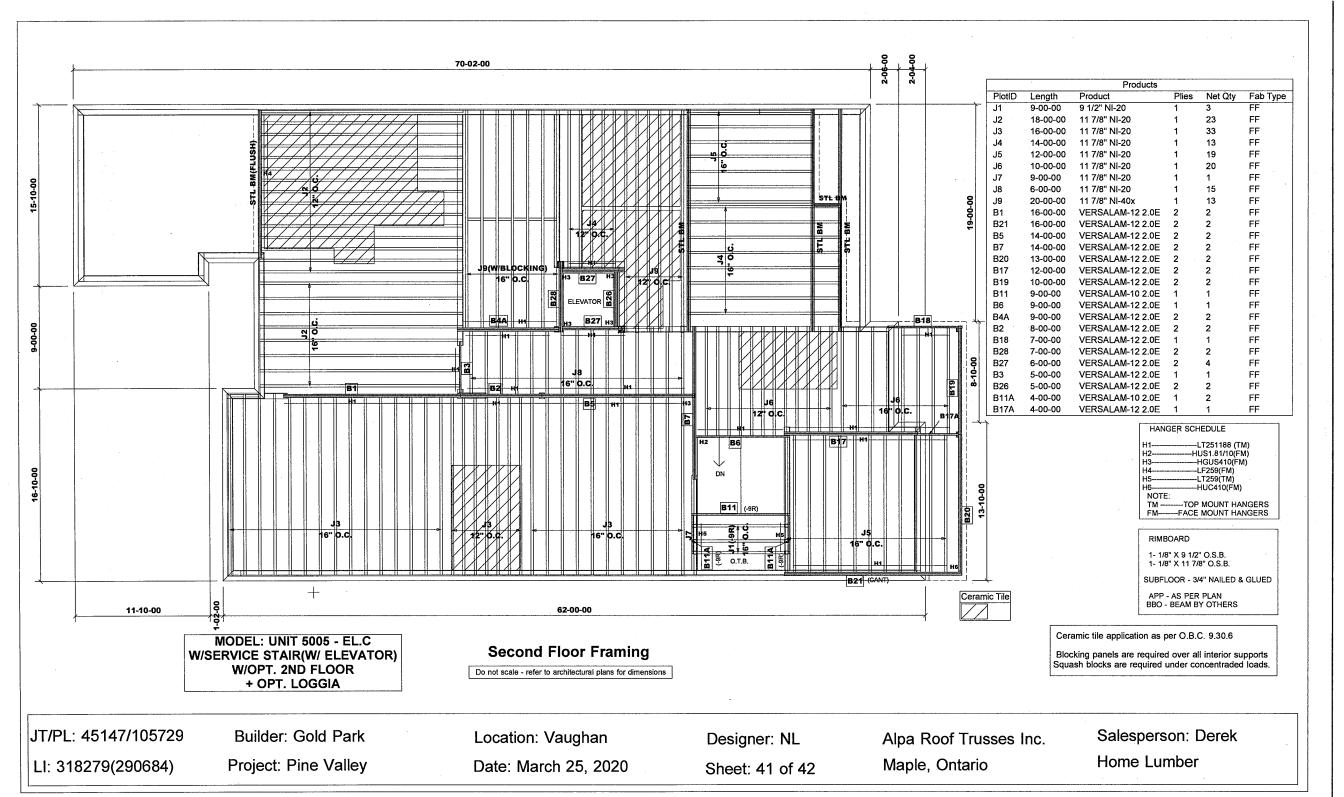
Project: Pine Valley

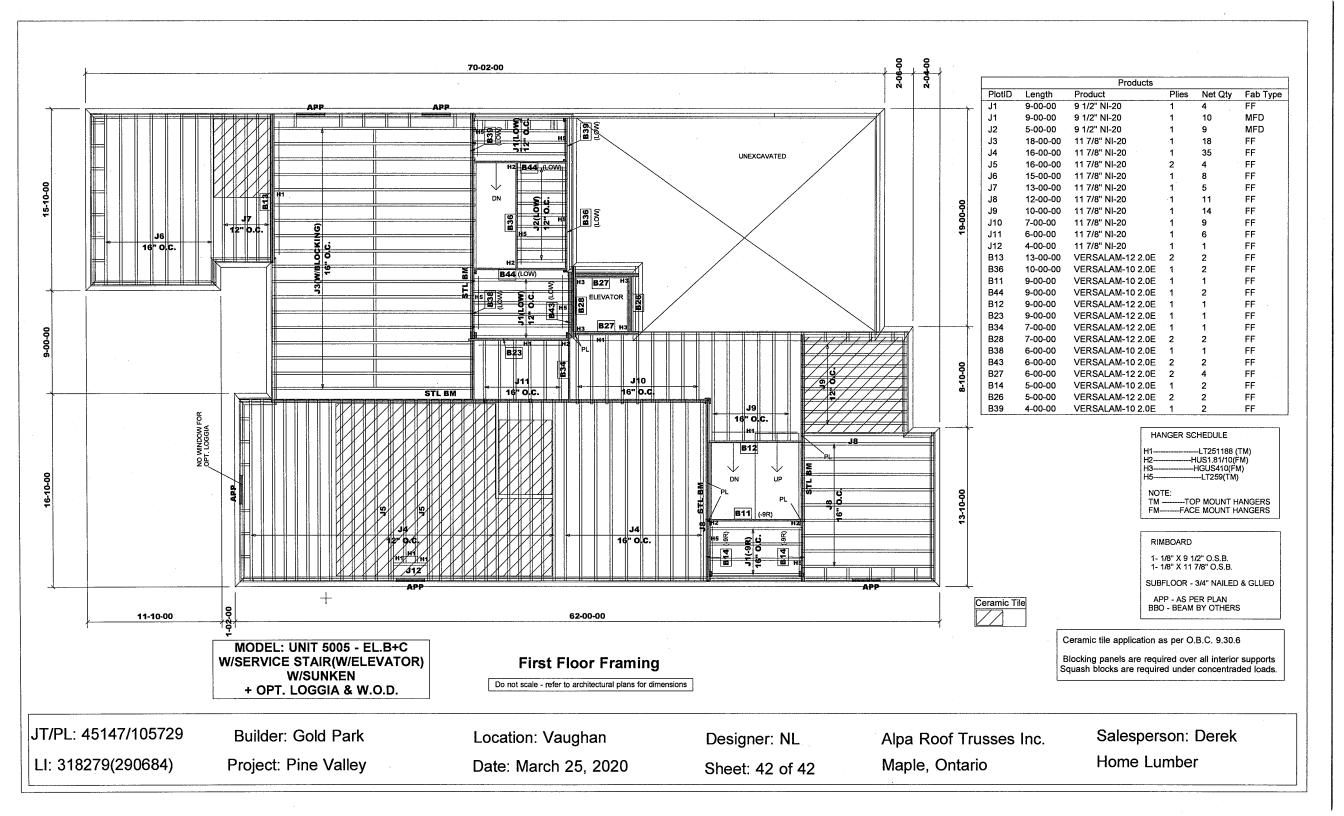
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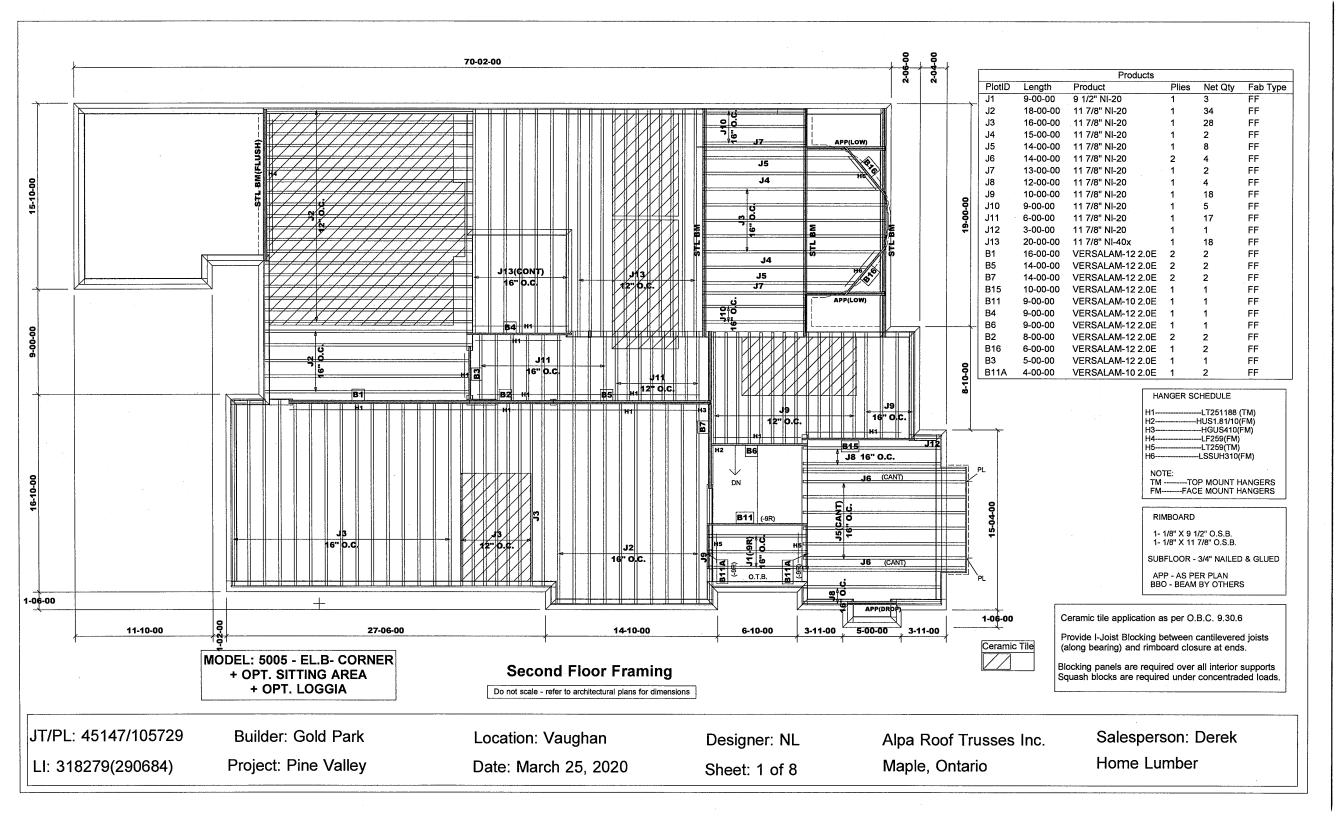
Sheet: 38 of 42

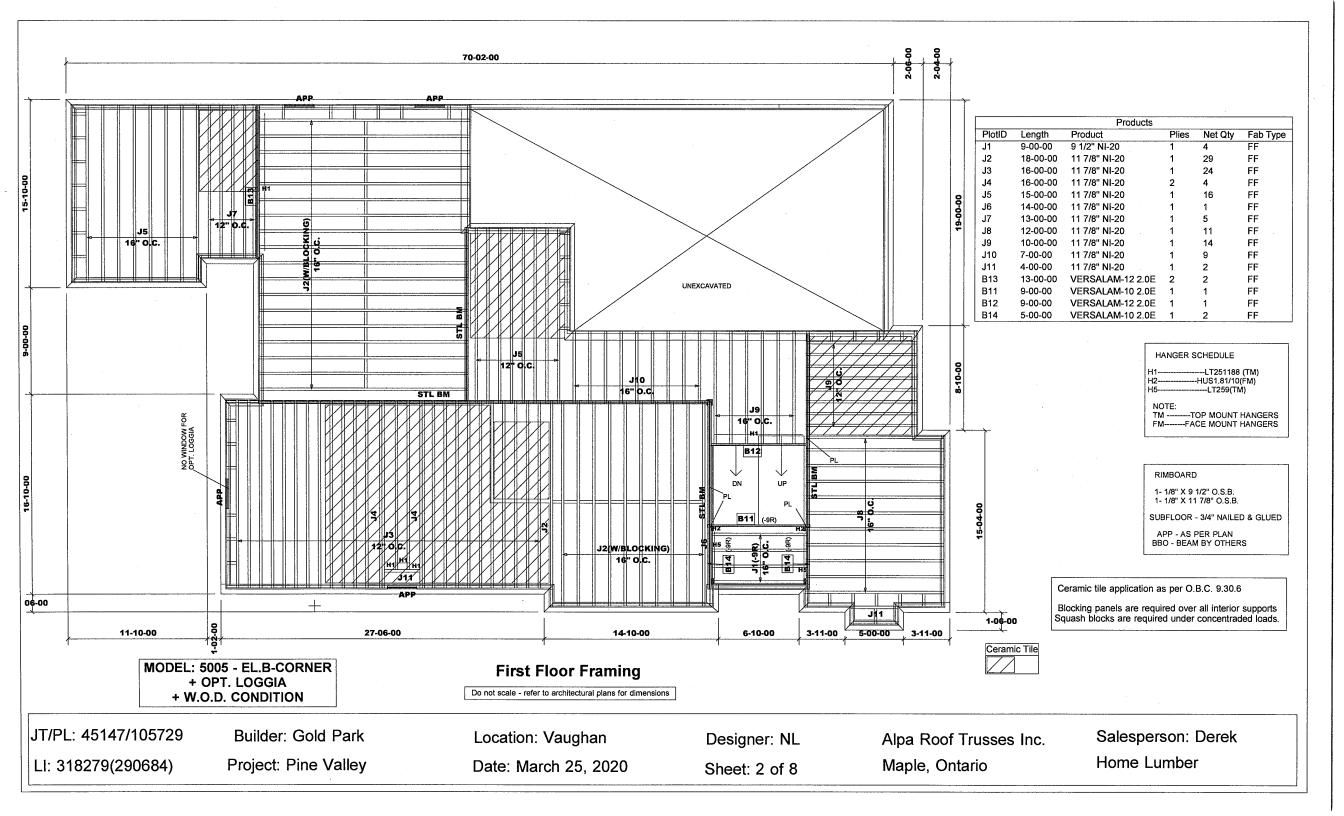


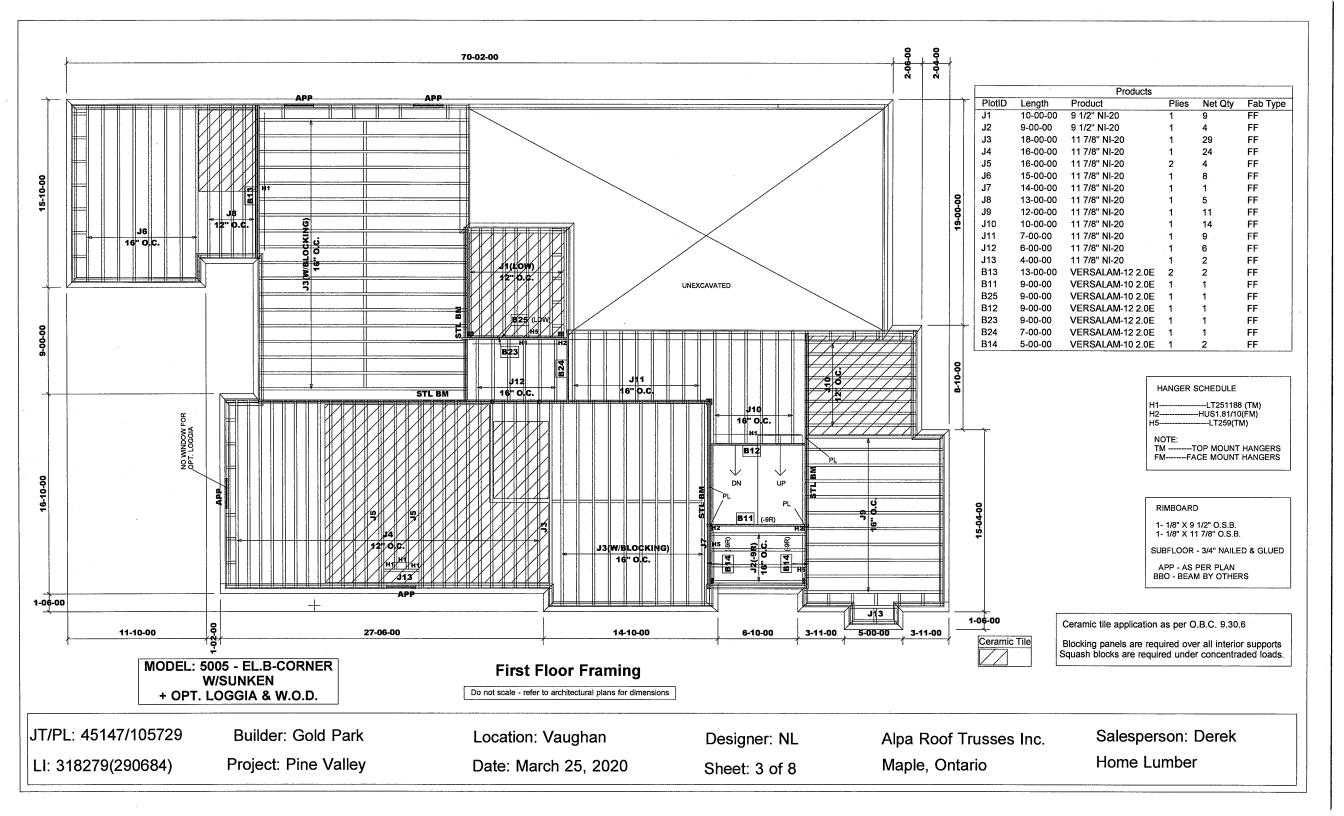


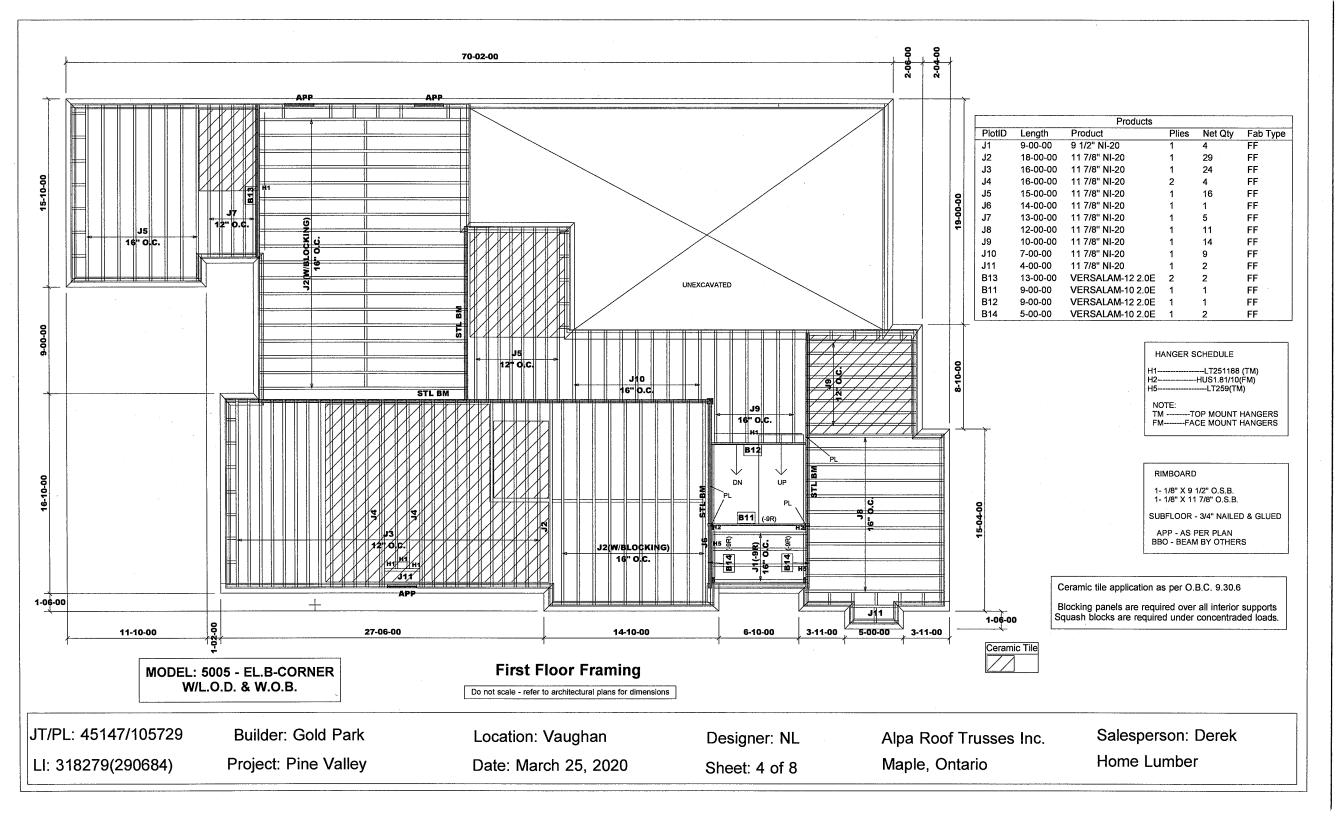


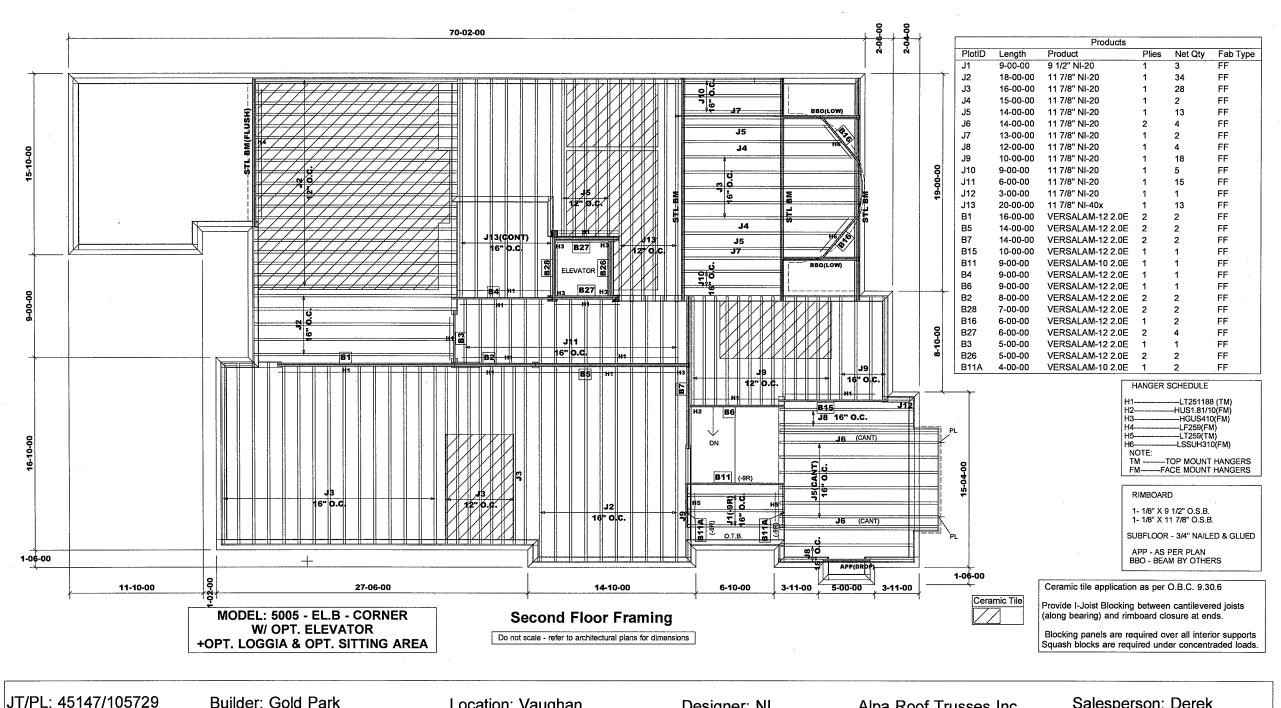












LI: 318279(290684)

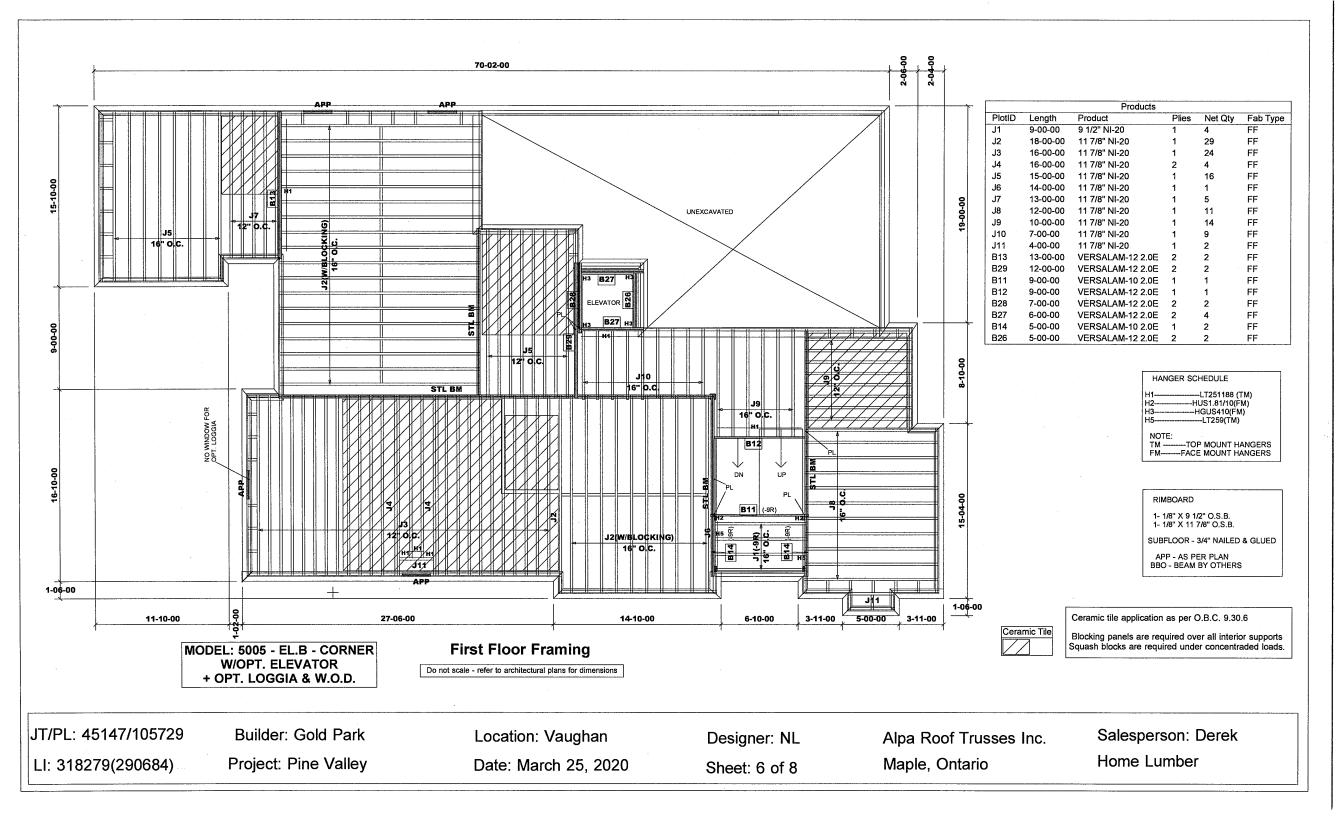
Builder: Gold Park Project: Pine Valley

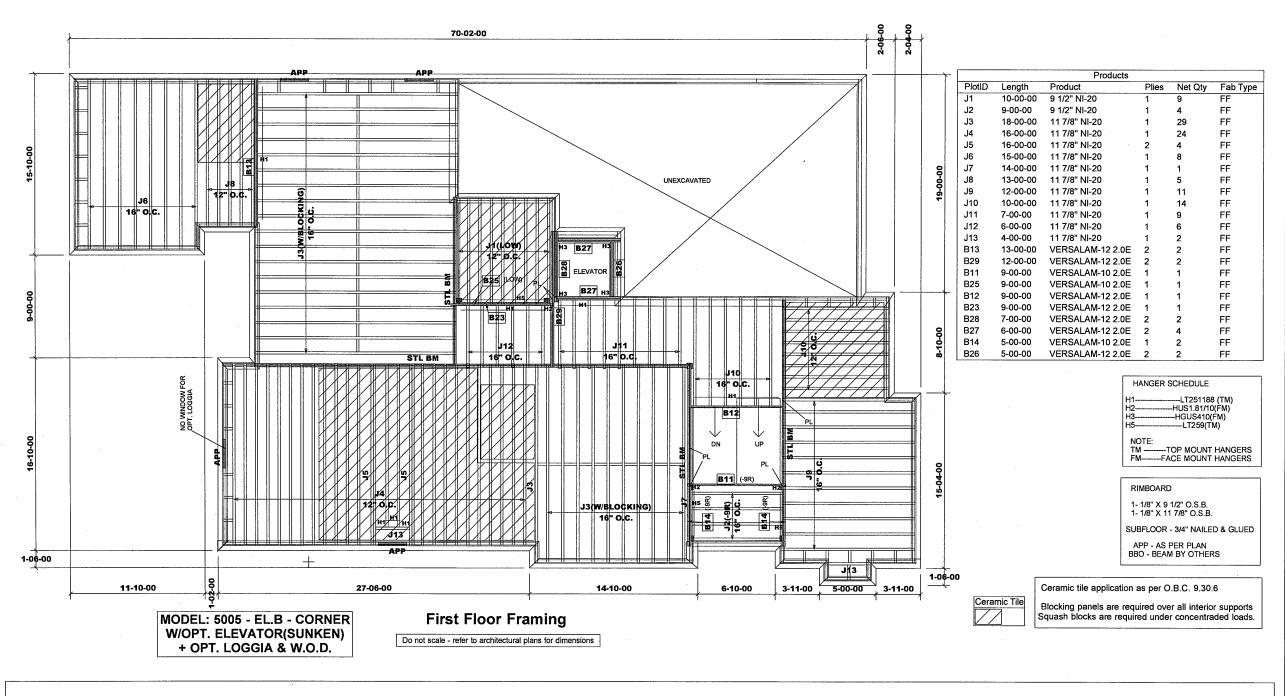
Location: Vaughan

Date: March 25, 2020

Designer: NL Sheet: 5 of 8 Alpa Roof Trusses Inc. Maple, Ontario

Salesperson: Derek Home Lumber





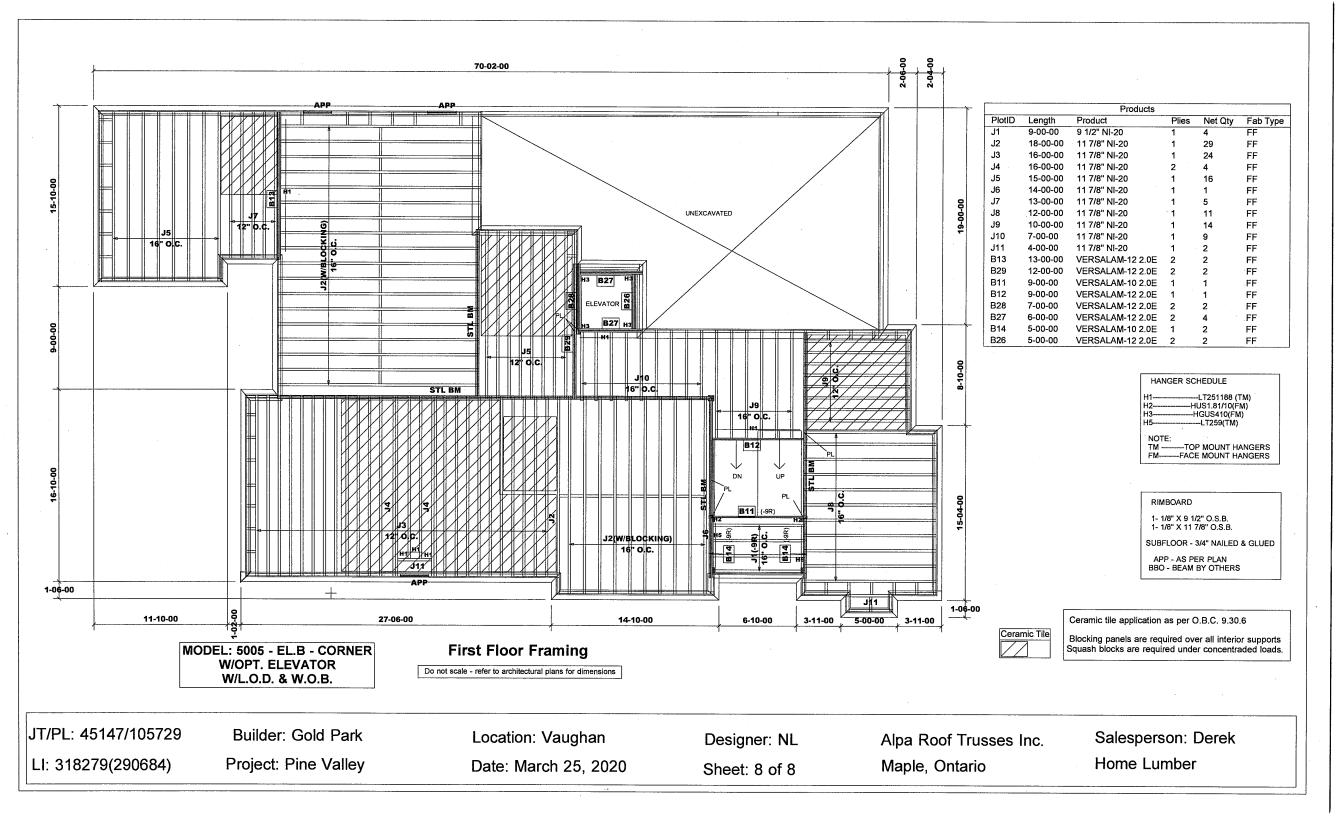
JT/PL: 45147/105729 LI: 318279(290684) Builder: Gold Park
Project: Pine Valley

Location: Vaughan

Date: March 25, 2020

Designer: NL Sheet: 7 of 8 Alpa Roof Trusses Inc. Maple, Ontario Salesperson: Derek

Home Lumber







# Dry | 1 span | No cant.

**B01** (Floor Beam)

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

**Build 7555** 

45147 (5005) Job name:

Pine Valley Description: Address:

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

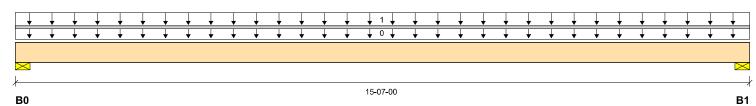
Code reports: CCMC 12472-R File name: 318279

Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses



**Total Horizontal Product Length = 15-07-00** 

Reaction Summary (Down / Uplift) (lbs)

2694 / 0

Live Snow B0, 3-1/2" 2708 / 0 1448 / 0

1440 / 0

Loa	Load Summary								Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	15-07-00	Тор		12			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	15-07-00	Top	40	20			08-08-00

		Factored	Demand/		
Controls Summary	<b>Factored Demand</b>	Resistance	Resistance	Case	Location
Pos. Moment	21614 ft-lbs	35392 ft-lbs	61.1%	1	07-09-12
End Shear	4910 <b>l</b> bs	14464 <b>I</b> bs	33.9%	1	01-03-06
Total Load Deflection	L/281 (0.648")	n\a	85.5%	4	07-09-12
Live Load Deflection	L/431 (0.423")	n\a	83.6%	5	07-09-12
Max Defl.	0.648"	n\a	64.8%	4	07-09-12
Span / Depth	15.3				

Beari	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	5873 lbs	77.9%	39.3%	Spruce-Pine-Fir
B1	Wall/Plate	3" x 3-1/2"	5841 <b>l</b> bs	90.4%	45.6%	Spruce-Pine-Fir



#### Notes

B1, 3"

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 10" O/C,





## B02 (Floor Beam)

File name:

Specifier:

318279

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

Build 7555

B1, 3"

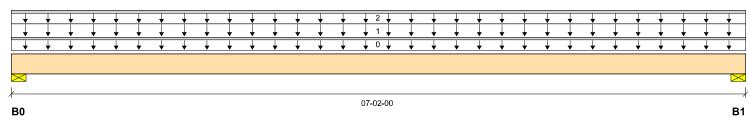
Job name: 45147 (5005)

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Gold Park Designer: NL

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 07-02-00

Reaction Summary (Down / Uplift) (Ibs)

1577 / 0

 Bearing
 Live
 Dead
 Snow
 Wind

 B0, 3"
 1577 / 0
 1046 / 0

1046 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-02-00	Тор		12			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	07-02-00	Top	40	20			11-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	07-02-00	Top		60			n∖a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5910 ft-lbs	35392 ft-lbs	16.7%	1	03-07-00
End Shear	2402 lbs	14464 <b>I</b> bs	16.6%	1	01-02-14
Total Load Deflection	L/999 (0.036")	n\a	n\a	4	03-07-00
Live Load Deflection	L/999 (0.022")	n\a	n\a	5	03-07-00
Max Defl.	0.036"	n\a	n\a	4	03-07-00
Span / Depth	6.9				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3" x 3-1/2"	3673 lbs	56.9%	28.7%	Spruce-Pine-Fir
B1	Wall/Plate	3" x 3-1/2"	3673 lbs	56.9%	28.7%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 10" O/C, STAGGERED IN 2 ROWS





## B03 (Floor Beam)

File name:

Specifier:

318279

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

Job name: 45147 (5005)

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Gold Park Designer: NL

Code reports: CCMC 12472-R Company: Alpa Roof Trusses

B0 B1

#### Total Horizontal Product Length = 05-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	967 / 0	648 / 0		
R1 3_1/2"	967 / 0	648 / 0		

Loa	Load Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-00-00	Тор		6			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	05-00-00	Тор	40	20			09-08-00
2		Unf. Lin. (lb/ft)	L	00-00-00	05-00-00	Top		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	2331 ft-lbs	17696 ft-lbs	13.2%	1	02-06-00
End Shear	1102 <b>l</b> bs	7232 <b>l</b> bs	15.2%	1	01-03-06
Total Load Deflection	L/999 (0.013")	n\a	n\a	4	02-06-00
Live Load Deflection	L/999 (0.008")	n\a	n\a	5	02-06-00
Max Defl.	0.013"	n\a	n\a	4	02-06-00
Span / Depth	4.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Materia <b>l</b>
B0	Wall/Plate	3-1/2" x 1-3/4"	2260 lbs	60.0%	30.3%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	2260 lbs	60.0%	30.3%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



## **Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



**BC CALC® Member Report** 



### Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

## **B04** (Floor Beam)

File name:

Specifier:

318279

3 3 1 3 3 3 1

PASSED

March 25, 2020 15:28:29

Dry | 1 span | No cant.

Build 7555

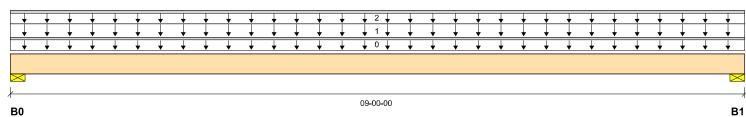
Job name: 45147 (5005)

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON

Builder: Gold Park Designer: NL

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1350 / 0	803 / 0		
B1, 3-1/2"	1350 / 0	803 / 0		

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		6			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	09-00-00	Top	40	15			07-06-00
2		Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Top		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	6139 ft-lbs	17696 ft-lbs	34.7%	1	04-06-00
End Shear	2167 lbs	7232 <b>l</b> bs	30.0%	1	01-03-06
Total Load Deflection	L/999 (0.117")	n\a	n\a	4	04-06-00
Live Load Deflection	L/999 (0.074")	n\a	n\a	5	04-06-00
Max Defl.	0.117"	n\a	n\a	4	04-06-00
Span / Depth	8.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	3029 lbs	80.4%	40.5%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	3029 lbs	80.4%	40.5%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



## **Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





#### **B4A** (Floor Beam)

File name:

Specifier:

318279

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

B1, 3-1/2"

45147 (5005) Job name:

Pine Valley Address: Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Designer: NL Code reports: CCMC 12472-R Company: Alpa Roof Trusses

09-00-00 B0 В1

#### Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (lbs)

2250 / 0

**Bearing** Live Dead Snow Wind B0, 3-1/2" 1168 / 0 2250 / 0

1168 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		12			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	09-00-00	Тор	40	15			12-06-00
2		Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	9799 ft-lbs	35392 ft-lbs	27.7%	1	04-06-00
End Shear	3458 lbs	14464 <b>I</b> bs	23.9%	1	01-03-06
Total Load Deflection	L/999 (0.093")	n\a	n\a	4	04-06-00
Live Load Deflection	L/999 (0.061")	n\a	n\a	5	04-06-00
Max Defl.	0.093"	n\a	n\a	4	04-06-00
Span / Depth	8.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	4835 lbs	64.2%	32.4%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	4835 <b>l</b> bs	64.2%	32.4%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ O/C.





**B05** (Floor Beam)

PASSED

March 25, 2020 15:28:29

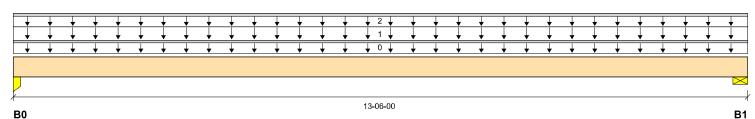
**BC CALC® Member Report** 

Dry | 1 span | No cant. **Build 7555** 

45147 (5005) File name: 318279 Job name: Pine Valley Address: Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Specifier:

Builder: Gold Park Designer: NL Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 13-06-00

Reaction Summary (Down / Uplift) (lbs)

3115 / 0

**Bearing** Live Dead Snow Wind B0, 3" 2032 / 0 3095 / 0

2045 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-06-00	Тор		12			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	13-06-00	Тор	40	20			11-06-00
2		Unf. Lin. (lb/ft)	L	00-00-00	13-06-00	Top		60			n∖a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
				Case	
Pos. Moment	22842 ft-lbs	35392 ft-lbs	64.5%	1	06-08-12
End Shear	5860 lbs	14464 <b>I</b> bs	40.5%	1	01-02-14
Total Load Deflection	L/305 (0.514")	n\a	78.6%	4	06-08-12
Live Load Deflection	L/506 (0.31")	n\a	71.2%	5	06-08-12
Max Defl.	0.514"	n\a	51.4%	4	06-08-12
Span / Depth	13.2				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Column	3" x 3-1/2"	7184 lbs	39.4%	56.1%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	7228 lbs	95.9%	48.4%	Spruce-Pine-Fir



#### **Notes**

B1, 3-1/2"

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 10" O/C,





**B06** (Floor Beam)

Specifier:

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

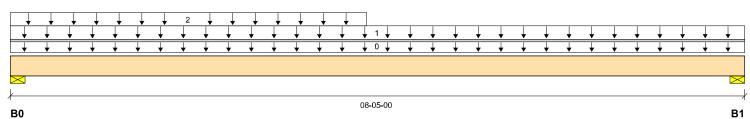
45147 (5005) Job name:

File name: 318279 Pine Valley Address: Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

CCMC 12472-R Code reports:

Designer: NL Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 08-05-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing	Live	` Dead	Snow	Wi
B0, 3-1/2"	1346 / 0	635 / 0		
R1 3-1/2"	991 / 0	502 / 0		

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-05-00	Тор		6			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	08-05-00	Top	40	20			05-00-00
2		Unf. Area (lb/ft²)	L	00-00-00	04-01-00	Тор	40	15			04-00-00

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	4666 ft-lbs	17696 ft-lbs	26.4%	1	03-08-13
End Shear	1855 <b>l</b> bs	7232 lbs	25.6%	1	01-03-06
Total Load Deflection	L/999 (0.076")	n\a	n\a	4	04-01-00
Live Load Deflection	L/999 (0.051")	n\a	n∖a	5	04-01-00
Max Defl.	0.076"	n\a	n\a	4	04-01-00
Span / Depth	8.0				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	2813 lbs	74.6%	37.6%	Spruce-Pine-Fir
R1	Wall/Plate	3-1/2" x 1-3/4"	2114 lbs	56.1%	28.3%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



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BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





## **B07** (Floor Beam)

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

45147 (5005) Job name:

Pine Valley Address:

City, Province, Postal Code: Vaughan, ON Builder:

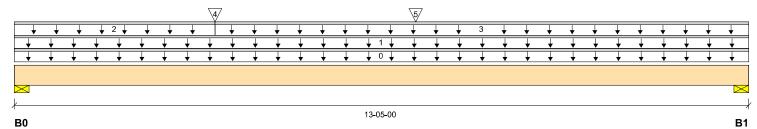
Gold Park

Code reports: CCMC 12472-R File name: 318279

Description: Second Floor Framing

Specifier: Designer:

NL Company: Alpa Roof Trusses



Total Horizontal Product Length = 13-05-00

Reaction Summary (Down / Uplift) (lbs)

**Bearing** Live Dead Snow Wind B0, 3-1/2" 2672 / 0 1807 / 0 B1, 3-1/2" 2415 / 0 1579 / 0

Load Summary						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-05-00	Тор		12			00-00-00
1	Unf. Lin. (Ib/ft)	L	00-00-00	13-05-00	Top	27	14			n∖a
2	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Тор		60			n∖a
3	Unf. Lin. (lb/ft)	L	03-08-00	13-05-00	Top	27	14			n∖a
4	Conc. Pt. (lbs)	L	03-08-00	03-08-00	Top	1346	635			n∖a
5	Conc. Pt. (lbs)	L	07-04-00	07-04-00	Top	3115	2045			n∖a

		Factored	Demand/			
Controls Summary	<b>Factored Demand</b>	Resistance	Resistance	Case	Location	
Pos. Moment	30341 ft-lbs	35392 ft-lbs	85.7%	1	07-04-00	
End Shear	6077 <b>I</b> bs	14464 <b>I</b> bs	42.0%	1	01-03-06	
Total Load Deflection	L/265 (0.586")	n\a	90.4%	4	06-07-12	
Live Load Deflection	L/436 (0.356")	n\a	82.5%	5	06-07-12	
Max Defl.	0.586"	n\a	58.6%	4	06-07-12	
Span / Depth	13.1					

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Wall/Plate	3-1/2" x 3-1/2"	6266 lbs	83.2%	41.9%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	5596 lbs	74.2%	37.4%	Spruce-Pine-Fir



### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS





## 100 SP PASSED

### **B08** (Floor Beam)

File name:

Specifier:

318279

BC CALC® Member Report

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

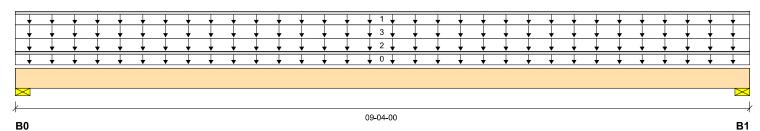
Job name: 45147 (5005)

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Gold Park Designer: NL

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



Total Horizontal Product Length = 09-04-00

Reaction Summary (Down / Uplift) (lbs)

i toaotioii oaii	miai y (Bomin / O	p, (120)			
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	126 / 0	1148 / 0	1400 / 0		
B1, 3-1/2"	126 / 0	1148 / 0	1400 / 0		

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-04-00	Тор		12			00-00-00
1		Unf. Lin. (Ib/ft)	L	00-00-00	09-04-00	Top	27	114			n\a
2		Unf. Area (Ib/ft²)	L	00-00-00	09-04-00	Тор		14	21		05-00-00
3		Unf. Area (Ib/ft²)	L	00-00-00	09-04-00	Top		20	78		02-06-00

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	7724 ft-lbs	35392 ft-lbs	21.8%	5	04-08-00
End Shear	2656 lbs	14464 <b>I</b> bs	18.4%	5	01-03-06
Total Load Deflection	L/999 (0.078")	n\a	n\a	11	04-08-00
Live Load Deflection	L/999 (0.042")	n\a	n\a	15	04-08-00
Max Defl.	0.078"	n\a	n\a	11	04-08-00
Span / Depth	9.0				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	3661 <b>I</b> bs	48.6%	24.5%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	3661 lbs	48.6%	24.5%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS - TOP LOADED





**B09** (Floor Beam)

PASSED

В1

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

Code reports:

B0

45147 (5005) Job name:

Pine Valley Address: Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park

CCMC 12472-R

318279 File name:

Specifier:

Designer: NL Company: Alpa Roof Trusses

Wind

09-00-00 Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (lbs)

**Bearing** Live Dead Snow B0, 3-1/2" 783 / 0 121 / 0 540 / 0 B1, 3-1/2" 122 / 0 783 / 0 540 / 0

Wind Live Dead Snow **Tributary Load Summary** 1.00 Tag Description Load Type Start End Loc. 1.00 0.65 1.15 Ref. Unf. Lin. (lb/ft) 00-00-00 0 Self-Weight 00-00-00 09-00-00 12 Top 1 Unf. Lin. (lb/ft) 00-00-00 09-00-00 27 114 L Top n∖a 2 Unf. Area (Ib/ft2) 02-00-00 00-00-00 09-00-00 14 21 L Top 3 Unf. Area (lb/ft2) L 00-00-00 09-00-00 Top 20 78 01-00-00

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	3872 ft-lbs	35392 ft-lbs	10.9%	5	04-06-00
End Shear	1367 lbs	14464 <b>I</b> bs	9.4%	5	01-03-06
Total Load Deflection	L/999 (0.038")	n\a	n\a	11	04-06-00
Live Load Deflection	L/999 (0.017")	n\a	n\a	15	04-06-00
Max Defl.	0.038"	n\a	n\a	11	04-06-00
Span / Depth	8.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	1910 <b>l</b> bs	25.4%	12.8%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	1910 lbs	25.4%	12.8%	Spruce-Pine-Fir



#### Notes

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS



**BC CALC® Member Report** 



## Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

## P

### B10 (Floor Beam)

File name:

Specifier:

Designer:

318279

NL

Dry | 1 span | No cant.

March 25, 2020 15:28:29

PASSED

Build 7555

Job name: 45147 (5005)

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Code reports: CCMC 12472-R Company: Alpa Roof Trusses

B0 (04-00-00)

#### Total Horizontal Product Length = 04-00-00

Reaction Summary (Down / Uplift) (lbs)

		1			
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	54 / 0	560 / 0	462 / 0		
B1. 3-1/2"	54 / 0	560 / 0	462 / 0		

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-00-00	Тор		12			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	04-00-00	Top	27	114			n∖a
2		Unf. Area (Ib/ft²)	L	00-00-00	04-00-00	Top		14	21		11-00-00

<b>Controls Summary</b>	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1134 ft-lbs	35392 ft-lbs	3.2%	5	02-00-00
End Shear	520 <b>l</b> bs	14464 <b>I</b> bs	3.6%	5	01-03-06
Total Load Deflection	L/999 (0.002")	n\a	n\a	11	02-00-00
Live Load Deflection	L/999 (0.001")	n\a	n\a	15	02-00-00
Max Defl.	0.002"	n\a	n\a	11	02-00-00
Span / Depth	3.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	1447 <b>I</b> bs	19.2%	9.7%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	1447 <b>I</b> bs	19.2%	9.7%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

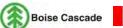
Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @  $\,$  4"  $\,$  O/C,





## B11 (Floor Beam)

Specifier:

NL

Dry | 1 span | No cant.

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report Build 7555** 

Address:

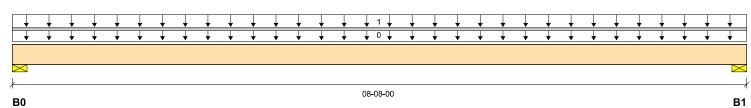
45147 (5005) Job name:

File name: 318279 Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park Designer:

Alpa Roof Trusses CCMC 12472-R Company: Code reports:



#### Total Horizontal Product Length = 08-08-00

Reaction Sur	ninary (Down / O				
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	867 / 0	346 / 0			
B1, 3-1/2"	867 / 0	346 / 0			

Loa	Load Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-08-00	Тор		5			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	08-08-00	Тор	40	15			05-00-00

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3367 ft-lbs	11610 ft-lbs	29.0%	1	04-04-00
End Shear	1299 lbs	5785 <b>I</b> bs	22.5%	1	01-01-00
Total Load Deflection	L/999 (0.114")	n\a	n\a	4	04-04-00
Live Load Deflection	L/999 (0.082")	n\a	n\a	5	04-04-00
Max Defl.	0.114"	n\a	n\a	4	04-04-00
Span / Depth	10.4				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Wall/Plate	3-1/2" x 1-3/4"	1732 lbs	46.0%	23.2%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1732 <b>I</b> bs	46.0%	23.2%	Spruce-Pine-Fir



#### Notes

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

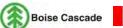
Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

## **Disclosure**

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B12 (Floor Beam)

File name:

Specifier:

318279

March 25, 2020 15:28:29

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

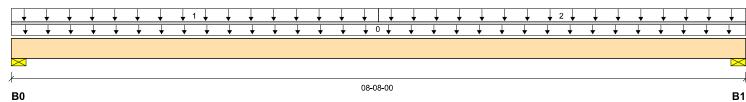
45147 (5005) Job name:

Pine Valley Address: Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park Designer: NL

CCMC 12472-R Company: Alpa Roof Trusses Code reports:



#### **Total Horizontal Product Length = 08-08-00**

Reaction Summary (Down / Unlift) (lbs)

reaction our	reaction outlinary (bown / opint) (103)							
Bearing	Live	Dead	Snow	Wind				
B0, 3-1/2"	1117 / 0	445 / 0						
B1, 3-1/2"	1482 / 0	582 / 0						

Loa	Load Summary							Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-08-00	Тор		6			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	04-04-00	Top	40	15			05-06-00
2		Unf. Area (Ib/ft²)	L	04-04-00	08-08-00	Top	40	15			09-06-00

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5106 ft-lbs	17696 ft-lbs	28.9%	1	04-08-09
End Shear	1983 lbs	7232 <b>I</b> bs	27.4%	1	07-04-10
Total Load Deflection	L/999 (0.088")	n\a	n\a	4	04-05-02
Live Load Deflection	L/999 (0.063")	n\a	n\a	5	04-05-02
Max Defl.	0.088"	n\a	n\a	4	04-05-02
Span / Depth	8.3				

Bearing Supports		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	2233 lbs	59.3%	29.9%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	2951 lbs	78.3%	39.5%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

## **Disclosure**

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## PASSED

#### B13 (Floor Beam)

File name:

Specifier:

318279

BC CALC® Member Report Dry | 1 span | No cant.

March 25, 2020 15:28:29

Build 7555

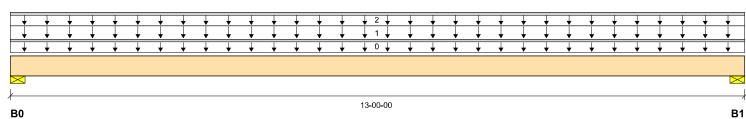
Job name: 45147 (5005)

Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Gold Park Designer: NL

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 13-00-00

Reaction Summary (Down / Uplift) (lbs)

 Bearing
 Live
 Dead
 Snow
 Wind

 B0, 3-1/2"
 2513 / 0
 1725 / 0

 B1, 3-1/2"
 2513 / 0
 1725 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-00-00	Тор		12			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	13-00-00	Top	40	20			09-08-00
2		Unf. Lin. (lb/ft)	L	00-00-00	13-00-00	Тор		60			n∖a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Odnicio Gammary	ractored Demand	Resistance	Resistance	Case	Location
Pos. Moment	17926 ft-lbs	35392 ft-lbs	50.6%	1	06-06-00
End Shear	4758 lbs	14464 <b>I</b> bs	32.9%	1	01-03-06
Total Load Deflection	L/405 (0.372")	n\a	59.3%	4	06-06-00
Live Load Deflection	L/683 (0.22")	n\a	52.7%	5	06-06-00
Max Defl.	0.372"	n\a	37.2%	4	06-06-00
Span / Depth	12.7				

Bearing Supports		g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
	B0	Wall/Plate	3-1/2" x 3-1/2"	5926 lbs	78.6%	39.7%	Spruce-Pine-Fir
	B1	Wall/Plate	3-1/2" x 3-1/2"	5926 lbs	78.6%	39.7%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 9" O/C, STAGGERED IN 2 ROWS





## B14 (Floor Beam)

File name:

Specifier:

318279

NL

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

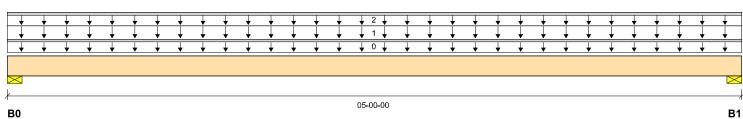
45147 (5005) Job name:

Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park Designer:

Alpa Roof Trusses CCMC 12472-R Company: Code reports:



#### Total Horizontal Product Length = 05-00-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	867 / 0	637 / 0		
B1, 3-1/2"	867 / 0	637 / 0		

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-00-00	Тор		5			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	05-00-00	Top	40	15			08-08-00
2		Unf. Lin. (lb/ft)	L	00-00-00	05-00-00	Тор		120			n∖a

		Factored	Demand/		
Controls Summary	<b>Factored Demand</b>	Resistance	Resistance	Case	Location
Pos. Moment	2162 ft-lbs	11610 ft-lbs	18.6%	1	02-06-00
End Shear	1188 lbs	5785 <b>I</b> bs	20.5%	1	01-01-00
Total Load Deflection	L/999 (0.023")	n\a	n\a	4	02-06-00
Live Load Deflection	L/999 (0.013")	n\a	n\a	5	02-06-00
Max Defl.	0.023"	n\a	n\a	4	02-06-00
Span / Depth	5.7				

Bearing	յ Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	2096 lbs	55.6%	28.1%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	2096 lbs	55.6%	28.1%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



## **Disclosure**

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### B15 (Floor Beam)

Specifier:

PASSED

**B1** 

**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

B<sub>0</sub>

45147 (5005) Job name:

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park

CCMC 12472-R Company: Code reports:

File name: 318279

Designer: NL Alpa Roof Trusses

Wind

10-00-00

#### Total Horizontal Product Length = 10-00-00

Reaction Summary (Down / Uplift) (Ibs)

**Bearing** Live Dead Snow B0, 3-1/2" 730 / 0 1067 / 0 B1. 3-1/2" 1067 / 0 730 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-00-00	Тор		6			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	10-00-00	Top	40	15			05-04-00
2		Unf. Lin. (lb/ft)	L	00-00-00	10-00-00	Тор		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	5719 ft-lbs	17696 ft-lbs	32.3%	1	05-00-00
End Shear	1869 lbs	7232 <b>l</b> bs	25.8%	1	01-03-06
Total Load Deflection	L/834 (0.137")	n\a	28.8%	4	05-00-00
Live Load Deflection	L/999 (0.081")	n\a	n\a	5	05-00-00
Max Defl.	0.137"	n\a	13.7%	4	05-00-00
Span / Depth	9.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	2513 lbs	66.7%	33.6%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	2513 lbs	66.7%	33.6%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



## **Disclosure**

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## B16 (Floor Beam)

Specifier:

Designer:

PASSED

В1

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

B0

45147 (5005) Job name:

Pine Valley Address: Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

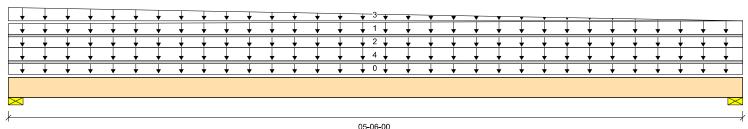
Gold Park

Code reports: CCMC 12472-R File name: 318279

Company: Alpa Roof Trusses

NL

Wind



Total Horizontal Product Length = 05-06-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing	Live	Dead	Snow	
B0, 3-1/2"	749 / 0	911 / 0	367 / 0	
R1 3_1/2"	818 / 0	918 / 0	326 / 0	

Load Summary						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-06-00	Тор		6			00-00-00
1	Trapezoidal (lb/ft)	L	00-00-00		Top	250	125			n∖a
				05-06-00		320	160			
2	Unf. Lin. (lb/ft)	L	00-00-00	05-06-00	Top		100			n∖a
3	Trapezoidal (lb/ft)	L	00-00-00		Тор		28	42		n∖a
				05-06-00			0	0		
4	Unf. Area (lb/ft²)	L	00-00-00	05-06-00	Тор		14	21		05-00-00

		Factored	Demand/		
Controls Summary	<b>Factored Demand</b>	Resistance	Resistance	Case	Location
Pos. Moment	3079 ft-lbs	17696 ft-lbs	17.4%	1	02-09-00
End Shear	2086 lbs	7232 lbs	28.9%	1	04-02-10
Total Load Deflection	L/999 (0.022")	n\a	n\a	11	02-09-00
Live Load Deflection	L/999 (0.012")	n\a	n\a	15	02-09-00
Max Defl.	0.022"	n\a	n\a	11	02-09-00
Span / Depth	5.1				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	2630 lbs	69.8%	35.2%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	2701 <b>l</b> bs	71.7%	36.1%	Spruce-Pine-Fir



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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4





## B17 (Floor Beam)

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

Job name: 45147 (5005)

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON

Builder: Gold Park

Code reports: CCMC 12472-R

File name: 318279

Specifier:

Designer: NL Company: Alpa Roof Trusses

B0

B1

Total Horizontal Product Length = 12-00-00

Reaction Summary (Down / Uplift) (lbs)

 Bearing
 Live
 Dead
 Snow
 Wind

 B0, 3-1/2"
 2640 / 0
 1392 / 0

 B1, 3-1/2"
 2640 / 0
 1392 / 0

Loa	Load Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-00-00	Тор		12			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	12-00-00	Top	40	20			11-00-00

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	15819 ft-lbs	35392 ft-lbs	44.7%	1	06-00-00
End Shear	4483 lbs	14464 <b>I</b> bs	31.0%	1	01-03-06
Total Load Deflection	L/504 (0.275")	n\a	47.6%	4	06-00-00
Live Load Deflection	L/770 (0.18")	n\a	46.7%	5	06-00-00
Max Defl.	0.275"	n\a	27.5%	4	06-00-00
Span / Depth	11.7				

Bearing Supports		g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
	B0	Wall/Plate	3-1/2" x 3-1/2"	5700 <b>l</b> bs	75.6%	38.1%	Spruce-Pine-Fir
	B1	Wall/Plate	3-1/2" x 3-1/2"	5700 <b>I</b> bs	75.6%	38.1%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C,



**BC CALC® Member Report** 

## Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP



File name:

Specifier:

318279

NL

Dry | 1 span | No cant.

PASSED

March 25, 2020 15:28:29

**Build 7555** 

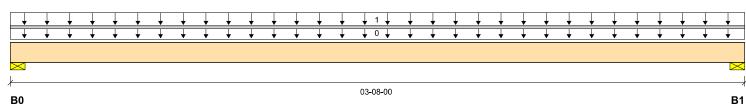
45147 (5005) Job name:

Pine Valley Address: Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON

Builder: Gold Park Designer:

Alpa Roof Trusses CCMC 12472-R Company: Code reports:



#### Total Horizontal Product Length = 03-08-00

Reaction Summary (Down / Unlift) (lbs)

Reaction Summary (Down / Opint) (ibs)								
Bearing	Live	Dead	Snow	Wind				
B0, 2-1/2"	816 / 0	419 / 0						
B1, 2"	797 / 0	410 / 0						

Loa	Load Summary							Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Тор		6			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	03-08-00	Top	40	20			11-00-00

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1375 ft-lbs	17696 ft-lbs	7.8%	1	01-10-04
End Shear	619 lbs	7232 <b>I</b> bs	8.6%	1	01-02-06
Total Load Deflection	L/999 (0.004")	n\a	n\a	4	01-10-04
Live Load Deflection	L/999 (0.003")	n\a	n\a	5	01-10-04
Max Defl.	0.004"	n\a	n\a	4	01-10-04
Span / Depth	3.5				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	2-1/2" x 1-3/4"	1748 <b>I</b> bs	64.9%	32.7%	Spruce-Pine-Fir
B1	Wall/Plate	2" x 1-3/4"	1708 <b>I</b> bs	79.3%	40.0%	Spruce-Pine-Fir

#### Notes

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



## **Disclosure**

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## 76 VERSA-LAIVI® 2.0 3 IC

318279

File name:

Specifier:



**BC CALC® Member Report** 

**B18 (Floor Beam)**Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

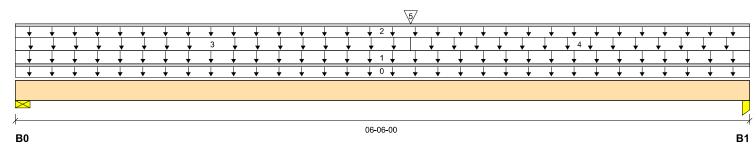
Job name: 45147 (5005)

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Gold Park Designer: NL

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 06-06-00

Reaction Summary (Down / Uplift) (Ibs)

	3 (				
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	663 / 0	1095 / 0	666 / 0		
B1. 2"	638 / 0	1407 / 0	1099 / 0		

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	_	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-06-00	Тор		6			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	06-06-00	Top	40	15			05-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	06-06-00	Тор		100			n∖a
3		Unf. Area (lb/ft²)	L	00-00-00	03-06-00	Top		14	21		04-00-00
4		Unf. Area (lb/ft²)	L	03-06-00	06-06-00	Тор		20	27		12-06-00
5		Conc. Pt. (lbs)	L	03-06-00	03-06-00	Top		380	458		n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	6117 ft-lbs	17696 ft-lbs	34.6%	5	03-06-00
End Shear	2605 lbs	7232 lbs	36.0%	5	05-04-02
Total Load Deflection	L/999 (0.061")	n\a	n\a	11	03-04-05
Live Load Deflection	L/999 (0.032")	n\a	n\a	15	03-04-05
Max Defl.	0.061"	n\a	n∖a	11	03-04-05
Span / Depth	6.2				

Bearing Supports		Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material		
B0	Wall/Plate	3-1/2" x 1-3/4"	3030 lbs	80.4%	40.6%	Spruce-Pine-Fir		
B1	Column	2" x 1-3/4"	4045 <b>I</b> bs	66.6%	94.7%	Spruce-Pine-Fir		



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4





# B19 (Floor Beam)



March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

45147 (5005) Job name:

File name: Pine Valley Address:

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park

Code reports: CCMC 12472-R

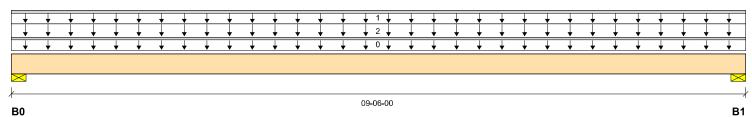
318279

Description: Second Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 09-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	128 / 0	789 / 0	257 / 0	
B1, 3-1/2"	128 / 0	789 / 0	257 / 0	

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-06-00	Тор		12			00-00-00
1		Unf. Lin. (Ib/ft)	L	00-00-00	09-06-00	Top	27	114			n∖a
2		Unf. Area (lb/ft²)	L	00-00-00	09-06-00	Top		20	27		02-00-00

<b>Controls Summary</b>	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	2375 ft-lbs	23005 ft-lbs	10.3%	0	04-09-00
End Shear	806 lbs	9401 lbs	8.6%	0	01-03-06
Total Load Deflection	L/999 (0.037")	n\a	n\a	11	04-09-00
Live Load Deflection	L/999 (0.012")	n\a	n\a	15	04-09-00
Max Defl.	0.037"	n\a	n\a	11	04-09-00
Span / Depth	9.1				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	1104 <b>I</b> bs	22.5%	11.4%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	1104 <b>l</b> bs	22.5%	11.4%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS





## B20 (Floor Beam)

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

45147 (5005) Job name:

Pine Valley Description: Second Floor Framing Address:

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park

Code reports: CCMC 12472-R File name: 318279

NL

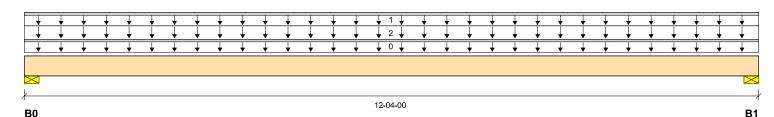
Alpa Roof Trusses

Specifier:

Designer:

Company:

March 25, 2020 15:28:29



Total Horizontal Product Length = 12-04-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	166 / 0	1024 / 0	333 / 0	
B1, 3-1/2"	167 / 0	1024 / 0	333 / 0	

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-04-00	Тор		12			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	12-04-00	Top	27	114			n∖a
2		Unf. Area (lb/ft²)	L	00-00-00	12-04-00	Top		20	27		02-00-00

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	4097 ft-lbs	23005 ft-lbs	17.8%	0	06-02-00
FOS. MOITIETT	4097 11-105	23003 11-108	17.070	U	00-02-00
End Shear	1136 <b>I</b> bs	9401 <b>l</b> bs	12.1%	0	01-03-06
Total Load Deflection	L/999 (0.111")	n\a	n\a	11	06-02-00
Live Load Deflection	L/999 (0.035")	n\a	n\a	15	06-02-00
Max Defl.	0.111"	n\a	n\a	11	06-02-00
Span / Depth	12.0				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	1433 lbs	29.3%	14.8%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	1433 <b>I</b> bs	29.3%	14.8%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C,



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

### **B21 (Floor Beam)**

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 2 spans | R cant.

**Build 7555** 

Job name: 45147 (5005)

Pine Valley Address:

City, Province, Postal Code: Vaughan, ON

Builder: Gold Park

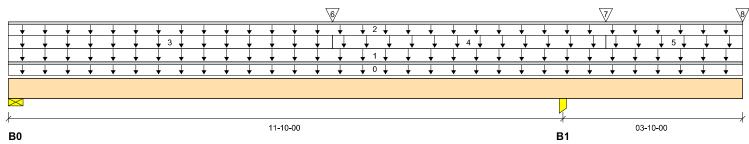
CCMC 12472-R Code reports:

File name: 318279

Description: Second Floor Framing Specifier:

Designer: NL

Company: Alpa Roof Trusses



Total Horizontal Product Length = 15-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1508 / 213	1897 / 0	1531 / 0	
B1, 5-1/2"	2788 / 0	5972 / 0	3455 / 0	

Load Summary						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	15-08-00	Тор		12			00-00-00
1	Unf. Area (lb/ft²)	L	00-00-00	15-08-00	Тор	40	20			06-03-00
2	Unf. Lin. (lb/ft)	L	00-00-00	15-08-00	Тор		100			n∖a
3	Unf. Area (Ib/ft²)	L	00-00-00	06-11-00	Тор		14	21		12-06-00
4	Unf. Area (lb/ft²)	L	06-11-00	12-09-00	Тор		14	21		04-00-00
5	Unf. Area (Ib/ft²)	L	12-09-00	15-08-00	Тор		20	27		12-06-00
6	Conc. Pt. (lbs)	L	06-11-00	06-11-00	Top		486	729		n∖a
7	Conc. Pt. (lbs)	L	12-09-00	12-09-00	Тор		380	458		n∖a
8	Conc. Pt. (lbs)	L	15-08-00	15-08-00	Top	166	1024	333		n∖a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	15102 ft-lbs	35392 ft-lbs	42.7%	2	05-04-00
Neg. Moment	-18289 ft-lbs	-35392 ft-lbs	51.7%	28	11-10-00
End Shear	4691 <b>I</b> bs	14464 <b>I</b> bs	32.4%	26	01-03-06
Cont. Shear	6761 <b>I</b> bs	14464 <b>I</b> bs	46.7%	31	10-07-06
Total Load Deflection	2xL/412 (0.223")	n\a	58.2%	58	15-08-00
Live Load Deflection	2xL/572 (-0.161")	n\a	62.9%	78	15-08-00
Total Neg. Defl.	2xL/1998 (-0.086")	n\a	n∖a	54	15-08-00
Max Defl.	0.253"	n\a	25.3%	54	05-08-03
Cant. Max Defl.	0.223"	n\a	22.3%	58	15-08-00
Span / Depth	11.7				



Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	6176 lbs	81.9%	41.3%	Spruce-Pine-Fir
B1	Column	5-1/2" x 3-1/2"	15436 lbs	46.2%	65.7%	Spruce-Pine-Fir

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ STAGGERED IN 2 ROWS



**BC CALC® Member Report** 



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

**B22 (Floor Beam)** Dry | 1 span | No cant.

Specifier:

March 25, 2020 15:28:29

PASSED

**Build 7555** 

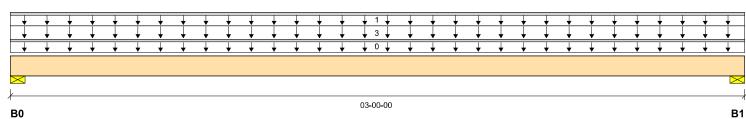
45147 (5005) Job name:

File name: 318279 Pine Valley Address: Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Code reports: CCMC 12472-R

Designer: NL Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 03-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wi
B0, 3-1/2"	40 / 0	429 / 0	324 / 0	
B1, 3-1/2"	40 / 0	429 / 0	324 / 0	

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Тор		12			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	03-00-00	Тор	27	114			n∖a
3		Unf. Area (lb/ft²)	L	00-00-00	03-00-00	Top		20	27		08-00-00

<b>Controls Summary</b>	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	572 ft-lbs	35392 ft-lbs	1.6%	5	01-06-00
End Shear	155 <b>I</b> bs	14464 <b>I</b> bs	1.1%	5	01-03-06
Total Load Deflection	L/999 (0")	n\a	n\a	11	01-06-00
Live Load Deflection	L/999 (0")	n\a	n\a	15	01-06-00
Max Defl.	0"	n\a	n\a	11	01-06-00
Span / Depth	2.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	1063 <b>I</b> bs	14.1%	7.1%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	1063 <b>l</b> bs	14.1%	7.1%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 4" O/C,

STAGGERED IN 2 ROWS





### B23 (Floor Beam)

Specifier:

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

45147 (5005) Job name:

File name: 318279 Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park Designer: NL

CCMC 12472-R Company: Code reports: Alpa Roof Trusses

09-00-00 B<sub>0</sub> **B1** 

#### Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (Ibs)

**Bearing** Live Dead Snow Wind B0, 3-1/2" 500 / 0 540 / 0 B1. 3-1/2" 540 / 0 500 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		6			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	09-00-00	Top	40	15			03-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	2907 ft-lbs	17696 ft-lbs	16.4%	1	04-06-00
End Shear	1026 lbs	7232 <b>I</b> bs	14.2%	1	01-03-06
Total Load Deflection	L/999 (0.057")	n\a	n\a	4	04-06-00
Live Load Deflection	L/999 (0.029")	n\a	n\a	5	04-06-00
Max Defl.	0.057"	n\a	n\a	4	04-06-00
Span / Depth	8.6				

Bearing	յ Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Wall/Plate	3-1/2" x 1-3/4"	1434 lbs	38.1%	19.2%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1434 lbs	38.1%	19.2%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



### **Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



**BC CALC® Member Report** 



### Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

B24 (Floor Beam) Dry | 1 span | No cant.

Specifier:

March 25, 2020 15:28:29

PASSED

**Build 7555** 

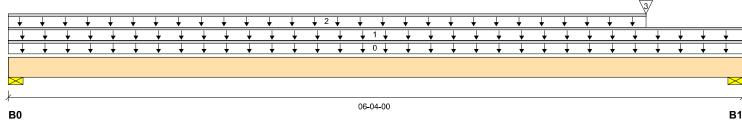
45147 (5005) Job name:

318279 File name: Pine Valley Address: Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON

Gold Park Designer: NL

Builder: CCMC 12472-R Company: Alpa Roof Trusses Code reports:



#### Total Horizontal Product Length = 06-04-00

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

Wind **Bearing** Live Dead Snow 349 / 0 B0, 3-1/2" 226 / 0 B1. 3-1/2" 634 / 0 735 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-04-00	Тор		6			00-00-00
1		Unf. Lin. (Ib/ft)	L	00-00-00	06-04-00	Top	27	74			n∖a
2		Unf. Lin. (Ib/ft)	L	00-00-00	05-06-00	Top	27	14			n∖a
3		Conc. Pt. (lbs)	L	05-06-00	05-06-00	Top	540	500			n∖a

0 1 1 0		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1337 ft-lbs	17696 ft-lbs	7.6%	1	03-10-08
End Shear	1040 <b>l</b> bs	7232 <b>l</b> bs	14.4%	1	05-00-10
Total Load Deflection	L/999 (0.013")	n\a	n\a	4	03-04-02
Live Load Deflection	L/999 (0.005")	n\a	n\a	5	03-04-02
Max Defl.	0.013"	n\a	n\a	4	03-04-02
Span / Depth	5.9				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	774 <b>I</b> bs	20.5%	10.4%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1870 <b>I</b> bs	49.6%	25.0%	Spruce-Pine-Fir

#### Notes

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



### **Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™. ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





### B25 (Floor Beam)

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

Code reports:

45147 (5005) Job name:

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park

CCMC 12472-R

File name: 318279

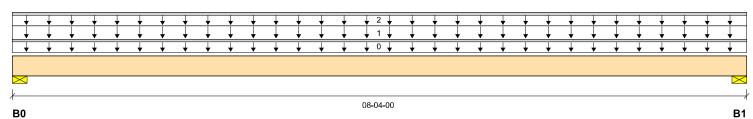
Description: First Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Wind



Total Horizontal Product Length = 08-04-00

Snow

Reaction Summary (Down / Uplift) (Ibs)

**Bearing** Live Dead B0, 3-1/2" 666 / 0 792 / 0 B1. 3-1/2" 792 / 0 666 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-04-00	Тор		5			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	08-04-00	Top	40	20			04-09-00
2		Unf. Lin. (lb/ft)	L	00-00-00	08-04-00	Top		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	3758 ft-lbs	11610 ft-lbs	32.4%	1	04-02-00
End Shear	1495 <b>l</b> bs	5785 <b>I</b> bs	25.8%	1	01-01-00
Total Load Deflection	L/999 (0.121")	n\a	n\a	4	04-02-00
Live Load Deflection	L/999 (0.066")	n\a	n\a	5	04-02-00
Max Defl.	0.121"	n\a	n\a	4	04-02-00
Span / Depth	9.9				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	2020 <b>I</b> bs	53.6%	27.0%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	2020 <b>I</b> bs	53.6%	27.0%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



### **Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

### B26 (Floor Beam)

File name:

Specifier:

Designer:

318279

Alpa Roof Trusses

NL



В1

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

B0

45147 (5005) Job name:

Pine Valley Description: Address: Second Floor Framing

City, Province, Postal Code: Vaughan, ON

Builder: Gold Park

Code reports: CCMC 12472-R Company:

05-00-00

#### **Total Horizontal Product Length = 05-00-00**

Reaction Summary (Down / Uplift) (lbs)

Live Dead Snow B0, 3-1/2" 67/0215 / 0 B1, 3-1/2" 67/0 215 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-00-00	Тор		12			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	05-00-00	Top	27	74			n∖a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	311 ft-lbs	23005 ft-lbs	1.3%	0	02-06-00
End Shear	147 <b>l</b> bs	9401 <b>l</b> bs	1.6%	0	01-03-06
Total Load Deflection	L/999 (0.001")	n\a	n\a	4	02-06-00
Live Load Deflection	L/999 (0")	n\a	n\a	5	02-06-00
Max Defl.	0.001"	n\a	n\a	4	02-06-00
Span / Depth	4.6				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	301 lbs	6.1%	3.1%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	301 lbs	6.1%	3.1%	Spruce-Pine-Fir



#### Notes

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 6" O/C,

STAGGERED IN 2 ROWS



**BC CALC® Member Report** 



### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

### B27 (Floor Beam)

File name:

Specifier:

318279

Dry | 1 span | No cant.

March 25, 2020 15:28:29

PASSED

**Build 7555** 

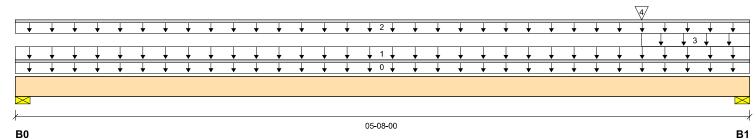
Job name: 45147 (5005)

Pine Valley Description: Address: Second Floor Framing

City, Province, Postal Code: Vaughan, ON

Gold Park Designer: NL

Builder: Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 05-08-00

Reaction Summary (Down / Uplift) (lbs)

riodotion odi		p, (1.00)			
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	824 / 0	637 / 0			
B1, 3-1/2"	958 / 0	843 / 0			

Load Summary						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-08-00	Тор		12			00-00-00
1	Unf. Area (lb/ft²)	L	00-00-00	05-08-00	Тор	40	20			07-02-00
2	Unf. Lin. (Ib/ft)	L	00-00-00	05-08-00	Тор		60			n∖a
3	Unf. Area (lb/ft²)	L	04-10-00	05-08-00	Top	40	20			02-08-00
4	Conc. Pt. (lbs)	L	04-10-00	04-10-00	Тор	68	215			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	2506 ft-lbs	35392 ft-lbs	7.1%	1	02-11-03
End Shear	1360 lbs	14464 <b>I</b> bs	9.4%	1	04-04-10
Total Load Deflection	L/999 (0.009")	n\a	n\a	4	02-10-00
Live Load Deflection	L/999 (0.005")	n\a	n\a	5	02-10-00
Max Defl.	0.009"	n\a	n\a	4	02-10-00
Span / Depth	5.3				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	2032 lbs	27.0%	13.6%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	2490 lbs	33.0%	16.7%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 6" O/C, STAGGERED IN 2 ROWS





### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

# B28 (Floor Beam)

File name:

Specifier:

Designer:

318279

NL

PASSED

**BC CALC® Member Report** 

D20 (Floor Deam

mber Report Dry | 1 span | No cant.

March 25, 2020 15:28:29

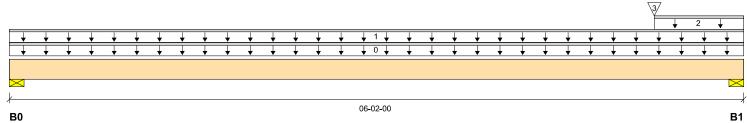
**Build 7555** 

Job name: 45147 (5005)

Address: Pine Valley Description: Second Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 06-02-00

Reaction Summary (Down / Uplift) (lbs)

ixeaction Sui					
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	159 / 0	324 / 0			
B1, 3-1/2"	852 / 0	854 / 0			

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-02-00	Тор		12			00-00-00
1		Unf. Lin. (Ib/ft)	L	00-00-00	06-02-00	Top	27	74			n∖a
2		Unf. Lin. (lb/ft)	L	05-05-00	06-02-00	Top	27	14			n∖a
3		Conc. Pt. (lbs)	L	05-05-00	05-05-00	Top	824	637			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1255 ft-lbs	35392 ft-lbs	3.5%	1	04-03-14
End Shear	1048 <b>l</b> bs	14464 <b>I</b> bs	7.2%	1	04-10-10
Total Load Deflection	L/999 (0.006")	n\a	n\a	4	03-03-11
Live Load Deflection	L/999 (0.002")	n\a	n\a	5	03-04-06
Max Defl.	0.006"	n\a	n\a	4	03-03-11
Snan / Denth	5.8				

Bear	ing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	453 lbs	9.3%	4.7%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	2345 lbs	31.1%	15.7%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @  $\,$  6" O/C, STAGGERED IN 2 ROWS





### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

# B29 (Floor Beam)

File name:

Specifier:

Designer:

318279

NL

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

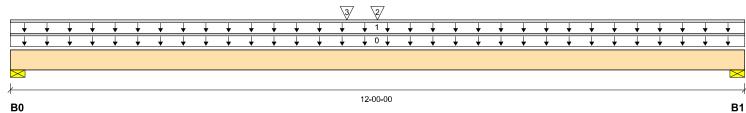
**Build 7555** 

45147 (5005) Job name:

Pine Valley Description: First Floor Framing Address:

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 12-00-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing	Live	` Dead	Snow	Wind
B0, 3-1/2"	1292 / 0	1267 / 0		
B1. 3-1/2"	1246 / 0	1224 / 0		

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	12-00-00	Тор		12			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	12-00-00	Top	54	87			n∖a
2		Conc. Pt. (lbs)	L	06-00-00	06-00-00	Top	1350	803			n∖a
3		Conc. Pt. (lbs)	L	05-06-00	05-06-00	Top	540	500			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	15932 ft-lbs	35392 ft-lbs	45.0%	1	06-00-00
End Shear	3260 lbs	14464 <b>I</b> bs	22.5%	1	01-03-06
Total Load Deflection	L/570 (0.243")	n\a	42.1%	4	06-00-00
Live Load Deflection	L/1075 (0.129")	n\a	33.5%	5	06-00-00
Max Defl.	0.243"	n\a	24.3%	4	06-00-00
Span / Depth	11.7				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	3523 lbs	46.7%	23.6%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	3399 lbs	45.1%	22.7%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS





### Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

### PASSED

March 25, 2020 15:28:29

### **B30** (Floor Beam)

Dry | 1 span | No cant.

BC CALC® Member Report Build 7555

Job name: 45147 (5005)

Address: 45147 (3005)

City, Province, Postal Code: Vaughan, ON

Builder:

Code reports:

(5005) File name: 318279

Description: First Floor Framing

Wind

Specifier:

Gold Park Designer: NL CCMC 12472-R Company: Alpa Roof Trusses

### Total Horizontal Product Length = 11-00-00

Snow

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

 Bearing
 Live
 Dead

 B0, 3-1/2"
 1335 / 0
 1105 / 0

 B1, 3-1/2"
 3654 / 0
 2291 / 0

Loa	d Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-00-00	Тор		18			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	11-00-00	Top	40	20			03-08-00
2		Unf. Area (lb/ft2)	L	08-09-00	11-00-00	Top	40	20			12-06-00
3		Unf. Lin. (lb/ft)	L	00-00-00	11-00-00	Тор		60			n∖a
4		Conc. Pt. (lbs)	L	08-09-00	08-09-00	Тор	2250	1168			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	13225 ft-lbs	55212 ft-lbs	24.0%	1	08-03-06
End Shear	6458 lbs	21696 <b>I</b> bs	29.8%	1	09-08-10
Total Load Deflection	L/999 (0.123")	n\a	n\a	4	05-10-00
Live Load Deflection	L/999 (0.072")	n\a	n\a	5	05-11-06
Max Defl.	0.123"	n\a	n\a	4	05-10-00
Span / Depth	10.7				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 5-1/4"	3384 lbs	29.9%	15.1%	Spruce-Pine-Fir
R1	Wall/Plate	3-1/2" x 5-1/4"	8344 lbs	73.8%	37 2%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS - TOP LOADED





### B31 (Floor Beam)

Specifier:

Designer:

NL



March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

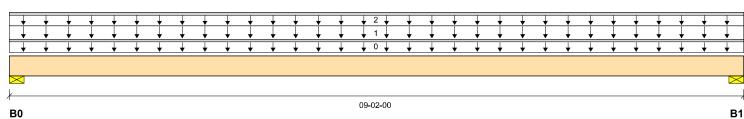
**Build 7555** 

45147 (5005) Job name:

File name: 318279 Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Alpa Roof Trusses CCMC 12472-R Company: Code reports:



#### Total Horizontal Product Length = 09-02-00

Reaction Summary (Down / Uplift) (Ibs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	642 / 0	623 / 0		
B1, 3-1/2"	642 / 0	623 / 0		

Loa	Load Summary					Live	Dead	Snow	Wind	Tributary	
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-02-00	Тор		6			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	09-02-00	Тор	40	20			03-06-00
2		Unf. Lin. (lb/ft)	L	00-00-00	09-02-00	Top		60			n∖a

		Factored	Demand/		
Controls Summary	<b>Factored Demand</b>	Resistance	Resistance	Case	Location
Pos. Moment	3602 ft-lbs	17696 ft-lbs	20.4%	1	04-07-00
End Shear	1255 <b>l</b> bs	7232 lbs	17.4%	1	01-03-06
Total Load Deflection	L/999 (0.073")	n\a	n\a	4	04-07-00
Live Load Deflection	L/999 (0.037")	n\a	n\a	5	04-07-00
Max Defl.	0.073"	n\a	n\a	4	04-07-00
Span / Depth	8.8				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Wall/Plate	3-1/2" x 1-3/4"	1742 lbs	46.2%	23.3%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1742 <b>I</b> bs	46.2%	23.3%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



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BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



**BC CALC® Member Report** 



### Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

B32 (Floor Beam) Dry | 1 span | No cant.

Specifier:

March 25, 2020 15:28:29

PASSED

**Build 7555** 

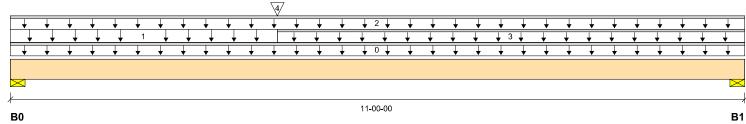
45147 (5005) Job name:

318279 File name: Pine Valley Address: Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park Designer: NL

CCMC 12472-R Company: Alpa Roof Trusses Code reports:



#### Total Horizontal Product Length = 11-00-00

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

Wind **Bearing** Live Dead Snow 1551 / 0 890 / 0 B0, 3-1/2" B1. 3-1/2" 697 / 0 471 / 0

Load Summary					Live	Dead	Snow	Wind	Tributary	
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-00-00	Top		6			00-00-00
1	Unf. Area (lb/ft²)	L	00-00-00	04-00-00	Top	40	15			07-00-00
2	Unf. Lin. (lb/ft)	L	00-00-00	11-00-00	Тор	27	14			n∖a
3	Unf. Lin. (lb/ft)	L	04-00-00	11-00-00	Top	27	14			n∖a
4	Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	642	623			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	8046 ft-lbs	17696 ft-lbs	45.5%	1	04-00-00
End Shear	2648 lbs	7232 lbs	36.6%	1	01-03-06
Total Load Deflection	L/622 (0.203")	n\a	38.6%	4	05-01-15
Live Load Deflection	L/999 (0.121")	n\a	n\a	5	05-01-15
Max Defl.	0.203"	n\a	20.3%	4	05-01-15
Span / Depth	10.7				

Bearing	g Supports	Dim. (LxW)	Demand	Resistance Support	Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	3438 lbs	91.2%	46.0%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1635 <b>l</b> bs	43.4%	21.9%	Spruce-Pine-Fir

### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



### **Disclosure**

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BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





### B33 (Floor Beam)

Specifier:



**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

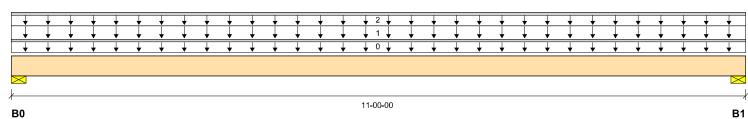
45147 (5005) Job name:

File name: 318279 Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park Designer: NL

Alpa Roof Trusses CCMC 12472-R Company: Code reports:



#### Total Horizontal Product Length = 11-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	660 / 0	611 / 0			
B1, 3-1/2"	660 / 0	611 / 0			

Lo	Load Summary				Live	Dead	Snow	Wind	Tributary		
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-00-00	Тор		6			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	11-00-00	Top	40	15			03-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	11-00-00	Тор		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	4428 ft-lbs	17696 ft-lbs	25.0%	1	05-06-00
End Shear	1345 <b>l</b> bs	7232 <b>I</b> bs	18.6%	1	01-03-06
Total Load Deflection	L/963 (0.131")	n\a	24.9%	4	05-06-00
Live Load Deflection	L/999 (0.068")	n\a	n\a	5	05-06-00
Max Defl.	0.131"	n\a	13.1%	4	05-06-00
Span / Depth	10 7				

Bearing	յ Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	1753 lbs	46.5%	23.5%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1753 <b>I</b> bs	46.5%	23.5%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



### **Disclosure**

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### B34 (Floor Beam)

Specifier:

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

45147 (5005) Job name:

318279 File name: Pine Valley Address: Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Designer: NL CCMC 12472-R Company: Alpa Roof Trusses Code reports:

06-04-00 B0 В1

#### Total Horizontal Product Length = 06-04-00

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

**Bearing** Live Dead Snow Wind B0, 3-1/2" 170 / 0 238 / 0 B1, 3-1/2" 742 / 0 645 / 0

Load Summary				Live	Dead	Snow	Wind	Tributary		
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-04-00	Тор		6			00-00-00
1	Unf. Lin. (lb/ft)	L	00-00-00	06-04-00	Тор	27	14			n∖a
2	Unf. Lin. (lb/ft)	L	00-00-00	05-06-00	Top	27	14			n∖a
3	Conc. Pt. (lbs)	1	05-06-00	05-06-00	Top	660	611			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1185 ft-lbs	17696 ft-lbs	6.7%	1	04-06-15
End Shear	1041 <b>l</b> bs	7232 lbs	14.4%	1	05-00-10
Total Load Deflection	L/999 (0.011")	n\a	n\a	4	03-04-13
Live Load Deflection	L/999 (0.006")	n\a	n\a	5	03-04-13
Max Defl.	0.011"	n\a	n\a	4	03-04-13
Span / Depth	5.9				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	569 lbs	15.1%	7.6%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1919 <b>I</b> bs	50.9%	25.7%	Spruce-Pine-Fir

#### Notes

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

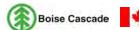
Importance Factor: Normal Part code: Part 4



#### **Disclosure**

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### B35 (Floor Beam)

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

Builder:

Code reports:

45147 (5005) Job name:

Pine Valley First Floor Framing Address: Description:

City, Province, Postal Code: Vaughan, ON

Gold Park

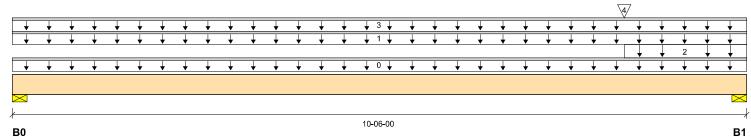
CCMC 12472-R

File name: 318279

Specifier:

Designer: NL

Company: Alpa Roof Trusses



Total Horizontal Product Length = 10-06-00

Reaction Summary (Down / Uplift) (lbs)

**Bearing** Wind Live Dead Snow B0, 3-1/2" 540 / 0 670 / 0

B1, 3-1/2" 2868 / 0 1864 / 0

Load Summary						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-06-00	Тор		14			00-00-00
1	Unf. Lin. (lb/ft)	L	00-00-00	10-06-00	Top	27	14			n∖a
2	Unf. Area (lb/ft²)	L	08-09-00	10-06-00	Тор	40	20			12-06-00
3	Unf. Lin. (lb/ft)	L	00-00-00	10-06-00	Top		60			n∖a
4	Conc. Pt. (lbs)	L	08-09-00	08-09-00	Тор	2250	1168			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	8264 ft-lbs	36222 ft-lbs	22.8%	1	08-09-00
End Shear	5318 lbs	17356 <b>I</b> bs	30.6%	1	09-05-00
Total Load Deflection	L/999 (0.122")	n\a	n\a	4	05-09-01
Live Load Deflection	L/999 (0.066")	n\a	n\a	5	05-10-08
Max Defl.	0.122"	n\a	n\a	4	05-09-01
Span / Depth	12.7				

Bearing Supports		Dim. (LxW)	Dim. (LxW) Demand		Demand/ Resistance Member	Material	
B0	Wall/Plate	3-1/2" x 5-1/4"	1648 lbs	14.6%	7.4%	Spruce-Pine-Fir	
B1	Wall/Plate	3-1/2" x 5-1/4"	6633 lbs	58.7%	29.6%	Spruce-Pine-Fir	



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C,

STAGGERED IN 2 ROWS - TOP LOADED





B36 (Floor Beam)

File name:

Specifier:

318279

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

B1, 3-1/2"

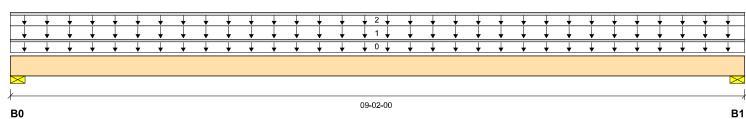
45147 (5005) Job name:

Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON

Builder: Gold Park Designer: NL

Alpa Roof Trusses CCMC 12472-R Company: Code reports:



#### Total Horizontal Product Length = 09-02-00

Reaction Summary (Down / Uplift) (lbs)

642 / 0

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	642 / 0	618 / 0		

618 / 0

Loa	Load Summary							Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-02-00	Тор		5			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	09-02-00	Тор	40	20			03-06-00
2		Unf. Lin. (lb/ft)	L	00-00-00	09-02-00	Top		60			n∖a

<b>Controls Summary</b>	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3588 ft-lbs	11610 ft-lbs	30.9%	1	04-07-00
End Shear	1325 lbs	5785 <b>l</b> bs	22.9%	1	01-01-00
Total Load Deflection	L/735 (0.142")	n\a	32.7%	4	04-07-00
Live Load Deflection	L/999 (0.072")	n\a	n\a	5	04-07-00
Max Defl.	0.142"	n\a	14.2%	4	04-07-00
Span / Depth	11.0				

Bearing	յ Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	1735 <b>I</b> bs	46.0%	23.2%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1735 <b>I</b> bs	46.0%	23.2%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



### **Disclosure**

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### B37 (Floor Beam)

Dry | 1 span | No cant.

File name:

Specifier:

318279

Wind

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Build 7555

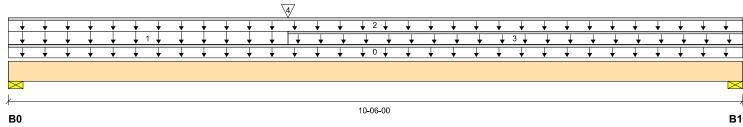
Job name:

Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Builder: Gold Park Designer: NL Code reports: CCMC 12472-R Company: Alpa Roof

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 10-06-00

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

Bearing	Live	Dead	Snow
B0, 3-1/2"	1517 / 0	861 / 0	
B1, 3-1/2"	704 / 0	471 / 0	

45147 (5005)

Load Summary						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-06-00	Тор		5			00-00-00
1	Unf. Area (Ib/ft²)	L	00-00-00	04-00-00	Top	40	15			07-00-00
2	Unf. Lin. (lb/ft)	L	00-00-00	10-06-00	Тор	27	14			n\a
3	Unf. Lin. (lb/ft)	L	04-00-00	10-06-00	Top	27	14			n∖a
4	Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	642	623			n∖a

		Factored	Demand/		
Controls Summary	<b>Factored Demand</b>	Resistance	Resistance	Case	Location
Pos. Moment	7733 ft-lbs	11610 ft-lbs	66.6%	1	04-00-00
End Shear	2685 lbs	5785 <b>I</b> bs	46.4%	1	01-01-00
Total Load Deflection	L/348 (0.346")	n\a	69.0%	4	04-10-03
Live Load Deflection	L/582 (0.207")	n\a	61.9%	5	04-10-03
Max Defl.	0.346"	n\a	34.6%	4	04-10-03
Span / Depth	12.7				

Bearing	g Supports	Dim. (LxW)	Demand	Resistance Support	Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	3352 lbs	89.0%	44.9%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1643 <b>I</b> bs	43.6%	22.0%	Spruce-Pine-Fir

### Notes

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



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### B38 (Floor Beam)

Dry | 1 span | No cant.

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Build 7555

Job name:

45147 (5005)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Code reports: CCMC 12472-R

Gold Park

File name: 318279

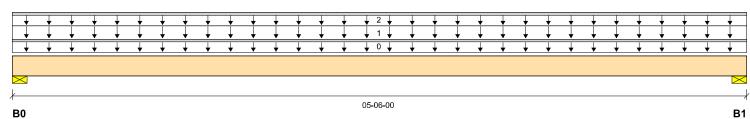
Description: First Floor Framing

Wind

Specifier:

Designer: NL

Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 05-06-00

Snow

Reaction Summary (Down / Uplift) (Ibs)

 Bearing
 Live
 Dead

 B0, 3-1/2"
 605 / 0
 481 / 0

 B1, 3-1/2"
 605 / 0
 481 / 0

Loa	oad Summary								Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-06-00	Тор		5			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	05-06-00	Top	40	20			05-06-00
2		Unf. Lin. (lb/ft)	L	00-00-00	05-06-00	Top		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1743 ft-lbs	11610 ft-lbs	15.0%	1	02-09-00
End Shear	914 <b>l</b> bs	5785 <b>I</b> bs	15.8%	1	01-01-00
Total Load Deflection	L/999 (0.023")	n\a	n\a	4	02-09-00
Live Load Deflection	L/999 (0.013")	n\a	n\a	5	02-09-00
Max Defl.	0.023"	n\a	n\a	4	02-09-00
Span / Depth	6.4				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	1508 lbs	40.0%	20.2%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1508 lbs	40.0%	20.2%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

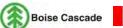
Importance Factor: Normal Part code: Part 4



#### **Disclosure**

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### B39 (Floor Beam)

Doa (Lioot Deam

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Build 7555

Job name: 45147 (5005)

Address: Pine Valley

City, Province, Postal Code: Vaughan, ON

Builder: Gold Park

Code reports: CCMC 12472-R

Dry | 1 span | No cant.

File name: 318279

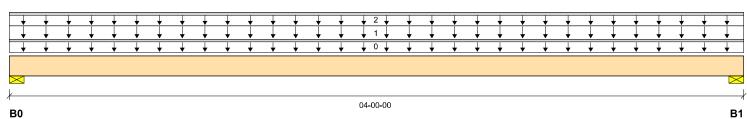
Description: First Floor Framing

Specifier:

Designer: NL

Company: Alpa Roof Trusses

Wind



#### Total Horizontal Product Length = 04-00-00

Snow

Reaction Summary (Down / Uplift) (lbs)

 Bearing
 Live
 Dead

 B0, 3-1/2"
 440 / 0
 350 / 0

 B1, 3-1/2"
 440 / 0
 350 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	04-00-00	Тор		5			00-00-00
1		Unf. Area (lb/ft²)	L	00-00-00	04-00-00	Тор	40	20			05-06-00
2		Unf. Lin. (lb/ft)	L	00-00-00	04-00-00	Top		60			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	860 ft-lbs	11610 ft-lbs	7.4%	1	02-00-00
End Shear	503 lbs	5785 <b>I</b> bs	8.7%	1	01-01-00
Total Load Deflection	L/999 (0.006")	n\a	n\a	4	02-00-00
Live Load Deflection	L/999 (0.003")	n\a	n\a	5	02-00-00
Max Defl.	0.006"	n\a	n\a	4	02-00-00
Span / Depth	4.5				

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
В0	Wall/Plate	3-1/2" x 1-3/4"	1097 <b>I</b> bs	29.1%	14.7%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1097 <b>I</b> bs	29.1%	14.7%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



### **Disclosure**

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### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

### B40 (Floor Beam)

Specifier:

Company:

Alpa Roof Trusses

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

Code reports:

45147 (5005) Job name:

File name: 318279 Pine Valley First Floor Framing Address: Description:

CCMC 12472-R

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park Designer: NL

09-00-00 B0 В1

#### Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (lbs)

**Bearing** Live Wind Dead Snow B0, 3-1/2" 660 / 0 654 / 0 B1, 3-1/2" 1885 / 0 3035 / 0

Load Summary						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		12			00-00-00
1	Unf. Area (Ib/ft²)	L	00-00-00	09-00-00	Top	40	20			03-08-00
2	Unf. Area (lb/ft²)	L	08-09-00	09-00-00	Тор	40	20			12-06-00
3	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		60			n∖a
4	Conc. Pt. (lbs)	L	08-09-00	08-09-00	Top	2250	1168			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	3664 ft-lbs	35392 ft-lbs	10.4%	1	04-06-00
End Shear	1293 lbs	14464 <b>I</b> bs	8.9%	1	01-03-06
Total Load Deflection	L/999 (0.036")	n\a	n\a	4	04-06-00
Live Load Deflection	L/999 (0.018")	n\a	n\a	5	04-06-00
Max Defl.	0.036"	n\a	n\a	4	04-06-00
Span / Depth	8.6				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	1808 <b>I</b> bs	24.0%	12.1%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	6909 lbs	91.7%	46.2%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS





### **B41 (Floor Beam)**

File name:

Specifier:

318279

Alpa Roof Trusses

NL



**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

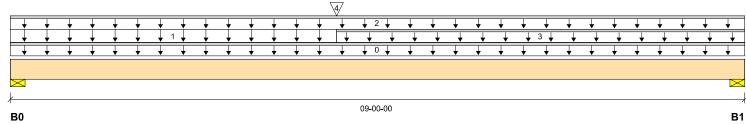
**Build 7555** 

Job name: 45147 (5005)

Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Builder: Gold Park Designer: Code reports: CCMC 12472-R Company:



#### Total Horizontal Product Length = 09-00-00

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

Reaction our	ililiai y (Dowii / Op				
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	1403 / 0	789 / 0			
B1, 3-1/2"	737 / 0	504 / 0			

<b>Load Summary</b>						Live	Dead	Snow	Wind	Tributary
Tag Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0 Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		6			00-00-00
1	Unf. Area (Ib/ft²)	L	00-00-00	04-00-00	Top	40	15			07-00-00
2	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Top	27	14			n\a
3	Unf. Lin. (lb/ft)	L	04-00-00	09-00-00	Top	27	14			n\a
4	Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	642	623			n\a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	6737 ft-lbs	17696 ft-lbs	38.1%	1	04-00-00
End Shear	2301 lbs	7232 lbs	31.8%	1	01-03-06
Total Load Deflection	L/999 (0.113")	n\a	n\a	4	04-04-03
Live Load Deflection	L/999 (0.068")	n\a	n\a	5	04-02-13
Max Defl.	0.113"	n\a	n\a	4	04-04-03
Span / Depth	8.6				

Bearing	Supports	Dim. (LxW)	Demand	Resistance Support	Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	3091 lbs	82.0%	41.4%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1735 <b>I</b> bs	46.0%	23.2%	Spruce-Pine-Fir

### Notes

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



### **Disclosure**

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,





### Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

### B42 (Floor Beam)

File name:

Specifier:

318279

NL

PASSED

**BC CALC® Member Report** 

Dry | 1 span | No cant.

March 25, 2020 15:28:29

**Build 7555** 

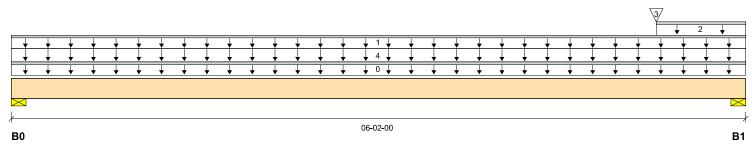
45147 (5005) Job name:

Pine Valley Description: First Floor Framing Address:

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Designer:

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



#### Total Horizontal Product Length = 06-02-00

Reaction Summary (Down / Uplift) (Ibs)

	<b>3</b> \	, , , ,			
Bearing	Live	Dead	Snow	Wind	
B0, 3-1/2"	631 / 0	558 / 0			
B1. 3-1/2"	1323 / 0	1089 / 0			

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-02-00	Тор		12			00-00-00
1		Unf. Lin. (lb/ft)	L	00-00-00	06-02-00	Top		60			n∖a
2		Unf. Lin. (Ib/ft)	L	05-05-00	06-02-00	Тор	27	14			n∖a
3		Conc. Pt. (lbs)	L	05-05-00	05-05-00	Тор	824	637			n∖a
4		Unf. Area (lb/ft²)	L	00-00-00	06-02-00	Top	40	20			04-06-00

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	2495 ft-lbs	35392 ft-lbs	7.1%	1	03-05-12
End Shear	1632 lbs	14464 <b>I</b> bs	11.3%	1	04-10-10
Total Load Deflection	L/999 (0.011")	n\a	n\a	4	03-02-06
Live Load Deflection	L/999 (0.006")	n\a	n\a	5	03-02-06
Max Defl.	0.011"	n\a	n\a	4	03-02-06
Span / Depth	5.8				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	1644 <b>I</b> bs	21.8%	11.0%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	3346 lbs	44.4%	22.4%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 12" O/C, STAGGERED IN 2 ROWS



**BC CALC® Member Report** 



### Double 1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP

# PASSED

### B43 (Floor Beam)

File name:

Specifier:

Designer:

318279

NL

Dry | 1 span | No cant.

March 25, 2020 15:28:29

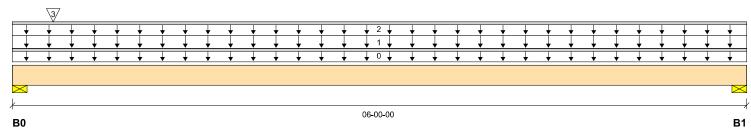
Build 7555

Job name: 45147 (5005)

Address: Pine Valley Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder: Gold Park

Code reports: CCMC 12472-R Company: Alpa Roof Trusses



Total Horizontal Product Length = 06-00-00

Reaction Summary (Down / Uplift) (lbs)

 Bearing
 Live
 Dead
 Snow
 Wind

 B0, 3-1/2"
 2790 / 0
 1647 / 0

 B1, 3-1/2"
 540 / 0
 479 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-00-00	Тор		10			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	06-00-00	Top	40	20			04-06-00
2		Unf. Lin. (lb/ft)	L	00-00-00	06-00-00	Тор		60			n\a
3		Conc. Pt. (lbs)	L	00-04-00	00-04-00	Top	2250	1168			n∖a

		Factored	Demand/		
Controls Summary	Factored Demand	Resistance	Resistance	Case	Location
Pos. Moment	1802 ft-lbs	23220 ft-lbs	7.8%	1	03-00-00
End Shear	900 lbs	11571 <b>I</b> bs	7.8%	1	01-01-00
Total Load Deflection	L/999 (0.014")	n\a	n\a	4	03-00-00
Live Load Deflection	L/999 (0.008")	n\a	n\a	5	03-00-00
Max Defl.	0.014"	n\a	n\a	4	03-00-00
Span / Depth	7.0				

Bearing	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0	Wall/Plate	3-1/2" x 3-1/2"	6244 <b>I</b> bs	82.8%	41.8%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 3-1/2"	1409 lbs	18.7%	9.4%	Spruce-Pine-Fir



#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4

NAIL ONE PLY TO ANOTHER WITH 3-1/2" SPIRAL NAILS @ 6" O/C,

STAGGERED IN 2 ROWS





### B44 (Floor Beam)

File name:

Specifier:

318279

PASSED

March 25, 2020 15:28:29

**BC CALC® Member Report** 

Dry | 1 span | No cant.

**Build 7555** 

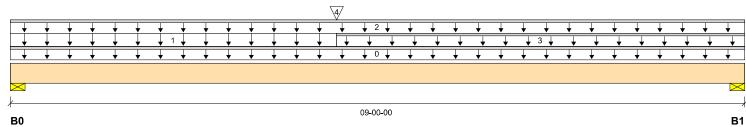
45147 (5005) Job name:

Pine Valley Address: Description: First Floor Framing

City, Province, Postal Code: Vaughan, ON Builder:

Gold Park Designer: NL

CCMC 12472-R Company: Alpa Roof Trusses Code reports:



#### Total Horizontal Product Length = 09-00-00

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

**Bearing** Live Dead Snow Wind 1403 / 0 784 / 0 B0, 3-1/2" B1, 3-1/2" 737 / 0 498 / 0

Lo	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Тор		5			00-00-00
1		Unf. Area (Ib/ft²)	L	00-00-00	04-00-00	Top	40	15			07-00-00
2		Unf. Lin. (lb/ft)	L	00-00-00	09-00-00	Top	27	14			n∖a
3		Unf. Lin. (lb/ft)	L	04-00-00	09-00-00	Top	27	14			n∖a
4		Conc. Pt. (lbs)	L	04-00-00	04-00-00	Top	642	623			n∖a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6724 ft-lbs	11610 ft-lbs	57.9%	1	04-00-00
End Shear	2418 lbs	5785 lbs	41.8%	1	01-01-00
Total Load Deflection	L/465 (0.22")	n\a	51.6%	4	04-02-15
Live Load Deflection	L/776 (0.132")	n\a	46.4%	5	04-02-15
Max Defl.	0.22"	n\a	22.0%	4	04-02-15
Span / Depth	10.8				

Bearing	g Supports	Dim. (LxW)	Demand	Resistance Support	Resistance Member	Material
B0	Wall/Plate	3-1/2" x 1-3/4"	3084 lbs	81.9%	41.3%	Spruce-Pine-Fir
B1	Wall/Plate	3-1/2" x 1-3/4"	1728 lbs	45.9%	23.1%	Spruce-Pine-Fir

#### **Notes**

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

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

Design meets User specified (1") Maximum Total load deflection criteria.

Calculations assume member is fully braced.

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

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 4



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BC CALC®, BC FRAMER®, AJS™ ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,



# Maximum Floor Spans - M2.1, L/360

#### Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf
Deflection limits: L/360 under live load and L/240 under total load

Sheathing: 5/8 in. nailed-glued oriented strand board (OSB) sheathing



#### **Maximum Floor Spans**

			В	are			1/2 in. gyr	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-3"	13'-10"	-	15'-7"	14'-9"	14'-3"	-
0.4/0"	NI-40x	16'-2"	15'-3"	14'-8"	-	16'-7"	15'-8"	15'-1"	_
9-1/2"	NI-60	16'-4"	15'-4"	14'-10"	-	16'-9"	15'-9"	15'-3"	_
	NI-80	17'-3"	16'-3"	15'-8"	-	17'-8"	16'-7"	16'-0"	_
	NI-20	17'-0"	16'-0"	15'-6"	-	17'-6"	16'-7"	16'-0"	_
	NI-40x	18'-2"	17'-1"	16'-6"	-	18'-9"	17'-6"	16'-11"	_
11-7/8"	NI-60	18'-5"	17'-3"	16'-8"	-	19'-0"	17'-8"	17'-1"	_
	NI-80	19'-9"	18'-3"	17'-7"	-	20'-4"	18'-10"	18'-0"	-
	NI-90	20'-2"	18'-8"	17'-10"	-	20'-9"	19'-2"	18'-4"	_
	NI-40x	20'-1"	18'-8"	17'-10"	-	20'-10"	19'-4"	18'-6"	-
14"	NI-60	20'-6"	18'-11"	18'-2"	-	21'-2"	19'-8"	18'-9"	_
14	NI-80	21'-11"	20'-3"	19'-4"	-	22'-7"	20'-11"	20'-0"	-
	NI-90	22'-5"	20'-8"	19'-9"	-	23'-0"	21'-4"	20'-4"	_
	NI-60	22'-4"	20'-8"	19'-9"	-	23'-1"	21'-5"	20'-6"	_
16"	NI-80	23'-11"	22'-1"	21'-1"	-	24'-8"	22'-10"	21'-9"	_
	NI-90	24'-5"	22'-6"	21'-6"	=	25'-1"	23'-2"	22'-2"	_

	Joist series	Mi	d-span blocking	g with 1x4 inch s	trap	Mid-span blocking and 1/2 in. gypsum ceiling						
Joist depth			On cent	re spacing		On centre spacing						
		12"	16"	19.2"	24"	12"	16"	19.2"	24"			
	NI-20	16'-11"	15'-5"	14'-6"	-	17'-1"	15'-5"	14'-6"	-			
0.4/0"	NI-40x	17'-11"	17'-0"	16'-5"	-	18'-5"	17'-4"	16'-7"	-			
9-1/2"	NI-60	18'-2"	17'-1"	16'-6"	-	18'-8"	17'-6"	16'-10"	-			
	NI-80	19'-5"	18'-0"	17'-5"	-	19'-10"	18'-5"	17'-8"	-			
	NI-20	19'-7"	18'-2"	17'-6"	-	20'-3"	18'-8"	17'-6"	-			
	NI-40x	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-0"	-			
11-7/8"	NI-60	21'-4"	19'-9"	18'-11"	-	21'-11"	20'-5"	19'-6"	-			
	NI-80	22'-9"	21'-1"	20'-2"	-	23'-3"	21'-8"	20'-8"	-			
	NI-90	23'-3"	21'-6"	20'-6"	-	23'-9"	22'-0"	21'-0"	-			
	NI-40x	23'-8"	21'-11"	20'-11"	-	24'-4"	22'-8"	20'-11"	-			
14"	NI-60	24'-0"	22'-3"	21'-3"	-	24'-8"	22'-11"	21'-11"	-			
14	NI-80	25'-7"	23'-9"	22'-7"	-	26'-2"	24'-4"	23'-3"	-			
	NI-90	26'-1"	24'-2"	23'-0"	-	26'-8"	24'-9"	23'-7"	-			
	NI-60	26'-5"	24'-6"	23'-5"	-	27'-2"	25'-3"	24'-2"	-			
16"	NI-80	28'-2"	26'-1"	24'-10"	-	28'-10"	26'-9"	25'-6"	-			
	NI-90	28'-8"	26'-6"	25'-3"	_	29'-3"	27'-2"	25'-11"	_			

#### Notes

- 1. The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



# Maximum Floor Spans - M4.1, L/360

#### Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf
Deflection limits: L/360 under live load and L/240 under total load

Sheathing: 3/4 in. nailed-glued oriented strand board (OSB) sheathing



#### **Maximum Floor Spans**

			В	are			1/2 in. gyr	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
9-1/2"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11'
9-1/2	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
11-7/8"	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
14"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10'
14	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
16"	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

		Mi	d-span blocking	with 1x4 inch	strap	Mid-s	pan blocking an	d 1/2 in. gypsui	m ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	17'-1"	15'-5"	14'-6"	13'-5"	17'-1"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	18'-8"	17'-6"	16'-7"	14'-11"	19'-2"	17'-8"	16'-7"	14'-11"
9-1/2"	NI-60	18'-11"	17'-8"	16'-10"	15'-7"	19'-5"	18'-0"	16'-10"	15'-7"
	NI-80	20'-3"	18'-10"	17'-11"	17'-2"	20'-8"	19'-3"	18'-4"	17'-5"
	NI-20	20'-3"	18'-8"	17'-6"	16'-1"	20'-7"	18'-8"	17'-6"	16'-1"
	NI-40x	21'-10"	20'-4"	19'-0"	17'-0"	22'-5"	20'-10"	19'-0"	17'-0"
11-7/8"	NI-60	22'-1"	20'-7"	19'-8"	18'-7"	22'-8"	21'-2"	20'-3"	18'-8"
	NI-80	23'-8"	22'-0"	20'-11"	19'-10"	24'-1"	22'-6"	21'-6"	20'-4"
	NI-90	24'-1"	22'-5"	21'-4"	20'-2"	24'-7"	22'-11"	21'-10"	20'-8"
	NI-40x	24'-5"	22'-9"	20'-11"	18'-8"	25'-1"	22'-11"	20'-11"	18'-8"
14"	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-10"	22'-9"	21'-4"
14"	NI-80	26'-6"	24'-8"	23'-6"	22'-2"	27'-1"	25'-3"	24'-1"	22'-9"
	NI-90	27'-0"	25'-1"	23'-11"	22'-7"	27'-6"	25'-8"	24'-6"	23'-2"
	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	25'-0"	23'-1"
16"	NI-80	29'-1"	27'-1"	25'-9"	24'-4"	29'-8"	27'-9"	26'-5"	25'-0"
	NI-90	29'-7"	27'-6"	26'-2"	24'-9"	30'-2"	28'-2"	26'-10"	25'-5"

#### Notes

- 1. The tabulated clear spans are based on CSA O86-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

The construction details for residential designs are prone to changes.

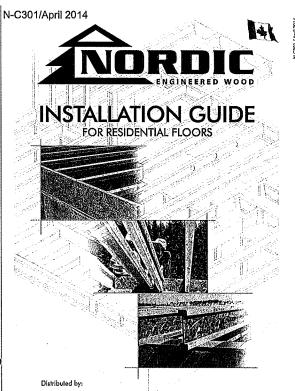
Details released after April 2014 supersedes N-C301

Installation must comply with latest documentation on I-Joist and other Nordic products from the http://nordic.ca/

This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.

(Nordic Request 1810-095)





### SAFETY AND CONSTRUCTION PRECAUTIONS



i-joists are not stable until completely installed, and will not carry any load until fully braced and sheafted.

Avoid Accidents by Following these Important Guidelines:

- Wolfd Actionins by rendering internation recommendation.

  Is Broce and not such Lipids at all installed, wing bangers, blocking panels, rim board, and/or cross-bridging at jobs ends. When Lipids are applied continuous over Interior supports and a look-bearing well is planned at that location, blocking will be required at the Interior support.
- When the building is completed, the floor steathing will provide lateral support for the top flonges of the Holes. Until this sheathing is applied, temporary bracing, after called struts, or temporary sheathing must be applied to prevent Holes or buckling.
- The Previous Previous of the December 2 of the Previous P
- Or, sheathing (temporary or permanent) can be notifed to the top flonge of the first 4 feet of 1-joints at the end of the bay.
- 3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
- 4. Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only.

5. Never Install a damaged Ligist.

improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Norde I-plais, failure to follow alkwable hole state and locations, or failure to use wob sifteners when required can resulf in endrous cocidents. Follow these installation guidalines correctly.



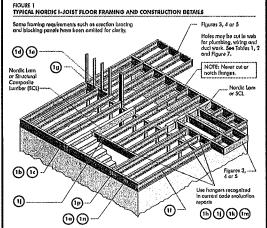
Do not handle l-joists in a horizontal orientation 9. NEVER USE OR YRY TO REPAIR A DAMAGED I-JOIST.



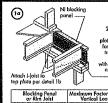
- Before laying out floor system components, verify that I -joist flonge widths treatch hunger widths. If not, contact your supplier.
- 2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.

INSTALLING NORDIC I-JOISTS

- 3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment
- 4. I-joint must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span joints must be level.
- 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings.
- 6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement. 7. Louve a 1/16-inch gap between the I-joist end and a header.
- 8. Concentrated loads greater than those first can normally be expected in residential construction should only be applied to the top surface of first loap filange. Normal concentrated loads include track lighting fatures, auction experiment and security conterers. Never supposed vanuation of never loads from the 1-joil's colonial filange. Whenever possible, suspend off concentrated loads from the top of the 1-joils. Or, attach file load to blocking that has been securely fastened to the 1-joils walls.
- Never install Lights where they will be permonerally exposed to weather, or where they will remain to direct contact with controls or material.
- 10. Restrain ands at floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
- 11. For I-joints installed over and beneath bearing walls, use full depth blocking panels, rim board, or equals blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
- 12. Due to shrinkoge, common framing lumber set on edge may nover be used as blocking or sim boords. I-joist blocking panels or other engineered wood products such as rim board must be cut to fit between the I-joists, and on I-joist-compositible depth selected.
- 13. Provide permanent leteral support of the bottom flange of all I-joints at interior supports of multiple-span joints. Strailorly, support like bottom flange of all conflevered I-joints of the end support need to the cantillover extension. In the campisted structure, the gypsum waitboard calling provides this lateral support. Until the final finished ceiling is applied, temporary bracking or strots must be used.
- 14. If square-edge ponels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to blacking to minimize squeeks. Blocking is not required under structural flaits flooring, such as wood strip flooring, or if a separate underlayment layer is fusted.
- 15. Nail spacing: Space noils installed to the flange's top face in accordance with the applicable building code requires approved building plans.



All nails shown in the obove datalls are assumed to be common wire nails unless otherwise noted. 3' (0.122' dis.) common spital nails may be substituted for 2-1/2' (0.120' dis.) common wine nails. Framing humber assumed to be Spruce Pine-I fivo. 2 or better, individual components tool shown to scole for clarity.



Moximum Foctored Uniform Vertical Lood\* (pli) 3,300

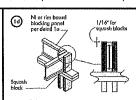
\*The uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard sum load duration is shall not be used in the design of a bending member, such as joist, header, or rather. For concentrated vertical load transfer, see detail 1d.



To avoid splitting flange, stort noils at least 1-1/2' from and of Ljoist. Nails any be driven at an angle to d splitting of bearing plate. Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings when applicable. Maximum Factored Uniform Vortical Load\* (plf)

1-1/8" Rim Bourd Plus 8,090 "The uniform vertical load is firmited to a firm board depth of 16 inche or loss and is based on standard term load duration. It shall not bused in the design of a bending member, such as joist, header, or ratios. For concentrated vertical load knoster, see detail 1d.

- Attach rim board to top plate using 2-1/2\* wire or spiral toe-nails at 6" o.c 10 NI rim joist -per detail 1o



Maximum Factored Vertical per Pair of Saugsh Blocks (lbs) 2x tumber 1-1/8\* Rim Board Plus 5,500 B,500 4,300 6,600

The construction details for residential designs are prone to changes.

Details released after April 2014 supersedes N-C301

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(Nordic Request 1810-095)



#### N-C301/April 2014

### MAXIMUM FLOOR SPANS

- . Maximum cleur spans applicable to single-span or multiple-span residential floor construction with a design live load of 40 pdf and dead load of 15 pdf. The ultimate limit states are based on the backered loads of 1.50.1 + 1.250. The serviceshilty limit states include the condistration for floor vibration and at live load deflection limit of 1/480. For multiple-span applications, the end spans shall be 40% or mare of the adjacent span.
- or more at the adoption span.

  2. Spann are beared on a composite floor with glued-neited released on a composite floor with glued-neited stand beared (158th sheething with a minimum shitchess of 50 fem (and to place spanning of 19 2 inches or less, or 3/4 facth for fairt spacing of 24 inches. Adheste shill less the requirements from 1 CQBS-11,20. Standard, No concrete happing or bridging element was assumed, Increading spanning the achieved with the used of gypsum and/or a row of blocking at mid-span.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
- Bearing stiffeners are not required when 1-joists are used with the spans and spacings given in this table, except as required for hungers.
- This span churt is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.
- Tables are based on Limit States Deskin pur CAN/CSA O86-09 Standard, and NBC 2010.
- 7, \$1 units conversion: 1 inch = 25.4 mm 1 fact = 0.305 m

### MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS SIMPLE AND MULTIPLE SPANS

			Simple	spons	والمناب		Multiple	spans	100		
Joist Depth	Joist Series	St. 11. 12	On centre	spacing		On contro spacing					
		12"	16"	19.2	24"	12"	16*	19.2	24"		
Sec. 31. 25	Nt-20	15-1"	14'-2"	13'-9"	13'-5"	16'-3"	15-4'	14'-10"	14'-7'		
1000	NI-40x	16-1"	15.2	14-8	14-9	17-5	16-5	15'-10"	15'-5'		
9-1/2"	NI-60	16.3	15'-4"	14'-10"	14'-11'	17-7	16.7	16'-0"	16'-6"		
100	N1.70	17'-1"	16'-1"	15'-6"	15-7	18-7	17:4"	16'-9"	17-2"		
200	NI-80	17'-3"	16-3	15'-8"	15-9	18-10	1716	18-11	17.5		
ON THE SAME	NI-20	16-11	16'-0"	15'-5"	15-6"	18'-4"	17'-3"	16'-8'	16'-7"		
	NI-40x	18-1*	17'-0"	16'-5"	16'-6"	20-0	18.6	17'-9"	17-7		
1.00	NI-60	18'-4"	17:3	16'-7"	16-9	20'-3"	18.9	18'0'	18'-9'		
11-7/8	NI-70	19-6	18'-0"	17'-4"	17'-5"	21'-6"	19-11	19.0	19'-8'		
	NI-80	19'-9"	18'-3"	17-6*	17'-7"	21'-9"	20-2	19-3*	19-11		
<b>医阴茎形态</b>	NI-90	20'-2"	18-7"	17-10"	12-11*	22'-3'	20.7	19-8	19-9		
1000	NI-90x	20'-4"	18.9	17-11-	18'-0"	22.5	20.9	19-10	20-5		
1.00	NI-40x	20'-1"	18-7	7'-10"	17-11	22.2	20.6	19-8	19-4		
	NI-60	20'-5"	18-11	18'-1"	18-2	22-7*	20-11-	20.0	20 10		
100	NI-70	21'-7"	20.0	19-1	19-2	23-10*	22 1	21-1	21'-10'		
14	NI-80	21'-11"	20'3	19-4	19-5	24'-3"	22.5	21'-5"	22-2		
数据格	NI-90	22-5	20.8	19-9	19-9	24.9	22'-10"	21'-10"	21-10		
15000	NI-90x	22-7	20-11*	19-11-	20-0	25.0	23-1	22-0	22.9		
72.5 ME	NI-60	22-3	20.8	19-9	19-10"	24'-7"	22.9	21'-9"	22.9		
	NI-70	23.6	21'-9"	20.9	20-10	26'-0"	24'-0"	22-11	23.9		
10	NII ON	23' 11'	22: 14	21: 1:	211.21	04' 6'	20.5	22.21	2# 10		

| Ni-90 | 24-5; | 22-6; | 21-5; | 21-10; | 27-3; | 24-10; | 23-9; | 24-10; | 24-10; | 23-9; | 21-10; | 27-3; | 25-2; | 24-0; | 27-3; | 25-2; | 24-0; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; | 27-3; |

CCMC EVALUATION REPORT 13032-R

# **1-JOIST HANGERS**

- 2. All nailing must meet the hanger manufacturer's recommendations.
- 3. Hangers should be selected based on the joist depth, flange width and load capacity based on the maximum spans.
- Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the I-joist.



### WEB STIFFENERS

#### RECOMMENDATIONS:

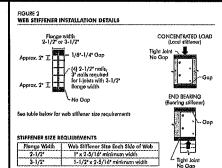
■ A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the Hotel properties table found of the Hotel Construction Guide (C101). The gap between the stiffener and the flange is at the top.

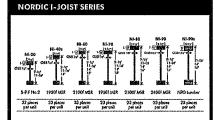
A bearing stiffonar is required when the I-joint is supported in a hunger and the sties of the hunger do not extend up to, and support, the top flongs. The gap between the stiffener and flange is at the top.

sattener and flange is at the isp.

• A load stiffener is required at locations where a foctored concentrated load grower from 2,700 lbs is applied to the top flange between supports, or in the case of confillence confilence, anythere between the confilence confilence and the confilence confilence and the confilence confilence confilence confilence confilence confider to the confideration and flange is at the stiffener and the filence confideration confiderati

Si units conversion: 1 inch = 25.4 mm





Charillers Chibougamau Ltd. harvests its own trees, which enables Nardic products to adhere to strict quality central procedures throughout the manufacturing process. Every phase of the operation, from forest to the finished product, reflects our commissions to quality.

Nardic Engineered Wood I-joists use only linger-jointed black spruce lumber in their floriges, ensuring consistent quality, superior strength, and longer spon carrying capacity.

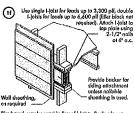
(Ih) Backer block (use if honger load exceeds 360 lbs)
Before installing a backer block to a double i-joist, drive three
additional 37 mails through the webs und little block where the
backer block will lift. Clinch. Install backer tight to top lange.
Use webs 2 molts, clinched when possible. Maurisum factored
resistance for honger for list detail = 1,420 lbs.



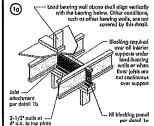
transfer total from above to bearing below. Install equal blacks per detail 1d. Match bearing area of blacks below to past above.

1

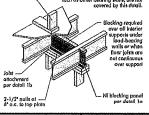
Nordic Lam or SCL



Rim board may be used in fleu of 1-falsts, Backer is not required when rim board is used. Bracing per code shall be carried to the backeting.



Tight Joint No Gap

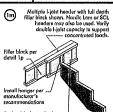


⑯

l-foist per detail 1b

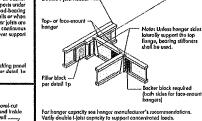


Note: Unless hanger sides laterally support the top flange, bearing stilleners shall be used.



Backer black attached per ...) detall 1h. Nail with tyelve 3° nails, clinch when possible.

Maximum support capacity = 1,620 lbs



BACKER BLOCKS (Blocks must be long enough to permit required nothing without splitting)

Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2*	1*	5-1/2*
3-1/2*	1-1/2*	7-1/4"
	L	h

Minimum grade for backer black material shall be S-P-F No. 2 or better for solid sween furnher and wood structural panels conforming to CAN/CSA-023 for CAN/CSA-0.043 Standard.

\* For face-mount hungers use not joist depth minus 3-1/4\* for joist with 1-1/2\* thick flonges. For 2\* thick flonges use neil depth minus 4-1/4\*.



-1/8" to 1/4" gap between top flonge and filler block

For nailing schedules for multiple begans, see the manufacturer's

Note: Unless hanger sides knorally support the top liange, bearing stiffeners shall be used.

(lk)

- Support back of I-joist web during nailing to prevent damage to web/flange connection.
- Leave a 1/8 to 1/4-inch gap between top of filter block and bottom of top 1-loist
- flange.

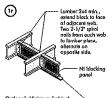
  Filler block is required between joists for full length of span.

  Noil joists together with two rows of 3° notises 112 lenches o.c. (clinched when possible) on each side of the dauble I-joist. Total of four noils per foot required. If noils can be clinched, only two noils per foot ore reautred.
- Total of four noils par fool required. If noils can be clinched, only two noils per foot one required.

  The maximum factored load that may be applied to one side of the double joist using this detail is 860 lbi/fit. Verify double i-joist capacity.

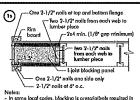






Note: Blacking required at bearing for lateral support, not shown for clarity.

Optional: Minimum 1x4 inch stop applied to underside of joist at blocking line or 1/2 inch minimum gypsum celling attached to underside of joists.



Notes:

In some local codes, blocking is prescriptively required in the first joint space for first and second joint space) next to the status fait. Where required, see local code requirement for spacing of the blocking.

All rails are common spiral in this detail.

The construction details for residential designs are prone to changes.

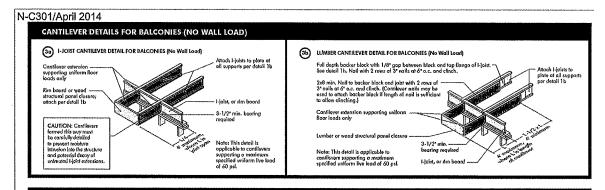
Details released after April 2014 supersedes N-C301

Installation must comply with latest documentation on I-Joist and other Nordic products from the http://nordic.ca/

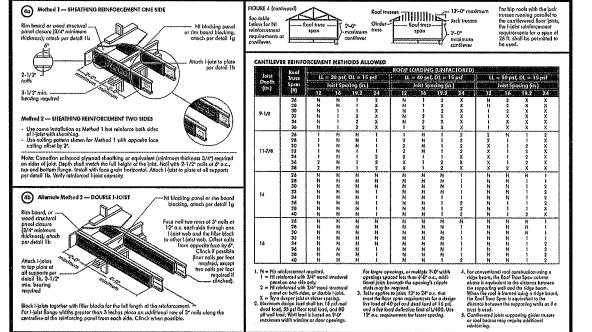
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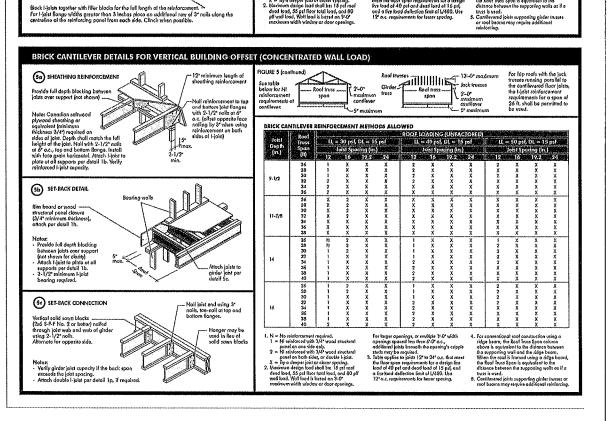
(Nordic Request 1810-095)





CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)





The construction details for residential designs are prone to changes.

Details released after April 2014 supersedes N-C301

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(Nordic Request 1810-095)



#### N-C301/April 2014

#### **WEB HOLES**

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the controlline of any hale or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.

  I-joist top and bottom flanges must NEYER be out, notched, or atherwise modified.
- 3. Whenever possible, field-cut hales should be centred on the middle of the web.
- The maximum possible size held or the maximum depth of a duct chase penhing that can be cut into an Lipits was shall acqual the clear distance between the flanges of the Lipits minus 1/4 inch. A reinimum of 1/8 inch should always be maintained between the top or bottom of the bids or opening and the adjacent I-bids flange.
- The sides of equare hales or longest sides of rectangular hales should not exceed 3/4 of the diameter of the maximum round hale permitted at that (acotion.
- 3/4 of the diameter of the maximum round hole permitted of that facolion.

  4. Where more after one one hole is necessary, the distance a betteen edigicant hole edges shall exceed whice the diameter of the largest cound hole or twice the state of the largest acquer hole for rivice of the largest rectangular hole or duct disea opposing shall be sted and facetoted in compliance with the requirements of Tables 1 and 2, respectively.

  A kineckout is not considered a hole, may be utilized anywher it occurs, and may be ignored for purposes of colculating minimum distances between holes and/or duct charse opposing with a case of the country of the largest country of the country of

- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it
  meets the requirements of rule number 6 above.
- 10. All holes and duct chase aponings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- 11. Umit three maximum size holes per span, of which one may be a duct chase
- A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round halo circumscribed around them.

TABLE 1 LOCATION OF CIRCULAR HOLES IN JOIST WEBS Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist Deptis	Joist Series	-				A STATE OF THE PARTY OF THE PAR	Roi	and he	e dian	neler	113			******			adjustm
7 (P)	Sente	2	W: W		5 1	W. 10	(3)//	7		8-5/8	,	10	10-3/4		12.	2.474	Factor
TATA 2013 (	111-20	0.7	10,	2-10	7.5	3:8:	80					***					13.6
12.32	111-40±	0.7	1.9.	3-0-	4.4	6.0	6: <del>-1</del> *			***	***		***	***			119
9-1/2	NI-50	1:3*	2.6.	4:0	6-4	7.0	7-5	***	***	***	***		***	***	***		141
	NI-70	2.0	3-1.	1.9	6.3.	8.0	8-4*		***	***	***	***	***	***	***	***	15.7
1.0	NLO	2:3*	3.4.	5.0	4:-6"	8.2	5.5			***	***		222	***		. 122	15.9
40 SVE	NI 20	0.7	0.8.	1.0.	2-4	3.8	4.0	540	6.4.	7.9		***	***	***	***	***	15.6
0.041.11	NI-40t	0.7	0.8.	1.3.	2-8	4.0	4.4	5.5	7.0	8-4			***	***	***	***	16.6
100	18-60	0.7	1:8:	3.0	4.3	8.9	80	7-3*	6-10	10:0		***	***	***	~-	***	16.9
11-7/8	18.70	1'3"	2.6	4.0	5'-4"	64	7.2	8-4	10.0	11:2	***	***	***	**	***	***	17.5
15 11 3	111.80	1'-6"	2.10	4.2	6:-6"	7.0	7.5	8-5"	10.3	11:4	***		***		***	4**	17-7
100	NE-90	0.7*	0.8	1:6	3:2"	4.10	84*	6.9	8.9	10-2	***	***		***	***	***	17.1
4 2 2 16	14.9Q	0.7	0.8	0.5	2:5	4.4.	4.9	4:3*					***		***		18-0
	NF-40a	0.7	0.8	0.8	1.0	24	24	3.9	5.2	8:0	4.3.	5.3	10.2	***		***	12.1
4	111-60	0.7	0.5	1:8	3.0	4:3"	4.3	5-8	7-2	6:-0"	9.8	10-4	11.9		• • •		18-2
	14.70	0.6	1:10	3:0	4.6*	6-10	6:2"	7.3	8.9	9.9	10.4	12-0	13-5*	***		***	19-2
3 100 10	16.60	0.10	20	3'-4'	1.9	6.2	6-5	7.6	9.0	10.0	10-8	12-4	13.9	***	***		19-5
37 35	14.90	0.7	0:8	0-10	2.5	40	4-5	8.9	7.5	8.5	9-4	11:4"	12:11		***	***	19.9
-3.5-5-5K	NI-904	0.7	0.8	0-3	20	3.9	4.7	5.5	7:3	8'.5'	2.2			_:::			20.0
50/08/3	03-81	0.7	0-8	0.8	1.2.	2.10	3.2	4.2	3:-2*	64	7.6	63	7.5	10-2	12.2	13:5	19.1
450	18-70	0.7	1:0	2-3	3.4	4-10	5.3	6131	7-5	8.6	2.2	10.8	12:0	12.4	1410	16.4	20-1
16"	18-80	0.7	1:3	2-6"	3-10	23	5-6-	6.6.	8-0	9.0	9.5	11:0	1243*	12.7	14.5	10.0	2112
25 / 2	111-90	0.7	0.8	0.5	1.9	3.3.	3-5	4.9	6.6.	7.5	8.0	9-10	11:3	11.9	13.9	16-4	21.4
200125-4	NI-90	0.7	0.5	92	.20_	3.4	40	5:07	8.4	7:9*	84	10:2	1142	12:0	***	***	2111

Above table may be used for I-joist sporing of 24 inches on centre or less. Hole location distance is measured from inside lace of supports to centre of hole. Distances in this chart are based on uniformly loaded joists.

The above table is based on the 1-joils used of their maximum span. If the 1-joils are placed at less than sters full maximum span (see Maximum Floor Spans), the minimum distance from the centraline of the hole to the face of any support (D) as given above may be reduced as follows:

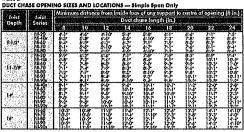
Dreduced in Satural is D Where: Dreduced in Distance from the smile loce of any appart to sente of hole, reduced for less time-maximum span applications (ii). The reduced distance that not be less than in which then the lock of the support to edge of the hole. The hole is the standard pan distance before the mine less care of support (ii). Span Adjusted Facility are in this babb. The maximum distance from the mine has done support to centre of their facility areas in the standard less care in the st

FIGURE 7
FIELD-CUT HOLE LOCATOR

A knockout is NOT considered a hole, may be utilized wherever it occurs and may be ignored for purposes of calculating minimum distances between holes.



For reatingular holes, avoid over-cutting the comers, as this can couse unnessess stress concentrations. Slighth rounding the comers is recommended. Starting the comers is recommended. Starting the reatingular hole by diffilling a 1-Inch diamater hole in each of the four correr and them notificing the case between the holes is another good reathed to minimize damage to the 1-jois.



com hibb may be used for hight spocing of 24 inches on centre of law.

The characterising location destores in measured from hidde loca of sepocits to centre of opening, as done which is broad on simple-upon points only. For other applications, control your local distributor, allower are located your local distributor, allower are located in undermy located local youth his memors for good recovered located on selecting located local youth histories of the grant experiences located on selecting located of A40 pel and and also all 18 per locat a leve located distributor.

#### INSTALLING THE GLUED FLOOR SYSTEM

- 1. Wips any mud, dirt, water, or ice from I-joint flanges before gluing.
- Snap a chalk line across the i-joist four feet in from the wall for panel edge alignment and as a boundary for spreading glise.
- 3. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
- 4. Lay the first panel with tangue side to the wall, and not in place. This protects the tangue of the next panel from damage when tapped into place with a block and sledgehammer.
- Apply a continuous line of glue (about 1/A-inch diarneter) to the top flange of a single I-joist. Apply
  glue in a winding pattern on wide areas, such as with double I-joists.
- 6. Apply twa lines of glue on I-joists where panel ends but to assure proper gluing of each end.
- 7. After the first raw of panels is in piece, spread give in the groover of one or two panels or a time before keying the next raw. Give line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 lach) than used an I-joist flanges.
- 6. Tap the second row of panels into place, using a block to protect grace edges.
- Stagger and joints in each succeeding row at panels. A 1/8-inch space between all and joints and 1/8 inch at all edges, including 16/9 edges, in recommended. (Use a spacer tool or on 2-1/2 comm noil to surve accesses and constitute specing.)
- neil to assure accurate and consistent spacing.)

  10. Complete all neiling of each panel before glue sets. Check the manufacturer's commendations for awe line. (Warm weather accelerates glove setting.) Use 2' ring- or setem-shank rolls for panels 3/4-inch thick or loss, and 2-1/2' ring- or setem-shank rolls for thickey ponols. Space notile per the table below. (Costs and legacing may be required by some codes, or for disphagem construction. The flinkind deck can be walked on right away and will carry construction loads without damage to the glue band.

#### FASTENERS FOR SHEATHING AND SUBFLOORING(1)

Muximum	Minimum	N. Carlotte	uil Size and Ty	Maximun	Maximum Spacing			
Joist Spaking (in)	Panel Thickness	Common Wire or Soiral Nails	King Thread Nails	Skaples	of Fas Edges	Interm.		
16	5/8	2'	1-3/4*	2'	6'	12'		
20	5/8	2'	1-3/4*	2'	6*	12'		
24	3/4	2'	1-3/4"	2"	6'	12"		

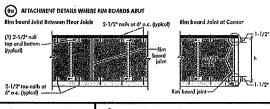
- 1. Fasteners of sheathing and subfloating shall conform to the above table.
- Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/B-inch crown driven with the crown psrallel to familing.
- 3. Flooring scrows shall not be lass than 1/8-inch in diameter
- Special conditions may impose heavy traffic and concentrated lauds that require construction in excess
  of the minimums shown.
- Use only adherives conforming to CAN/COSE-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Froming for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with sauled syrfaces and edges are to be used, use only salvent-based glues; check with panel manufactures.

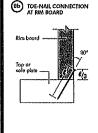
Rel.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

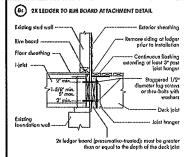
IMPORTANT NOTE:

unromann NOIE:
Floor shoothing must be field glued to the I-joist flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joist spans must be verified with your local distributor.

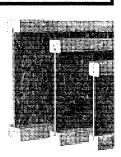
#### RIM BOARD INSTALLATION DETAILS





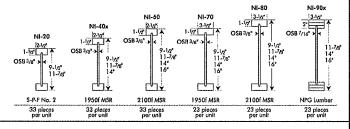






# **CONSTRUCTION DETAILS** FOR RESIDENTIAL FLOORS

www.nordicewp.com



Refer to the Installation Guide for Residential Floors for additional information. CCMC EVALUATION REPORT 13032-R

#### WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the contreline of any halo or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- Table 1 or 2, respectively.

  2. Lighal top and bottom fingings must NEVER be cut, notiched, or otherwise modified.

  3. Whanever possible, field-cut holes should be centred on the middle of the web.

  4. The mandinum size hole or the modimum depth of a duck chose opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 14 hat, A minimum of I (8) finch should deveys be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.
- 5. The sides of square holes or langest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at their laccollan.
  6. Where more than one hole is necessary, the distance between adjacent hole edges shall acceed hive a the diameter of the largest round hole or threa the size of the largest square hale for twice the file neight of the langest side of the langest rectangular hole or duct chose opening); and each hole and duct chose opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
  7. A knackout is not considered a hole, may be vilized anywhere it accurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chose openings.
  8. Holes measuring 1-1/2 Inches or smaller are permitted anywhere in a cantillevered section of a joist. Hales of greater size may be permitted subject to verification.

N-C303 / September 2013

- 9. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets the requirements of rule number 6 above.
  10. All holes and duct chose openings shall be cut in a owdernable state manner in accordance with the restrictions listed above and as illustrated in Figure 7.

  11. Limit three maximum size holes per span, of which one may be a duct chose opening.
  12. A group of round holes of approximately the same location shall be permitted if they meet the requirements for a single round hole alreumscribed around them.

#### LOCATION OF CIRCULAR HOLES IN JOIST WEBS

Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

Joist	4.4.1		M	inimun	n Distar	ice fro	m Insid	e Face	of Any	Support	to Cer	nire of	Hole (ft	- in.)		
Donth	Joist Series						Rou	nd Hol	o Dlam	eter (in.	)					
- Opini	201123	2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4
	NI-20	0'-7*	1'-6"	2'-10'	4'-3'	5'-8'	6'-0"		*	***			***		***	***
9-1/21	NI-40x	0'-7"	1'-6"	3.0.	4'-4"	6'-0'	6'-4"	***	***	***			***	***	***	***
7-1,2	NI-60	1'-3'	2'-6"	4'-0"	5'-4"	7'-0'	7'-5"	***	***	***	***	***	***	***		***
	NI-70	2:0	3'-4"	4'-9"	6'-3"	8'-0"	8'-4"	***	***	***	***	***	***	***	***	***
	MI-80	2'-3'	3'-6"	5'-0'	6'-6"	8'-2"	8'-8'		***	***	***	***	-44	***	-/+	***
	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	***	***	74>	***	***	***
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8'	4'-0"	4-4	5'-5"	7'-0"	8'-4"		***	***	***	***	***
11-7/8	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3°	8'-10"	10'-0"	***	***	***	***	***	***
	NI-70	1'-3"	2'-6"	4'-0"	5'-4"	6.9	7'-2"	8'-4"	10'-0"		***	***	***	***	***	***
	NI-80	1,9,	2'-10"	4'-2"	5'-6"	7'-0'	7'-5'	8'-6"	10'-3"	11'-4"		***	***	***	***	***
*************	NI-90x	0'-7'	0.8.	0'-9"	2'-5'	4'-4"	4'-9"	6'-3"	***		7/7	***	***			***
	NI-40x	0.7	0.84	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	***	***	P44
14"	NI-60	0.7	0.8.	1.8.	3'-0"	4'-3'	4'+8"	5'-8'	7'-2"	8'-0"	8'-8"	10.4	11:9"	***	***	F#4
17	NI-70	0.8	1'-10"	3'-0'	4-5	5-10		7'-3"	8'-9"	9'-9"	10'-4"		13'-5"	***	***	***
	NI-80	0.10	2'-0'	3'-4"	4'-9'	6'-2"	6'-5"	7'-6"	9'-0"	10'-0"	10'-8'	12'-4"	13'-9"	***	***	***
	NI-90x	0'-7"	0'-8'	0'-8'	2'-0'	3'-9'	4'-2"	5'-5"	7'-3"	8'-5"	9'-2"		***	***		***
16'	NI-60	0.7'	0'-8"	0'-8"	1'-6"	2'-10'		41.2"	5'-6"	6'-4"	7'-0"	8'-5"	9'-8'	10-2	12'-2"	13'+9'
10.	NI-70	0-7"	1'-0"	2'-3"	3'-6"	4'-10'		6'-3"	7'-8"	8'-6"	9'-2"	10'-8'	12'-0"		14'-0"	
	NI-80	0'-7"	14-31	2-6°	3'-10"	5'-3'	5'-6"	6'-6"	8'-0"	9'-0'	9'-5"	11'-0"	1253		14'-5"	16'-0'
	NI-90x	0.7*	0'-8"	0.9	2.0	3'-6"	4'-0'	5'-0"	61.91	7'-9"	8'-4"	10'-2"	1146*	12'-0"	***	***

- 1. Above table may be used for I-joist spacing of 24 inches an contra or less,
  2. Hole focation distance is measured from institle face of supports to centra of hole.
  3. Distances in this chart are based on uniformly loaded joists.
  4. The above table is based on the I-joist belong used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; cantact your local distributor.

### **DUCT CHASE OPENING SIZES AND LOCATIONS** Simple Span Only

Joist	Joist	Minimun	Minimum Distance from Inside Face of Supports to Centre of Opening (ft - in.)											
Depth	Series	<u></u>	Duct Chase Length (in.)											
		88	10	12	14	16	18	20	22	24				
	NI-20	4'-1"	4'-5'	4'-10"	5.4	5'-8"	6'-1"	6'.6"	7'-1"	7'-5"				
9-1/2"	NI-40x NI-60	5'-3' 5'-4'	5'-8' 5'-9'	6'-0' 6'-2'	6'-5' 6'-7"	6'-10' 7'-1"	7'-3" 7'-5"	7'-8' 8'-0'	8'-2" 8'-3"	8'-6* 8'-9*				
. ,,-	NI-70	5'-1"	5'-5'	5'-10'	6'-3"	61-7"	7'-1"	7.6	8'-1"	8'-4"				
	NI-80	5'-3'	5'-8'	6.0,	6'-5"	6'-10'	7'-3"	7'.8"	8'-2"	8'-6"				
	NI-20	5'-9'	6'-2'	6'-6"	7'-1"	7'-5"	7'-9"	8:-3"	8'-9"	9'-4"				
	NI-40x	6'-8"	7'-2'	7.6	8'-1"	8'-6"	9'-1"	9'-6"	10'-1"	10'-9'				
11-7/8*	NI-60	7'-3'	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9.9"	10.3	11'-0'				
	NI-70	7'-1"	7'-4"	7'-9"	8'-3"	8'-7"	9'-1	9'-6"	10'-1"	10'-4"				
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-8"				
	NI-90x	7'-7*	8'-1"	8'-5'	8'-10"	9'-4"	9'-8"	10'-2"	10'-8"	11'-2'				
	NI-40x	8'-1*	8'-7"	9'-0'	9'-6"	10'-1"	10-7	11421	12:-0	12'-8'				
	NI-60	8'-9'	9'-3'	9'-8'	10'-1"	10'-6"	11'-1"	11'-6"	13'+3"	13'-0'				
14°	NI-70	8'-7"	9-1"	9'-5"	9'-10'	10'-4"	10'-8"	11'-2"	114.7*	12'-3'				
	NI-80	9'-0'	9'-3"	9.9	10'-1"	10'-7"	11'-1'	11'-6"	12'-1"	12'-6'				
	N1-90x	9'-4'	9'-9'	10'-3'	10'-7"	1151*	11'-7"	12'-1"	12'-7"	13'-2'				
	141-60	10'-3'	10-8	11'-2'	11'-6"	12'-1"	12'-6'	13'-2"	14-1	14'-10'				
1	NI-70	10:-1*	10'-5"	11'-0'	11'-4"	11'-10'		1248"	13'-3"	14'-0"				
16"	08-114	10.4	10'-9"	11'-3'	111.9*	12'-1"	12'-7"	13'-1"	13'-8'	14'-4'				
	NJ-90x	115-3*	11'-5'	11'-10'	12'-4"	12'-10'	13'-2"	13'-9"	14'-4"	15'-2'				

- Abovo lable may be used for I-joist spacing of 24 inches on contra or less.
   Duck those opening location distance is measured from Inside face of supports to centre of opening.
   The abova table is based on simple-span joists only. For other applications, contact your local distributor.
   Distances are based on uniformly loaded filter joists that meet the span requirements for a design live load of 40 ps and deed load of 15 pst, and a live load deflaction limit at I,/480.
   The obove tobbs is based on the I-joists being used at their maximum spans. The milmum distance as given above may be reduced for shorter spans; contact your local distributor.

#### FIGURE 7

#### FIELD-CUT HOLE LOCATOR

2x duct chase length or hole diameter, whichever is larger Duct chose opening (see Table 2 for minimum distance from boaring) 2x diameter of larger hale Maintain minimum 1/8" space between top and bottom flonge --- all duct chase openings and hales



Knockouts are proscored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in alumeter, and are spaced 15 linches on contro along the length of the I-lots. Where possible, it is preferable to use knockouts instead of field-cut holes.

Never drill, cut or notch the flange, or over-cut the web.

Holes in webs should be cut with a sharp sow

For rectangular hales, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starling the rectangular hole by drilling a 1-inch diameter hale in each of the four corners and then making that outs botween the holes is another good method to nthimize domage to the 1-joist.

#### SAFETY AND CONSTRUCTION PRECAUTIONS



WARNING: I-joists are not stable until camplately installed, and will not carry any load until fully brocad and shoothed.

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

1. Brocs and neil aoch I joist as it is installed, using hangers, blocking panels, thin board, and/or cross-bridging at joist ands. When I joists are applied onlineous over interfer supports and a lood-bearing wall is planned at that location, blocking will be required of the interfer support.

2. When the building is completed, the floor sheathing will provide lateral support for the top flonges of the I-joists. Until this sheathing is applied, the major provided in the specific provided in

streaming a spiper, arripularly descript, other local state, or temporary streaming in support a piper an experient repair found from the property procing a stream state state that inch minimum, and least feet length and speed no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nalis fastened to the lop surface of each t-jots. Notil the broking to a lateral restraint at the end of each boy, to pends of udiplining bracing over at least two t-jots.

• Or, shealthing (temporary or permanent) can be nalied to the top flenge of the first 4 feet of t-jots at the and of the boy.

5. For cantilevered t-jots, there also put absolute flanges, and that are ends with cleaver panels, rim beard, or cross-fridging.

4. Install und fully nali permanent shealthing to each t-jots before placing loads on the floor system. Then, stock building materials over beams are wells only.

5. Never install a damaged t-jotst.

Improper storage or installation, failure to follow applicable building codes, failure to fallow span ratings for Nordic I-joists, failure to fallow allowable hate sizes and locations, or failure to use was stiffeners when required can result in serious ocadents. Follow hates installations guidalines cordality.



### **PRODUCT WARRANTY**

Chantiers Chibongoman guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Chantiers Chibongaman warrants that our products, en uillzed in accordance with our bandling and Installation instructions, will meet or exceed our specifications for the lifetime of the structure. 



The construction details for residential designs are prone to changes.

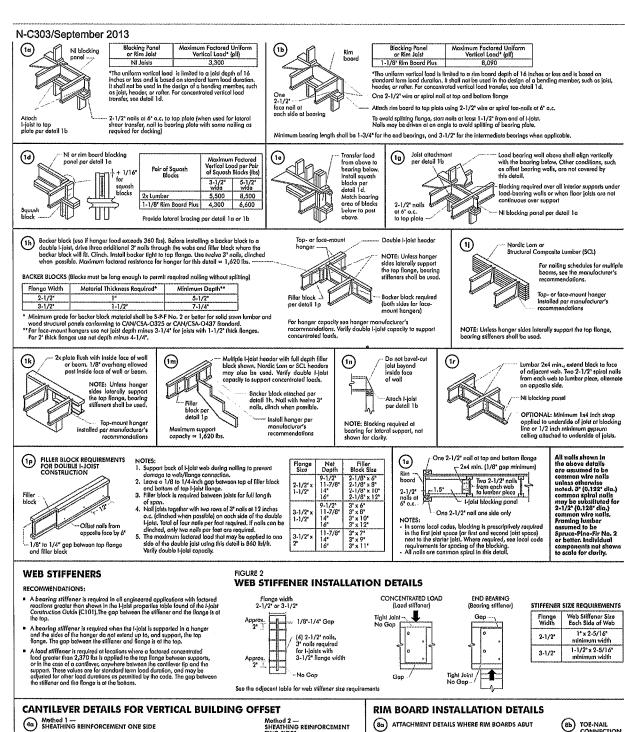
Details released after September 2013 supersedes N-303

Installation must comply with latest documentation on I-Joist and other Nordic products from the http://nordic.ca/

This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.



(Nordic Request 1810-095)



Method 2 — SHEATHING REINFORCEMENT TWO SIDES Rim board or wood structural panal closure (3/4\* minimum thickness); altach per detail 1b NI blacking panel or rim baard blocking, atlach per detail 1g Use same installation as Method 1 but reinforce both sides of I-joist with sheathing. Allach I-joist to plate per detail 1b Use nailing pottern shown for Method 1 with opposite face nailing offset by 3°. 2-1/2' nails 3-1/2" min. bearing required

NOTE: Canadian softward plyward shouthing or equivalent (minimum thickness 3/4") required on sides of joist. Dopth shall match the full height of the joist. Natil with 2-1/2" natis at 6" o.c., top and bottom flange, install with face grain harizontal. Attack-light to plate of all supports par datal 11s. Verily infanced-joist opports.

# TOE-NAIL CONNECTION AT RIM BOARD Rint Board Joint Between Floor Joists (1) 2-1/2\* nail top and — bottom (typical) 309 2-1/2" toa-nails at 6" o.c. (typicol) Rim board joint



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Rim board joint

*t*/3