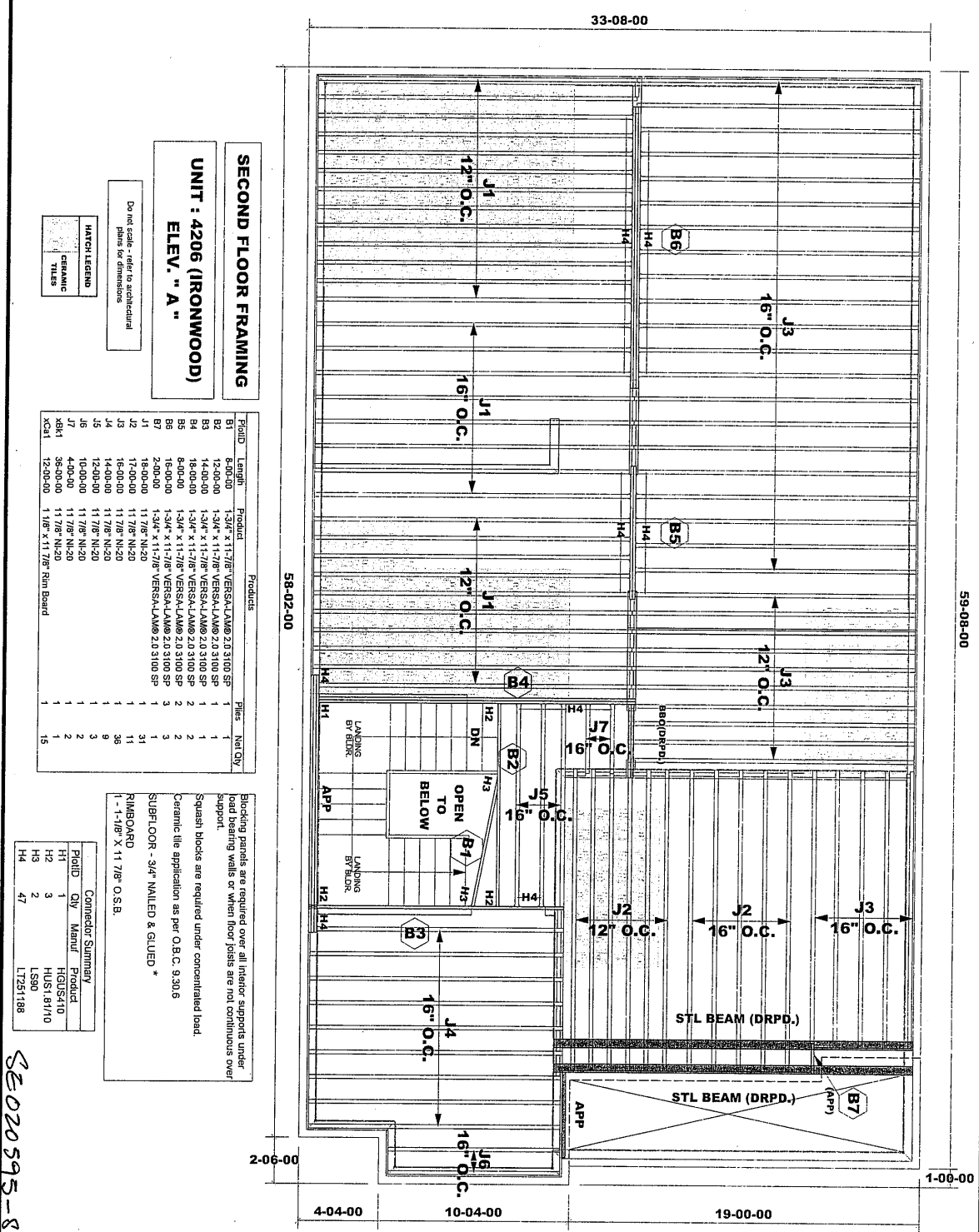




SECOND FLOOR FRAMING

UNIT : 4206 (IRONWOOD)

ELEV. " A "

Do not scale, refer to architectural plans for dimensions

MATCH LEGEND

CEILING
TILES

Fluid	Length	Product	Piles	Qty
B1	8'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	12'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	14'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4	16'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5	8'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B6	16'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B7	16'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
J1	12'-00"-00	11-7/8" N-20	1	1
J2	17'-00"-00	11-7/8" N-20	1	1
J3	16'-00"-00	11-7/8" N-20	1	1
J4	14'-00"-00	11-7/8" N-20	1	1
J6	12'-00"-00	11-7/8" N-20	1	1
J7	4'-00"-00	11-7/8" N-20	1	1
J8	36'-00"-00	11-7/8" N-20	1	1
J9	12'-00"-00	11-7/8" x 11-7/8" Rim Board	1	15

Blocking panels are required over all interior supports under load bearing walls or when floor joists are not continuous over support.

Squash blocks are required under concentrated load.

Ceramic tile application as per O.B.C. 9.30.6

SUBFLOOR - 3/4" NAILLED & GLUED *

RIMBOARD - 1-1/8" x 11-7/8" O.S.B.

Connector Summary

Fluid	Qty	Manuf	Product
H1	1		HQJUS410
H2	3		HUS18710
H3	2		LS90
H4	47		L7251788

Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPHA ROOF TRUSSES INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER: FC

REVISIONS:

#	DESCRIPTION
1	#1
2	#2
3	#3
4	#4

LEGEND:

SPD	Beam By Others
APD	As Per Plans
PLD	Per Local Code
FLD	Field Load From Limit
S.B.	Self Bracing

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:

321528

LOADING

Live: 40/100

Dead: 20/100

DEFLECTION CRITERIA

Live	30/100
Dead	24/100
Total	54/100

1 OF 18



Yard:

Home Lumber

Contact:

Derek Frankfort

Date: June 22, 2020

ALPHA ROOF
TRUSSES INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:

Vaughan

DESIGNER : FC

REVISIONS:

1	#1
2	#2
3	#3
4	#4

LEGEND:

BRG	Beam Br. Chain
APP	As Per Rink
FLG	Point Load from Glue
FLW	Point Load from Wind
S.S.	Solid Surface

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:

321528

LOADING

Live: 40 DWP

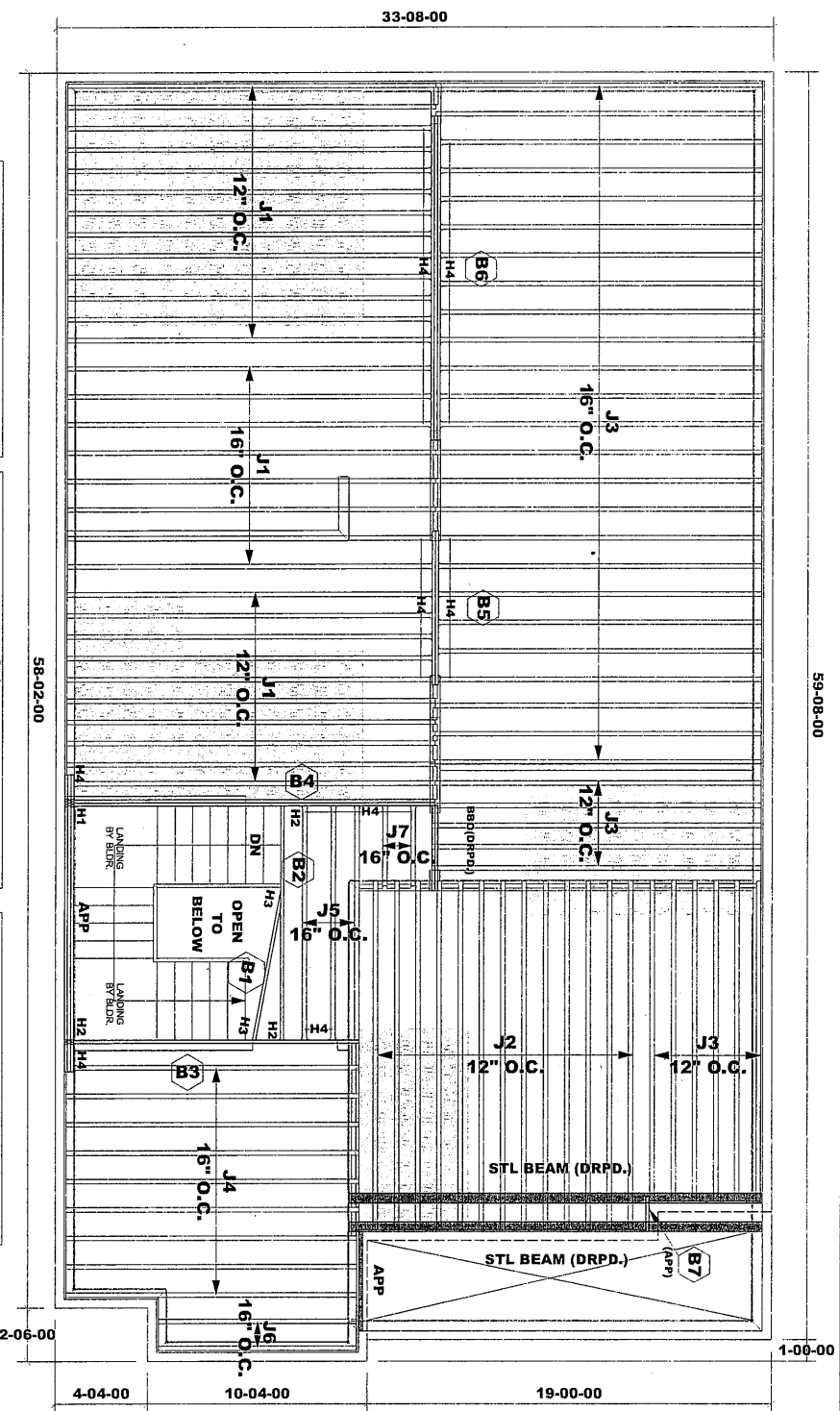
Dead: 20 DWP

DEFLECTION CRITERIA

LIVE: 50.000

TOTAL: 240.000

2 OF 18



SECOND FLOOR FRAMING

UNIT : 4206 (IRONWOOD)

ELEV. " A "

OPT. 5 BEDROOM

Do not scale - refer to architectural plans for dimensions

MATCH LEGEND

CERAMIC
TILES

ProdID	Length	Product	Pieces	Net Qty
B1	12'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	14'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4	17'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5	8'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B6	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B7	2'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
J1	18'-00-00	11 7/8" N-20	1	31
J2	17'-00-00	11 7/8" N-20	1	13
J3	16'-00-00	11 7/8" N-20	1	9
J4	14'-00-00	11 7/8" N-20	1	9
J5	12'-00-00	11 7/8" N-20	1	9
J6	10'-00-00	11 7/8" N-20	1	2
J7	4'-00-00	11 7/8" N-20	1	2
XBR1	33'-00-00	1 1/8" X 11 7/8" Rim Board	1	1
XCR1	12'-00-00	1 1/8" X 11 7/8" Rim Board	1	15

Blocking panels are required over all interior supports under load bearing walls or when floor joists are not continuous over support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.30.6
SUBFLOOR - 3/4" NAILED & GUEDED *
RIMBOARD - 1-1/8" X 11 7/8" OSB.

ProdID	Qty	Material	Product
H1	1		HGUS410
H2	3		HUS1.81/10
H3	2		LS90
H4	47		LT251188



Yard:
Home Lumber

Contact:
Deek Frankfort

Date: June 22, 2020

ALPHA ROOF
TRUSSES INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER : FC

REVISIONS:

#1
#2
#3
#4

LEGEND:

BBD Beam By Other
APP As Per Plan
FLCN Point Load from Girder
FLGN Point Load from Girder
S.S. Sill Beam

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:
321528

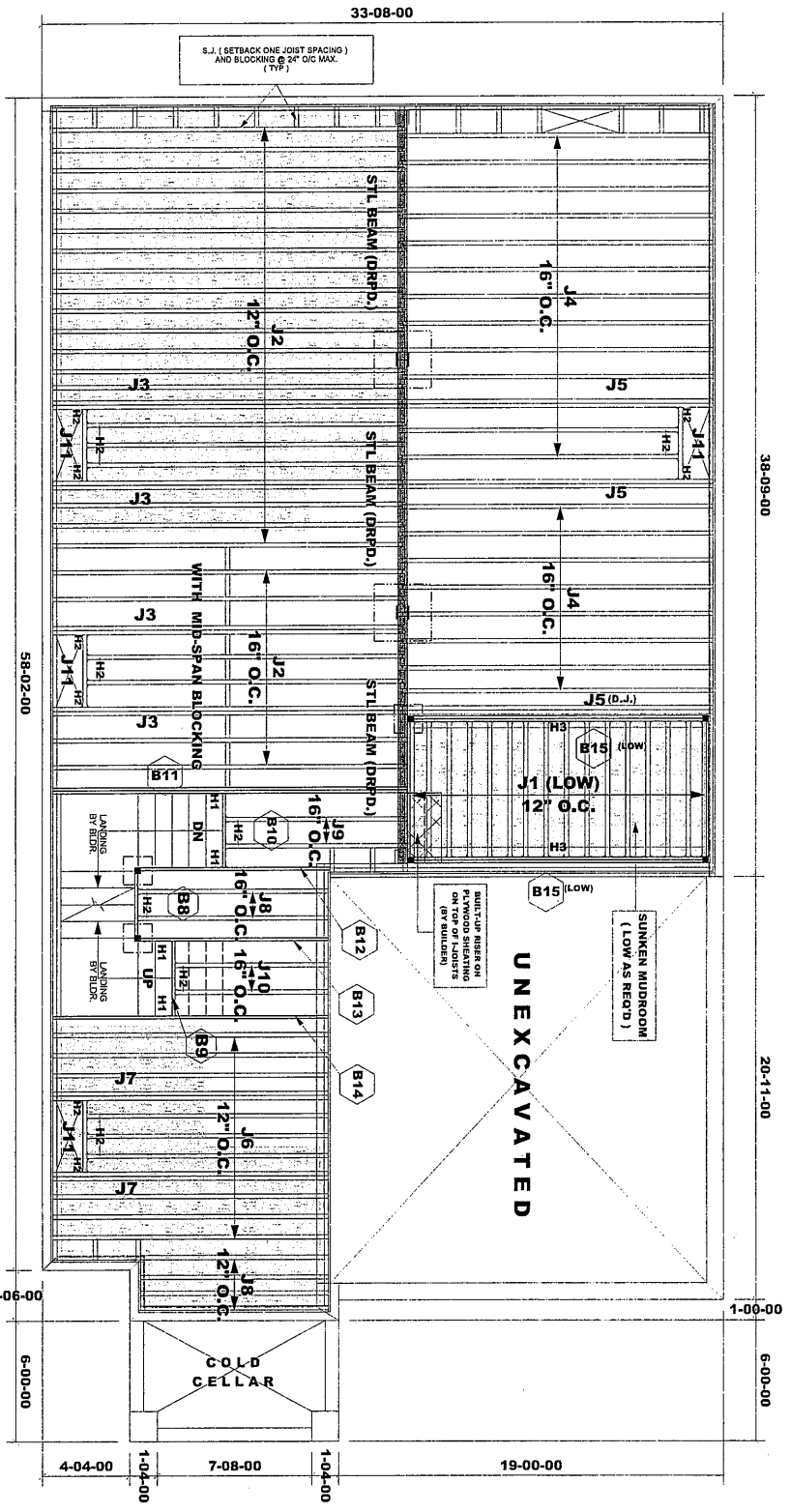
LOADING

Unit: 40.0 LBF
Dist: 20.0 LBF

DEFLECTION CRITERIA

Live: 30.0 LBF
Dead: 20.0 LBF

3 OF 18



FIRST FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " A "

Do not scale - refer to architectural
plans for dimensions

MATERIALS
CERAMIC TILES

Prod	Length	Product	Feet	Qty
B8	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B9	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	1
B12	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	1
B13	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	1
B14	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15	15-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	1
J1	8-00-00	9 1/2" N-20	1	16
J2	18-00-00	11 7/8" N-20	1	26
J3	18-00-00	11 7/8" N-20	2	8
J4	16-00-00	11 7/8" N-20	2	20
J5	16-00-00	11 7/8" N-20	2	8
J6	14-00-00	11 7/8" N-20	2	9
J7	14-00-00	11 7/8" N-20	2	4
J8	10-00-00	11 7/8" N-20	1	6
J9	9-00-00	11 7/8" N-20	1	2
J10	8-00-00	11 7/8" N-20	1	4
J11	4-00-00	11 7/8" N-20	1	2
J12	4-00-00	11 7/8" N-20	1	2
J13	12-00-00	11 7/8" x 11 7/8" Rim Board	1	2
J14	12-00-00	11 7/8" x 11 7/8" Rim Board	1	2
J15	12-00-00	11 7/8" x 11 7/8" Rim Board	1	16

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.30.6
SUBFLOOR - 3/4" NAILED & GLUED *
RIMBOARD
1 - 1-1/8" X 11 7/8" O.S.B.

Prod	Qty	Material	Product
H1	4	H1	H1
H2	24	H2	H2
H3	32	H3	H3





Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPA ROOF
TRUSSES INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER: J.C

REVISIONS:

1	#1
2	#2
3	#3
4	#4

LEGEND:

1	Beam By Others
2	As per Detail
3	Per Detail
4	Per Detail

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:

321528

LOADING

Live: 40.0 Lb/ft²

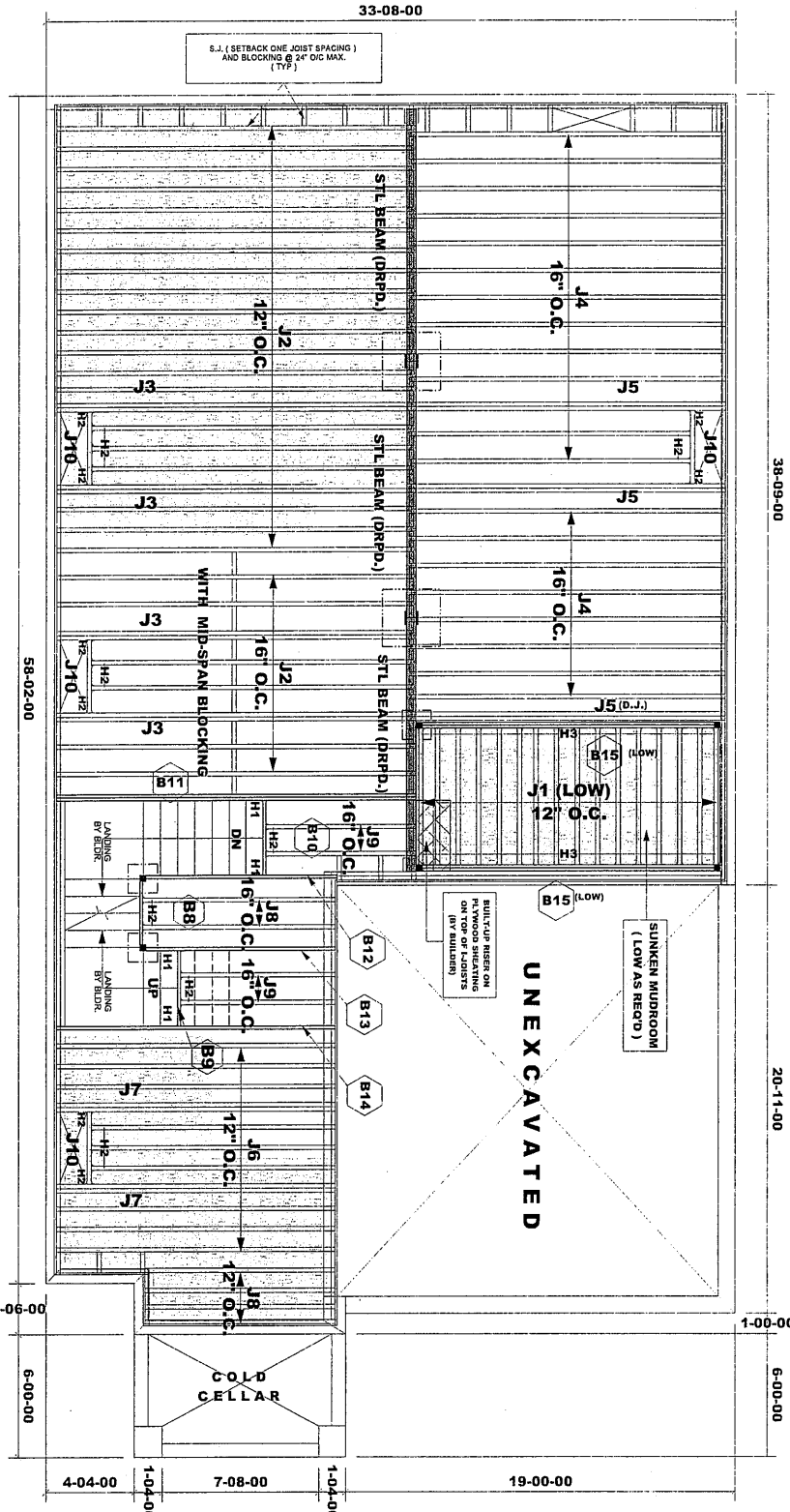
Dead: 20.0 Lb/ft²

DEFLECTION CRITERIA

Live: 360.000

Total: 240.000

5 OF 18



FIRST FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " A "

OPT. 9' CLG. BASEMENT

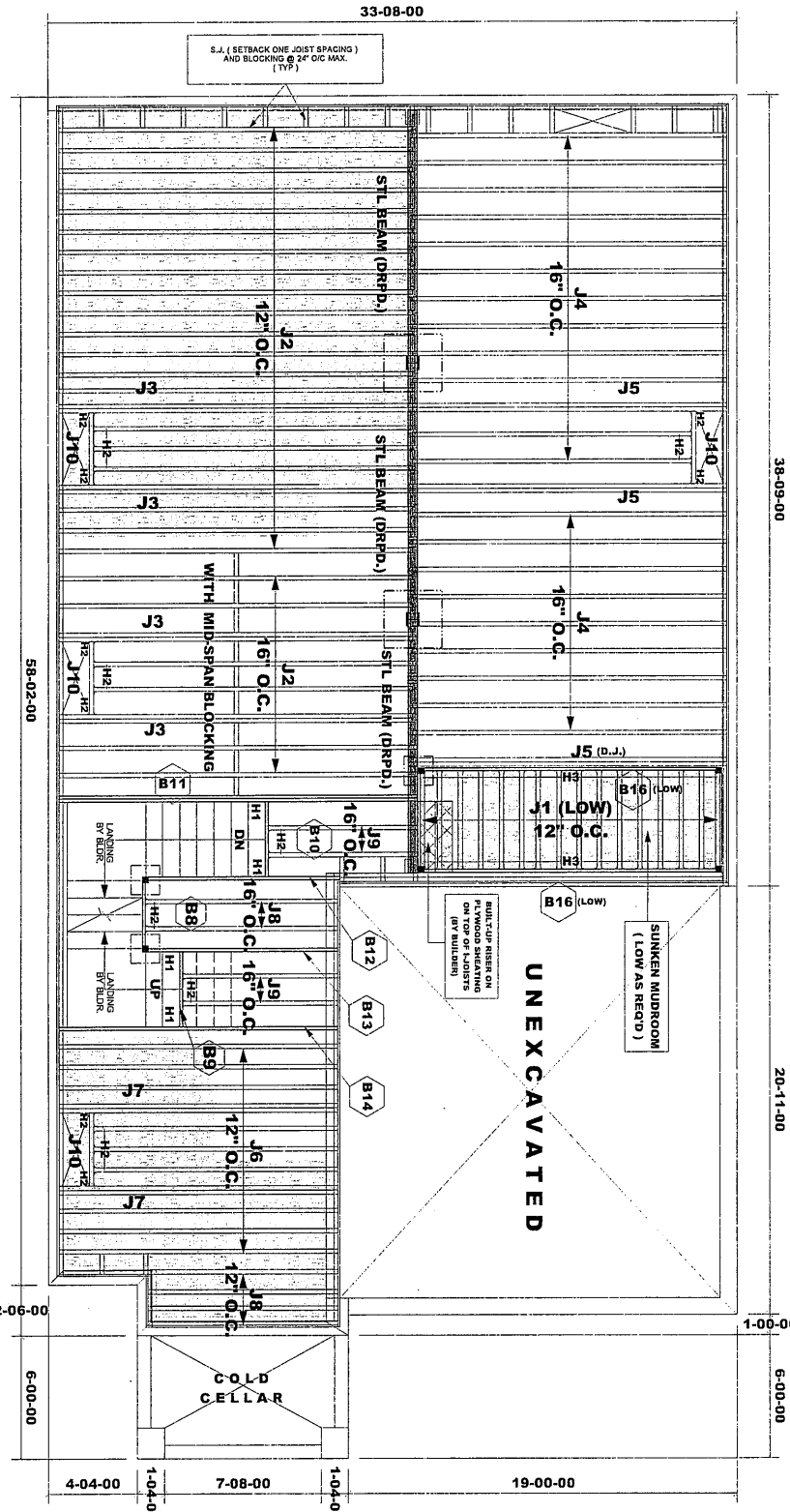
Do not scale - refer to architectural
plans for dimensions

MATCH LEGEND
TILES

JOIST	Length	Product	Files	Nat Qty
B8	4'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B9	4'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10	4'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	18'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	1
B12	10'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B13	10'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B14	14'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15	15'-00"-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	1
J1	18'-00"-00	11 7/8" NK-20	1	28
J2	18'-00"-00	11 7/8" NK-20	1	8
J3	18'-00"-00	11 7/8" NK-20	1	20
J4	16'-00"-00	11 7/8" NK-20	2	6
J5	16'-00"-00	11 7/8" NK-20	2	9
J6	14'-00"-00	11 7/8" NK-20	1	4
J7	14'-00"-00	11 7/8" NK-20	2	4
J8	8'-00"-00	11 7/8" NK-20	1	4
J9	4'-00"-00	11 7/8" NK-20	1	4
J10	6'-00"-00	11 7/8" NK-20	1	4
KB1	12'-00"-00	1 1/8" x 9 1/2" Rim Board	1	1
KC1	12'-00"-00	1 1/8" x 9 1/2" Rim Board	1	1
KC2	12'-00"-00	1 1/8" x 11 7/8" Rim Board	1	16

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.30.6
SUBFLOOR - 3/4" NAILED & GLUED *
RIM JOIST - 1-1/8" x 11 7/8" O.S.B.

JOIST	Qty	Material	Product
H1	4	HULS18710	
H2	24	L7251188	
H3	32	L7259	



FIRST FLOOR FRAMING

**UNIT : 4206 (IRONWOOD)
ELEV. " A " (ALTERNATE) &
OPT. 9' CLG. BASEMENT**

Do not scale - refer to architectural
plans for dimensions

MATCH LEGEND
CEMENT
TILES

Block	Length	Product	Phas	Nat City
B10	4'-00"-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B9	4'-00"-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	4'-00"-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B12	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B14	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B16	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
J1	6'-00"-00	9 1/2" N-20	1	16
J2	16'-00"-00	11 7/8" N-20	1	26
J3	16'-00"-00	11 7/8" N-20	2	8
J4	16'-00"-00	11 7/8" N-20	2	6
J5	16'-00"-00	11 7/8" N-20	2	9
J6	14'-00"-00	11 7/8" N-20	2	6
J7	16'-00"-00	11 7/8" N-20	2	4
J8	16'-00"-00	11 7/8" N-20	2	4
J9	16'-00"-00	11 7/8" N-20	1	4
J10	4'-00"-00	11 7/8" N-20	1	4
JB1	58'-00"-00	11 7/8" X 8 1/2" Rim Board	1	1
JC1	12'-00"-00	1 1/8" X 11 7/8" Rim Board	1	1
JC2	12'-00"-00	1 1/8" X 11 7/8" Rim Board	1	16

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 8.30.6
SUBFLOOR - 3/4" NAILED & GULDED *
RIMBOARD
1 - 1-1/8" X 11 7/8" O.S.B.

Product	Qty	Manuf	Product
H1	4	HUS1	87110
H2	24	L725	1198
H3	32	L725	9



Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

**ALPHA ROOF
TRUSSES INC.**

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER - FC

REVISIONS:

LEGEND:

DESIGN INFO:

JT/PL:

Layout ID:

321528

LOADING

DEFLECTION CRITERIA

6 OF 18



Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPA ROOF
TRUSSES INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER - FC

REVISIONS:

1	#1
2	#2
3	#3
4	#4

LEGEND:

BRG	Beam Br Girts
APG	Asl Post Girts
FLG1	Front Load from Girts
FLW1	Front Load from Wind
S.B.	Solid Building

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:

321528

LOADING

Live: 40.0 lb/ft²

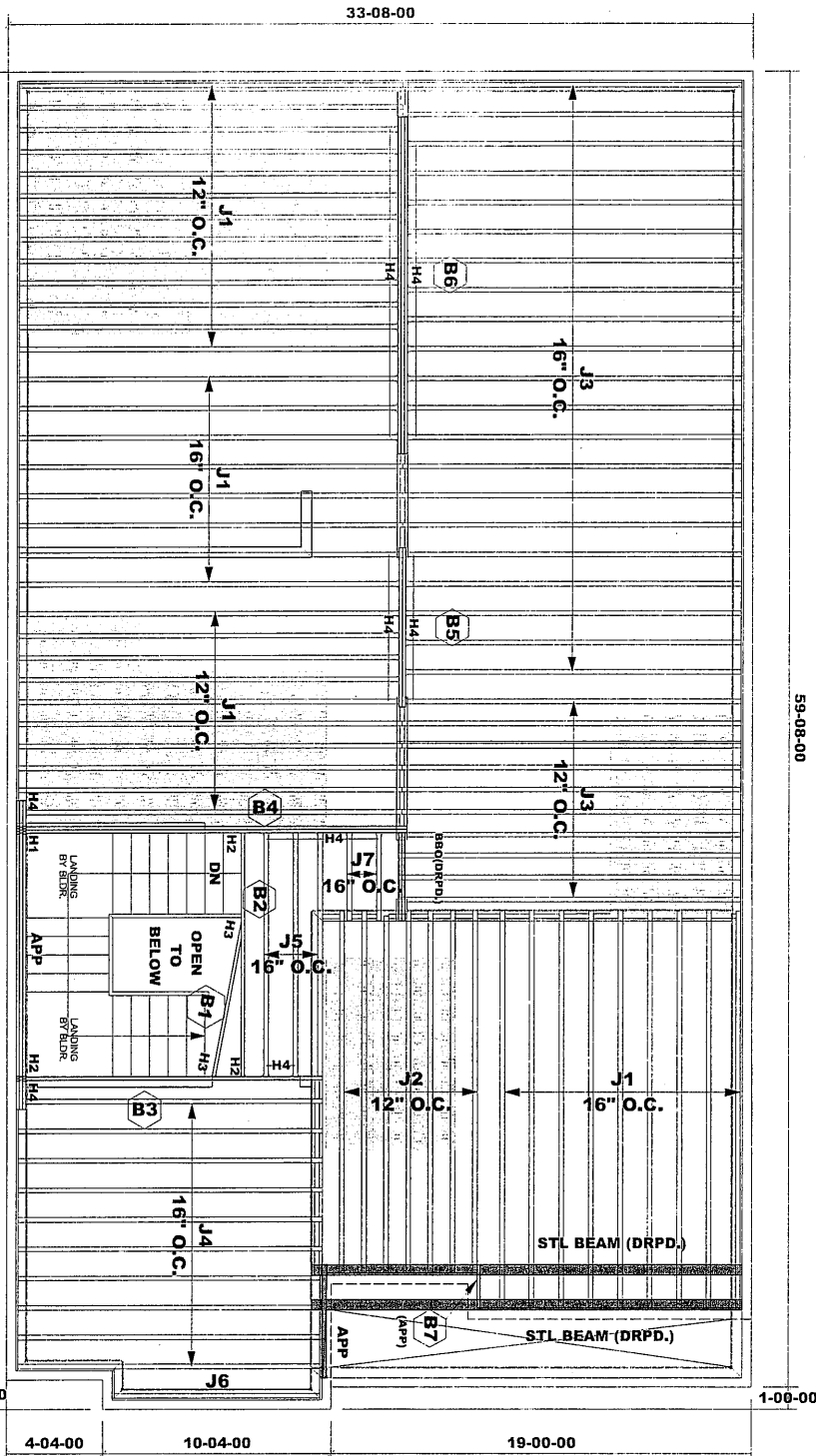
Dead: 20.0 lb/ft²

DEFLECTION CRITERIA

LIVE: 360.000

Totals 240.000

7 OF 18



SECOND FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " B "

Do not scale - refer to architectural
plans for dimensions

MATCH LEGEND	
1	CERAMIC
2	TILES

ProdID	Length	Product	Pieces	Net Qty
B1	8'-00'-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	14'-00'-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	14'-00'-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4	16'-00'-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5	16'-00'-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B6	16'-00'-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B7	2'-00'-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
J1	18'-00'-00	11 7/8" N/A20	1	40
J2	17'-00'-00	11 7/8" N/A20	1	7
J3	16'-00'-00	11 7/8" N/A20	1	31
J4	14'-00'-00	11 7/8" N/A20	1	10
J5	12'-00'-00	11 7/8" N/A20	1	3
J6	12'-00'-00	11 7/8" N/A20	1	1
J7	4'-00'-00	11 7/8" N/A20	1	1
J8	34'-00'-00	11 7/8" N/A20	1	1
J9	12'-00'-00	11 7/8" Rim Board	1	15

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.20.6
SUB-FLOOR - 3/4" NAILED & GLUED *
RIMBOARD - 1-1/8" X 11 7/8" O.S.B.

Connector Summary	
ProdID	Qty
H1	1
H2	3
H3	2
H4	47



Yard:
Home Lumber

Contact:
Derek Frankfort
Date: June 22, 2020

ALPHA ROOF
TRUSSES INC.

Gold Park
4206 (Ironwood)

Pine Valley
LOCATION:
Vaughan

DESIGNER: FC

REVISIONS:
#1
#2
#3
#4

LEGEND:
BRO Beam by Others
APP As Per Plan
FLGI Full Load from Girders
FLWI Full Load from Lintels
S.B. Sill Beam

DESIGN INFO:
JT/PL:

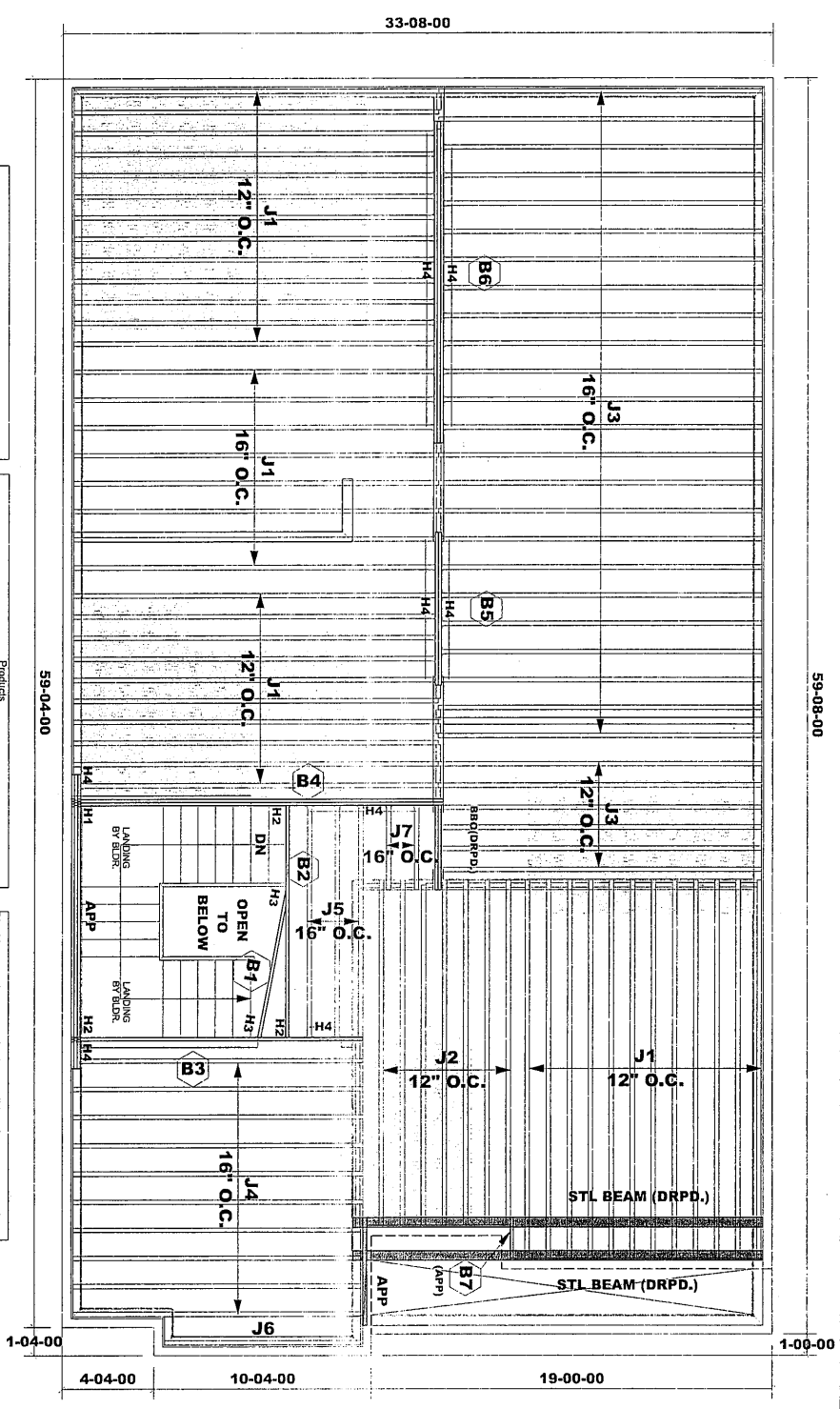
45147/106927
Layout ID:

321528
LOADING

Live: 40.0 Bsf
Dead: 20.0 Bsf

DEFLECTION CRITERIA
Live: 360.000
Total: 240.000

8 OF 18



SECOND FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " B "

OPT. 5 - BEDROOM

Do not scale - refer to architectural plans for dimensions

MATCH LEGEND	
	CERAMIC TILES

Photo	Length	Product	Plies	Net Qty
B1	6'-00"-00	1-3/4" X 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B2	14'-00"-00	1-3/4" X 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B3	14'-00"-00	1-3/4" X 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B4	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAME 2.0 3100 SP	2	2
B5	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAME 2.0 3100 SP	3	3
B6	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B7	16'-00"-00	1-3/4" X 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
J1	12'-00"-00	11 7/8" N-20	1	43
J2	12'-00"-00	11 7/8" N-20	1	7
J3	16'-00"-00	11 7/8" N-20	1	30
J4	16'-00"-00	11 7/8" N-20	1	10
J5	12'-00"-00	11 7/8" N-20	1	3
J6	10'-00"-00	11 7/8" N-20	1	2
H1	4'-00"-00	11 7/8" N-20	1	1
H2	12'-00"-00	11 7/8" N-20	1	1
H3	12'-00"-00	11 7/8" N-20	1	1
H4	12'-00"-00	11 7/8" N-20	1	15

Blocking panels are required over all interior supports under load bearing walls or when floor joists are not continuous over support.
Squish blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.30.6
SUBFLOOR - 3/4" NAILED & GLUED *
RIMBOARD - 1-1/8" X 11 7/8" O.S.B.

Photo	Qty	Manuf	Product
H1	1		HQ16410
H2	2		HU1618710
H3	2		LS90
H4	47		LT251188



Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPHA ROOF
TRUSSES, INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER: F.C.

REVISIONS:

1	#1
2	#2
3	#3
4	#4

LEGEND:

SD	Beam Spacing
SP	As Per Detail
FLG	Panel Load from Gird
FLW	Panel Load from Wind
S.S.	Solid Building

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:

321528

LOADING

Live: 40.0 LBF

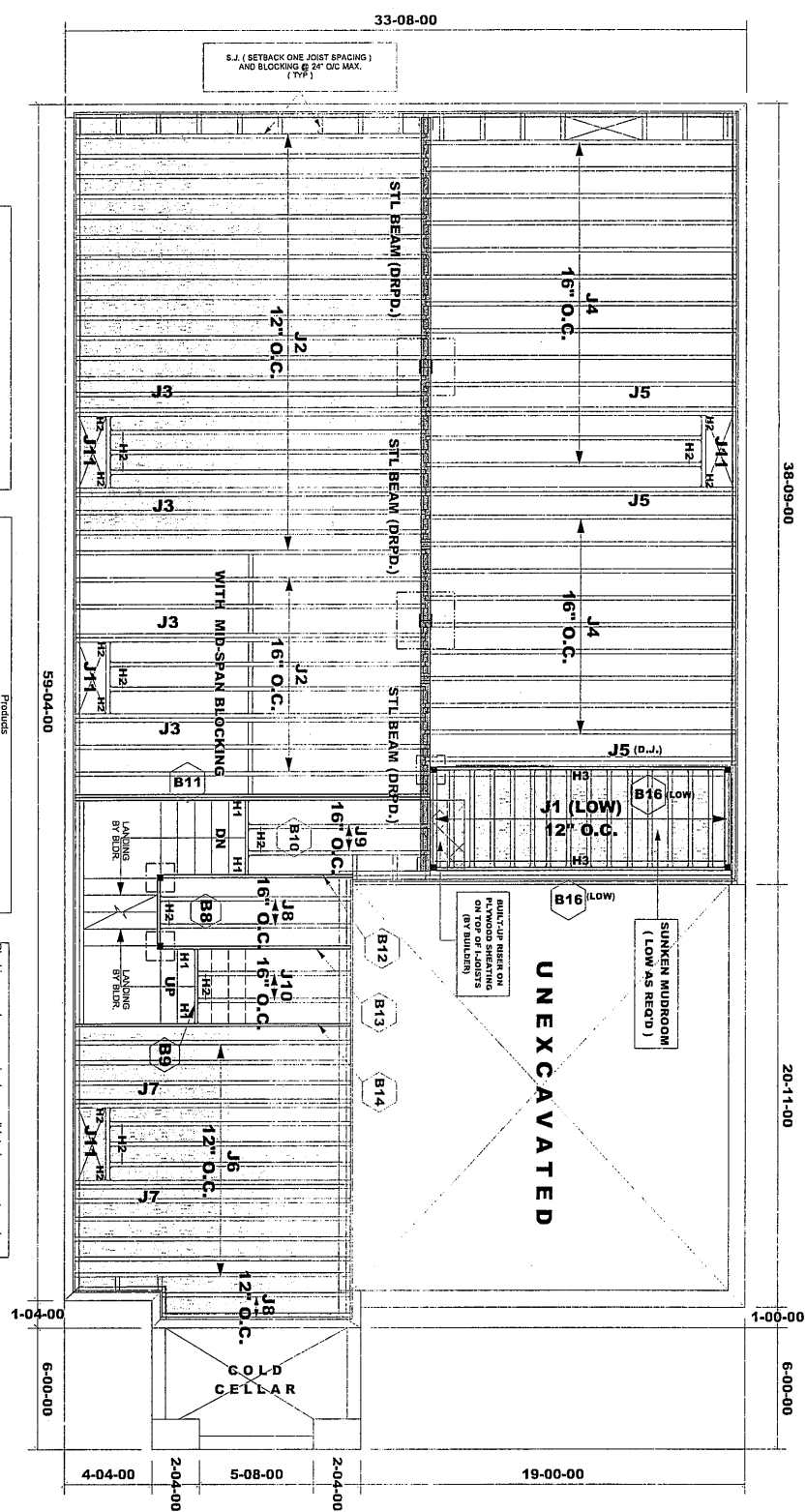
Dead: 20.0 LBF

DEFLECTION CRITERIA

Live: 300.000

Total: 240.000

10 OF 18



FIRST FLOOR FRAMING

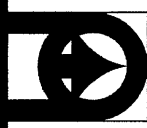
UNIT: 4206 (IRONWOOD)
ELEV. "B" (ALTERNATE)

Do not scale - refer to architectural
plans for dimensions

Prod	Length	Product	Notes	Qty
B8	4'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B9	4'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10	4'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B13	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B14	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B16	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B17	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B18	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B19	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B20	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B21	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B22	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B23	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B24	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B25	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B26	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B27	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B28	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B29	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B30	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B31	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B32	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B33	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B34	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B35	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B36	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B37	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B38	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B39	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B40	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B41	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B42	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B43	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B44	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B45	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B46	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B47	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B48	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B49	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B50	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B51	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B52	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B53	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B54	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B55	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B56	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B57	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B58	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B59	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B60	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B61	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B62	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B63	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B64	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B65	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B66	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B67	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B68	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B69	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B70	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B71	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B72	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B73	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B74	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B75	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B76	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B77	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B78	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B79	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B80	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B81	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B82	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B83	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B84	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B85	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B86	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B87	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B88	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B89	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B90	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B91	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B92	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B93	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B94	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B95	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B96	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B97	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B98	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B99	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B100	18'-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.S.B. 8.30.6
SUBFLOOR - 3/4" NAILED & GULFED *
RIMBOARD - 1-1/8" X 11 7/8" O.S.B.

Prod	Qty	Material	Product
H1	4	MANUF	HUS18710
H2	24	MANUF	LT251188
H3	32	MANUF	LT259



Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPA ROOF
TRUSSES INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER: - FC

REVISIONS:

#1	#2	#3	#4
1	2	3	4
1	2	3	4

LEGEND:
SBO Beam By Others
APP As Per Plan
P-100 Point Load from Other
F-100 Point Load from Other
SBO Solid Section

DESIGN INFO:

JT/P:
45147/106927

Layout ID:

321528

LOADING

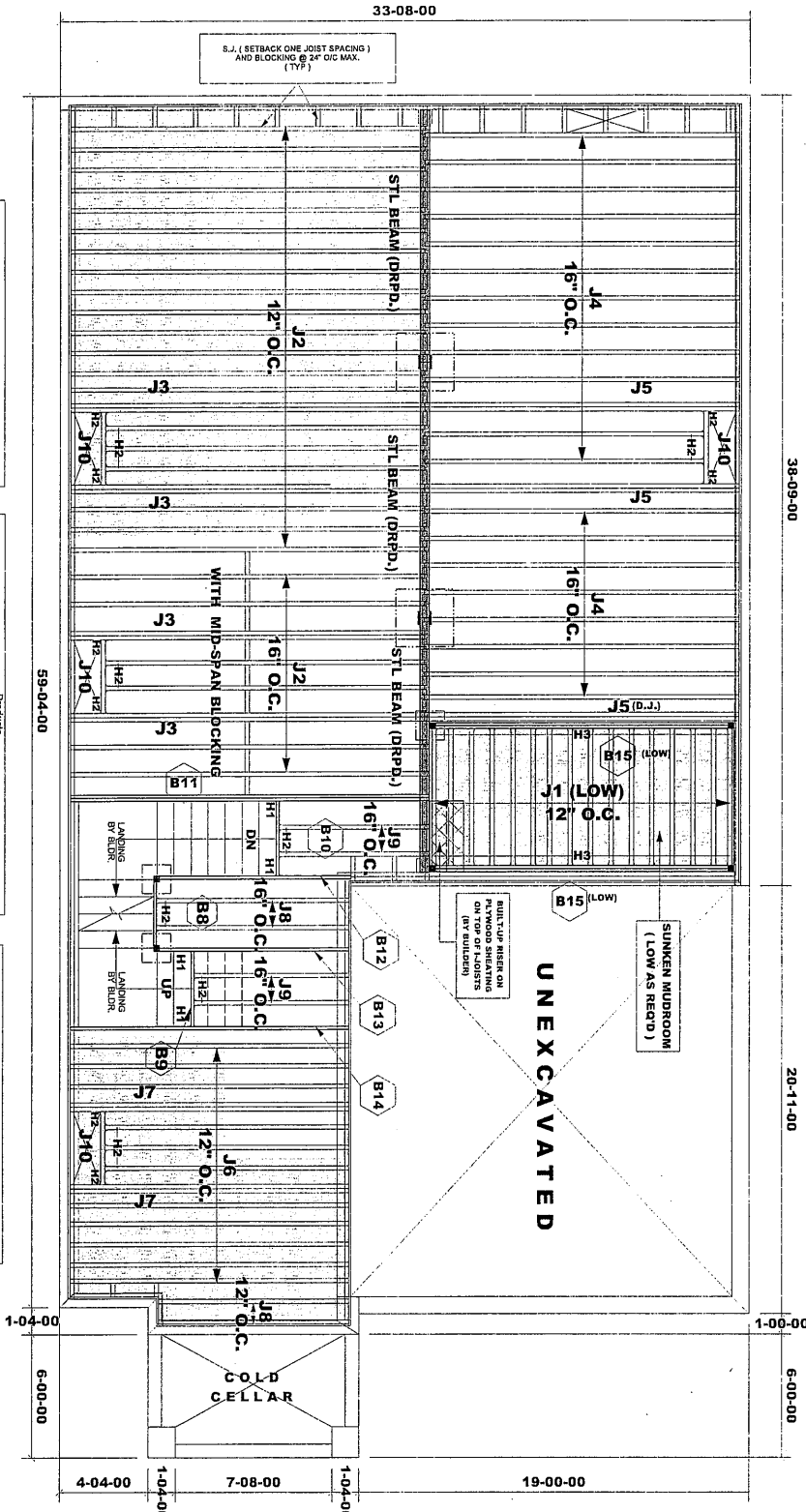
Deck 200 lb/ft²

DEFLECTION CRITERIA

LIVE 360.000

TOT 240.000

11 OF 18



FIRST FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " B "

OPT. 9' CLG. BASEMENT

Do not scale - refer to architectural plans for dimensions
HATCH LEGEND
CERAMIC TILES

ProdID	Length	Product	Plies	Nat Qty
B8	4'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10	4'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B12	10'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B13	10'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B14	14'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15	15'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
J1	16'-00-00	9 1/2" NK-20	1	16
J2	12'-00-00	11 7/8" NK-20	1	8
J3	18'-00-00	11 7/8" NK-20	2	20
J4	16'-00-00	11 7/8" NK-20	1	11
J5	14'-00-00	11 7/8" NK-20	2	4
J6	14'-00-00	11 7/8" NK-20	2	4
J7	10'-00-00	11 7/8" NK-20	1	1
J8	10'-00-00	11 7/8" NK-20	1	1
J9	16'-00-00	11 7/8" NK-20	1	1
J10	6'-00-00	11 7/8" NK-20	1	1
XCB1	6'-00-00	11 7/8" NK-20	1	1
XCB2	12'-00-00	1 1/8" X 9 1/2" Rim Board	1	2
XCB3	12'-00-00	1 1/8" X 11 7/8" Rim Board	1	16

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.30.6
SUBFLOOR - 3/4" NAILED & GLED *
RIMBOARD - 1-1/8" X 11 7/8" O.S.B.

ProdID	Qty	Material	Quantity
H1	4	H151 83/70	
H2	24	L7251188	
H3	32	L7259	



Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPA ROOF
TRUSSES, INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER: FC

REVISIONS:

1	#1
2	#2
3	#3
4	#4

LEGEND:

BLDG	Build By Other
ADD	Add to Bldg
PLNG	Partial Load from Other
PLNG	Partial Load from Limit
S.B.	Self Bearing

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:

321528

LOADING

Live: 40 lb/ft²

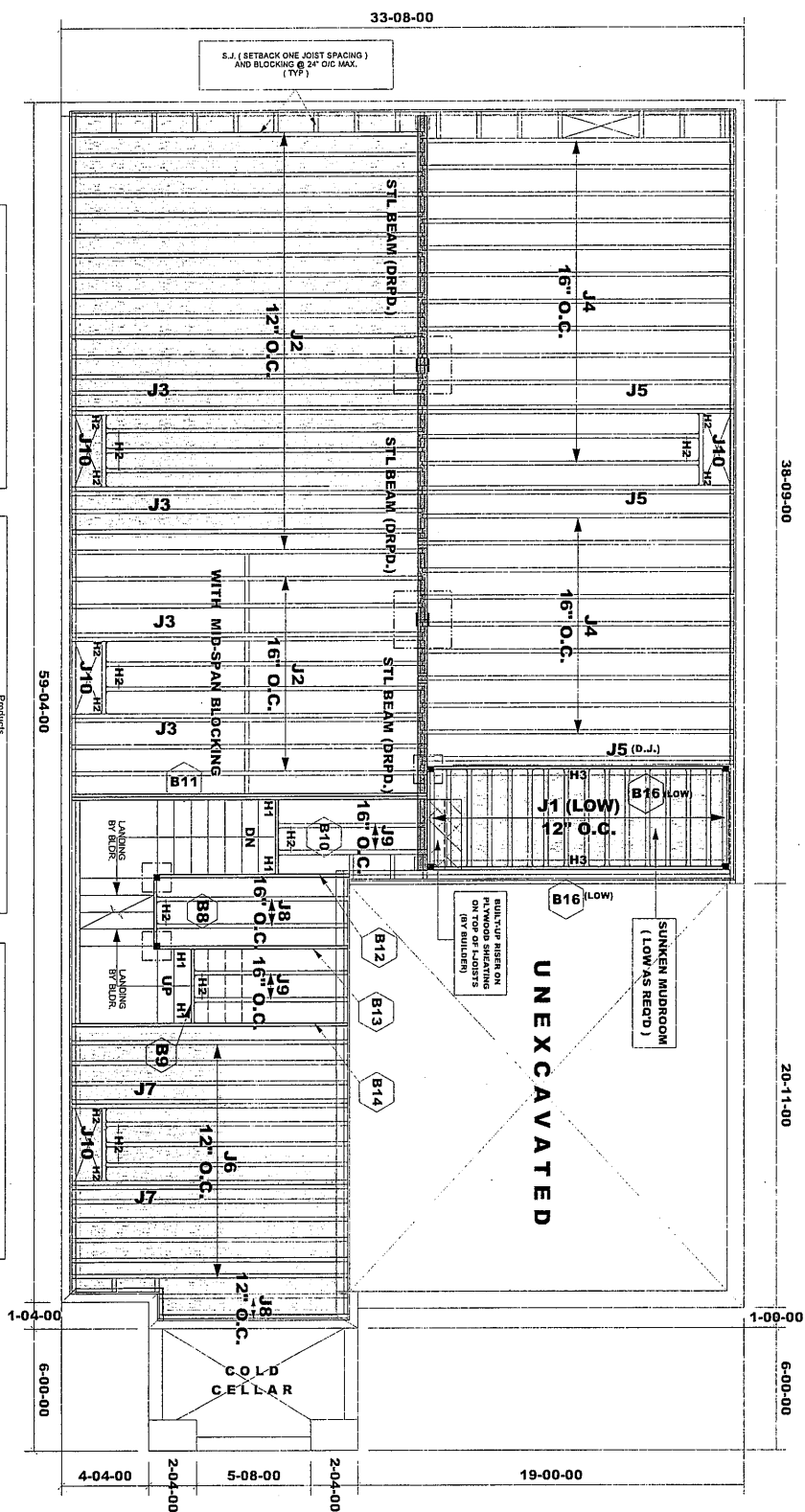
Dead: 20 lb/ft²

DEFLECTION CRITERIA

Live: 360.000

Total: 360.000

12 OF 18



FIRST FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " B " (ALTERNATE) &
OPT. 9' CLG. BASEMENT

Do not scale - refer to architectural
plans for dimensions

MATCH LEGEND

1	CERAMIC TILES
---	------------------

Profile	Length	Product	Pieces	Net Qty
B8	4'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B9	4'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B10	16'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	2	2
B11	10'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B12	10'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B13	14'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B14	13'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B15	18'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	2	2
B16	18'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	2	2
J1	16'-00-00	11 7/8" N-20	1	21
J2	16'-00-00	11 7/8" N-20	1	6
J3	14'-00-00	11 7/8" N-20	1	11
J4	14'-00-00	11 7/8" N-20	1	2
J5	14'-00-00	11 7/8" N-20	1	4
J6	14'-00-00	11 7/8" N-20	1	4
J7	14'-00-00	11 7/8" N-20	1	4
J8	14'-00-00	11 7/8" N-20	1	4
J9	14'-00-00	11 7/8" N-20	1	4
J10	14'-00-00	11 7/8" N-20	1	4
KC1	12'-00-00	1 1/8" x 9 1/2" Rim Board	1	1
KC2	12'-00-00	1 1/8" x 11 7/8" Rim Board	1	1

Blocking panels are required over all interior supports under load bearing walls or when floor joists are not continuous over support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.30.6
SUBFLOOR - 3/4" NAILED & GULFED *
RIMBOARD - 1-1/8" x 11 7/8" O.S.B.

Profile	Qty	Material	Product
H1	4	HLST	8170
H2	24	HLST	8170
H3	32	HLST	8170



Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPA ROOF
TRUSSES, INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER: J. FC

REVISIONS:

#	REV	DATE
1	#1	
2	#2	
3	#3	
4	#4	

LEGEND:

BJD	Beam Joist
APP	Architectural Panel
FLG	Floor Joist
PLM	Panel Load from Lumber
S.B.	Self Bracing

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:

321528

LOADING

Live: 40.0 lb/ft²

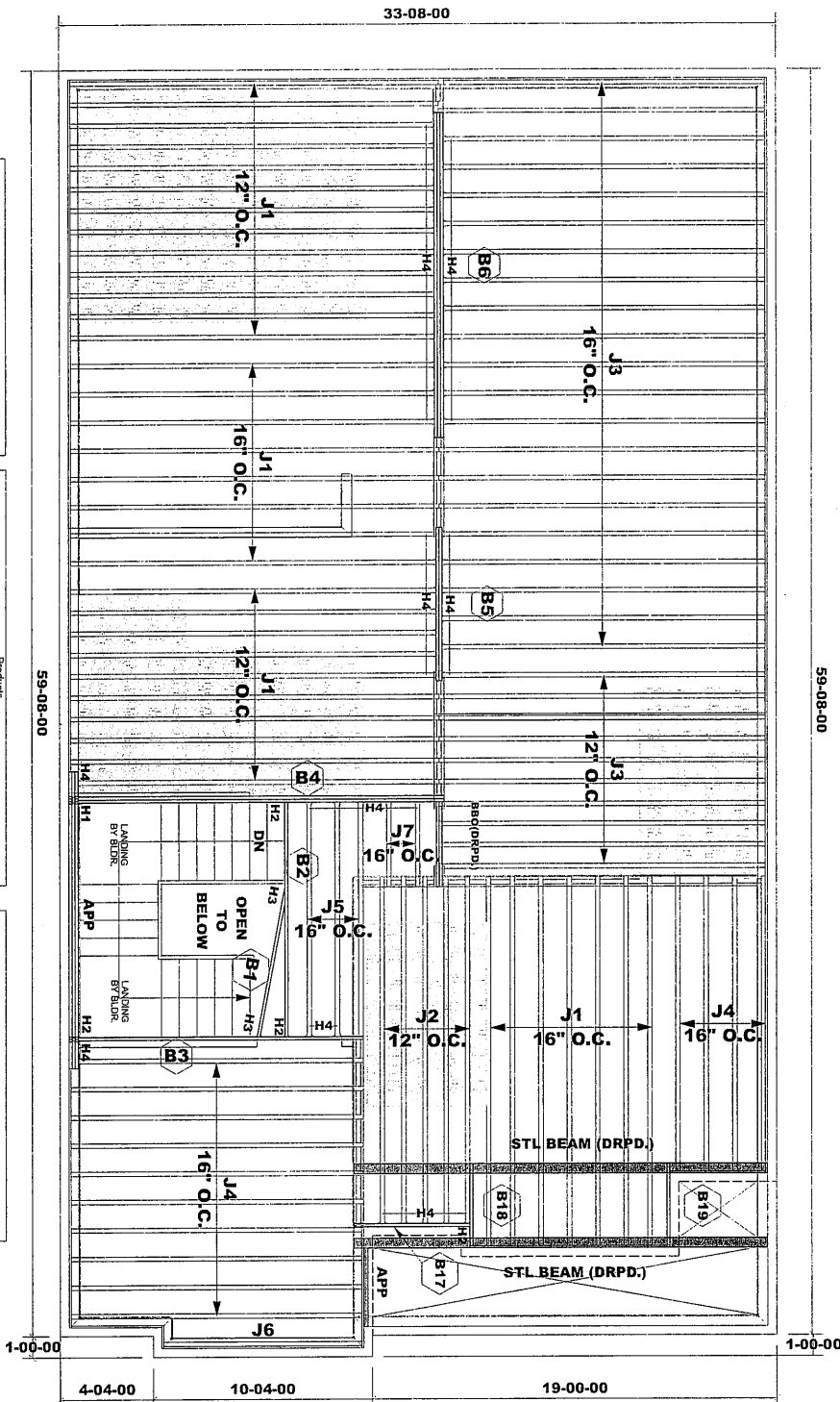
Dead: 20.0 lb/ft²

DEFLECTION CRITERIA

Live: 360.000

Dead: 240.000

13 OF 18



SECOND FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " C "

Do not scale - refer to architectural
plans for dimensions

MATCH LEGEND
CERAMIC TILES

Phid	Length	Product	Piles	Net Qty
B1	8'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B2	12'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	14'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B4	8'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B5	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B6	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B7	6'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B8	4'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B9	18'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
J1	17'-00-00	11 7/8" N/A20	1	38
J2	16'-00-00	11 7/8" N/A20	1	5
J3	14'-00-00	11 7/8" N/A20	1	31
J4	12'-00-00	11 7/8" N/A20	1	14
J5	12'-00-00	11 7/8" N/A20	1	3
J6	4'-00-00	11 7/8" N/A20	1	1
J7	4'-00-00	11 7/8" N/A20	1	2
J8	34'-00-00	11 7/8" N/A20	1	1
J9	12'-00-00	11 7/8" Rim Board	1	14

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.30.6
SUBFLOOR - 3/4" NAILED & GULFED *
RIMBOARD - 1-1/8" X 11 7/8" O.S.B.

Phid	Qty	Material	Product
H1	1		HIGUS10
H2	4		HUS16/10
H3	2		LS80
H4	52		LT251185



Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPA ROOF
TRUSSES INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER: FC

REVISIONS:

#1	#2
#3	#4

LEGEND:

BRD	Beam Br. Churn
APP	As per Blue
FLOR	Foot Load from Glider
FLOR	Foot Load from Glider
S.B.	Solid Beam

DESIGN INFO:

JT/PL:

45147/106927

Layout ID:

321528

LOADING

Unit: 40 lb/ft²

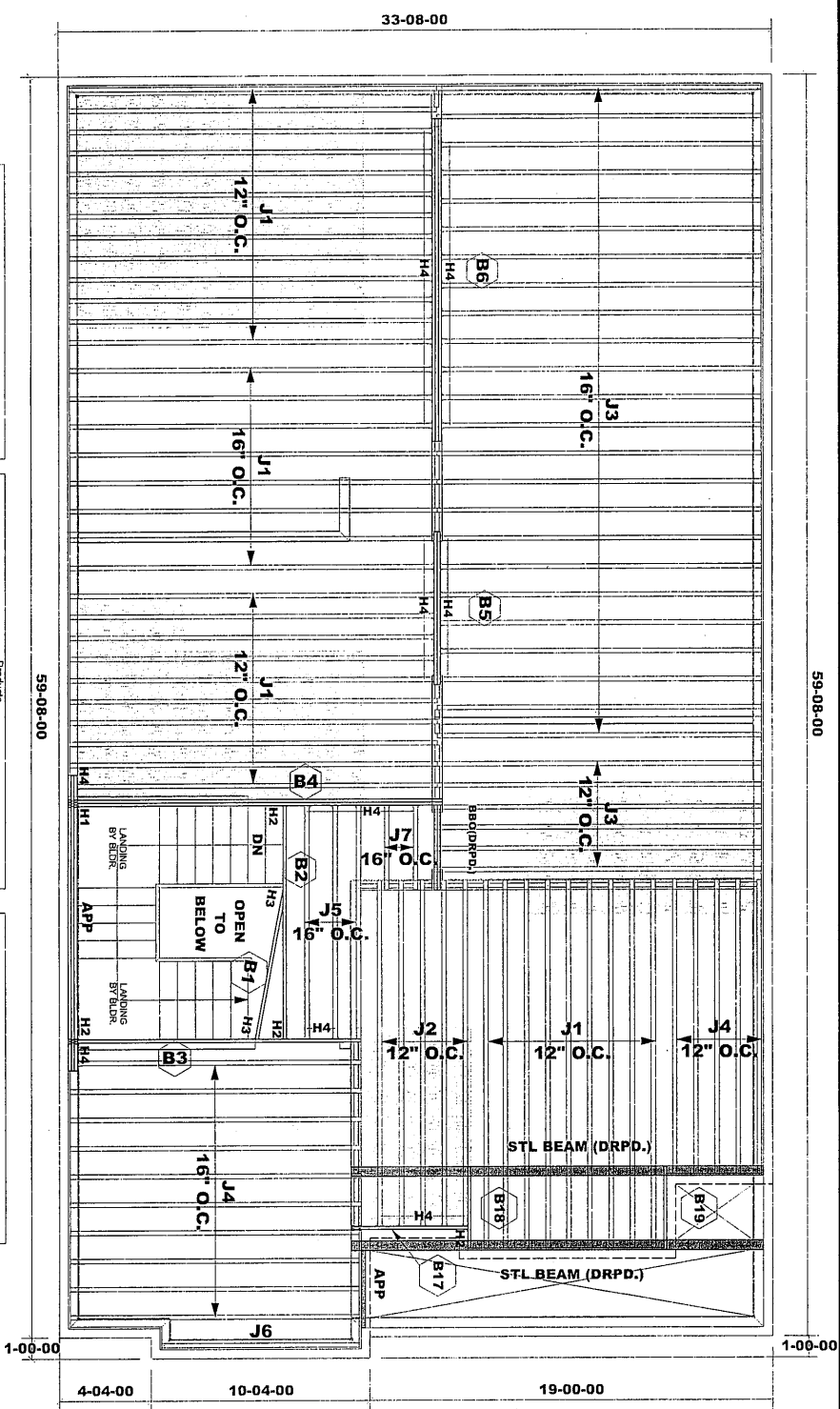
Deck: 20 lb/ft²

DEFLECTION CRITERIA

Unit: 360.000

Total 240.000

14 OF 18



SECOND FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " C "
OPT. 5 - BEDROOM

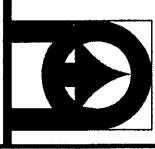
Do not scale - refer to architectural
plans for dimensions

MATCH LEGEND
CERAMIC TILES

ProdID	Length	Product	Piles	Net Qty
B1	8'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B2	12'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B3	14'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B4	16'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B5	18'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B6	16'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B7	6'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B8	4'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
B9	4'-00-00	1-3/4" x 11-7/8" VERSA-LAME 2.0 3100 SP	1	1
J1	18'-00-00	11 7/8" N-20	1	40
J2	17'-00-00	11 7/8" N-20	1	5
J3	16'-00-00	11 7/8" N-20	1	30
J4	14'-00-00	11 7/8" N-20	1	15
J5	12'-00-00	11 7/8" N-20	1	3
J6	10'-00-00	11 7/8" N-20	1	1
J7	4'-00-00	11 7/8" N-20	1	2
J8	3'-00-00	11 7/8" N-20	1	1
J9	12'-00-00	1 1/8" x 11 7/8" Rim Board	1	14

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.306
SUBFLOOR - 3/4" NAILED & GULDED *
RIMBOARD - 1-1/8" x 11 7/8" O.S.B.

ProdID	Qty	Material	Product
H1	1	HQUS410	
H2	4	HQUS410	
H3	2	LS90	
H4	52	LT25T188	



Yard:
Home Lumber

Contact:
Derek Frankfort

Date: June 22, 2020

ALPA ROOF
TRUSSES, INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:
Vaughan

DESIGNER: FC

REVISIONS:

#1
#2
#3
#4

LEGEND:

BRG Beam Joist
RIGS Rafter Joist
FLOOR Floor Joist from Lumber
S.B. Solid Batten

DESIGN INFO:

JT/PL:

45147/106927

LAYOUT ID:
321528

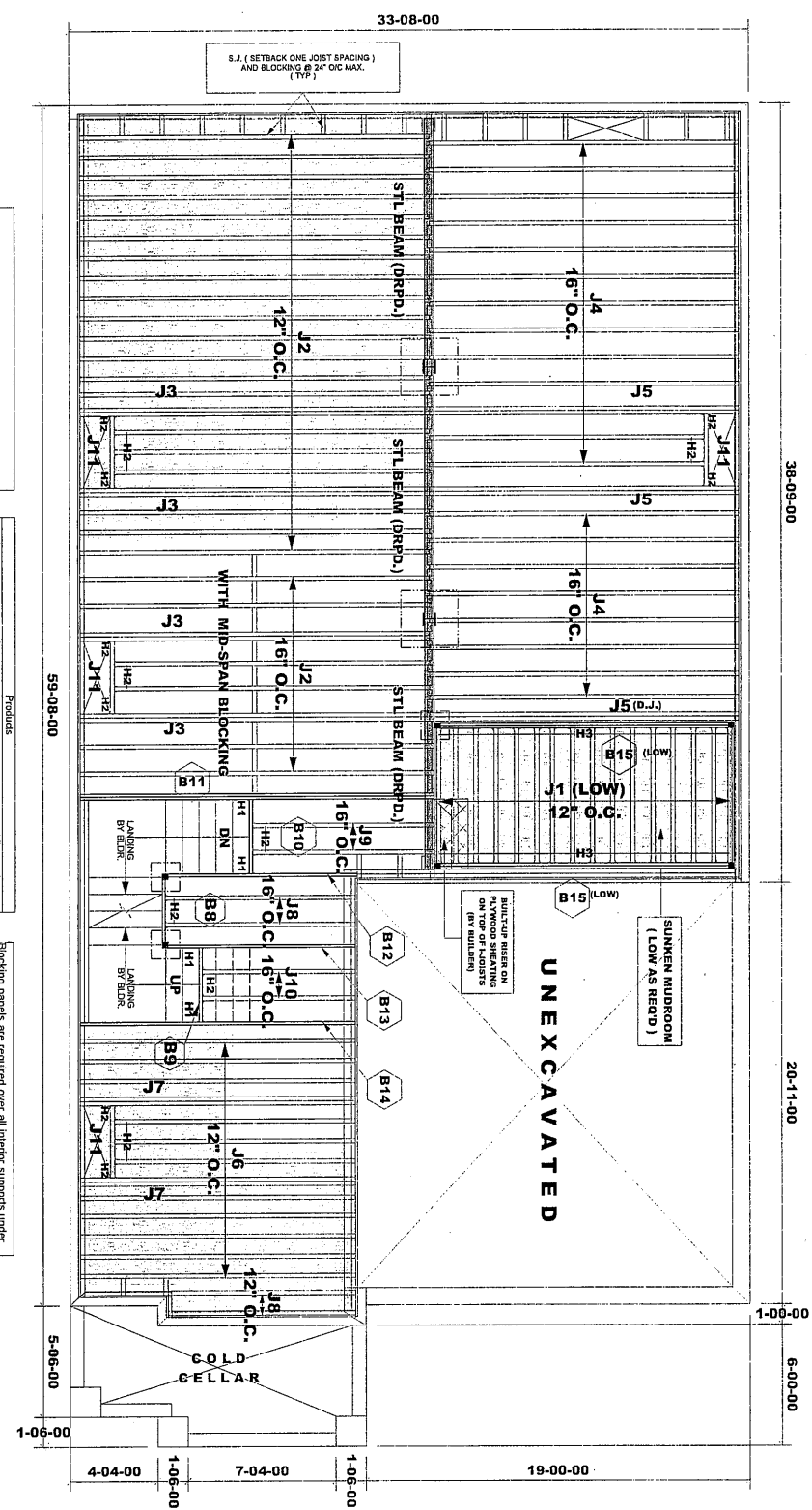
LOADING

Deflection Criteria

Line 360.000

Total 240.000

15 OF 18



FIRST FLOOR FRAMING

UNIT : 4206 (IRONWOOD)
ELEV. " C "

Do not scale - refer to architectural plans for dimensions.

MATCH LEGEND	
	CERAMIC
	TILES

Prod	Length	Product	Files	Nat City
B8	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B9	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B11	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B12	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B13	16-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B14	14-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15	15-00-00	1-3/4" x 9-1/2" VERSA-LAM® 2.0 3100 SP	2	4
J1	8-00-00	9 1/2" N-20	1	16
J2	16-00-00	11 7/8" N-20	1	26
J3	16-00-00	11 7/8" N-20	2	52
J4	16-00-00	11 7/8" N-20	2	20
J5	16-00-00	11 7/8" N-20	2	6
J6	16-00-00	11 7/8" N-20	2	11
J7	14-00-00	11 7/8" N-20	2	4
J8	16-00-00	11 7/8" N-20	1	2
J9	16-00-00	11 7/8" N-20	1	4
J10	16-00-00	11 7/8" N-20	1	1
J11	4-00-00	11 7/8" N-20	1	1
J12	4-00-00	11 7/8" N-20	1	1
J13	16-00-00	11 7/8" N-20	1	1
J14	16-00-00	11 7/8" N-20	1	1
J15	12-00-00	1 1/8" x 11 7/8" Rim Board	1	16

Blocking panels are required over all interior supports under load bearing walls or when floor joists are not continuous over support.

Squash blocks are required under concentrated load.

Ceramic tile application as per O.B.C. 8.30.6

SUBFLOOR - 3/4" NAILED & GULFED *

RIMBOARD 1-1/8" x 11 7/8" O.S.B.

Prod	Qty	Material	Product
H1	32	1758	1758
H2	32	1758	1758
H3	32	1758	1758



Yard:

Home Lumber

Contact:

Derek Frankfort

Date: June 22, 2020

ALPA ROOF

TRUSSES INC.

Gold Park

4206 (Ironwood)

Pine Valley

LOCATION:

Vaughan

DESIGNER: F.C.

REVISIONS:

#1

#2

#3

#4

LEGEND:

900 Beam by Others

APP As Per Plan

TRUSS Truss from Older

TRUSS Truss from Older

TRUSS Truss from Older

TRUSS Truss from Older

TRUSS Truss from Older

TRUSS Truss from Older

TRUSS Truss from Older

TRUSS Truss from Older

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TRUSS Truss from Older

TRUSS Truss from Older

TRUSS Truss from Older

DESIGN INFO:

JT/P:

45147/106927

Layout ID:

321528

LOADING

200 lb/ft

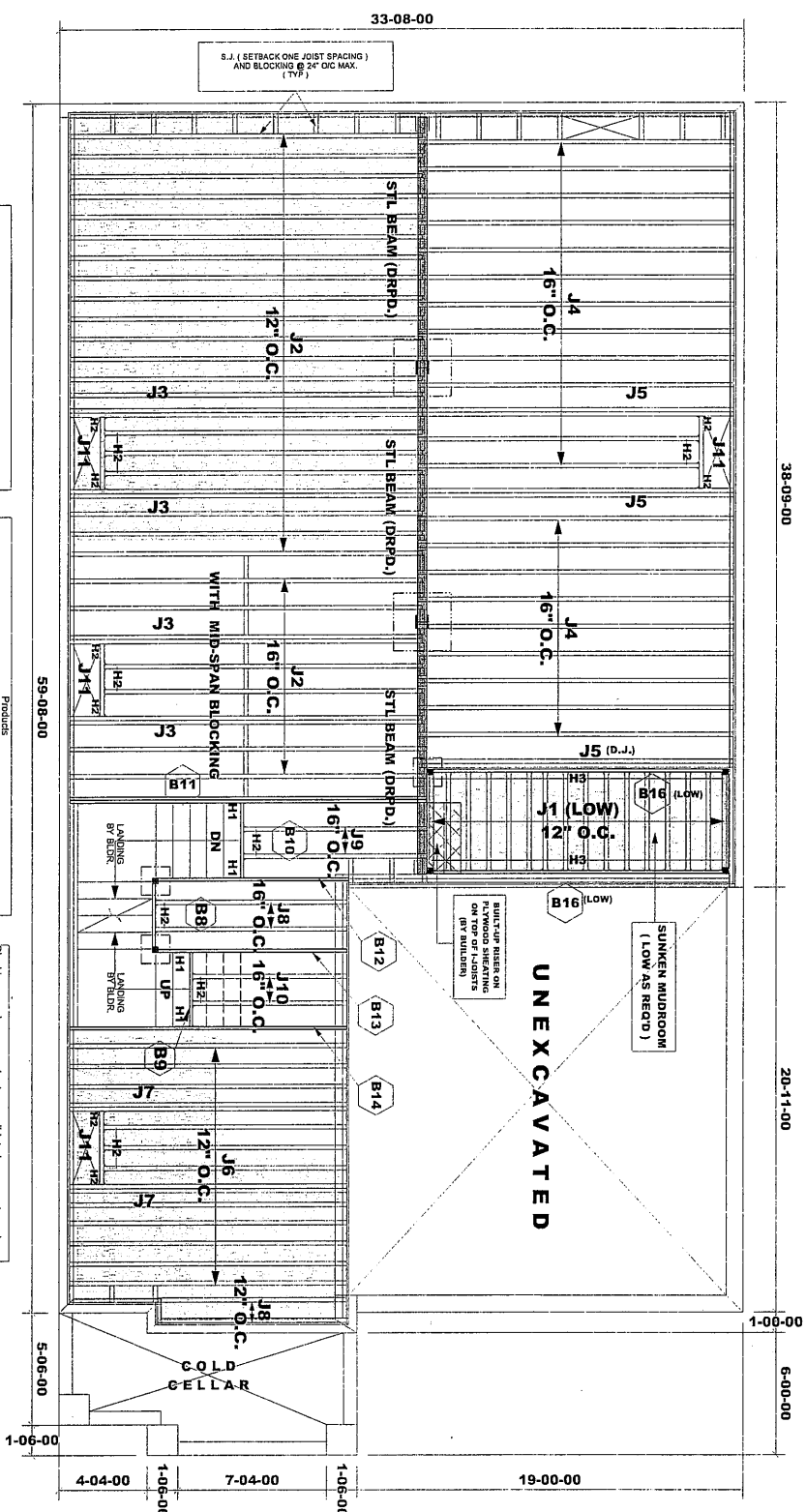
Deflection Criteria

LIVE 360.000

DEAD 26.000

TOTAL

16 OF 18



FIRST FLOOR FRAMING

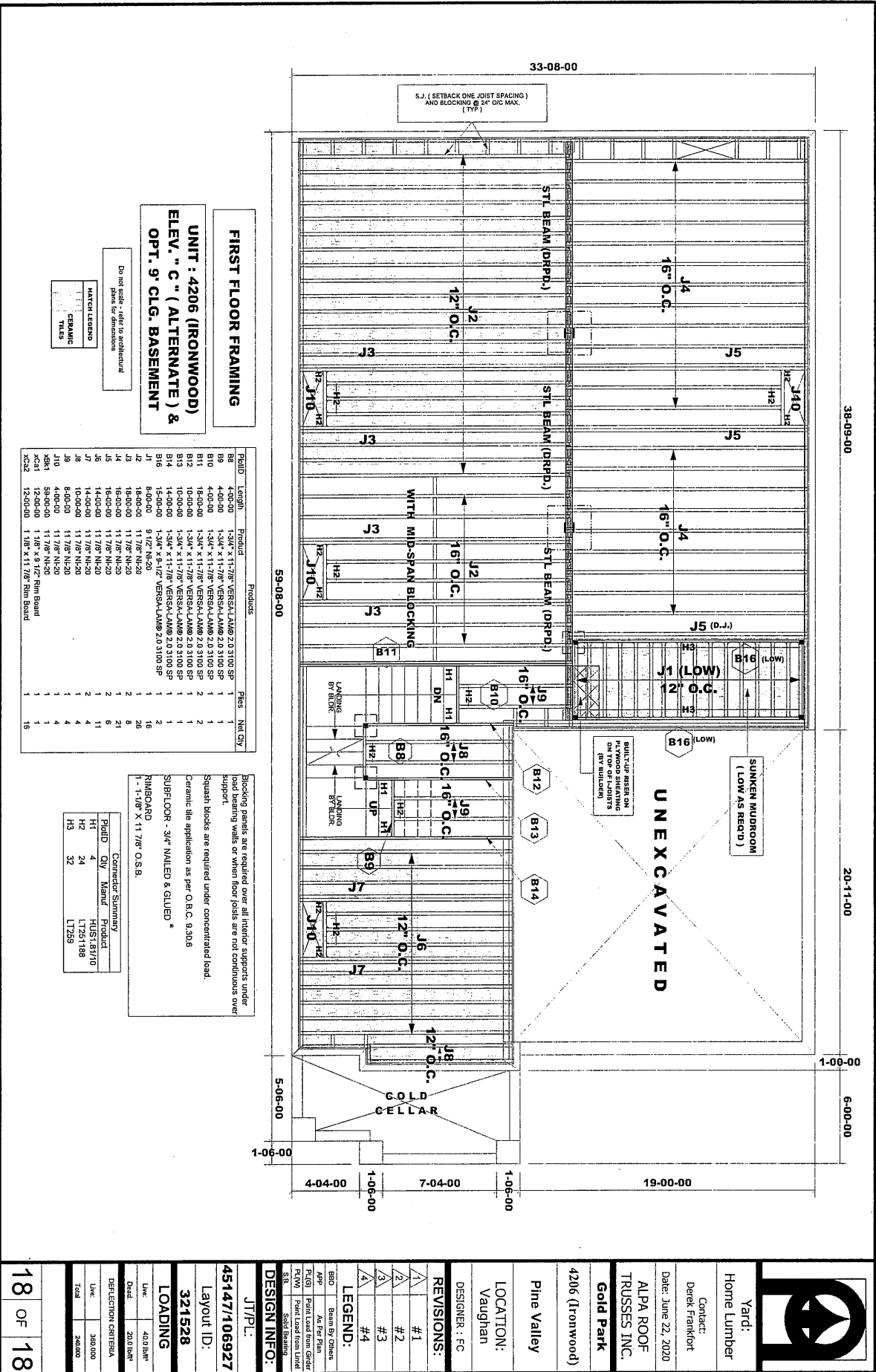
UNIT : 4206 (IRONWOOD)
ELEV. " C " (ALTERNATE)

Do not scale - refer to architectural
plans for dimensions

Prod	Length	Product	Plies	Nat Qty
B8	4'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B9	4'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B10	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	1
B11	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	2	1
B12	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B13	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B14	16'-00-00	1-3/4" X 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B15	15'-00-00	1-3/4" X 8-1/2" VERSA-LAM® 2.0 3100 SP	1	1
B16	8'-00-00	9-1/2" N-20	1	16
J1	12'-00-00	11-7/8" N-20	1	25
J2	12'-00-00	11-7/8" N-20	1	25
J3	12'-00-00	11-7/8" N-20	1	25
J4	12'-00-00	11-7/8" N-20	1	25
J5	12'-00-00	11-7/8" N-20	1	25
J6	12'-00-00	11-7/8" N-20	1	25
J7	12'-00-00	11-7/8" N-20	1	25
J8	12'-00-00	11-7/8" N-20	1	25
J9	12'-00-00	11-7/8" N-20	1	25
J10	12'-00-00	11-7/8" N-20	1	25
J11	12'-00-00	11-7/8" N-20	1	25
K1	12'-00-00	11-7/8" N-20	1	25
K2	12'-00-00	11-7/8" N-20	1	25
K3	12'-00-00	11-7/8" N-20	1	25
K4	12'-00-00	11-7/8" N-20	1	25
K5	12'-00-00	11-7/8" N-20	1	25
K6	12'-00-00	11-7/8" N-20	1	25
K7	12'-00-00	11-7/8" N-20	1	25
K8	12'-00-00	11-7/8" N-20	1	25
K9	12'-00-00	11-7/8" N-20	1	25
K10	12'-00-00	11-7/8" N-20	1	25
K11	12'-00-00	11-7/8" N-20	1	25
K12	12'-00-00	11-7/8" N-20	1	25
K13	12'-00-00	11-7/8" N-20	1	25
K14	12'-00-00	11-7/8" N-20	1	25
K15	12'-00-00	11-7/8" N-20	1	25
K16	12'-00-00	11-7/8" N-20	1	25
K17	12'-00-00	11-7/8" N-20	1	25
K18	12'-00-00	11-7/8" N-20	1	25
K19	12'-00-00	11-7/8" N-20	1	25
K20	12'-00-00	11-7/8" N-20	1	25
K21	12'-00-00	11-7/8" N-20	1	25
K22	12'-00-00	11-7/8" N-20	1	25
K23	12'-00-00	11-7/8" N-20	1	25
K24	12'-00-00	11-7/8" N-20	1	25
K25	12'-00-00	11-7/8" N-20	1	25
K26	12'-00-00	11-7/8" N-20	1	25
K27	12'-00-00	11-7/8" N-20	1	25
K28	12'-00-00	11-7/8" N-20	1	25
K29	12'-00-00	11-7/8" N-20	1	25
K30	12'-00-00	11-7/8" N-20	1	25
K31	12'-00-00	11-7/8" N-20	1	25
K32	12'-00-00	11-7/8" N-20	1	25

Blocking panels are required over all interior supports under
load bearing walls or when floor joists are not continuous over
support.
Squash blocks are required under concentrated load.
Ceramic tile application as per O.B.C. 9.30.6
SUBFLOOR - 3/4" NAILLED & GLUED *
RIMBOARD - 1-1/2" X 11 7/8" O.S.B.

Prod	Qty	Material	Product
H1	4	HU51.81/10	
H2	24	LT25198	
H3	32	LT259	



Yard:		Home Lumber
Contact:		Derek Frankfort
Date:		June 22, 2020
ALPHA ROOF TRUSSES INC.		
Gold Park		
4206 (Ironwood)		
Pine Valley		
LOCATION:		Vaughan
DESIGNER:		FC
REVISIONS:		
1		#1
2		#2
3		#3
4		#4
LEGEND:		
BIO		Beam by Other
BIO		Beam by Other
FLO		Floor Load from Other
FLO		Floor Load from Other
S.S.		Side Siding
DESIGN INFO:		
JT/PL:		
45147/106927		
Layout ID:		
321528		
LOADING		
Live:		40.0 lb/ft²
Dead:		20.0 lb/ft²
DEFLECTION CRITERIA		
Live:		360.000
Total:		240.000
18 OF 18		

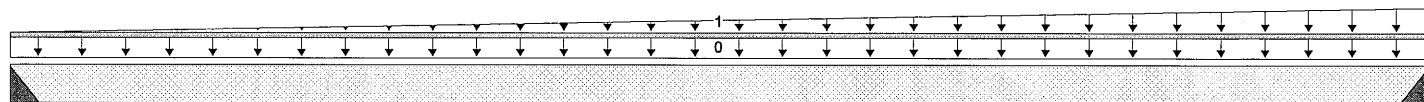
BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:20:10

File name: 4206 EL. A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B1(i36248)
 Specifier:
 Designer:
 Company:

CCMC 12472-R



06-09-03
 Total Horizontal Product Length = 06-09-03

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	44 / 0	37 / 0		
B2, 2"	91 / 0	54 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-09-03	Top		6			00-00-00
1	User Load	Trapezoidal (lb/ft)	L	00-00-00	06-09-03	Top	0	0			n/a
							40	15			

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	256 ft-lbs	17696 ft-lbs	1.4%	1	03-09-10
End Shear	183 lbs	7232 lbs	2.5%	1	05-07-05
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	03-05-07
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	03-06-04
Max Defl.	0.003"	n/a	n/a	4	03-05-07
Span / Depth	6.6				

Bearing Supports

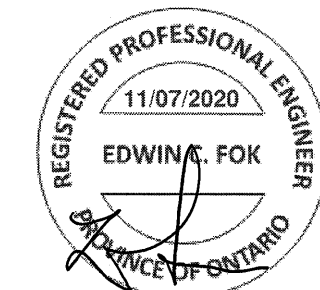
	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Hanger	2" x 1-3/4"	113 lbs	n/a	2.6%	LS90
B2 Hanger	2" x 1-3/4"	204 lbs	n/a	4.8%	LS90

Cautions

Header for the hanger LS90 is a Single 1-3/4" x 11-7/8" LVL Beam.
 Hanger model LS90 and seat length were input by the user.

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-04-12, Bottom: 00-04-12.
 Hanger Manufacturer: Unassigned
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9



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®,

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

2nd Floor - Supply/BOM\Flush Beams\B2(i36771) (Flush Beam)

PASSED

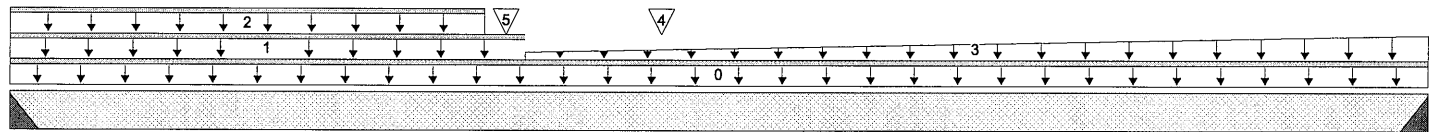
BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:20:10

File name: 4206 EL. A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B2(i36771)
 Specifier:
 Designer:
 Company:

CCMC 12472-R



B1

11-00-08

B2

Total Horizontal Product Length = 11-00-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	940 / 0	425 / 0		
B2, 2"	449 / 0	250 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	11-00-08	Top		6			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-00-01	Top	23	11			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top	240	90			n/a
3	FC1 Floor Material	Trapezoidal (lb/ft)	L	04-00-01	11-00-08	Top	24	12			n/a
							77	39			
4	B1(i36248)	Conc. Pt. (lbs)	L	05-00-13	05-00-13	Top	57	44			n/a
5	W8(i28414)	Conc. Pt. (lbs)	L	03-10-04	03-10-04	Top		9			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3368 ft-lbs	17696 ft-lbs	19.0%	1	03-08-04
End Shear	1330 lbs	7232 lbs	18.4%	1	01-01-14
Total Load Deflection	L/999 (0.101")	n/a	n/a	4	05-02-10
Live Load Deflection	L/999 (0.067")	n/a	n/a	5	05-02-10
Max Defl.	0.101"	n/a	n/a	4	05-02-10
Span / Depth	10.9				



Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Hanger	2" x 1-3/4"	1941 lbs	n/a	45.4%	HUS1.81/10
B2 Hanger	2" x 1-3/4"	986 lbs	n/a	23.1%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.
 Hanger model HUS1.81/10 and seat length were input by the user.

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" LVL Beam.

BC CALC® Member Report
 Build 7493

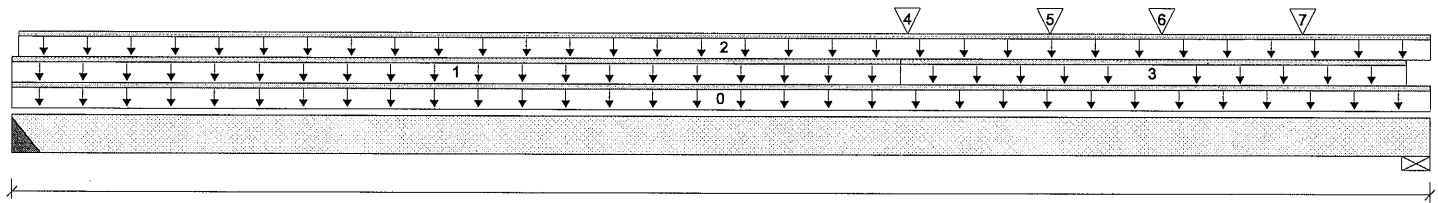
Dry | 1 span | No cant.

June 22, 2020 13:20:10

Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

CCMC 12472-R

File name: 4206 EL. A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B3(i36265)
 Specifier:
 Designer:
 Company:



B1

13-04-12

B2

Total Horizontal Product Length = 13-04-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	374 / 0	629 / 0		
B2, 5-1/2"	1045 / 0	1016 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-04-12	Top		6			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-04-11	Top	26	13			n/a
2	11(i28404)	Unf. Lin. (lb/ft)	L	00-00-12	13-04-12	Top		61			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	08-04-11	13-02-00	Top	24	12			n/a
4	B1(i36248)	Conc. Pt. (lbs)	L	08-05-08	08-05-08	Top	88	51			n/a
5	B2(i36771)	Conc. Pt. (lbs)	L	09-09-10	09-09-10	Top	455	252			n/a
6	J5(i36775)	Conc. Pt. (lbs)	L	10-10-04	10-10-04	Top	268	134			n/a
7	J5(i36741)	Conc. Pt. (lbs)	L	12-02-04	12-02-04	Top	273	136			n/a

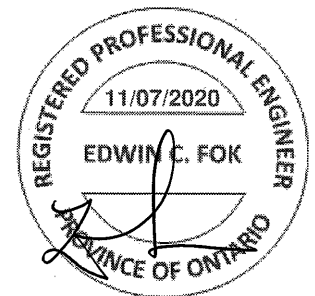
Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	6354 ft-lbs	17696 ft-lbs	35.9%	1	08-05-08
End Shear	2496 lbs	7232 lbs	34.5%	1	11-11-06
Total Load Deflection	L/566 (0.273")	n/a	42.4%	4	07-00-07
Live Load Deflection	L/999 (0.124")	n/a	n/a	5	07-00-07
Max Defl.	0.273"	n/a	n/a	4	07-00-07
Span / Depth	13.0				

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger 2" x 1-3/4"	880 lbs	n/a	31.7%	HUS1.81/10
B2	Wall/Plate 5-1/2" x 1-3/4"	2837 lbs	47.9%	24.2%	Spruce-Pine-Fir

Cautions

Header for the hanger HUS1.81/10 is a Triple 1-3/4" x 11-7/8" LVL Beam.
 Hanger model HUS1.81/10 and seat length were input by the user



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 2nd Floor - Supply/BOM\Flush Beams\B4(i36742) (Flush Beam)

PASSED

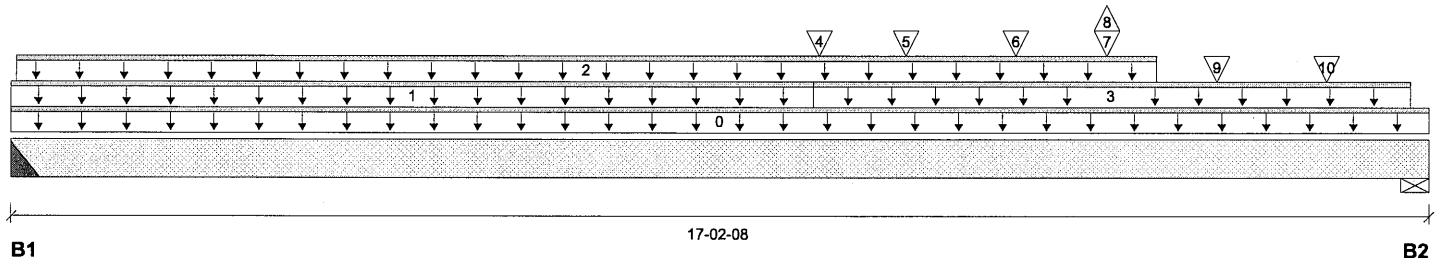
BC CALC® Member Report
Build 7493
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:20:10

File name: 4206 EL. A.mmdl
Description: 2nd Floor - Supply/BOM\Flush Beams\B4(i36742)
Specifier:
Designer:
Company:

CCMC 12472-R



Total Horizontal Product Length = 17-02-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	763 / 1	958 / 0		
B2, 5-1/2"	1351 / 5	1098 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	17-02-08	Top		12			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	09-08-12	Top	19	9			n/a
2	12(i28405)	Unf. Lin. (lb/ft)	L	00-00-12	13-10-12	Top		61			n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	09-08-12	16-11-12	Top	16	8			n/a
4	B2(i36771)	Conc. Pt. (lbs)	L	09-09-10	09-09-10	Top	936	423			n/a
5	J5(i36775)	Conc. Pt. (lbs)	L	10-10-04	10-10-04	Top	272	136			n/a
6	J5(i36741)	Conc. Pt. (lbs)	L	12-02-04	12-02-04	Top	276	138			n/a
7	J5(i36622)	Conc. Pt. (lbs)	L	13-03-08	13-03-08	Top	87	41			n/a
8	J5(i36622)	Conc. Pt. (lbs)	L	13-03-08	13-03-08	Top	-6				n/a
9	J7(i36807)	Conc. Pt. (lbs)	L	14-07-08	14-07-08	Top	105	52			n/a
10	J7(i36624)	Conc. Pt. (lbs)	L	15-11-08	15-11-08	Top	131	66			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	16465 ft-lbs	35392 ft-lbs	46.5%	1	09-09-10
End Shear	3280 lbs	14464 lbs	22.7%	1	15-09-02
Total Load Deflection	L/369 (0.543")	n/a	65.0%	6	08-11-01
Live Load Deflection	L/702 (0.286")	n/a	51.3%	8	08-11-01
Max Defl.	0.543"	n/a	n/a	6	08-11-01
Span / Depth	16.9				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 3-1/2"	2343 lbs	n/a	27.4%	HGUS410
B2	Wall/Plate 5-1/2" x 3-1/2"	3399 lbs	28.7%	14.5%	Spruce-Pine-Fir

Cautions

Header for the hanger HGUS410 is a Triple 1-3/4" x 11-7/8" LVL Beam.

Hanger model HGUS410 and seat length were input by the user. Nail one ply to another with 3 1/2" spiral nails @ 2" o.c., staggered in 2 rows



SG020598

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

2nd Floor - Supply/BOM\Flush Beams\B5(i36197) (Flush Beam)

PASSED

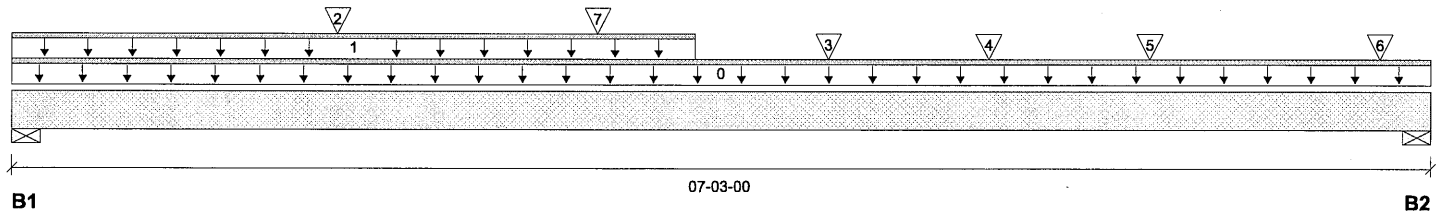
BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:20:10

File name: 4206 EL. A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B5(i36197)
 Specifier:
 Designer:
 Company:

CCMC 12472-R



Total Horizontal Product Length = 07-03-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	2572 / 0	1328 / 0		
B2, 5-1/2"	2500 / 0	1293 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	07-03-00	Top		12			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-00-00	03-05-14	Top	478	239			n/a
2	J1(i36669)	Conc. Pt. (lbs)	L	01-07-14	01-07-14	Top	458	229			n/a
3	-	Conc. Pt. (lbs)	L	04-02-01	04-02-01	Top	749	374			n/a
4	J1(i36672)	Conc. Pt. (lbs)	L	04-11-14	04-11-14	Top	344	172			n/a
5	-	Conc. Pt. (lbs)	L	05-09-11	05-09-11	Top	749	374			n/a
6	-	Conc. Pt. (lbs)	L	06-11-14	06-11-14	Top	698	349			n/a
7	J3(i36555)	Conc. Pt. (lbs)	L	02-11-14	02-11-14	Top	405	202			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	7133 ft-lbs	35392 ft-lbs	20.2%	1	03-11-14
End Shear	3723 lbs	14464 lbs	25.7%	1	05-09-10
Total Load Deflection	L/999 (0.039")	n/a	n/a	4	03-07-06
Live Load Deflection	L/999 (0.026")	n/a	n/a	5	03-07-06
Max Defl.	0.039"	n/a	n/a	4	03-07-06
Span / Depth	6.5				

Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 5-1/2" x 3-1/2"	5517 lbs	46.6%	23.5%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 3-1/2"	5366 lbs	45.3%	22.8%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 9
 Nail one ply to another with
 3 1/2" spiral nails @ 9"
 o.c, staggered in 2 rows



Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP
2nd Floor - Supply/BOM\Flush Beams\B6(i36169) (Flush Beam)

PASSED

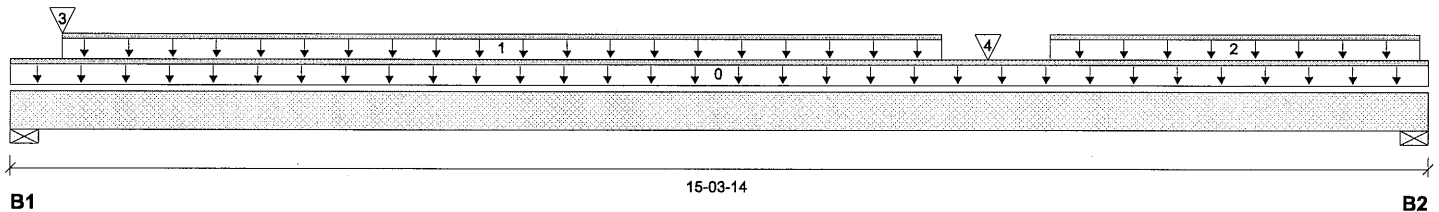
BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:20:10

File name: 4206 EL. A.mmdl
 Description: 2nd Floor - Supply/BOM\Flush Beams\B6(i36169)
 Specifier:
 Designer:
 Company:

CCMC 12472-R



Total Horizontal Product Length = 15-03-14

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 4-3/8"	4760 / 0	2518 / 0		
B2, 5-1/2"	4950 / 0	2613 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	15-03-14	Top		18			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	00-06-12	10-00-12	Top	627	313			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	11-02-12	15-02-12	Top	650	325			n/a
3	J1(i36651)	Conc. Pt. (lbs)	L	00-06-12	00-06-12	Top	345	173			n/a
4	-	Conc. Pt. (lbs)	L	10-06-12	10-06-12	Top	810	404			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	37655 ft-lbs	55212 ft-lbs	68.2%	1	07-06-12
End Shear	9560 lbs	21696 lbs	44.1%	1	01-04-04
Total Load Deflection	L/251 (0.699")	n/a	95.6%	4	07-06-12
Live Load Deflection	L/384 (0.458")	n/a	93.9%	5	07-06-12
Max Defl.	0.699"	n/a	n/a	4	07-06-12
Span / Depth	14.8				

Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 4-3/8" x 5-1/4"	10287 lbs	72.8%	36.7%	Spruce-Pine-Fir
B2	Wall/Plate 5-1/2" x 5-1/4"	10691 lbs	60.2%	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.
 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 9

Nail one ply to another with
 3 1/2" spiral nails @ 6"
 o.c, staggered in 2 rows



Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP
2nd Floor - Supply/BOM/Flush Beams\B7(i36202) (Flush Beam)

PASSED

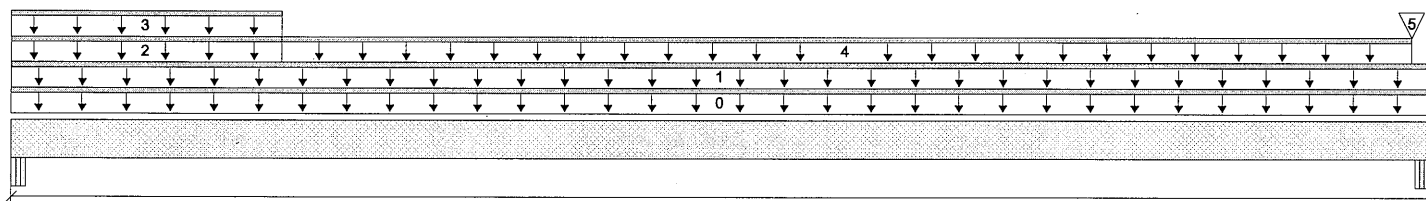
BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:20:10

File name: 4206 EL. A.mmdl
 Description: 2nd Floor - Supply/BOM/Flush Beams\B7(i36202)
 Specifier:
 Designer:
 Company:

CCMC 12472-R



Total Horizontal Product Length = 01-07-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-3/4"	9 / 0	157 / 0	112 / 0	
B2, 5-1/2"	0 / 0	228 / 0	169 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	01-07-12	Top		6			00-00-00
1	4(i28399)	Unf. Lin. (lb/ft)	L	00-00-00	01-07-12	Top		101			n/a
2	4(i28399)	Unf. Lin. (lb/ft)	L	00-00-00	00-03-12	Top		60	94		n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	00-03-12	Top	31	15			n/a
4	4(i28399)	Unf. Lin. (lb/ft)	L	00-03-12	01-07-08	Top		121	189		n/a
5	4(i28399)	Conc. Pt. (lbs)	L	01-07-08	01-07-08	Top		26	4		n/a

Controls Summary

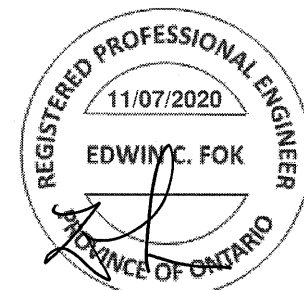
	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	71 ft-lbs	17696 ft-lbs	0.4%	13	00-09-00
End Shear	249 lbs	7232 lbs	3.4%	13	00-03-12
Span / Depth	1.0				

Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Beam 3-3/4" x 1-3/4"	374 lbs	9.3%	4.7%	Unspecified
B2	Beam 5-1/2" x 1-3/4"	539 lbs	9.1%	4.6%	Unspecified

Notes

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.
 Unbalanced snow loads determined from building geometry were used in selected product's verification.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9



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.

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3602060 |

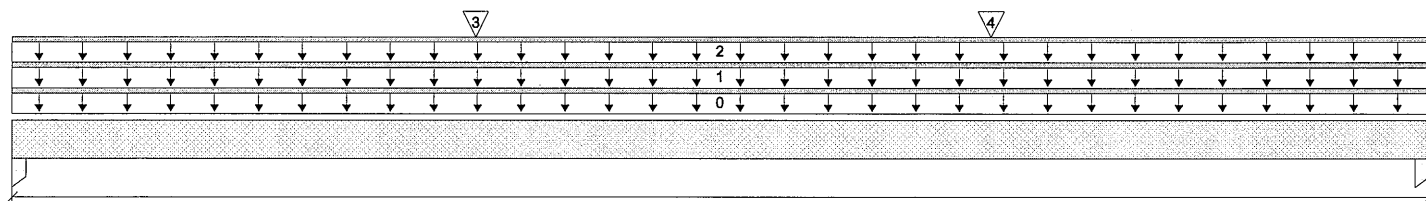
BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:22:05

File name: 4206 EL. A.mmdl
 Description: Ground Floor - Supply/BOM\Flush Beams\B8(i36318)
 Specifier:
 Designer:
 Company:

CCMC 12472-R



B1

03-08-00

B2

Total Horizontal Product Length = 03-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	234 / 0	290 / 0		
B2, 3-1/2"	240 / 0	293 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Top		6			00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Top		60			n/a
2	W11(i28433)	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Top		26			n/a
3	J8(i36353)	Conc. Pt. (lbs)	L	01-02-06	01-02-06	Top	241	121			n/a
4	J8(i36354)	Conc. Pt. (lbs)	L	02-06-06	02-06-06	Top	233	116			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	621 ft-lbs	17696 ft-lbs	3.5%	1	01-08-06
End Shear	518 lbs	7232 lbs	7.2%	1	01-03-06
Total Load Deflection	L/999 (0.002")	n/a	n/a	4	01-10-00
Live Load Deflection	L/999 (0.001")	n/a	n/a	5	01-10-00
Max Defl.	0.002"	n/a	n/a	4	01-10-00
Span / Depth	3.2				



Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column 3-1/2" x 1-3/4"	714 lbs	11.2%	9.6%	Unspecified
B2	Column 3-1/2" x 1-3/4"	726 lbs	11.4%	9.7%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9

Disclosure

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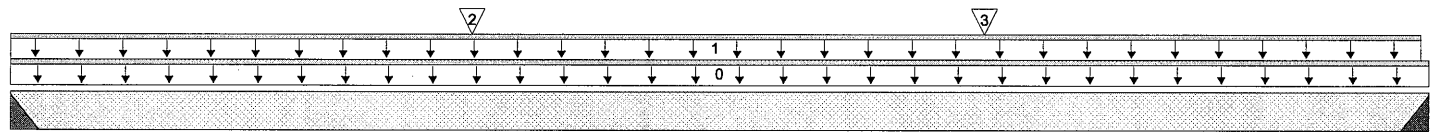
BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:22:05

File name: 4206 EL. A.mmdl
 Description: Ground Floor - Supply/BOM/Flush Beams\B9(i36331)
 Specifier:
 Designer:
 Company:

CCMC 12472-R



B1

03-08-04

B2

Total Horizontal Product Length = 03-08-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	566 / 0	250 / 0		
B2, 2"	566 / 0	250 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top		6			00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Top	180	68			n/a
2	J10(i36355)	Conc. Pt. (lbs)	L	01-02-06	01-02-06	Top	238	115			n/a
3	J10(i36356)	Conc. Pt. (lbs)	L	02-06-06	02-06-06	Top	234	113			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	1081 ft-lbs	17696 ft-lbs	6.1%	1	01-09-14
End Shear	750 lbs	7232 lbs	10.4%	1	02-06-06
Total Load Deflection	L/999 (0.003")	n/a	n/a	4	01-09-14
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	01-09-14
Max Defl.	0.003"	n/a	n/a	4	01-09-14
Span / Depth	3.5				

Bearing Supports

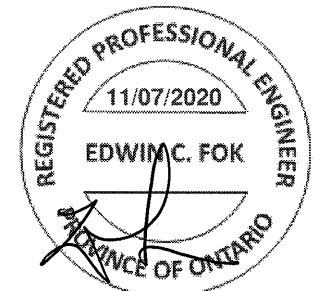
	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Hanger	2" x 1-3/4"	1161 lbs	n/a	27.2%	HUS1.81/10
B2 Hanger	2" x 1-3/4"	1162 lbs	n/a	27.2%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" LVL Beam.
 Hanger model HUS1.81/10 and seat length were input by the user. †

Notes

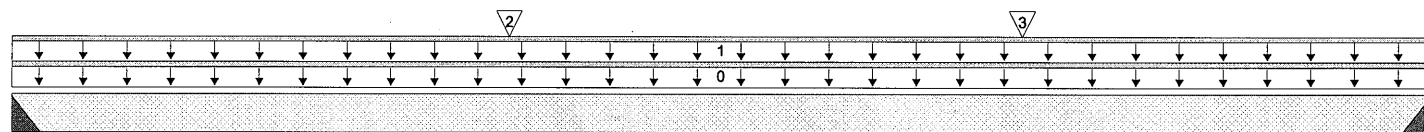
Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Hanger Manufacturer: Unassigned
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9



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B1

03-08-04

B2

Total Horizontal Product Length = 03-08-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2"	559 / 0	250 / 0		
B2, 2"	580 / 0	261 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top	6				00-00-00
1	User Load	Unf. Lin. (lb/ft)	L	00-00-00	03-08-04	Top	180	68			n/a
2	J9(i36789)	Conc. Pt. (lbs)	L	01-03-08	01-03-08	Top	251	126			n/a
3	J9(i36514)	Conc. Pt. (lbs)	L	02-07-08	02-07-08	Top	224	112			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	1098 ft-lbs	17696 ft-lbs	6.2%	1	01-08-10
End Shear	732 lbs	7232 lbs	10.1%	1	01-01-14
Total Load Deflection	L/999 (0.004")	n/a	n/a	4	01-10-00
Live Load Deflection	L/999 (0.002")	n/a	n/a	5	01-10-00
Max Defl.	0.004"	n/a	n/a	4	01-10-00
Span / Depth	3.5				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Hanger 2" x 1-3/4"	1151 lbs	n/a	27.0%	HUS1.81/10
B2	Hanger 2" x 1-3/4"	1195 lbs	n/a	28.0%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Double 1-3/4" x 11-7/8" LVL Beam.

Hanger model HUS1.81/10 and seat length were input by the user. †

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" LVL Beam.

Notes

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

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

Calculations assume member is fully braced.

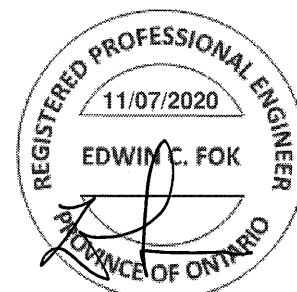
Hanger Manufacturer: Unassigned

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9


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

Build 7493

Job name:

File name: 4206 EL. A.mmdl

Address:

Description: Ground Floor - Supply/BOM\Flush Beams\B11(i36206)

City, Province, Postal Code:

Specifier:

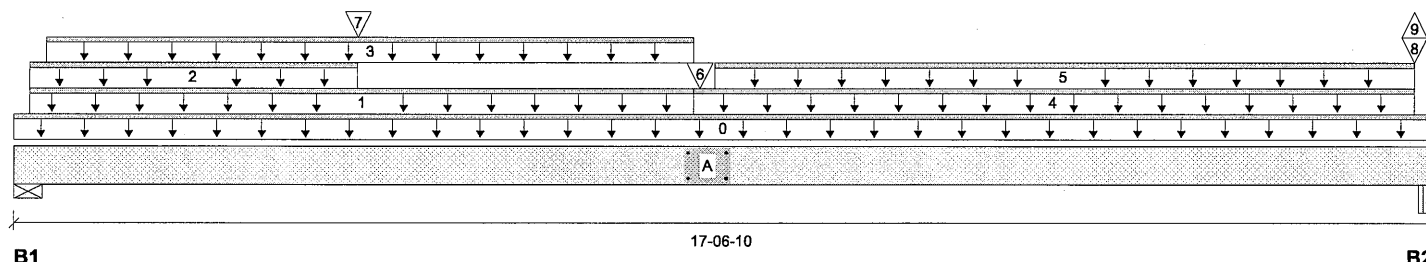
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 17-06-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	1052 / 0	966 / 0		
B2, 5-1/2"	2134 / 5	1728 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	17-06-10	Top		12			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-06	08-04-14	Top	26	13			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-02-06	04-02-14	Top	70	27			n/a
3	20(i28441)	Unf. Lin. (lb/ft)	L	00-04-14	08-04-14	Top		68			n/a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	L	08-04-14	17-03-14	Top	29	14			n/a
5	FC2 Floor Material	Unf. Lin. (lb/ft)	L	08-07-15	17-03-14	Top	23	12			n/a
6	B10(i36778)	Conc. Pt. (lbs)	L	08-05-12	08-05-12	Top	560	251			n/a
7	User Load	Conc. Pt. (lbs)	L	04-02-15	04-02-15	Top	315	119			n/a
8	27(i28448)	Conc. Pt. (lbs)	L	17-03-14	17-03-14	Top	1350	1120			n/a
9	27(i28448)	Conc. Pt. (lbs)	L	17-03-14	17-03-14	Top	-5				n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	11868 ft-lbs	35392 ft-lbs	33.5%	1	08-05-12
End Shear	2573 lbs	14464 lbs	17.8%	1	01-02-04
Total Load Deflection	L/479 (0.426")	n/a	50.1%	6	08-04-14
Live Load Deflection	L/870 (0.235")	n/a	41.4%	8	08-05-12
Max Defl.	0.426"	n/a	n/a	6	08-04-14
Span / Depth	17.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 3-1/2"	2786 lbs	54.5%	27.5%	Spruce-Pine-Fir
B2	Beam 5-1/2" x 3-1/2"	5361 lbs	45.3%	22.8%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

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

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

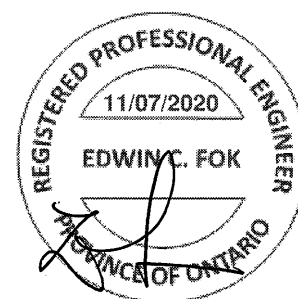
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 3

Nail one ply to another with

3 1/2" spiral nails @ 12"

o.c, staggered in 2 rows



Ground Floor - Supply/BOM\Flush Beams\B12(i36785) (Flush Beam)

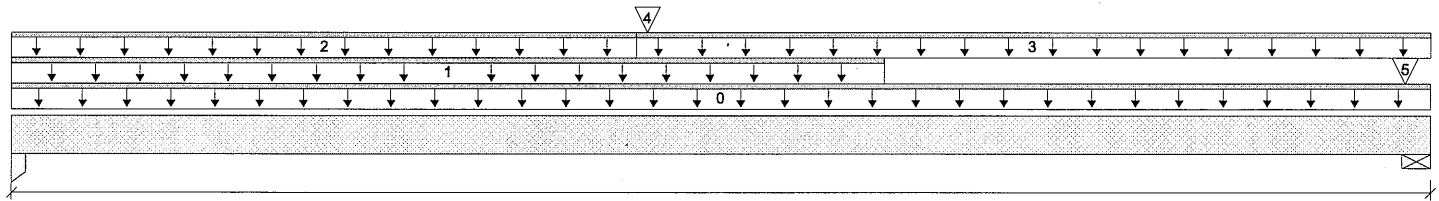
BC CALC® Member Report
Build 7493
Job name:
Address:
City, Province, Postal Code:
Customer:
Code reports:

Dry | 1 span | No cant.

June 22, 2020 13:22:05

File name: 4206 EL. A.mmdl
Description: Ground Floor - Supply/BOM\Flush Beams\B12(i36785)
Specifier:
Designer:
Company:

CCMC 12472-R



B1

09-06-04

B2

Total Horizontal Product Length = 09-06-04

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	459 / 0	348 / 0		
B2, 3-1/2"	609 / 0	400 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-06-04	Top		6			00-00-00
1	W10(i28431)	Unf. Lin. (lb/ft)	L	00-00-00	05-10-04	Top		26			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	04-02-04	Top	24	12			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	04-02-04	09-06-04	Top	46	22			n/a
4	B10(i36778)	Conc. Pt. (lbs)	L	04-03-02	04-03-02	Top	579	260			n/a
5	-	Conc. Pt. (lbs)	L	09-04-03	09-04-03	Top	147	106			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3861 ft-lbs	17696 ft-lbs	21.8%	1	04-03-02
End Shear	1052 lbs	7232 lbs	14.5%	1	01-01-10
Total Load Deflection	L/999 (0.074")	n/a	n/a	4	04-06-11
Live Load Deflection	L/999 (0.045")	n/a	n/a	5	04-07-15
Max Defl.	0.074"	n/a	n/a	4	04-06-11
Span / Depth	9.3				



Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column 1-3/4" x 1-3/4"	1123 lbs	35.1%	30.0%	Unspecified
B2	Wall/Plate 3-1/2" x 1-3/4"	1413 lbs	37.5%	18.9%	Spruce-Pine-Fir

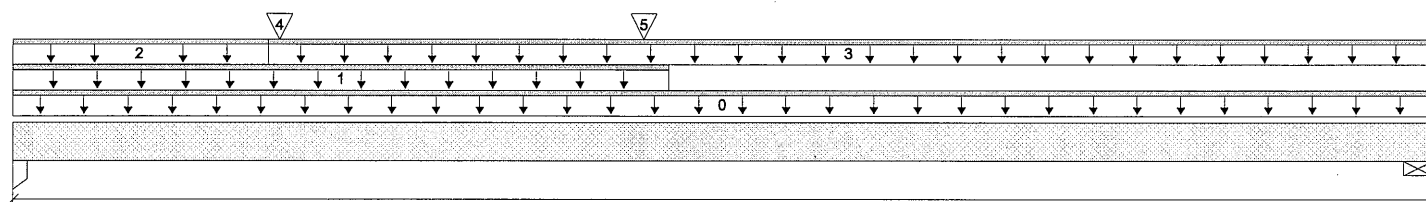
Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
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 9

Disclosure

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



B1

09-05-02

B2

Total Horizontal Product Length = 09-05-02

Reaction Summary (Down / Uplift) (lbs)

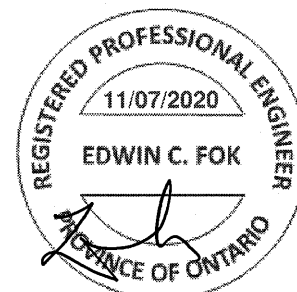
Bearing	Live	Dead	Snow	Wind
B1, 1-3/4"	656 / 0	416 / 0		
B2, 2-3/8"	331 / 0	213 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	09-05-02	Top		6			00-00-00
1	W12(i28434)	Unf. Lin. (lb/ft)	L	00-00-00	04-04-04	Top		26			n/a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	01-08-04	Top	23	11			n/a
3	FC2 Floor Material	Unf. Lin. (lb/ft)	L	01-08-04	09-05-02	Top	47	23			n/a
4	B9(i36331)	Conc. Pt. (lbs)	L	01-09-02	01-09-02	Top	565	249			n/a
5	FC2 Floor Material	Conc. Pt. (lbs)	L	04-02-04	04-02-04	Top	23	8			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2508 ft-lbs	17696 ft-lbs	14.2%	1	03-01-08
End Shear	1403 lbs	7232 lbs	19.4%	1	01-01-10
Total Load Deflection	L/999 (0.055")	n/a	n/a	4	04-04-04
Live Load Deflection	L/999 (0.033")	n/a	n/a	5	04-04-04
Max Defl.	0.055"	n/a	n/a	4	04-04-04
Span / Depth	9.3				


Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Column 1-3/4" x 1-3/4"	1504 lbs	47.0%	40.3%	Unspecified
B2	Wall/Plate 2-3/8" x 1-3/4"	762 lbs	29.8%	15.0%	Spruce-Pine-Fir

Notes

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

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

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 9

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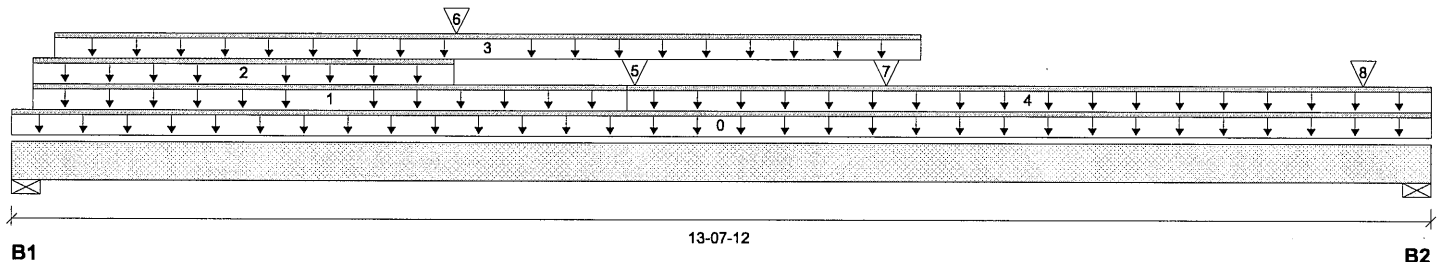
BC CALC® Member Report
 Build 7493

Dry | 1 span | No cant.

June 22, 2020 13:22:05

 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

CCMC 12472-R

 File name: 4206 EL. A.mmdl
 Description: Ground Floor - Supply/BOM\Flush Beams\B14(i36215)
 Specifier:
 Designer:
 Company:


Total Horizontal Product Length = 13-07-12

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 2-3/8"	960 / 0	828 / 0		
B2, 2-3/8"	660 / 0	559 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	13-07-12	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-02-06	05-10-14	Top	19	9			n/a
2	User Load	Unf. Lin. (lb/ft)	L	00-02-06	04-02-14	Top	70	27			n/a
3	15(i28436)	Unf. Lin. (lb/ft)	L	00-04-14	08-08-14	Top		68			n/a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	L	05-10-14	13-07-12	Top	42	21			n/a
5	B9(i36331)	Conc. Pt. (lbs)	L	05-11-12	05-11-12	Top	567	250			n/a
6	User Load	Conc. Pt. (lbs)	L	04-03-02	04-03-02	Top	315	119			n/a
7	FC2 Floor Material	Conc. Pt. (lbs)	L	08-04-14	08-04-14	Top	21				n/a
8	17(i28435)	Conc. Pt. (lbs)	L	12-11-14	12-11-14	Top		34			n/a

Controls Summary

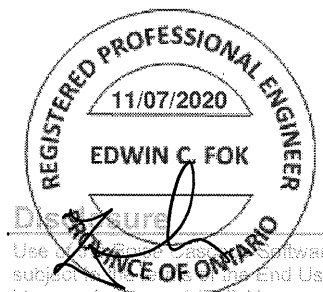
	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	9152 ft-lbs	17696 ft-lbs	51.7%	1	05-11-12
End Shear	2288 lbs	7232 lbs	31.6%	1	01-02-04
Total Load Deflection	L/408 (0.393")	n/a	58.8%	4	06-07-01
Live Load Deflection	L/740 (0.217")	n/a	48.7%	5	06-07-01
Max Defl.	0.393"	n/a	n/a	4	06-07-01
Span / Depth	13.5				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1	Wall/Plate 2-3/8" x 1-3/4"	2476 lbs	96.8%	48.8%	Spruce-Pine-Fir
B2	Wall/Plate 2-3/8" x 1-3/4"	1689 lbs	66.1%	33.3%	Spruce-Pine-Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 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 9



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Build 7493

Job name:

File name: 4206 EL. A.mmdl

Address:

Description: Ground Floor - Supply/BOM/Flush Beams\B15(i36186)

City, Province, Postal Code:

Specifier:

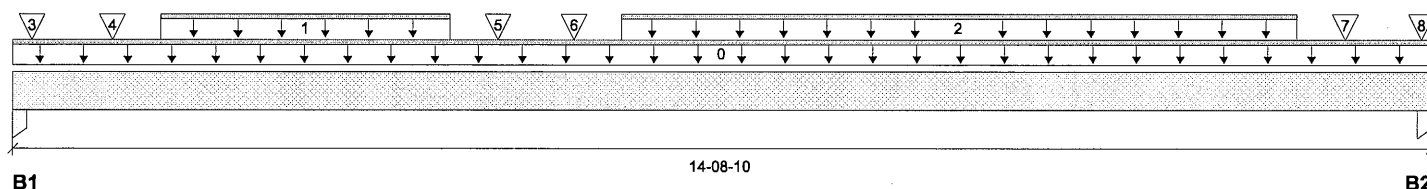
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 14-08-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	1081 / 0	612 / 0		
B2, 2-3/8"	1081 / 0	610 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-08-10	Top		10			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-06-06	04-06-06	Top	146	73			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	06-03-14	13-03-14	Top	146	73			n/a
3	J1(i36233)	Conc. Pt. (lbs)	L	00-02-06	00-02-06	Top	75	38			n/a
4	J1(i36533)	Conc. Pt. (lbs)	L	01-00-06	01-00-06	Top	134	67			n/a
5	J1(i36345)	Conc. Pt. (lbs)	L	05-00-06	05-00-06	Top	131	65			n/a
6	J1(i36799)	Conc. Pt. (lbs)	L	05-09-14	05-09-14	Top	131	65			n/a
7	J1(i36340)	Conc. Pt. (lbs)	L	13-09-14	13-09-14	Top	131	65			n/a
8	J1(i36683)	Conc. Pt. (lbs)	L	14-07-06	14-07-06	Top	72	36			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	8275 ft-lbs	23220 ft-lbs	35.6%	1	07-09-14
End Shear	2165 lbs	11571 lbs	18.7%	1	01-01-00
Total Load Deflection	L/396 (0.435")	n/a	60.6%	4	07-03-14
Live Load Deflection	L/620 (0.278")	n/a	58.1%	5	07-03-14
Max Defl.	0.435"	n/a	n/a	4	07-03-14
Span / Depth	18.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column 3-1/2" x 3-1/2"	2387 lbs	18.7%	16.0%	Unspecified
B2	Column 2-3/8" x 3-1/2"	2385 lbs	27.5%	23.5%	Unspecified

Notes

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

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

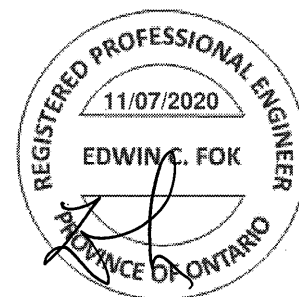
Calculations assume member is fully braced.

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

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

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 9

Nail one ply to another with
3 1/2" spiral nails @ 12"
o.c, staggered in 2 rows


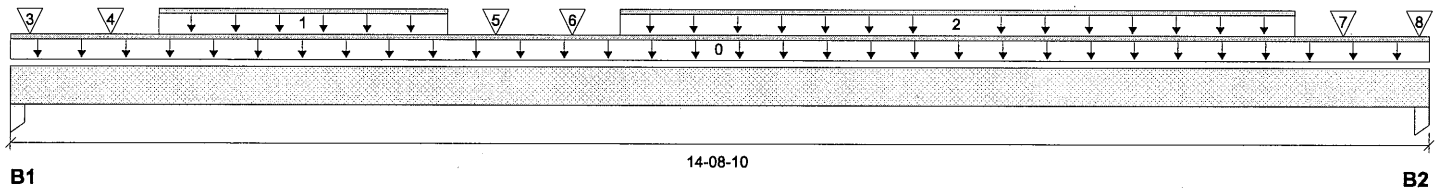
BC CALC® Member Report
 Build 7493

Dry | 1 span | No cant.

June 22, 2020 13:46:46

 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

CCMC 12472-R

 File name: 4206 EL. A OPT. 5-BR & ALT. G.F..mmdl
 Description: Ground Floor - Supply/BOM\Flush Beams\B16(i39785)
 Specifier:
 Designer:
 Company:


Total Horizontal Product Length = 14-08-10

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 3-1/2"	757 / 0	414 / 0		
B2, 2-3/8"	757 / 0	413 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	14-08-10	Top		5			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-06-06	04-06-06	Top	102	51			n/a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	06-03-14	13-03-14	Top	102	51			n/a
3	J1(i39225)	Conc. Pt. (lbs)	L	00-02-06	00-02-06	Top	53	26			n/a
4	J1(i39519)	Conc. Pt. (lbs)	L	01-00-06	01-00-06	Top	94	47			n/a
5	J1(i39335)	Conc. Pt. (lbs)	L	05-00-06	05-00-06	Top	92	46			n/a
6	J1(i39796)	Conc. Pt. (lbs)	L	05-09-14	05-09-14	Top	92	46			n/a
7	J1(i39332)	Conc. Pt. (lbs)	L	13-09-14	13-09-14	Top	92	46			n/a
8	J1(i39678)	Conc. Pt. (lbs)	L	14-07-06	14-07-06	Top	51	25			n/a

Controls Summary

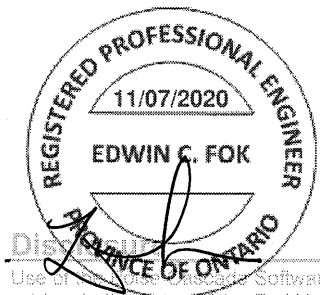
	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	5728 ft-lbs	11610 ft-lbs	49.3%	1	07-09-14
End Shear	1500 lbs	5785 lbs	25.9%	1	01-01-00
Total Load Deflection	L/286 (0.602")	n/a	83.8%	4	07-03-14
Live Load Deflection	L/443 (0.389")	n/a	81.3%	5	07-03-14
Max Defl.	0.602"	n/a	n/a	4	07-03-14
Span / Depth	18.1				

Bearing Supports

	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Column 3-1/2" x 1-3/4"	1653 lbs	25.8%	22.1%	Unspecified
B2	Column 2-3/8" x 1-3/4"	1652 lbs	38.1%	32.6%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9



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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

Dry | 1 span | No cant.

June 22, 2020 15:38:34

Build 7493

Job name:

File name: 4206 EL. C.mmdl

Address:

Description: 2nd Floor - Supply/BOM\Flush Beams\B17(i40567)

City, Province, Postal Code:

Specifier:

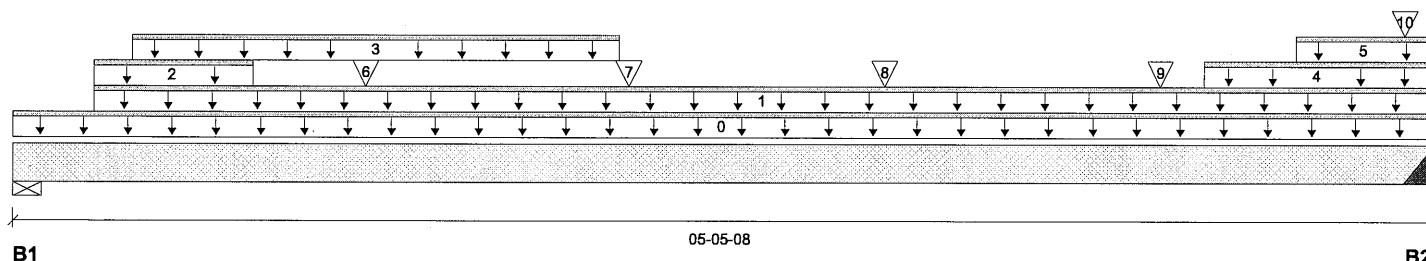
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Total Horizontal Product Length = 05-05-08

Reaction Summary (Down / Uplift) (lbs)

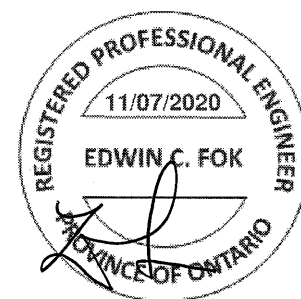
Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	673 / 0	935 / 0	437 / 0	
B2, 2"	933 / 0	1125 / 0	581 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	05-05-08	Top		6			00-00-00
1	5(i28403)	Unf. Lin. (lb/ft)	L	00-03-12	05-05-08	Top		101			n/a
2	5(i28403)	Unf. Lin. (lb/ft)	L	00-03-12	00-11-00	Top		125	130		n/a
3	5(i28403)	Unf. Lin. (lb/ft)	L	00-05-08	02-04-00	Top		94	147		n/a
4	5(i28403)	Unf. Lin. (lb/ft)	L	04-07-00	05-05-08	Top		94	147		n/a
5	5(i28403)	Unf. Lin. (lb/ft)	L	04-11-04	05-05-08	Top		260	392		n/a
6	J2(i40398)	Conc. Pt. (lbs)	L	01-04-04	01-04-04	Top	340	170			n/a
7	-	Conc. Pt. (lbs)	L	02-04-07	02-04-07	Top	327	272	165		n/a
8	J2(i40445)	Conc. Pt. (lbs)	L	03-04-04	03-04-04	Top	327	164			n/a
9	-	Conc. Pt. (lbs)	L	04-04-15	04-04-15	Top	327	272	165		n/a
10	J2(i40399)	Conc. Pt. (lbs)	L	05-04-04	05-04-04	Top	282	141			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3300 ft-lbs	17696 ft-lbs	18.6%	1	02-04-12
End Shear	2367 lbs	7232 lbs	32.7%	1	04-03-10
Total Load Deflection	L/999 (0.023")	n/a	n/a	35	02-10-08
Live Load Deflection	L/999 (0.013")	n/a	n/a	51	02-10-08
Max Defl.	0.023"	n/a	n/a	35	02-10-08
Span / Depth	5.0				



Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate 5-1/2" x 1-3/4"	2615 lbs	44.2%	22.3%	Spruce-Pine-Fir
B2	Hanger 2" x 1-3/4"	3387 lbs	n/a	79.3%	HUS1.81/10

Cautions

Header for the hanger HUS1.81/10 is a Single 1-3/4" x 11-7/8" LVL Beam.
Hanger model HUS1.81/10 and seat length were input by the user. I

BC CALC® Member Report

Dry | 1 span | No cant.

June 22, 2020 15:38:34

Build 7493

Job name:

File name: 4206 EL. C.mmdl

Address:

Description: 2nd Floor - Supply/BOM\Flush Beams\B18(i40498)

City, Province, Postal Code:

Specifier:

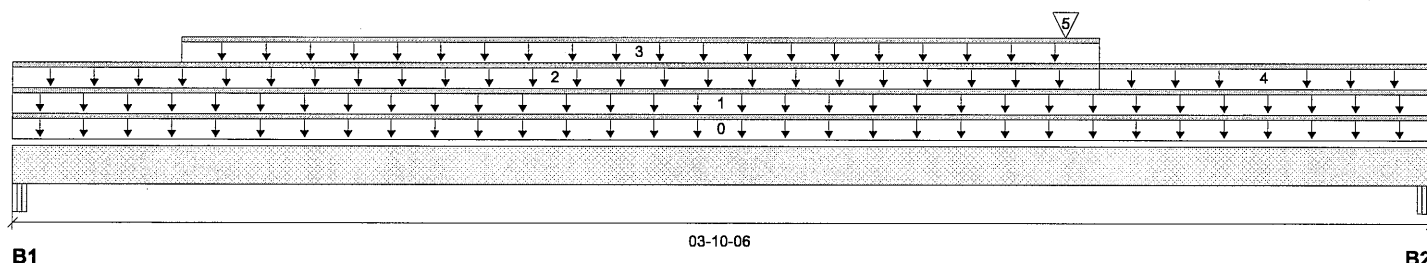
Customer:

Designer:

Code reports:

CCMC 12472-R

Company:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	270 / 0	341 / 0	184 / 0	
B2, 4-3/8"	797 / 0	1215 / 0	723 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live	Dead	Snow	Wind	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-10-06	Top	1.00	0.65	1.00	1.15	00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	03-10-06	Top	16	8			n/a
2	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	02-11-08	Top	4				n/a
3	User Load	Unf. Lin. (lb/ft)	L	00-05-08	02-11-08	Top	20	8			n/a
4	30(i37034)	Unf. Lin. (lb/ft)	L	02-11-08	03-10-06	Top		195	147		n/a
5	-	Conc. Pt. (lbs)	L	02-10-06	02-10-06	Top	940	1297	774		n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	2136 ft-lbs	17696 ft-lbs	12.1%	1	02-10-10
End Shear	1860 lbs	7232 lbs	25.7%	1	02-06-02
Total Load Deflection	L/999 (0.005")	n/a	n/a	35	02-02-02
Live Load Deflection	L/999 (0.003")	n/a	n/a	51	02-02-02
Max Defl.	0.005"	n/a	n/a	35	02-02-02
Span / Depth	3.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5-1/2" x 1-3/4"	1014 lbs	17.1%	8.6%	Unspecified
B2 Beam	4-3/8" x 1-3/4"	3438 lbs	73.0%	36.8%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume unbraced length of Top: 00-00-00, Bottom: 00-00-00.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Unbalanced snow loads determined from building geometry were used in selected product's verification.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9



Use of this 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®,

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

2nd Floor - Supply/BOM/Flush Beams\B19(i40986) (Flush Beam)

PASSED

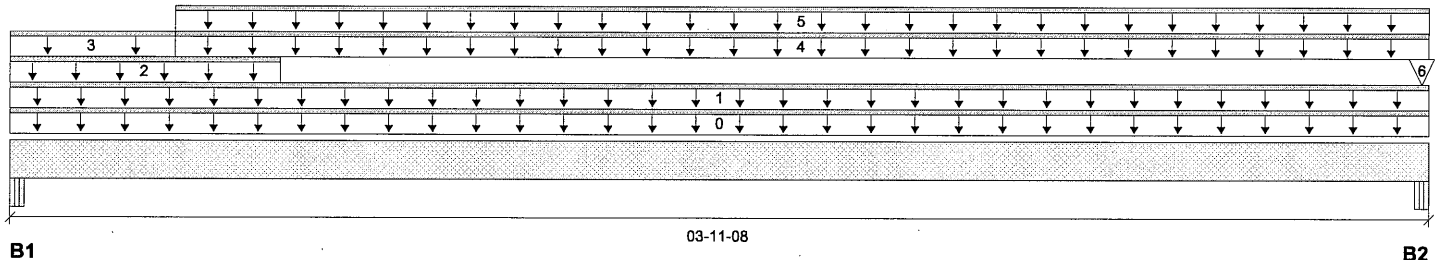
BC CALC® Member Report
 Build 7493
 Job name:
 Address:
 City, Province, Postal Code:
 Customer:
 Code reports:

Dry | 1 span | No cant.

June 22, 2020 15:38:34

File name: 4206 EL. C.mmdl
 Description: 2nd Floor - Supply/BOM/Flush Beams\B19(i40986)
 Specifier:
 Designer:
 Company:

CCMC 12472-R



Total Horizontal Product Length = 03-11-08

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B1, 5-1/2"	41 / 0	636 / 0	583 / 0	
B2, 5-1/2"	38 / 0	447 / 0	301 / 0	

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 1.00	Dead 0.65	Snow 1.00	Wind 1.15	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-11-08	Top		6			00-00-00
1	32(i38447)	Unf. Lin. (lb/ft)	L	00-00-00	03-11-08	Top		101			n/a
2	32(i38447)	Unf. Lin. (lb/ft)	L	00-00-00	00-09-00	Top		356	492		n/a
3	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	00-05-08	Top	27				n/a
4	32(i38447)	Unf. Lin. (lb/ft)	L	00-05-08	03-11-08	Top		94	147		n/a
5	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-05-08	03-11-08	Top	19	9			n/a
6	32(i38447)	Conc. Pt. (lbs)	L	03-11-04	03-11-04	Top		23			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand/Resistance	Case	Location
Pos. Moment	668 ft-lbs	17696 ft-lbs	3.8%	13	01-11-06
End Shear	589 lbs	7232 lbs	8.1%	13	01-05-06
Total Load Deflection	L/999 (0.002")	n/a	n/a	35	01-11-12
Live Load Deflection	L/999 (0.001")	n/a	n/a	51	01-11-06
Max Defl.	0.002"	n/a	n/a	35	01-11-12
Span / Depth	3.2				

Bearing Supports

	Dim. (LxW)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B1 Beam	5-1/2" x 1-3/4"	1710 lbs	28.9%	14.6%	Unspecified
B2 Beam	5-1/2" x 1-3/4"	1047 lbs	17.7%	8.9%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
 Design meets Code minimum (L/360) Live load deflection criteria.
 Calculations assume member is fully braced.
 Resistance Factor phi has been applied to all presented results per CSA O86.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.
 Unbalanced snow loads determined from building geometry were used in selected product's verification.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 9



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SE020612

Maximum Floor Spans – M4.1, L/360

Design Criteria

Spans:	Simple span
Loads:	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

Joist depth	Joist series	Bare				1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11"
	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"
11-7/8"	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"
	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"
14"	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10"
	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"
16"	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
	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"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap				Mid-span blocking and 1/2 in. gypsum ceiling			
		On centre spacing				On centre spacing			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	17'-1"	15'-5"	14'-6"	13'-5"	17'-1"	15'-5"	14'-6"	13'-5"
	NI-40x	18'-8"	17'-6"	16'-7"	14'-11"	19'-2"	17'-8"	16'-7"	14'-11"
	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"
11-7/8"	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"
	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"
14"	NI-40x	24'-5"	22'-9"	20'-11"	18'-8"	25'-1"	22'-11"	20'-11"	18'-8"
	NI-60	24'-10"	23'-2"	22'-1"	20'-10"	25'-6"	23'-10"	22'-9"	21'-4"
	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"
16"	NI-60	27'-3"	25'-5"	24'-3"	22'-11"	28'-0"	26'-2"	25'-0"	23'-1"
	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:

- 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.
- For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.

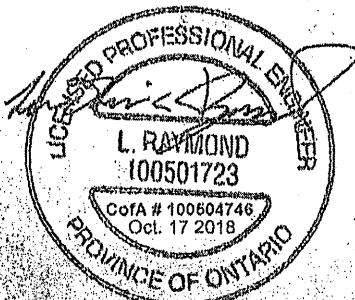
The construction details for residential designs are prone to changes.

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/>

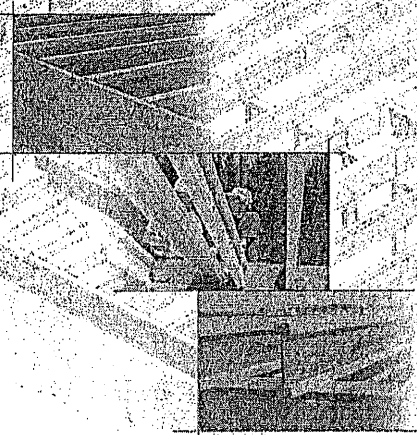
This document does not constitute a record of the structural integrity of the building nor suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of its component based on the design criteria and loadings shown on the calculation sheets.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)



N-C301/April 2014

NORDIC ENGINEERED WOOD INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



Distributed by:



SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on I-joists until fully installed and braced, or serious injury can result.



Never stack building materials over unbraced I-joists. Once sheathed, do not over-stress I-joist with concentrated loads from building materials.

WARNING

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

Avoid Accidents by Following these Important Guidelines:

1. Store and pull each joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joist ends. When I-joists are applied continuously over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called truss, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
 - Temporary bracing or truss must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each joist. Nail the bracing to a lateral restraint at the end of each bay. Top ends of outjacking bracing over at least two I-joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists 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-bracing.
4. Install and fully nail permanent sheathing to each joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
5. Never install a damaged I-joist.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic joists, failure to follow allowable loads and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.

STORAGE AND HANDLING GUIDELINES

1. Bundle wrap can be slippery when wet. Avoid walking on wrapped bundles.
2. Store, stock, and handle I-joists vertically and level only.
3. Always stack and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or moisture.
5. Protect I-joists from weather, and use spacers to separate bundles.
6. Bundled units should be kept erect until time of installation.
 - Pick I-joists in bundles as shipped by the supplier.
 - Orient the bundles so that the webs of the I-joists are vertical.
 - Pick the bundles at the 5th points, using a spreader bar if necessary.
7. When handling I-joists with a crane on the job site, take a few simple precautions to prevent damage to the I-joists and injury to your work crew.
 - Pick the bundles at the 5th points, using a spreader bar if necessary.
8. Do not handle I-joists in a horizontal orientation.
9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

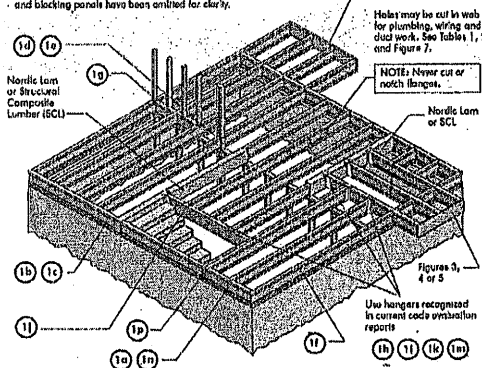


INSTALLING NORDIC I-JOISTS

1. Before laying out floor system components, verify that I-joist flange widths match hanger widths. If not, contact your supplier.
2. Except for cutting to length, I-joist flanges should never be cut, drilled, or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. I-joists must be anchored securely to supports before floor sheathing is attached, and supports for multiple-span joists must be level.
5. Minimum bearing length is 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. Leave a 1/16-inch gap between the I-joist and end a header.
8. Concentrated loads greater than those that can normally be expected in residential construction should only be applied to the top surface of the top flange. Normal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suspend yourself or heavy loads from the I-joist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with concrete or masonry.
10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or I-joist blocking panels.
11. For I-joists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or rim boards. I-joist blocking panels or other engineered wood products - such as rim board - must be cut to fit between the I-joists, and an I-joist-compatible depth selected.
13. Provide permanent lateral support of the bottom flange of all I-joists at interior supports of multiple-span joists. Similarly, support the bottom flange of all cantilevered I-joists at the end support and to the cantilever extension. In the completed structure, the gypsum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or truss may be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Use panels to blocking to minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a separate underlayment layer is installed.
15. Nail spacing: Space nails installed to the flange's top face in accordance with the applicable building code requirements or approved building plans.

FIGURE 1
TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS

Some framing requirements such as erection bracing and blocking panels have been omitted for clarity.



All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.125" dia.) common spiral nails may be substituted for 2-1/2" (0.125" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better. Individual components not shown to scale for clarity.

1a

NI blocking panel
7-1/2" nails at 6" o.c. to top plate (when used for lateral shear transfer, nail to bearing plate with same nailing as required for decking)

Blocking Panel or Rim Joist	Maximum Factored Uniform or Vertical Load ^a (kN)
NI Joist	3,300

^aThe uniform vertical load is limited to a joist depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a blocking member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

1b

One 2-1/2" wide or equal nail at top and bottom flange
Rim board
One 2-1/2" face nail at each side of bearing

Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load ^a (kN)
1-1/2" Rim Board Plan	6,000

^aThe uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a blocking member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

1c

Attach rim joist to floor joist with one nail at top and bottom. Nail must provide 1 inch minimum penetration into floor joist. Toe-nailing may be used.

NI rim joist per detail 1a
Attach I-joist per detail 1b
Minimum 1-3/4" bearing required

1d

NI or rim board blocking panel per detail 1a
1/16" for squash blocks

Pair of Squash Blocks	Maximum Factored Vertical Load per Pair of Squash Blocks (kN)
2x Lumber	5,500
1-1/2" Rim Board Plus	4,500

Provide lateral bracing per detail 1a, 1b, or 1c

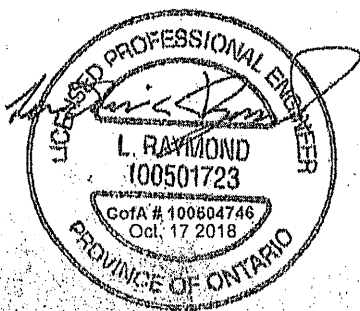
A circular professional seal for the Province of Ontario. The outer ring contains the text "LICENSED PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ONTARIO" at the bottom. In the center, the name "L. RAYMOND" is printed above the license number "100501723". Below the license number is a semi-circular banner containing the text "CoIA # 100504746" and "Oct. 17 2018". A handwritten signature is scrawled across the seal.

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.

Document prepared for the use of
Stephanle Gon from Alpa, Ontario.
(Nordic Request 1810-095)



CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

Full depth backer block with 1/8" gap between block and top flange of I-joist. Use dense 1 1/2" nails with 7 rows of 9" nails at 6" o.c. and clinch.

2x6 min. Nail to backer block and joist with 2 rows of 9" nails at 6" o.c. and clinch. Cantilever nails may be used to attach backer block if length of nail is sufficient to allow clinching.

Cantilever overhang supporting uniform floor loads only

Unbraced or wood structural panel closure

3 1/2" min. bearing required

I-joist, or rim board

Attach I-joists to plate via all supports per detail 1b

Note: This detail is applicable to cantilevers supporting a maximum specified uniform live load of 60 psf.

Method 1 — SHEATHING REINFORCEMENT ONE SIDE

- Rim board or wood structural steel cleats (2" minimum thickness) attach per detail 1b
- 3/4" bolts
- 3/16" min. bearing required
- Attach H-pile to plate per detail 1b
- 1st blocking panel or rim board blocking attach per detail 1b

Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- Use same installation as Method 1 but reinforce both sides of H-pile with sheathing
- Use nailing pattern shown for Method 1 with opposite face nailing offset by 3"

Notes: Canadian plywood sheathing or equivalent (minimum thickness 3/4") required on sides of pile. Depth shall reach full height of the pile. Nails with 2-1/2" nails at 6" o.c., top and bottom flange, braced with face grain horizontal. Attach H-pile to plate on all supports per detail 1b. Nailer reinforced H-pile vertically.

Rin board, or wood structural panel (cover)

2x4 min. aluminum channel attach per detail 1b

Attach 1/4-in. to top plate of all support rails (detail 1b, 3-1/2" min. bearing required)

Block 1/4-in. together with 1/4-in. blocks for the full length of the min. channel.

For 1/4-in. slats, wider than 1/4-in. slats, use an additional row of 3/4-in. slats along the outside of the min. channel panel from each side. (Detail 1b, 3-1/2" min. bearing required)

Blocking, attach per detail 1g

Face nail two rows of 3/4-in. nails at 12" o.c. each side (top and 1/4-in. slats) and the 1/4-in. slats to other 1/4-in. slats. Offset nails from opposite face by 6".

Cinch if possible four nails per fast required, except two nails per fast required (see detail 1c)

Attach 1/4-in. to top plate of all support rails (detail 1b, 3-1/2" min. bearing required)

Diagram illustrating the blocking and bracing details for a wall assembly. The diagram shows a cross-section of a wall with various components labeled:

- Kim board at wood structural panel closure**: A vertical board at the edge of the structural panel.
- 2x4 minimum thickness, attach per detail 1b**: A vertical blocking member.
- Bracing walls**: Vertical members providing lateral support.
- Notes**:
 - Provide full depth blocking between joists or supports (see shown for detail).
 - Attach joist to plate at all supports per detail 1b.
 - 3/4" minimum joist bracing required.
- 8" min.**: Dimension indicating the minimum thickness of the blocking.
- Attach joists to bracing joist per detail 5c**: Detail for attaching joists to the bracing system.

Vertical solid sawn blocks (2x2 S-P No. 2 or better) nailed through joint with end wash of girder using 2 1/2" nails. Alternate for opposite side.

Nails, toe-nail at top and bottom flanges.

Hanger may be used in flow of solid sawn blocks.

Notes:

- Verify girder joint capacity if the block span exceeds the joint spacing.
- Attach double-lap joint per detail 1p, if required.

See table below for N1 reinforcement requirements of cantilever.

Roof truss span

2'-0" maximum cantilever

Roof truss span

2'-0" maximum cantilever

Jack truss

trusses running parallel to the cantilevered floor joists (the joist reinforcement requirements for a span of 23 ft. shall be permitted to be used).

[illegible]

1. N = No reinforcement required.
2. R = Reinforced with 3/4" steel structural plate on one side only.
3. P = Reinforced with 3/4" steel structural plate on both ends, or double latching.
4. U = U-shaped clips or chain clips.
5. L = Reinforced with lead shot or lead door bolts, 3/4" steel floor bolts, and 800 psi wet concrete. V240 lead is used on 2" doors with 1/4" holes and door openings.

See table below for NI reinforcement requirements of cantilever.

Trusses spanning parallel to the cantilevered floor joist shall meet the following reinforcement requirements for a span of 26 ft. shall be permitted to be used.

[illegible]

1. N = No redundancy required.
2. H = Hatched with 2 1/2" wood structural nail on one side 1/4" from edge.
3. H reinforced with 2 1/2" wood structural nail on both ends, or double flange.
4. Aluminum design label (see Fig. 1) fast dead load, 55 psf floor total load, and 80 psf roof total load on 2 1/2" wide, 1/2" thick aluminum design label.
5. For larger openings, in multiples 2' 0" with vertical spacing less than 6' 0", additional clips (one beneath the opening) triple studs may be required.
6. Triple clips applied to 12" 2" 2" 1/2", then meet the 2 1/2" wide aluminum design label design load of 40 and dead load of 24 psf. Use a 1/2" wide deflection limit of 1/400. Use 1 1/2" min. requirements for storm opening.
7. For extended end connections with a slight bend, the End Stud Span column above is applicable to the distance between the supporting nail and the slight bend.
8. For openings with a slight bend, the End Stud Span column above is applicable to the distance between the supporting nail and the slight bend.
9. For openings with a slight bend, the End Stud Span column above is applicable to the distance between the supporting nail and the slight bend.
10. For openings with a slight bend, the End Stud Span column above is applicable to the distance between the supporting nail and the slight bend.

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.

Document prepared for the use of
Stephanie Gori from Alpa, Ontario.
(Nordic Request 1810-095)



WEB HOLES

9. The distance between the inside edge of the support and the centerline of any hole or duct whose opening shall be in accordance with the requirements of Table 1 of 2, respectively.
10. Holes larger than 1/2 inch may NEVER be cut, notched, or otherwise modified in any way.
11. Wherever possible, flat-out holes should be centered on the middle of the joist.
12. The maximum size hole or the maximum depth of a duct whose opening may be cut into a joist web shall equal the clear distance between the flanges of the joist nearest 1/4 inch. A minimum of 1/8 inch should always be maintained.
13. The depth of the hole or duct opening shall be no greater than 1/2 the depth of the joist.
14. The sides of square holes or largest side of rectangular holes should not exceed 3/4 of the dimension of the maximum round hole permitted at that location.
15. Where more than one hole is necessary, the distances between adjacent holes shall exceed twice the diameter of the largest round hole or twice the side of the largest square hole or twice the longest side of the largest rectangular hole or duct whose opening and each hole and duct whose opening shall be fixed and located in compliance with the requirements of Table 1 of 2.
16. A knockout is not considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes.
17. Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a continuous section of a joist. Holes of greater size may be permitted subject to verification.
18. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it meets all requirements of rule number 6 above.
19. All holes and duct whose opening shall be cut in a joist in this manner in accordance with the restrictions listed above and as illustrated in Figure 7.
20. Limit three maximum two holes per span, of which one may be a duct whose opening.
21. A group of round holes of approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	52
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1. Means refers my be used for both points of the median or centre or less

2. While distance difference is measured from middle less

3. Distances in both cases are based on uniformly located points

OPTIONAL:

The above table is based on the assumption that the frequency mass is the same for both points placed on the same side then their difference between mean Maximum Point Spread, the maximum distance from the centre of the table to the base of any column will be reduced to the minimum

Answered = $\frac{1}{2} \times 100 = 50$

Distance = $\frac{1}{2} \times 100 = 50$

Distance from the middle point of any support to the upper of the table, reduced by the less maximum upon operations (100). It is reduced to the minimum distance from the middle point of any support to the upper of the table.

Actual = $\frac{1}{2} \times 100 = 50$

Distance from the middle point of any support to the upper of the table, reduced by the less maximum upon operations (100). It is reduced to the minimum distance from the middle point of any support to the upper of the table.

Adjusted = $\frac{1}{2} \times 100 = 50$

The maximum distance from the middle point of any support to the upper of the table, reduced by the less maximum upon operations (100). It is reduced to the minimum distance from the middle point of any support to the upper of the table.

Jackboots are processed holes provided for the contractor's compliance to install electrical or small plumbing lines. They are 1-1/2 inches in diameter and are spaced 12 inches on center. The length of the J-holes. Where possible, it is preferable to use trackboots 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 shear saw.

For rectangular holes, avoid over-cutting the corner, as this can cause unreasoned stress concentrations. Slightly rounded corners is acceptable. To make the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes by another good method to duplicate a true 1-foot J-hole.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523
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1. Above table may be used for light spacing of 24 inches on centre or less.
2. Dual channel coping location distance is measured from inside face of support to centre of opening.
3. The above table is based on simple span joists only. For other applications, contact your local distributor.
4. Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 18 psf, and a load deflection limit of 1/160. For other applications, contact your local distributor.

1. Wipe any mud, dirt, or grease from joints. Join flanges before gluing.
2. Apply a thick bead across the joint, four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
3. Spread only enough glue to lay one or two panels at a time, or follow specific recommendations from the glue manufacturer.
4. Lay up first panel with tongue side to the wall, rest nail in place. This protects the tongue of the next panel from damage when tapped into place with a block and sledgehammer.
5. Apply a continuous line of glue (about 1/4" diameter) to the top flange of a single joint. Apply glue in a winding pattern on wider areas, such as walls with double joints.
6. Apply two lines of glue on lap joints where panel ends but do not expose grooving at each end.
7. Allow the first row of panels in a place, spread glue in the groove of one panel's corners at a time before gluing the next row. Apply glue in the groove or spread, but avoid spreading out, overlapping a thinner line (1/8" thick than used on in-place flanges).
8. Tap the second row of panels into place, using a block to protect groove edges.
9. Stagger joints in joints each succeeding row of panels. A 1/8-inch space between all joints and 1/8-inch all of joints, including T&G edges, is recommended. (Note: a spacer tool or 2 x 1/2" common nail to ensure accurate and consistent spacing.)
10. Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations for nailing. Nail heads should be flush with the panel. Use 2" rings or screw-nails for panels 3/4-inch thick or less, and 2 1/2" rings or screw-nails for thicker panels. Space nails per the table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The flange block can be walked on right away and will carry construction loads without damage to the flange block.

No.	Name	Age				Sex
		1940	1941	1942	1943	
16	8/0	2'	1-3/4'	2'	6'	12'
20	6/0	2'	1-2/4'	2'	6'	12'
24	3/4	2'	1-3/4'	2'	6'	13'

1. Fasteners of sheathing and subflooring shall conform to the above table.
2. Studer shall not be less than 1/4-inch in diameter or thickness, with not less than a 3/8-inch crown drill with the crown parallel to framing.
3. Flooring screws shall not be less than 1/4-inch in diameter.
4. Special conditions may impose heavy traffic and concentrated loads that require construction in excess of the minimums shown.
5. Use only adhesives conforming to CAN/COS-71.26 Standard, Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems, applied in accordance with the manufacturer's recommendations. If 100 percent wetting surface and adhesion are to be used, use only solvent-based glues; check with **OSHA** before use.

Ref.: NBC-CNBC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:
floor sheathing must be bolted glued to the I-Joist Sanges 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.

(0a) ATTACHMENT DETAILS WHERE RUM BOARDS ABUT

Rim board joint between floor joists

(1) 2-1/2" nail, top and bottom (typical)

2-1/2" nails at 45° angle (typical)

Rim board joint

Rim board joint at corner

1-1/2"

h

1-1/2"

Rim board joint

8h TOE-NAIL CONNECTION
AT RIM BOARD

0c 2X LEDGER TO RIM BOARD ATTACHMENT DETAIL

PRODUCT WARRANTY

Charles C. Ferguson guarantees that, in accordance with our opposition, North products are free from manufacturing defects in material and workmanship.

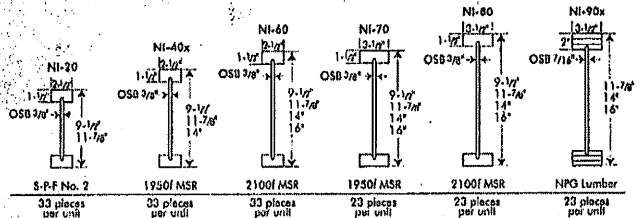
Furthermore, Chemists charge some materials that are products
in violation of accordance with our building and installation instructions
with view or stated our specifications for the lifetime of the structure.

CONSTRUCTION DETAILS FOR RESIDENTIAL FLOORS

N-C303 / September 2013



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:

1. The distance between the inside edge of the support and the centreline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
2. I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Whenever possible, field-cut holes should be centred on the middle of the web.
4. The maximum size hole or the maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch shall always 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 longest sides of rectangular holes shall not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole for twice the length of the longest side of the largest rectangular hole or duct chase opening; and each hole and duct chase opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
7. A knockout is not considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
8. Holes measuring 1-1/2 inches or smaller are permitted anywhere in a cantilevered section of a joist. Holes of greater size may be permitted subject to verification.

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 chase openings shall be cut in a workmanlike 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 chase opening.
12. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole 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 Depth	Joist Series	Minimum Distance from Inside Face of Any Support to Centre of Hole (ft - in.)												
		2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11
9-1/2"	NI-20	0-7"	1-4"	2-10"	4-3"	5-0"	6-0"	...	...	...	...	...	...	...
	NI-40x	0-7"	1-4"	3-0"	4-4"	6-0"	6-4"	...	...	...	...	...	...	...
	NI-60	1-3"	2-0"	4-0"	5-4"	7-0"	7-5"	...	...	...	...	...	...	...
	NI-70	2-0"	3-4"	4-5"	6-3"	8-0"	8-4"	...	...	...	...	...	...	...
	NI-80	2-5"	3-9"	5-0"	6-4"	8-0"	8-5"	...	...	...	...	...	...	...

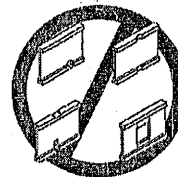
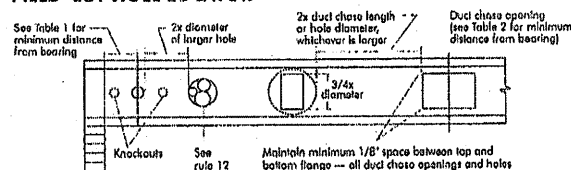
1. Above table may be used for I-joist spacing of 24 inches on centre, or less.
2. Hole location distance is measured from inside face of support to centre of hole.
3. Distances in this chart are based on uniformly loaded joists.
4. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS
Simple Span Only

Joist Depth	Joist Series	Minimum Distance from Inside Face of Support to Centre of Opening (ft - in.)												
		8	10	12	14	16	18	20	22	24	26	28	30	32
9-1/2"	NI-20	4-1"	4-5"	4-10"	5-4"	5-8"	6-1"	6-6"	7-1"	7-5"	...	...	...	...
	NI-40x	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"	...	...	...	...
	NI-60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-3"	8-8"	...	...	...	...
	NI-70	5-1"	5-5"	6-1"	6-5"	6-7"	7-1"	7-4"	7-8"	8-1"	...	...	...	...
	NI-80	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"	...	...	...	...

1. Above table may be used for I-joist spacing of 24 inches on centre, or less.
2. Duct chase opening location distance is measured from inside face of support to centre of opening.
3. The above table is based on simple span joist only. For other applications, contact your local distributor.
4. Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 psf and dead load of 15 psf, and a live load deflection limit of L/480.
5. The above table is based on the I-joists being used at their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

FIGURE 7
FIELD-CUT HOLE LOCATOR



Knockouts are predrilled holes provided for the contractor's convenience to install electrical or small plumbing lines. The 1-1/2 inch in diameter, and are spaced 15 inches on centre along the length of the I-joist. 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 saw.

For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cut between the holes is another good method to minimize damage to the I-joist.

SAFETY AND CONSTRUCTION PRECAUTIONS



Do not walk on I-joists until fully fastened and braced, or serious injuries can result.



Never stack building materials over unshathed I-joists. Once shathed, do not over-stress I-joists with concentrated loads from building materials.

WARNING: I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

1. Brace and nail north I-joist as it is installed, using kangars, blocking panels, rim board, end/or cross-bracing at joist ends.
2. When I-joists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.
3. When the blocking is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
4. Temporary bracing or struts must be 1x4 inch minimum, at least 6 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.
5. Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
6. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bracing.
7. 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.
8. Never install a damaged I-joist.

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.



PRODUCT WARRANTY

Chamber's Chamber's guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in material and workmanship.

Furthermore, Chamber's Chamber's warrants that our products, when utilized in accordance with our handling and installation instructions, will meet or exceed our specifications for the lifetime of the structure.

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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.

Document prepared for the use of Stephanie Gon from Alpa, Ontario. (Nordic Request 1810-095)

1a NI blocking panel or Rim Joist

Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load ^a (plf)
NI Joists	3,300

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

2-1/2" nails at 6" o.c. to top plate (when used for lateral shear transfer, not to bearing plate with some nailing as required for decking)

Attach I-joist to top plate per detail 1b

1b Rim board

Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load ^a (plf)
1-1/8" Rim Board Plus	3,050

The uniform vertical load is limited to a rim board depth of 16 inches or less and is based on standard term load duration. It shall not be used in the design of a banding member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1d.

One 2-1/2" wire or spiral nail at top and bottom flange

Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c.

To avoid splitting flange, start nails at least 1-1/2" from end of I-joist. Nails may be driven at an angle to avoid 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.

1d NI or rim board blocking panel per detail 1a

Pair of Squash Blocks	Maximum Factored Vertical Load per Pair of Squash Blocks (lb)
2x Lumber	3,500
1-1/8" Rim Board Plus	4,300

Provide lateral bracing per detail 1a or 1b

1-1/8" for squash blocks

Squash block

1e Transfer load from above to bearing below. Install squash blocks per detail 1d. Match bearing area of blocks below to post above.

1f Joist attachment per detail 1b

Load bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by this detail.

Blocking required over all interior supports under load-bearing walls or when floor joists are not continuous over support

2-1/2" nails at 6" o.c. to top plate

NI blocking panel per detail 1a

1h Backer block (Use if hanger load exceeds 360 lbs). Before installing a backer block to a double I-joist, drive three additional 2" nails through the webs and filler block where the backer block will fit. Clutch. Install backer block to top flange. Use twelve 3" nails, clinched when possible. Maximum factored resistance for hanger for this detail = 1,620 lbs.

BACKER BLOCKS (Blocks must be long enough to permit required nailing without splitting)

Flange Width	Material Thickness Required ^a	Minimum Depth ^b
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

^a Minimum grade for backer block material shall be S-PF No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-C325 or CAN/CSA-C437 Standard.

^b For face-mount hangers use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges. For 2" thick flanges use net depth minus 4-1/4".

1i Top- or face-mount hanger

Double I-joist header

NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

Backer block required (both sides for face-mount hanger)

Filler block per detail 1p

For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support concentrated loads.

1j Nordic Laminated or Structural Composite Lumber (SCL)

For nailing schedules for multiple beams, see the manufacturer's recommendations.

Top- or face-mount hanger installed per manufacturer's recommendations

NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

1k 2" plate flush with inside face of wall or beam. 1-1/8" overhang allowed past inside face of wall or beam.

NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

Top-mount hanger installed per manufacturer's recommendations

1m Multiple I-joist header with full depth filler block shown. Nordic Laminated or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

Backer block attached per detail 1h. Nail with twelve 3" nails, clinch when possible.

Install hanger per manufacturer's recommendations

Maximum support capacity = 1,620 lbs.

1n Do not bevel-cut joist beyond inside face of wall

Attach I-joist per detail 1b

NOTE: Blocking required at bearing for lateral support, not shown for clarity.

1o Lumber 2x4 min., extend block to face of adjacent web. Two 2-1/2" spiral nails from each web to lumber plate, alternate on opposite side.

NI blocking panel

OPTIONAL: Minimum 1x4 inch strip applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joist.

1p FILLER BLOCK REQUIREMENTS FOR DOUBLE I-JOIST CONSTRUCTION

Filler block

Offset nails from opposite face by 6"

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

NOTES:

- Support back of I-joist web during nailing to prevent damage to web/flange connection.
- Leave a 1/8" to 1/4" gap between top of filler block and bottom of top I-joist flange.
- Filler block is required between joists for full length of span.
- Nail joists together with two rows of 3" nails at 12 inches o.c. (clinched when possible) on each side of the double I-joist. Total of four nails per foot required. If nails can be clinched, only two nails per foot are required.
- The maximum factored load that may be applied to one side of the double joist using this detail is 860 lb/ft. Verify double I-joist capacity.

1s One 2-1/2" nail at top and bottom flange

2x4 min. (1-1/8" gap minimum)

Two 2-1/2" nails from each web to lumber plate in lumber plate

1-1/2" nail at 6" o.c.

One 2-1/2" nail one side only

NOTES:

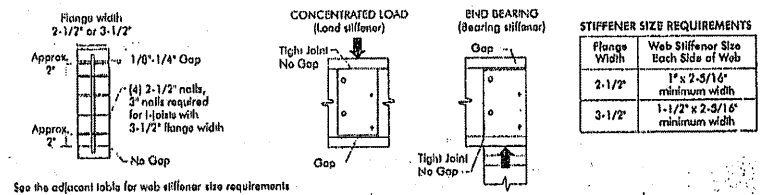
- In some local codes, blocking is prescriptively required in the first joist space for first and second joist spaces next to the exterior wall. Where required, see local code requirements for nailing of the blocking.
- All nails are common spiral in this detail.

All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (10,122) dia. common spiral nails may be substituted for 2-1/2" (6,122) dia. common wire nails. Framing lumber assumed to be Service-Grade No. 2 or better. Individual components not shown to scale for clarity.

WEB STIFFENERS

- RECOMMENDATIONS:**
- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found in the I-joist Constructor Guide (C101). The gap between the stiffener and the flange is at the top.
 - A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top flange. The gap between the stiffener and flange is at the top.
 - A load stiffener is required at locations where a factored concentrated load greater than 7,370 lbs is applied to the top flange between supports, or the case of a cantilever, anywhere between the cantilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stiffener and the flange is at the bottom.

FIGURE 2 WEB STIFFENER INSTALLATION DETAILS



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 — SHEATHING REINFORCEMENT ONE SIDE

Rim board or wood structural panel closure (3/4" minimum thickness); attach per detail 1b

NI blocking panel or rim board blocking, attach per detail 1g

Attach I-joist to plate per detail 1b

2-1/2" nails

3-1/2" min. bearing required

Method 2 — SHEATHING REINFORCEMENT TWO SIDES

Use same installation as Method 1 but reinforce both sides of I-joist with sheathing.

Use nailing pattern shown for Method 1 with opposite face nailing offset by 3"

NOTE: Concrete enhanced plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist capacity.

RIM BOARD INSTALLATION DETAILS

8a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT

Rim Board Joint Between Floor Joists

(1) 2-1/2" nail top and bottom (typical)

Rim board joint

2-1/2" nails at 6" o.c. (typical)

Rim Board Joint at Corner

2-1/2" nails

Rim board joint

1-1/2"

8b TOE-NAIL CONNECTION AT RIM BOARD

Rim board

Top or sole plate

30°

2"

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