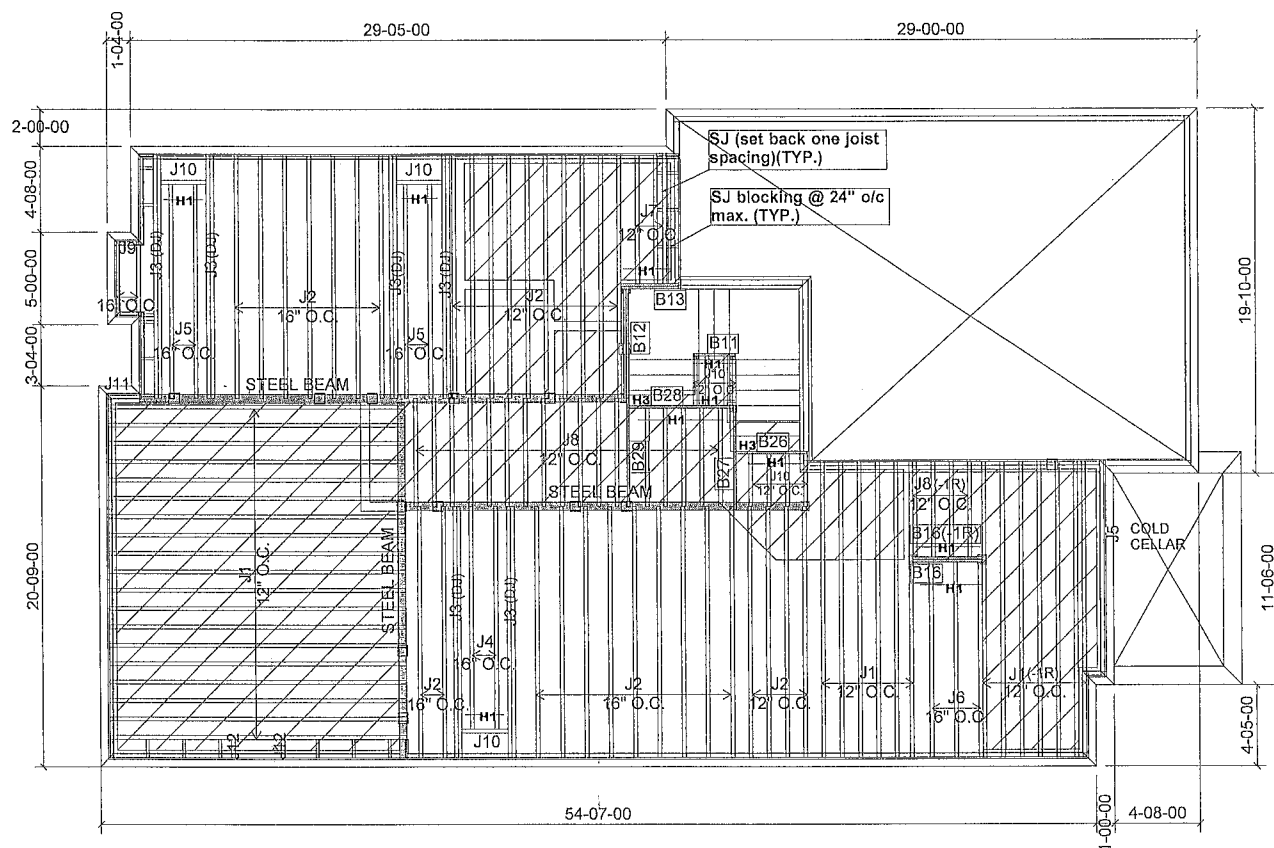
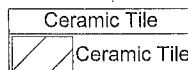




**S42-5 ELEV. A
FIRST FLOOR FRAMING
& UPGRADED REAR**



Products				
PlotID	Length	Product	Piles	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	32
J2	14-00-00	9 1/2" NI-40x	1	32
J3	14-00-00	9 1/2" NI-40x	2	12
J4	13-00-00	9 1/2" NI-40x	1	2
J5	12-00-00	9 1/2" NI-40x	1	5
J6	11-00-00	9 1/2" NI-40x	1	3
J7	7-00-00	9 1/2" NI-40x	1	3
J8	6-00-00	9 1/2" NI-40x	1	21
J9	4-00-00	9 1/2" NI-40x	1	2
J10	3-00-00	9 1/2" NI-40x	1	11
J11	2-00-00	9 1/2" NI-40x	1	1
J12	1-00-00	9 1/2" NI-40x	1	2
B27	6-00-00	VERSALAM-10 2.0E	1	1
B28	6-00-00	VERSALAM-10 2.0E	1	1
B29	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	2	2
B16	4-00-00	VERSALAM-10 2.0E	1	1
B16(-1R)	4-00-00	VERSALAM-10 2.0E	1	1
B26	4-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	2	2
B11	3-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----IUS2.56/9.5
H3-----HUS1.81/10

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

FLOOR LOADING:

LIVE : 40 PSF
DEAD : 15 PSF
DEAD : 20 PSF (TILE AREAS ONLY)

97055-March 6/2018

T.1505076-T.1505098 +T.1803017-T.1803024

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
Maple, Ontario

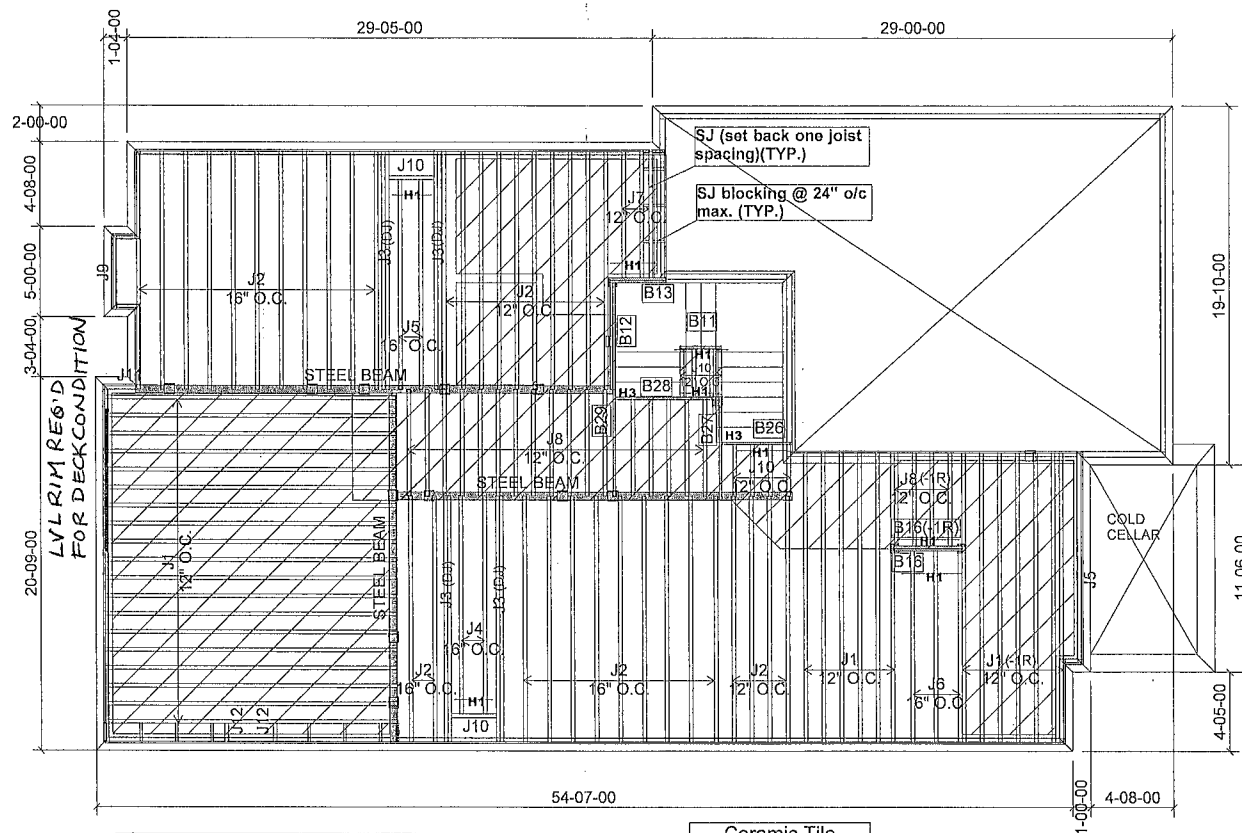
Salesperson: Mario
Tamarack Lumber

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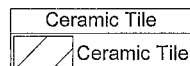
Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 1 of 15



**S42-5 ELEV. A
FIRST FLOOR FRAMING
WOD & WOB CONDITION
& UPGRADED REAR**



97055- March 6/2018 Revised

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
Maple, Ontario

Salesperson: Mario
Tamarack Lumber

File: 287869(247681)

Project: Green Valley Estates East

Date: Sept.9, 2017

Sheet: 3 of 15

Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	32
J2	14-00-00	9 1/2" NI-40x	1	36
J3	14-00-00	9 1/2" NI-40x	2	8
J4	13-00-00	9 1/2" NI-40x	1	2
J5	12-00-00	9 1/2" NI-40x	1	3
J6	11-00-00	9 1/2" NI-40x	1	3
J7	7-00-00	9 1/2" NI-40x	1	3
J8	6-00-00	9 1/2" NI-40x	1	21
J9	4-00-00	9 1/2" NI-40x	1	1
J10	3-00-00	9 1/2" NI-40x	1	10
J11	2-00-00	9 1/2" NI-40x	1	1
J12	1-00-00	9 1/2" NI-40x	1	2
B27	6-00-00	VERSALAM-10 2.0E	1	1
B28	6-00-00	VERSALAM-10 2.0E	1	1
B29	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	2	2
B16	4-00-00	VERSALAM-10 2.0E	1	1
B16(-1R)	4-00-00	VERSALAM-10 2.0E	1	1
B26	4-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	2	2
B11	3-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----IUS2.56/9.5
H3-----HUS1.81/10

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

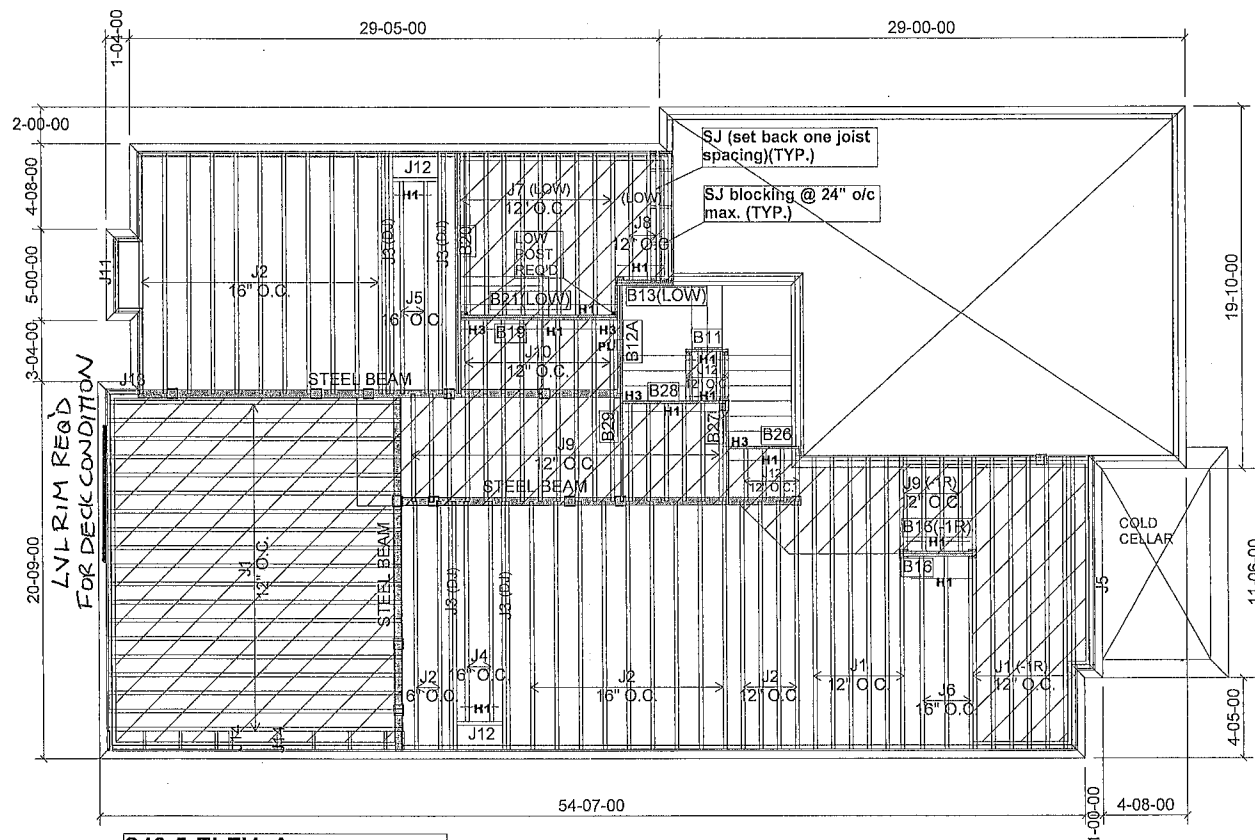
1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

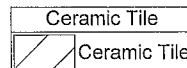
Do not scale - refer to architectural plans for dimensions.

FLOOR LOADING:

LIVE : 40 PSF
DEAD : 15 PSF
DEAD : 20 PSF (TILE AREAS ONLY)



S42-5 ELEV. A
FIRST FLOOR FRAMING
SUNKEN LAUNDRY
WOD & WOB CONDITION
& UPGRADED REAR



FLOOR LOADING:
 LIVE : 40 PSF
 DEAD : 15 PSF
 DEAD : 20 PSF (TILE AREAS ONLY)

Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	32
J2	14-00-00	9 1/2" NI-40x	1	26
J3	14-00-00	9 1/2" NI-40x	2	8
J4	13-00-00	9 1/2" NI-40x	1	2
J5	12-00-00	9 1/2" NI-40x	1	3
J6	11-00-00	9 1/2" NI-40x	1	3
J7	9-00-00	9 1/2" NI-40x	1	10
J8	7-00-00	9 1/2" NI-40x	1	3
J9	6-00-00	9 1/2" NI-40x	1	22
J10	5-00-00	9 1/2" NI-40x	1	9
J11	4-00-00	9 1/2" NI-40x	1	1
J12	3-00-00	9 1/2" NI-40x	1	10
J13	2-00-00	9 1/2" NI-40x	1	1
J14	1-00-00	9 1/2" NI-40x	1	2
B20	14-00-00	VERSALAM-10 2.0E	2	2
B19	9-00-00	VERSALAM-10 2.0E	1	1
B21(Low)	9-00-00	VERSALAM-10 2.0E	1	1
B12A	7-00-00	VERSALAM-10 2.0E	2	2
B27	6-00-00	VERSALAM-10 2.0E	1	1
B28	6-00-00	VERSALAM-10 2.0E	1	1
B29	6-00-00	VERSALAM-10 2.0E	1	1
B16	4-00-00	VERSALAM-10 2.0E	1	1
B16(-1R)	4-00-00	VERSALAM-10 2.0E	1	1
B26	4-00-00	VERSALAM-10 2.0E	1	1
B13(Low)	4-00-00	VERSALAM-10 2.0E	2	2
B11	3-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----IUS2.56/9.5
 H3-----HUS1.81/10

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

97055-March 6/2018 Revised

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
 Maple, Ontario

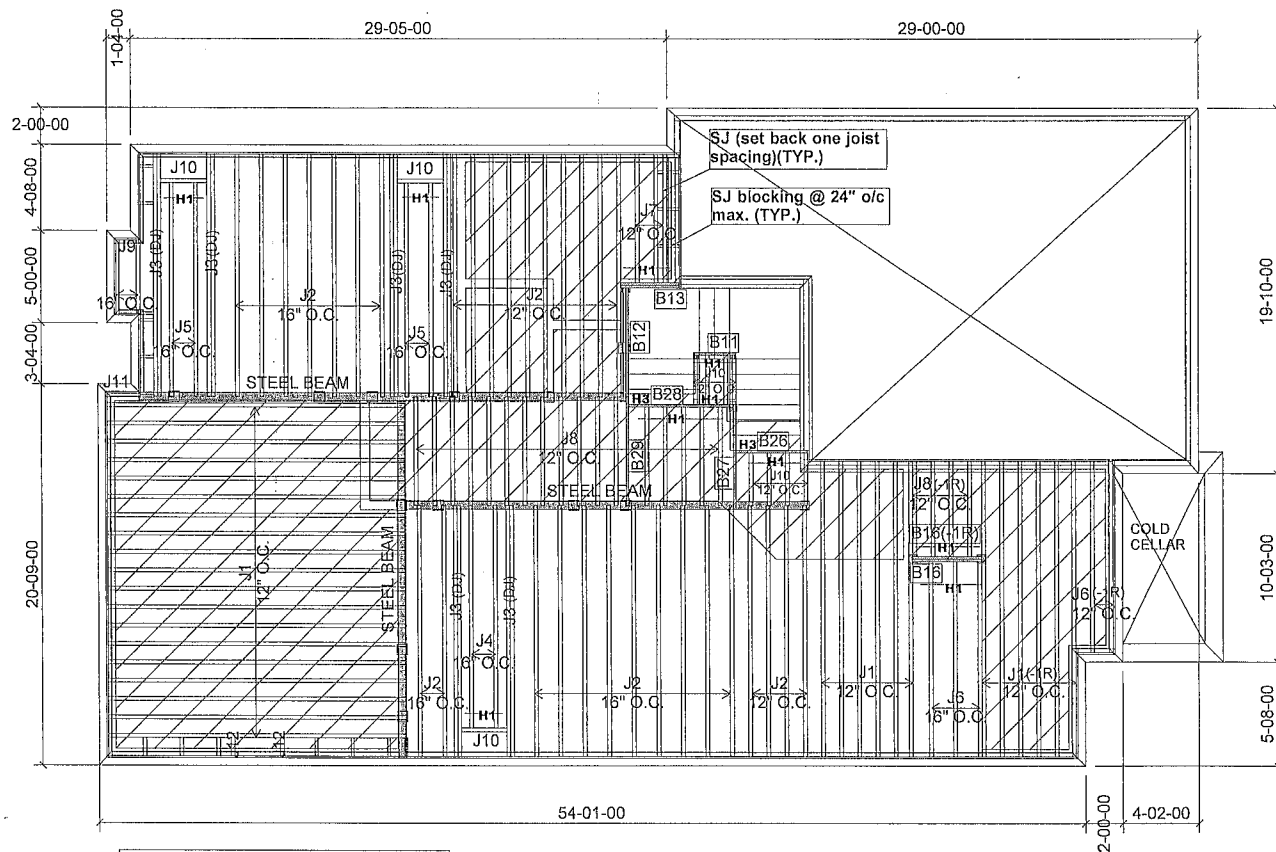
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 Tamarack Lumber

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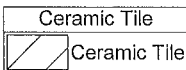
Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 4 of 15



**S42-5 ELEV. B
FIRST FLOOR FRAMING
& UPGRADED REAR**



Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	31
J2	14-00-00	9 1/2" NI-40x	1	32
J3	14-00-00	9 1/2" NI-40x	2	12
J4	13-00-00	9 1/2" NI-40x	1	2
J5	12-00-00	9 1/2" NI-40x	1	4
J6	11-00-00	9 1/2" NI-40x	1	5
J7	7-00-00	9 1/2" NI-40x	1	3
J8	6-00-00	9 1/2" NI-40x	1	21
J9	4-00-00	9 1/2" NI-40x	1	2
J10	3-00-00	9 1/2" NI-40x	1	11
J11	2-00-00	9 1/2" NI-40x	1	1
J12	1-00-00	9 1/2" NI-40x	1	2
B27	6-00-00	VERSALAM-10 2.0E	1	1
B28	6-00-00	VERSALAM-10 2.0E	1	1
B29	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	2	2
B16	4-00-00	VERSALAM-10 2.0E	1	1
B16(-1R)	4-00-00	VERSALAM-10 2.0E	1	1
B26	4-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	2	2
B11	3-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----IUS2.56/9.5
H3-----HUS1.81/10

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

FLOOR LOADING:

LIVE : 40 PSF
DEAD : 15 PSF
DEAD : 20 PSF (TILE AREAS ONLY)

97055-March 6/2018

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
Maple, Ontario

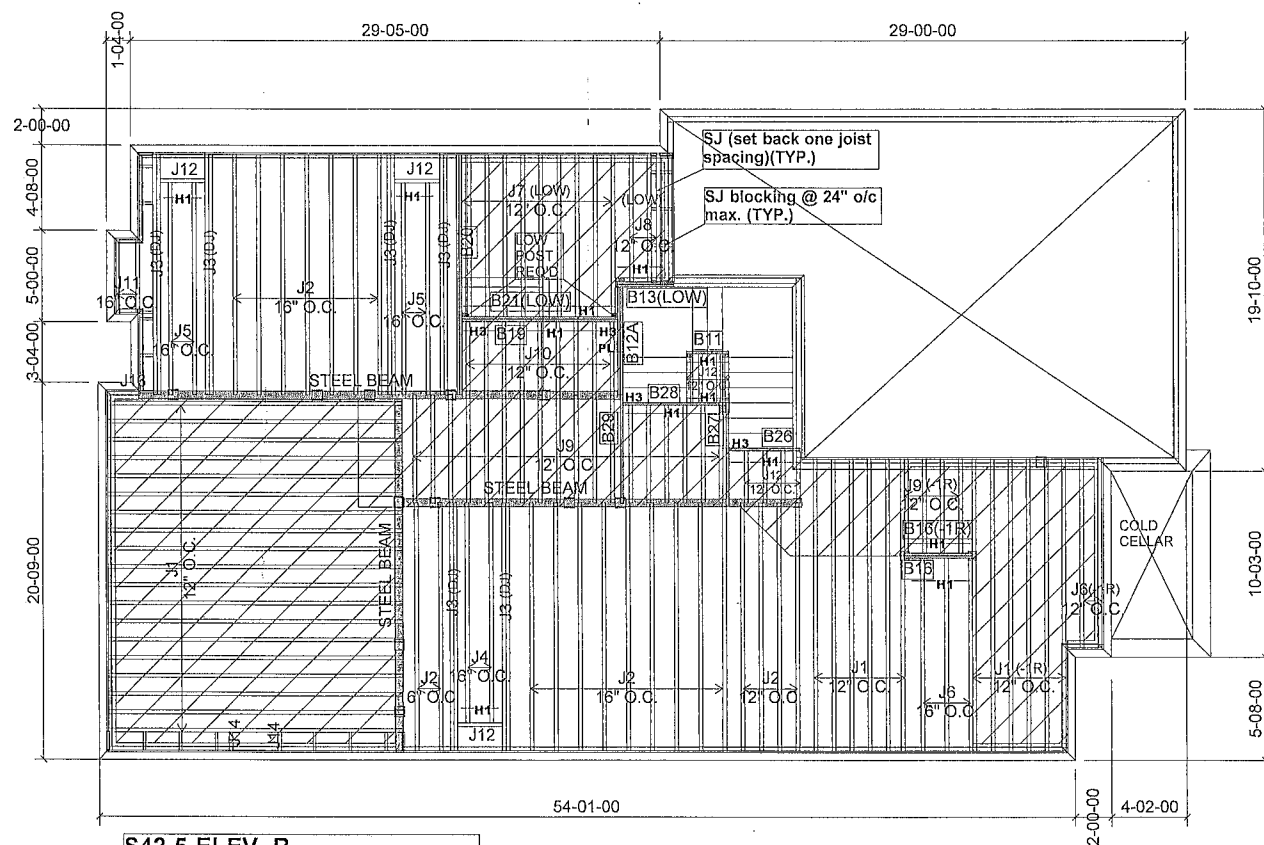
Salesperson: Mario
Tamarack Lumber

File: 287869(247681)

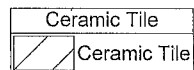
Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 5 of 15



**S42-5 ELEV. B
FIRST FLOOR FRAMING
SUNKEN LAUNDRY
& UPGRADED REAR**



FLOOR LOADING:
LIVE : 40 PSF
DEAD : 15 PSF
DEAD : 20 PSF (TILE AREAS ONLY)

Products				
PlotID	Length	Product	Piles	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	31
J2	14-00-00	9 1/2" NI-40x	1	22
J3	14-00-00	9 1/2" NI-40x	2	12
J4	13-00-00	9 1/2" NI-40x	1	2
J5	12-00-00	9 1/2" NI-40x	1	4
J6	11-00-00	9 1/2" NI-40x	1	5
J7	9-00-00	9 1/2" NI-40x	1	10
J8	7-00-00	9 1/2" NI-40x	1	3
J9	6-00-00	9 1/2" NI-40x	1	22
J10	5-00-00	9 1/2" NI-40x	1	9
J11	4-00-00	9 1/2" NI-40x	1	2
J12	3-00-00	9 1/2" NI-40x	1	11
J13	2-00-00	9 1/2" NI-40x	1	1
J14	1-00-00	9 1/2" NI-40x	1	2
B20	14-00-00	VERSALAM-10 2.0E	2	2
B19	9-00-00	VERSALAM-10 2.0E	1	1
B21(Low)	9-00-00	VERSALAM-10 2.0E	1	1
B12A	7-00-00	VERSALAM-10 2.0E	2	2
B27	6-00-00	VERSALAM-10 2.0E	1	1
B28	6-00-00	VERSALAM-10 2.0E	1	1
B29	6-00-00	VERSALAM-10 2.0E	1	1
B16	4-00-00	VERSALAM-10 2.0E	1	1
B16(-1R)	4-00-00	VERSALAM-10 2.0E	1	1
B26	4-00-00	VERSALAM-10 2.0E	1	1
B13(Low)	4-00-00	VERSALAM-10 2.0E	2	2
B11	3-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----IUS2.56/9.5
H3-----HUS1.81/10

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

97055-March 6/2018

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
Maple, Ontario

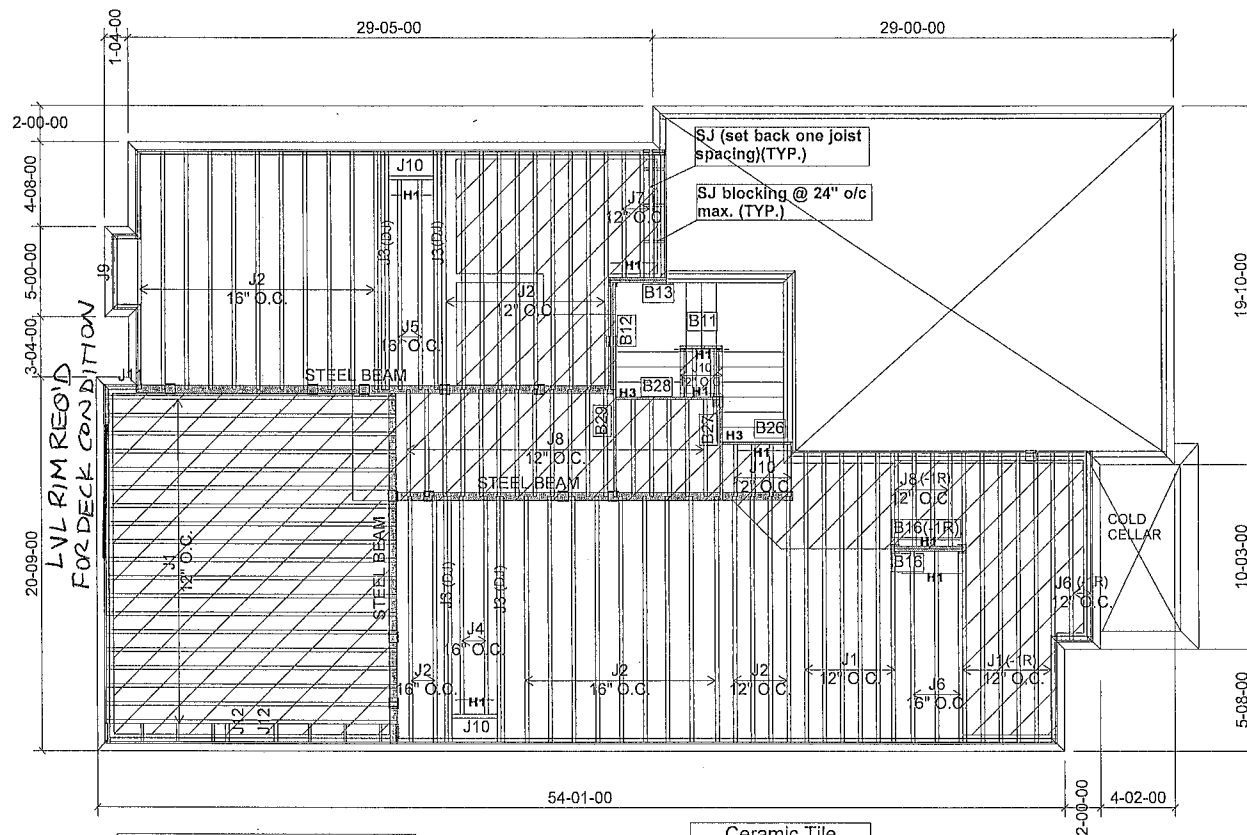
Salesperson: Mario
Tamarack Lumber

File: 287869(247681)

Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 6 of 15



Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	31
J2	14-00-00	9 1/2" NI-40x	1	36
J3	14-00-00	9 1/2" NI-40x	2	8
J4	13-00-00	9 1/2" NI-40x	1	2
J5	12-00-00	9 1/2" NI-40x	1	2
J6	11-00-00	9 1/2" NI-40x	1	5
J7	7-00-00	9 1/2" NI-40x	1	3
J8	6-00-00	9 1/2" NI-40x	1	21
J9	4-00-00	9 1/2" NI-40x	1	1
J10	3-00-00	9 1/2" NI-40x	1	10
J11	2-00-00	9 1/2" NI-40x	1	1
J12	1-00-00	9 1/2" NI-40x	1	2
B27	6-00-00	VERSALAM-10 2.0E	1	1
B28	6-00-00	VERSALAM-10 2.0E	1	1
B29	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	2	2
B16	4-00-00	VERSALAM-10 2.0E	1	1
B16(-1R)	4-00-00	VERSALAM-10 2.0E	1	1
B26	4-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	2	2
B11	3-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----IUS2.56/9.5
 H3-----HUS1.81/10

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

FLOOR LOADING:

LIVE : 40 PSF
 DEAD : 15 PSF
 DEAD : 20 PSF (TILE AREAS ONLY)

97055-March 6/2018 Revised

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
 Maple, Ontario

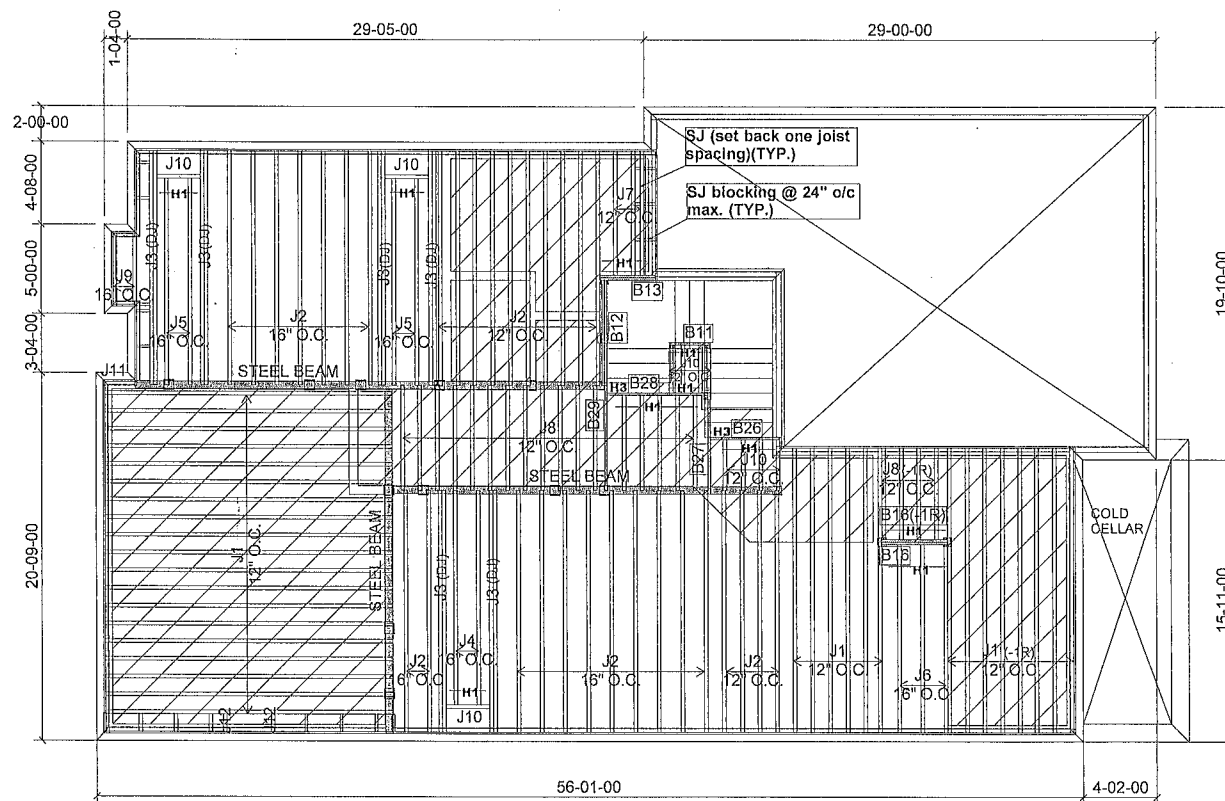
Salesperson: Mario
 Tamarack Lumber

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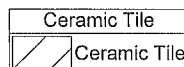
Project: Green Valley Estates East

Date: Sept.9, 2017

Sheet: 7 of 15



**S42-5 ELEV. C
FIRST FLOOR FRAMING
& UPGRADED REAR**



Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	33
J2	14-00-00	9 1/2" NI-40x	1	32
J3	14-00-00	9 1/2" NI-40x	2	12
J4	13-00-00	9 1/2" NI-40x	1	2
J5	12-00-00	9 1/2" NI-40x	1	4
J6	11-00-00	9 1/2" NI-40x	1	3
J7	7-00-00	9 1/2" NI-40x	1	3
J8	6-00-00	9 1/2" NI-40x	1	21
J9	4-00-00	9 1/2" NI-40x	1	2
J10	3-00-00	9 1/2" NI-40x	1	11
J11	2-00-00	9 1/2" NI-40x	1	1
J12	1-00-00	9 1/2" NI-40x	1	2
B27	6-00-00	VERSALAM-10 2.0E	1	1
B28	6-00-00	VERSALAM-10 2.0E	1	1
B29	6-00-00	VERSALAM-10 2.0E	1	1
B12	6-00-00	VERSALAM-10 2.0E	2	2
B16	4-00-00	VERSALAM-10 2.0E	1	1
B16(-1R)	4-00-00	VERSALAM-10 2.0E	1	1
B26	4-00-00	VERSALAM-10 2.0E	1	1
B13	4-00-00	VERSALAM-10 2.0E	2	2
B11	3-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----IUS2.56/9.5
H3-----HUS1.81/10

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

FLOOR LOADING:

LIVE : 40 PSF
DEAD : 15 PSF
DEAD : 20 PSF (TILE AREAS ONLY)

97055-March 6/2018

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
Maple, Ontario

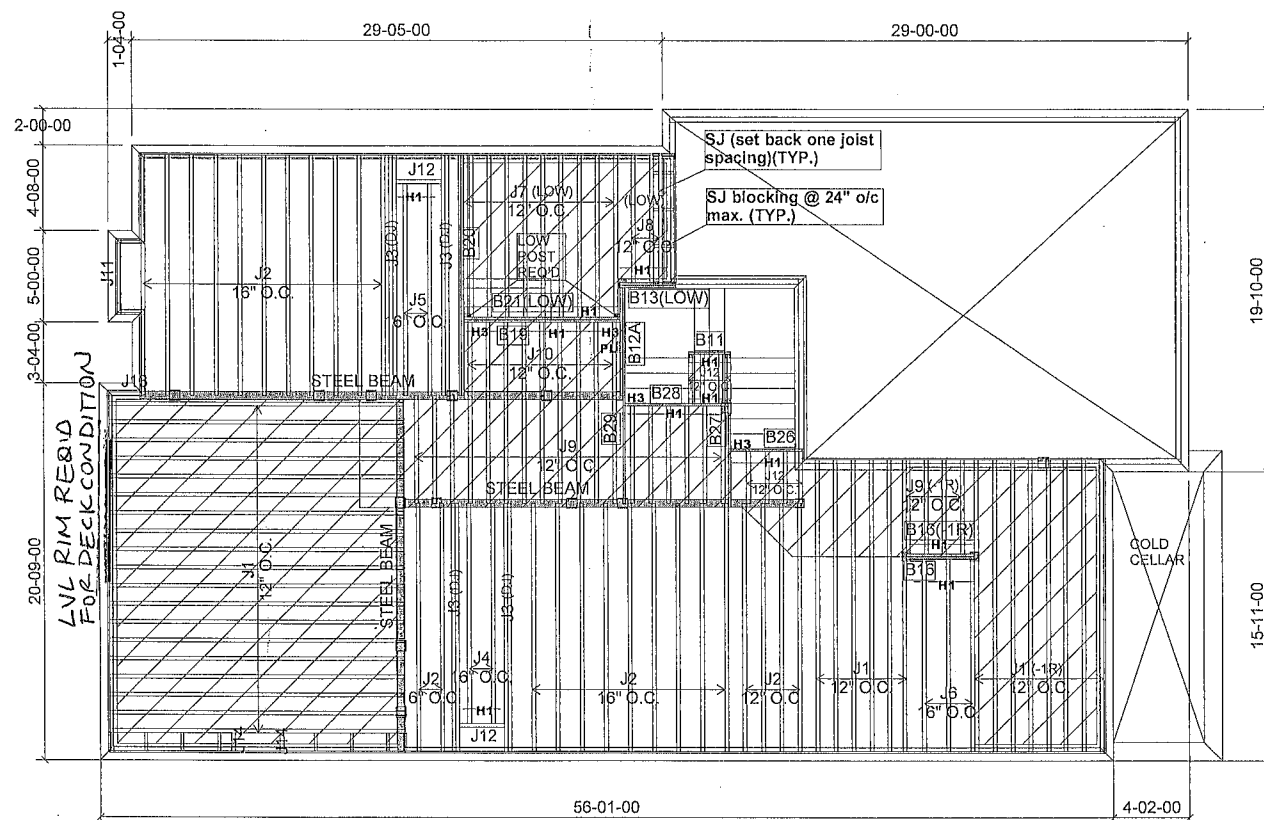
Salesperson: Mario
Tamarack Lumber

File: 287869(247681)

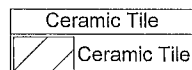
Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 9 of 15



S42-5 ELEV. C
FIRST FLOOR FRAMING
SUNKEN LAUNDRY
WOD & WOB CONDITION
& UPGRADED REAR



FLOOR LOADING:
 LIVE : 40 PSF
 DEAD : 15 PSF
 DEAD : 20 PSF (TILE AREAS ONLY)

Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	33
J2	14-00-00	9 1/2" NI-40x	1	26
J3	14-00-00	9 1/2" NI-40x	2	8
J4	13-00-00	9 1/2" NI-40x	1	2
J5	12-00-00	9 1/2" NI-40x	1	2
J6	11-00-00	9 1/2" NI-40x	1	3
J7	9-00-00	9 1/2" NI-40x	1	10
J8	7-00-00	9 1/2" NI-40x	1	3
J9	6-00-00	9 1/2" NI-40x	1	22
J10	5-00-00	9 1/2" NI-40x	1	9
J11	4-00-00	9 1/2" NI-40x	1	1
J12	3-00-00	9 1/2" NI-40x	1	10
J13	2-00-00	9 1/2" NI-40x	1	1
J14	1-00-00	9 1/2" NI-40x	1	2
B20	14-00-00	VERSALAM-10 2.0E	2	2
B19	9-00-00	VERSALAM-10 2.0E	1	1
B21 (LOW)	9-00-00	VERSALAM-10 2.0E	1	1
B12A	7-00-00	VERSALAM-10 2.0E	2	2
B27	6-00-00	VERSALAM-10 2.0E	1	1
B28	6-00-00	VERSALAM-10 2.0E	1	1
B29	6-00-00	VERSALAM-10 2.0E	1	1
B16	4-00-00	VERSALAM-10 2.0E	1	1
B16(-1R)	4-00-00	VERSALAM-10 2.0E	1	1
B26	4-00-00	VERSALAM-10 2.0E	1	1
B13 (LOW)	4-00-00	VERSALAM-10 2.0E	2	2
B11	3-00-00	VERSALAM-10 2.0E	1	1

HANGER SCHEDULE

H1-----IUS2.56/9.5
 H3-----HUS1.81/10

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

97055 - March 6/2018 Revised

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
 Maple, Ontario

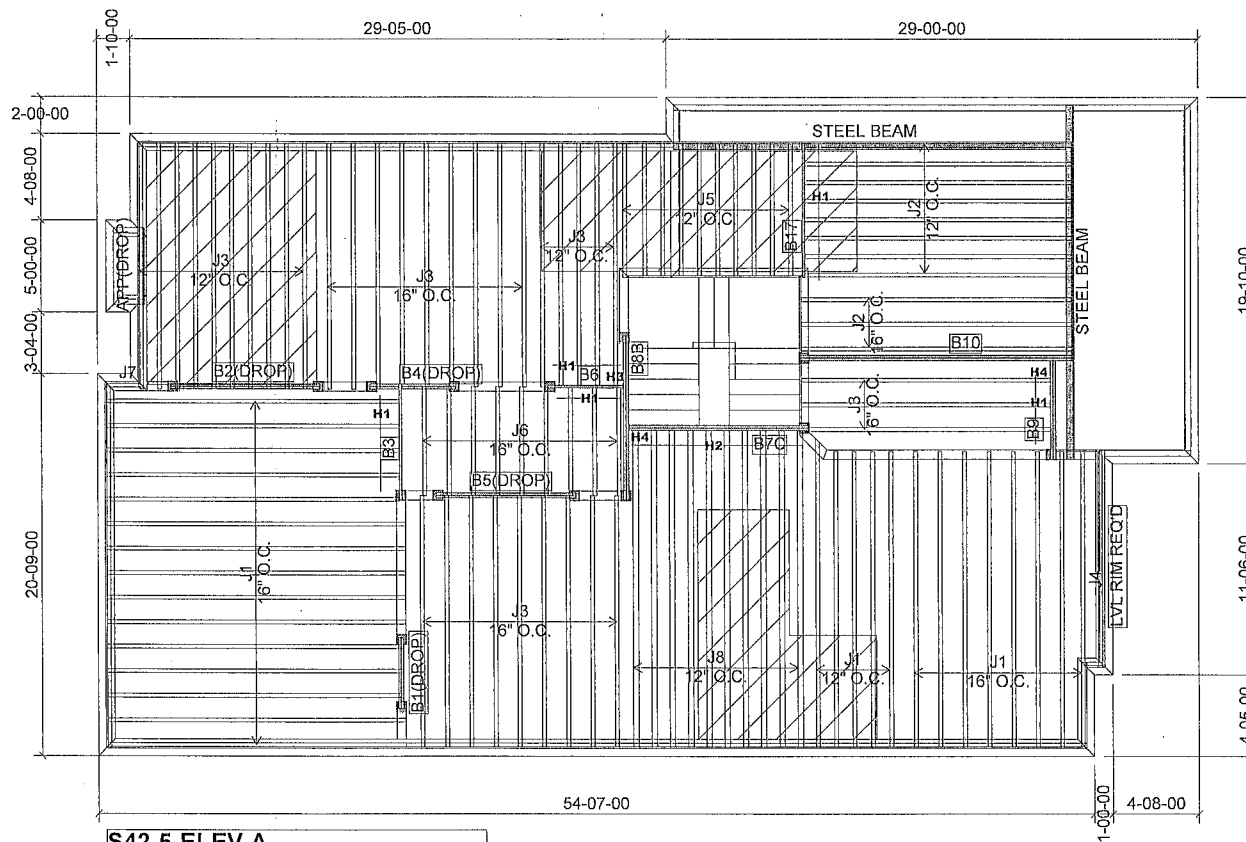
Salesperson: Mario
 Tamarack Lumber

File: 287869(247681)

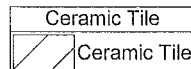
Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 2 of 15



S42-5 ELEV.A
SECOND FLOOR FRAMING
4 BEDROOM & MEDIA LOFT OR
5 BEDROOM W/ FOUR BATH
& UPGRADED REAR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	28
J2	15-00-00	9 1/2" NI-40x	1	11
J3	14-00-00	9 1/2" NI-40x	1	36
J4	12-00-00	9 1/2" NI-40x	1	1
J5	8-00-00	9 1/2" NI-40x	1	10
J6	6-00-00	9 1/2" NI-40x	1	9
J7	2-00-00	9 1/2" NI-40x	1	1
J8	18-00-00	9 1/2" NI-80	1	10
B10	15-00-00	VERSALAM-10 2.0E	2	2
B7C	10-00-00	VERSALAM-10 2.0E	2	2
B2(DROP)	9-00-00	VERSALAM-10 2.0E	2	2
B8B	9-00-00	VERSALAM-10 2.0E	2	2
B17	8-00-00	VERSALAM-10 2.0E	1	1
B5(DROP)	8-00-00	VERSALAM-10 2.0E	2	2
B3	7-00-00	VERSALAM-10 2.0E	1	1
B9	6-00-00	VERSALAM-10 2.0E	2	2
B6	5-00-00	VERSALAM-10 2.0E	1	1
B4(DROP)	5-00-00	VERSALAM-10 2.0E	2	2
B1(DROP)	4-00-00	VERSALAM-10 2.0E	2	2

HANGER SCHEDULE

H1-----IUS2.56/9.5
H2-----IUS3.56/9.5
H3-----HUS1.81/10
H4-----HGUS410

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

FLOOR LOADING:

LIVE : 40 PSF
DEAD : 15 PSF
DEAD : 20 PSF (TILE AREAS ONLY)

97055 - March 6/2018

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
Maple, Ontario

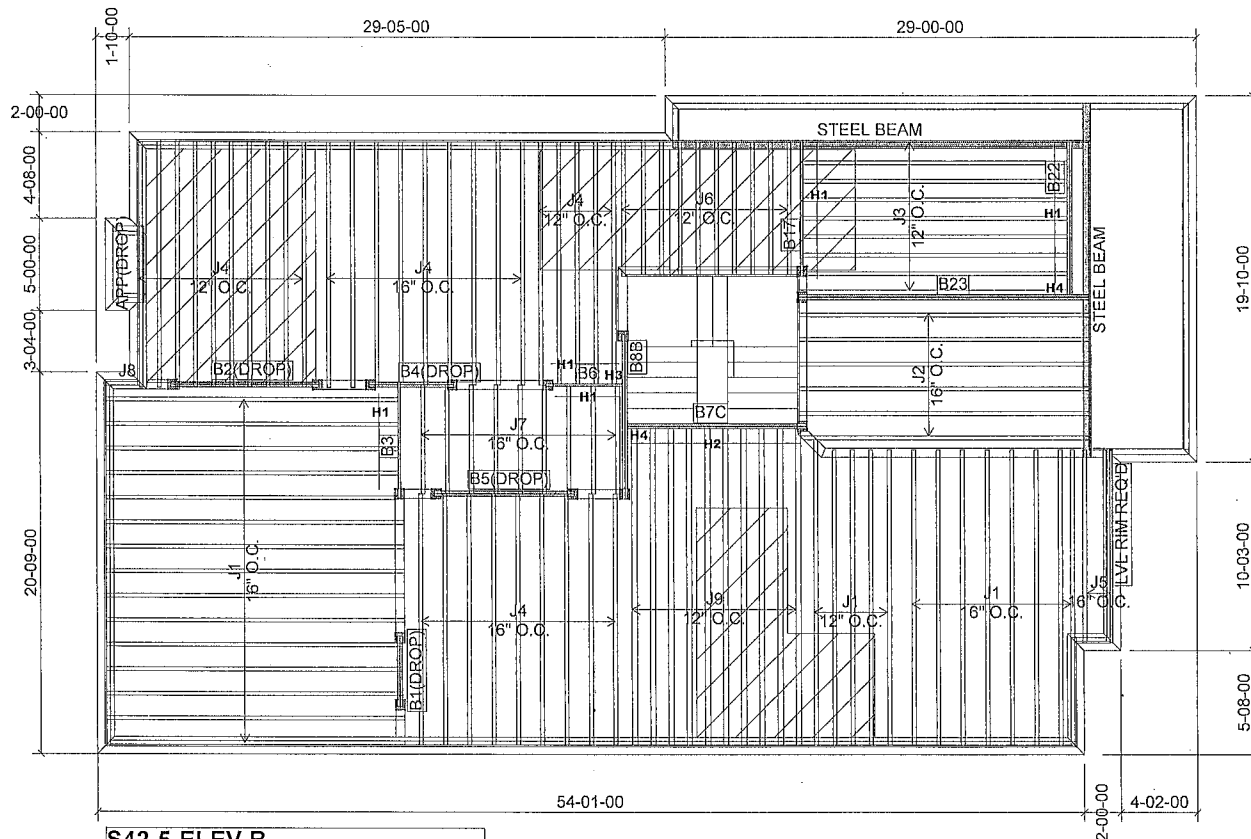
Salesperson: Mario
Tamarack Lumber

File: 287869(247681)

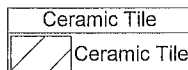
Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 13 of 15



S42-5 ELEV.B
SECOND FLOOR FRAMING
4 BEDROOM & MEDIA LOFT OR
5 BEDROOM W/ FOUR BATH
& UPGRADED REAR



Products				
PlotID	Length	Product	Plies	Net Qty
J1	17-00-00	9 1/2" NI-40x	1	28
J2	16-00-00	9 1/2" NI-40x	1	6
J3	15-00-00	9 1/2" NI-40x	1	9
J4	14-00-00	9 1/2" NI-40x	1	33
J5	11-00-00	9 1/2" NI-40x	1	2
J6	8-00-00	9 1/2" NI-40x	1	10
J7	6-00-00	9 1/2" NI-40x	1	9
J8	2-00-00	9 1/2" NI-40x	1	1
J9	18-00-00	9 1/2" NI-80	1	10
B23	16-00-00	VERSALAM-10 2.0E	2	2
B7C	10-00-00	VERSALAM-10 2.0E	2	2
B2(DROP)	9-00-00	VERSALAM-10 2.0E	2	2
B22	9-00-00	VERSALAM-10 2.0E	2	2
B8B	9-00-00	VERSALAM-10 2.0E	2	2
B17	8-00-00	VERSALAM-10 2.0E	1	1
B5(DROP)	8-00-00	VERSALAM-10 2.0E	2	2
B3	7-00-00	VERSALAM-10 2.0E	1	1
B6	5-00-00	VERSALAM-10 2.0E	1	1
B4(DROP)	5-00-00	VERSALAM-10 2.0E	2	2
B1(DROP)	4-00-00	VERSALAM-10 2.0E	2	2

HANGER SCHEDULE

H1-----IUS2.56/9.5
H2-----IUS3.56/9.5
H3-----HUS1.81/10
H4-----HGUS410

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Do not scale - refer to architectural plans for dimensions.

FLOOR LOADING:

LIVE : 40 PSF
DEAD : 15 PSF
DEAD : 20 PSF (TILE AREAS ONLY)

97055-March 6/2018

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
Maple, Ontario

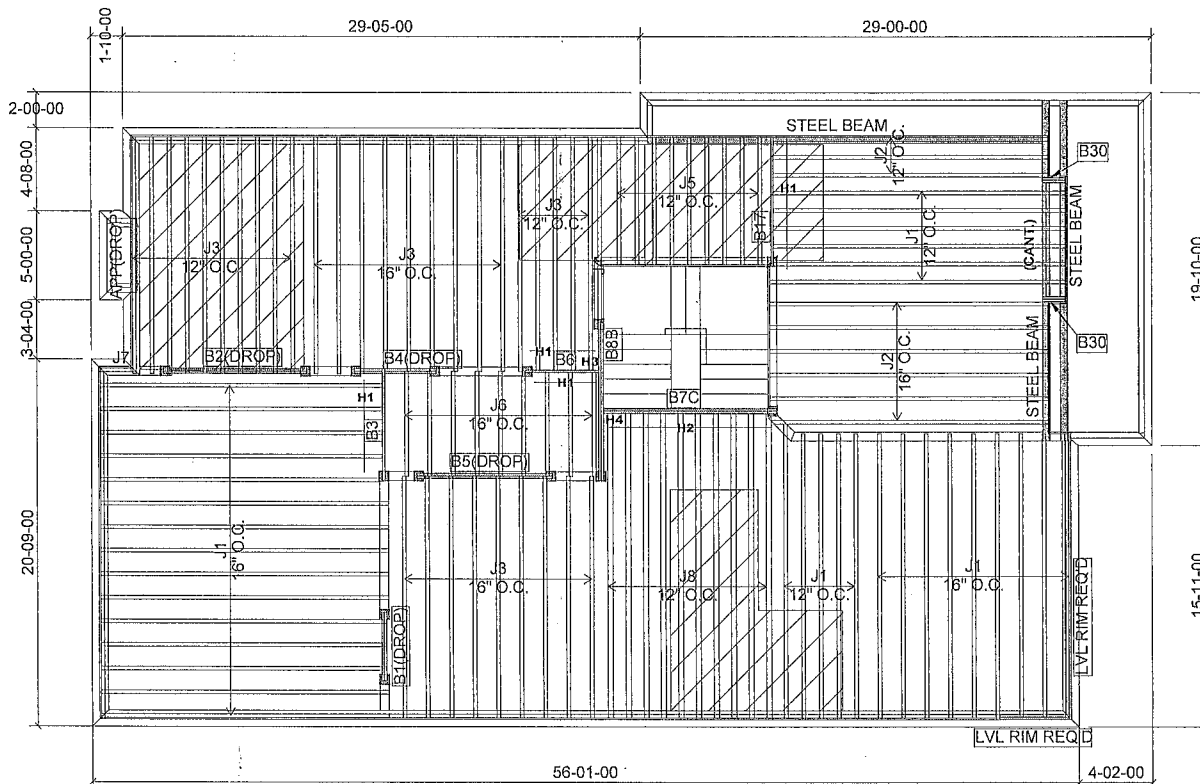
Salesperson: Mario
Tamarack Lumber

File: 287869(247681)

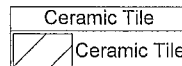
Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 4 of 15



S42-5 ELEV. C
SECOND FLOOR FRAMING
4 BEDROOM & MEDIA LOFT OR
5 BEDROOM W/ FOUR BATH
& UPGRADED REAR



PlotID	Length	Products	Plies	Net Qty
J1	17'-00'-00	9 1/2" NI-40x	1	35
J2	16'-00'-00	9 1/2" NI-40x	1	9
J3	14'-00'-00	9 1/2" NI-40x	1	33
J4	11'-00'-00	9 1/2" NI-40x	1	1
J5	8'-00'-00	9 1/2" NI-40x	1	9
J6	6'-00'-00	9 1/2" NI-40x	1	9
J7	2'-00'-00	9 1/2" NI-40x	1	1
J8	18'-00'-00	9 1/2" NI-80	1	10
B7C	10'-00'-00	VERSALAM-10 2.0E	2	2
B2(DROP)	9'-00'-00	VERSALAM-10 2.0E	2	2
B8B	9'-00'-00	VERSALAM-10 2.0E	2	2
B17	8'-00'-00	VERSALAM-10 2.0E	1	1
B5(DROP)	8'-00'-00	VERSALAM-10 2.0E	2	2
B3	7'-00'-00	VERSALAM-10 2.0E	1	1
B6	5'-00'-00	VERSALAM-10 2.0E	1	1
B4(DROP)	5'-00'-00	VERSALAM-10 2.0E	2	2
B1(DROP)	4'-00'-00	VERSALAM-10 2.0E	2	2
B30	2'-00'-00	VERSALAM-10 2.0E	2	4

HANGER SCHEDULE

H1-----IUS2.56/9.5
H2-----IUS3.56/9.5
H3-----HUS1.81/10
H4-----HGUS410

RIMBOARD

1-1/8" X 9.5" O.S.B

SUBFLOOR : 5/8" NAILED & GLUED

1 - 2 X 6 SPF # 2 squash block req'd on one side of each joist under interior load bearing walls. Multiple squash blocks are req'd under concentrated loads.

Ceramic Tile Application as per O.B.C. 9.30.6

Provide I-Joist blocking between cantilevered joists (along bearing) and rimboard closure at ends.

Do not scale - refer to architectural plans for dimensions.

FLOOR LOADING:

LIVE : 40 PSF
DEAD : 15 PSF
DEAD : 20 PSF (TILE AREAS ONLY)

97055 - March 6 / 2018

JT: 44997/94450

Builder: Bayview Wellington

Location: Bradford

Designer: SG

Alpa Roof Trusses Inc.
Maple, Ontario

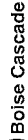
Salesperson: Mario
Tamarack Lumber

File: 287869(247681)

Project: Green Valley Estates East

Date: Sept. 9, 2017

Sheet: 5 of 15



File Name: 247681.bcc

38514

Green Valley Estates, S42-5

:Bradford, ON

Bayview Wellington

CCMC 12472-R

Specifier:

Designer: SG

Company:

Misc:



81

Total Horizontal Product Length = 04-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	320 / 0	145 / 0		
B1, 3-1/2"	320 / 0	145 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	1.00	0.65	1.00	1.15
1	Unf. Area (lb/ft^2)	L	00-00-00	04-00-00	40	15		02-06-00
2	Unf. Area (lb/ft^2)	L	00-00-00	04-00-00	40	20		01-06-00

Controls Summary

	518 ft-lbs	11,610 ft-lbs	4.5%	1	02-00-00
Pos. Moment	303 lbs	5,785 lbs	5.2%	1	01-01-00
End Shear	L/999 (0.003")	n/a	n/a	4	02-00-00
Total Load Defl.	L/999 (0.002")	n/a	n/a	5	02-00-00
Live Load Defl.	0.003"	n/a	n/a	4	02-00-00
Max Defl.	4.5	n/a	n/a		00-00-00
Span / Depth					

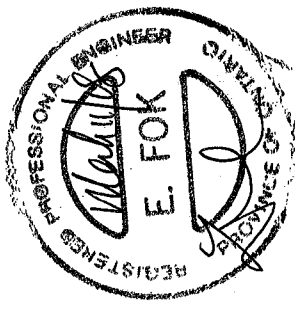
Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods.

Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

1-800-964-6999 before installation.

BC CALO®, BC FRAMER®, AJS™,
ALLJOIST®, BC RIM BOARD™, BCi®,
BOISE GLULAM™, SIMPLE FRAMING
SYSTEM®, VERSA-LAM®, VERSA-RIM
PLUS®, VERSA-RIM®,
VERSA-STRAND®, VERSA-STUD® are
trademarks of Boise Cascade Wood
Products LLC.



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 ϕ has been applied to all presented results per CSA O86:

BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Drv Service Condition.

Design based on Dry Service Connection
Importance Factor : Normal Part code : Part 4

User Notes

COOL TIPS
NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS

@ OC STAGGERED IN TWO ROWS

T-1803017



Boise Cascade

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

Floor Beam\27



BC CALCO® Design Report

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

September 11, 2017 09:57:10

Build 6080

Job Name:

Address:

City, Province, Postal Code:Bradford, ON

Customer:

Code reports:

38514

Green Valley Estates, S42-5

Designer: SG

Company: Bayview Wellington

Misc: CCMC 12472-R

File Name: 247681.bcc

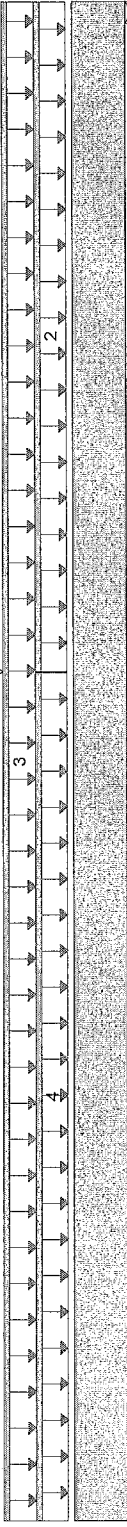
Description: Designs\27

Specifier:

Designer: SG

Company:

Misc:



05-08-00

B1

Total Horizontal Product Length = 05-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	279 / 0	179 / 0		
B1, 3-1/2"	279 / 0	267 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1 B26	Conc. Pt. (lbs)	L	03-02-00	03-02-00	320	145			n/a
2	Unf. Lin. (lb/ft)	L	03-02-00	05-08-00	0	60			n/a
3	Unf. Lin. (lb/ft)	L	00-00-00	05-08-00	27	14			n/a
4	Unf. Lin. (lb/ft)	L	00-00-00	03-02-00	27	14			n/a

Controls Summary

Pos. Moment	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
End Shear	1,279 ft-lbs	11,610 ft-lbs	11%	1	03-02-00
Total Load Defl.	602 lbs	5,785 lbs	10.4%	1	04-07-00
Live Load Defl.	L/999 (0.016")	n/a	n/a	4	02-10-14
Max Defl.	L/999 (0.009")	n/a	n/a	5	02-10-14
Span / Depth	0.016"	n/a	n/a	4	02-10-14
Squash Blocks	6.6	n/a	n/a		00-00-00
	Valid				

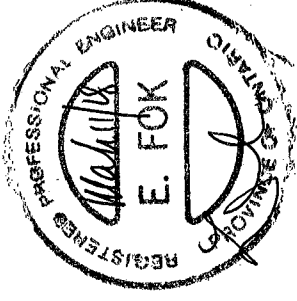
Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	643 lbs	17.1%	8.6%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	753 lbs	20%	10.1%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4

User Notes



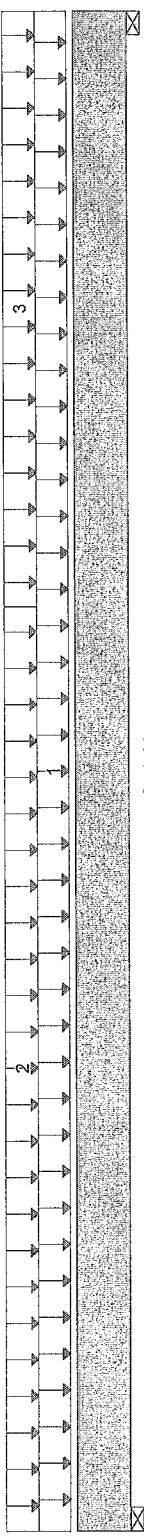
Site Copy

T-1803018



September 11, 2017 09:58:54

Code reports: CCMC 12472-R



Site Copy

7-1803019



Boise Cascade

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

Floor Beam\29



BC CALC® Design Report

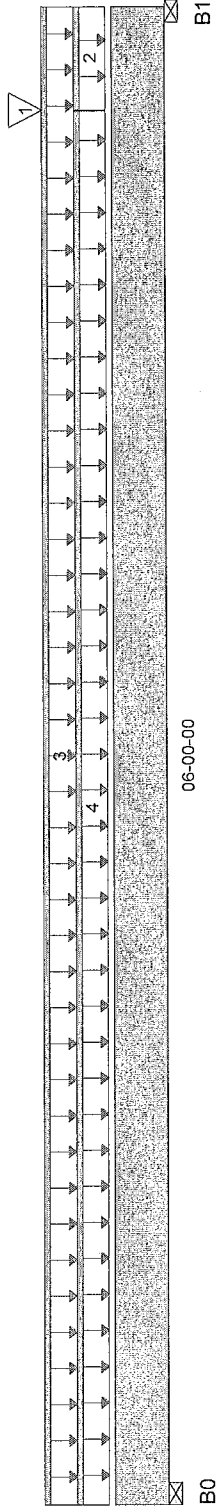
Dry | 1 span | No cantilevers | 0/12 slope (deg)

September 11, 2017 10:00:34

Build 6080
Job Name:
Address:
City, Province, Postal Code:Bradford, ON
Customer:
Code reports:

38514
Green Valley Estates, S42-5
Bayview Wellington
CCMC 12472-R

File Name: 247681.bcc
Description: Designs\29
Specifier:
Designer: SG
Company:
Misc:



Total Horizontal Product Length = 06-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	144 / 0	87 / 0		
B1, 2-1/2"	551 / 0	313 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1 B28L	Conc. Pt. (lbs)	L	05-07-00	05-07-00	463	230			n/a
2	Unf. Lin. (lb/ft)	L	05-07-00	06-00-00	0	60			n/a
3	Unf. Lin. (lb/ft)	L	00-00-00	06-00-00	20	10			n/a
4	Unf. Lin. (lb/ft)	L	00-00-00	05-07-00	20	10			n/a

Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
1	506 ft-lbs	11,610 ft-lbs	4.4%	1	03-07-02
End Shear	430 lbs	5,785 lbs	7.4%	1	05-00-00
Total Load Defl.	L/999 (0.008")	n/a	n/a	4	03-01-15
Live Load Defl.	L/999 (0.005")	n/a	n/a	5	03-01-15
Max Defl.	0.008"	n/a	n/a	4	03-01-15
Span / Depth	7.1	n/a	n/a		00-00-00
Squash Blocks	Valid				

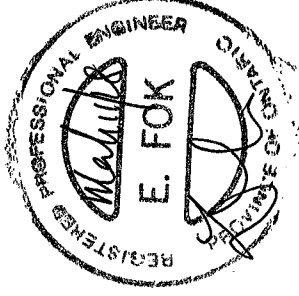
Bearing Supports	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	324 lbs	8.6%	4.3%	Spruce Pine Fir
B1 Wall/Plate	2-1/2" x 1-3/4"	1,217 lbs	45.2%	22.8%	Spruce Pine Fir

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 2010 and CSA O86.

Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4

User Notes





Boise Cascade

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

Floor Beam\30



BC CALC® Design Report

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

October 16, 2017 15:28:59

Build 6080

Job Name:

Address:

City, Province, Postal Code:Bradford, ON

Customer:

Code reports:

38514

Green Valley Estates, S42-5

Bayview Wellington

CCMC 12472-R

File Name: 247681.bcc

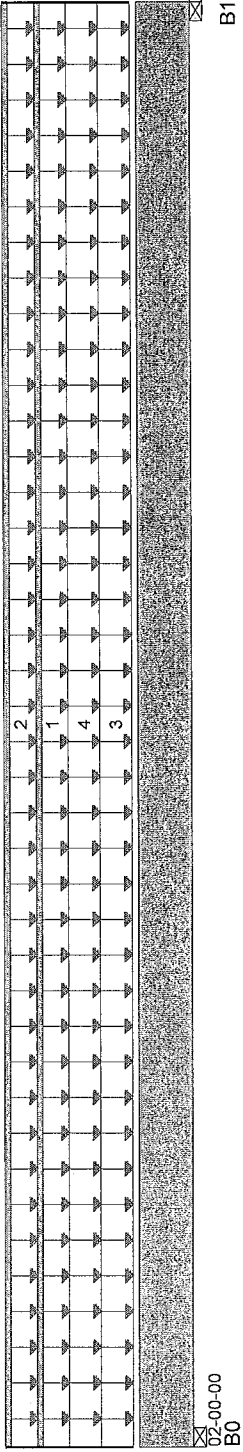
Description: Designs\30

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 02-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	30 / 0	148 / 0	85 / 0	
B1, 3-1/2"	30 / 0	148 / 0	85 / 0	

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	02-00-00	0	100			n/a
2	Unf. Lin. (lb/ft)	L	00-00-00	02-00-00	20	8			n/a
3	Unf. Area (lb/ft^2)	L	00-00-00	02-00-00	11	10		32	01-00-00
4	Unf. Area (lb/ft^2)	L	00-00-00	02-00-00	20	20		52	01-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	97 ft-lbs	23,220 ft-lbs	0.4%	5	01-00-00
End Shear	17 lbs	7,521 lbs	0.2%	0	01-01-00
Total Load Defl.	L/999 (0")	n/a	n/a	13	01-00-00
Max Defl.	0"	n/a	n/a	13	01-00-00
Span / Depth	1.9	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	327 lbs	4.3%	2.2%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	327 lbs	4.3%	2.2%	Spruce Pine Fir

Notes

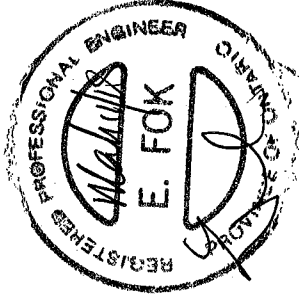
Design meets Code minimum (L/240) Total load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 4

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

User Notes





Boise Cascade

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

Floor Beam\7C



BC CALC® Design Report

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

September 11, 2017 09:10:01

Build 6080

Job Name:

Address:

City, Province, Postal Code:Bradford, ON

Customer:

Code reports:

38514

Green Valley Estates, S42-5

Bayview Wellington

CCMC 12472-R

File Name: 247681.bcc

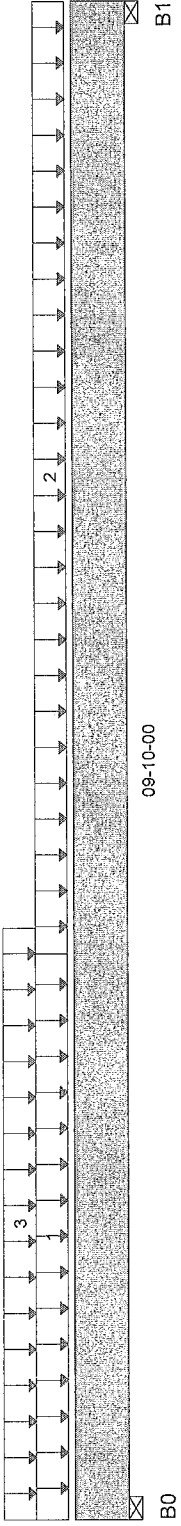
Description: Designs\7C

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 09-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,983 / 0	873 / 0		
B1, 3-1/2"	1,779 / 0	902 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	03-08-00	40	15			08-09-00
2	Unf. Area (lb/ft^2)	L	03-08-00	09-10-00	40	20			08-09-00
3	Unf. Area (lb/ft^2)	L	00-00-00	03-10-00	40	15			02-01-00

Controls Summary

Pos. Moment	8,678 ft-lbs	23,220 ft-lbs	37.4%	1	04-09-01
End Shear	3,128 lbs	11,571 lbs	27%	1	01-01-00
Total Load Defl.	L/580 (0.194")	0.469"	41.4%	4	04-10-15
Live Load Defl.	L/859 (0.131")	0.313"	41.9%	5	04-10-15
Max Defl.	0.194"	n/a	n/a	4	04-10-15
Span / Depth	11.8	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

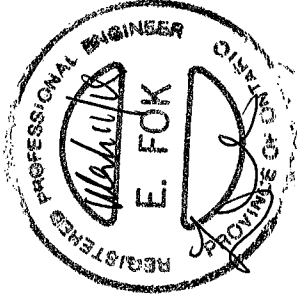
	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	4,065 lbs	53.9%	27.2%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	3,795 lbs	50.4%	25.4%	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4

User Notes

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



Site Copy

T-1803022



Boise Cascade

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

Floor Beam\8B



BC CALC® Design Report

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

September 11, 2017 09:13:05

Build 6080

Job Name:

Address:

City, Province, Postal Code:Bradford, ON

Customer:

Code reports:

38514

Green Valley Estates, S42-5

Bayview Wellington

CCMC 12472-R

File Name: 247681.bcc

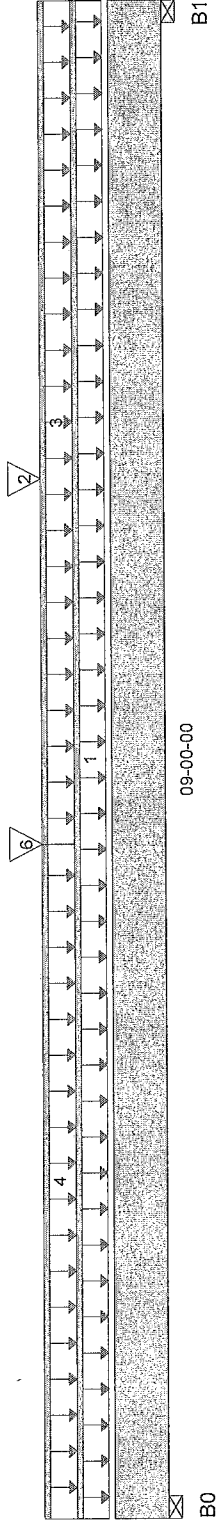
Description: Designs\8B

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 09-00-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,541 / 0	799 / 0		
B1, 3-1/2"	1,580 / 0	969 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)		L	00-00-00	09-00-00	27	10			n/a
2	Conc. Pt. (lbs)		L	06-02-00	06-02-00	815	386			n/a
3	Unf. Lin. (lb/ft)		L	04-00-00	09-00-00	0	60			n/a
4	Unf. Lin. (lb/ft)		L	00-00-00	04-00-00	20	8			n/a
6	Conc. Pt. (lbs)		L	04-00-00	04-00-00	1,983	873			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	11,643 ft-lbs	23,220 ft-lbs	50.1%	1	04-00-00
End Shear	3,429 lbs	11,571 lbs	29.6%	1	07-11-00
Total Load Defl.	L/536 (0.191")	0.427"	44.8%	4	04-05-11
Live Load Defl.	L/999 (0.125")	n/a	n/a	5	04-05-11
Max Defl.	0.191"	n/a	n/a	4	04-05-11
Span / Depth	10.8	n/a	n/a		00-00-00
Squash Blocks	Valid				

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	3,310 lbs	43.9%	22.2%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	3,581 lbs	47.5%	24%	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 2010 and CSA O86.

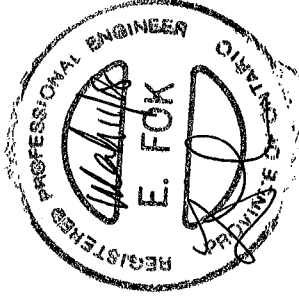
Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 4

Nail one ply to another with 3 1/2" spiral nails @ 12"

o.c, staggered in 2 rows

User Notes



Site Copy

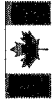
7-1803023



Boise Cascade

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

Floor Beam\21



BC CALC® Design Report

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

March 11, 2018 13:50:41

Build 6536

Job Name:

Address:

City, Province, Postal Code: Bradford, ON

Customer:

Code reports:

38514

Green Valley Estates, S42-5

Design Code: B

Bayview Wellington

CCMC 12472-R

File Name: 247681.bcc

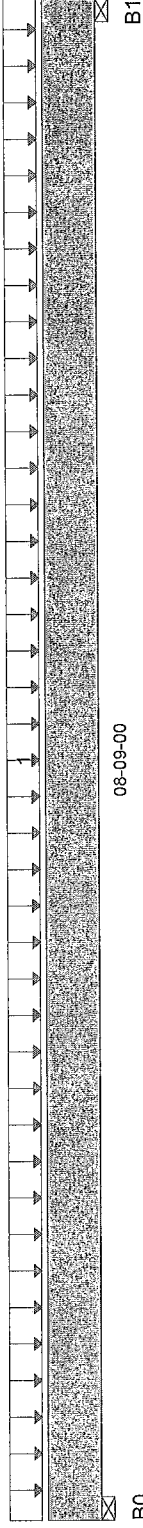
Description: Designs\21

Specifier:

Designer: SG

Company:

Misc:



B0

08-09-00

B1

Total Horizontal Product Length = 08-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	787 / 0	415 / 0		
B1, 3-1/2"	787 / 0	415 / 0		

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1		Unf. Area (lb/ft²)	L	00-00-00	08-09-00	40	20		1.00 1.15	04-06-00

Controls Summary

Pos. Moment	3,339 ft-lbs	11,610 ft-lbs	28.8%	1	04-04-08
End Shear	1,279 lbs	5,785 lbs	22.1%	1	01-01-00
Total Load Defl.	L/999 (0.117")	n/a	n/a	4	04-04-08
Live Load Defl.	L/999 (0.077")	n/a	n/a	5	04-04-08
Max Defl.	0.117"	n/a	n/a	4	04-04-08
Span / Depth	10.5	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.

Bearing Supports

	Dim. (L x W)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	1,700 lbs	45.1%	22.7%	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,700 lbs	45.1%	22.7%	Spruce Pine Fir

Notes

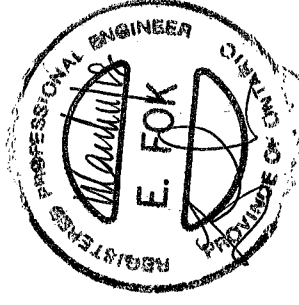
Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume member is fully braced.
Resistance Factor phi has been applied to all presented results per CSA O86.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2010 and CSA O86.

Design based on Dry Service Condition.

Importance Factor : Normal Part code : Part 4

User Notes

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



T.1803024



Boise Cascade

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

Floor Beam\01

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

May-19-15

BC CALC® Design Report



Project 3272

Name:

Address:

City, Province, Postal Code:Bradford, ON

Customer:

Code reports:

38514

Green Valley Estates, S42-5

Bayview Wellington

CCMC 12472-R

File Name: 247681.bcc

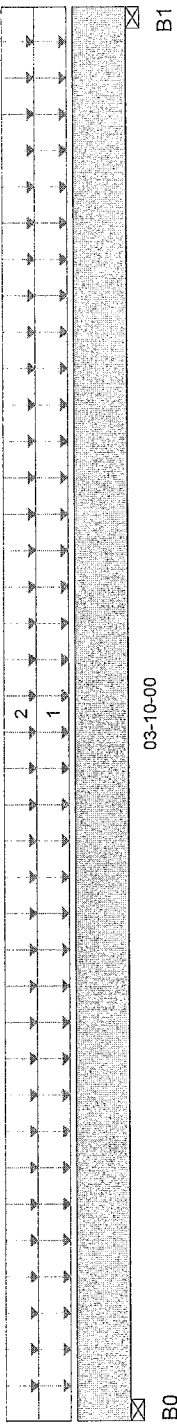
Description: Designs\01

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 03-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	703 / 0	282 / 0		
B1, 3-1/2"	703 / 0	282 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	03-10-00	40	15		1.00	08-06-00
2	Unf. Area (lb/ft^2)	L	00-00-00	03-10-00	40	15		1.15	00-08-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,045 ft-lbs	25,408 ft-lbs	0.04	1	01-11-00
End Shear	612 lbs	11,571 lbs	0.05	1	01-01-00
Total Load Defl.	L/999 (0.003")	n/a	n/a	4	01-11-00
Live Load Defl.	L/999 (0.002")	n/a	n/a	5	01-11-00
Span / Depth	4.3	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,407 lbs	0.19	0.09	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	1,407 lbs	0.19	0.09	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 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Design based on Dry Service Condition.

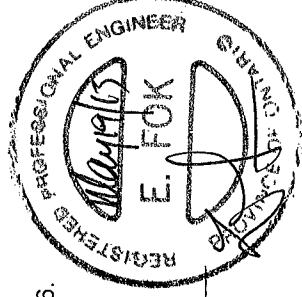
Importance Factor : Normal Part code : Part 4

Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS

@ 6" O.C., STAGGERED IN TWO ROWS



T-1505076



Boise Cascade

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

Floor Beam\02



BC CALCO® Design Report

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

November-22-14

Build 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code:

Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681

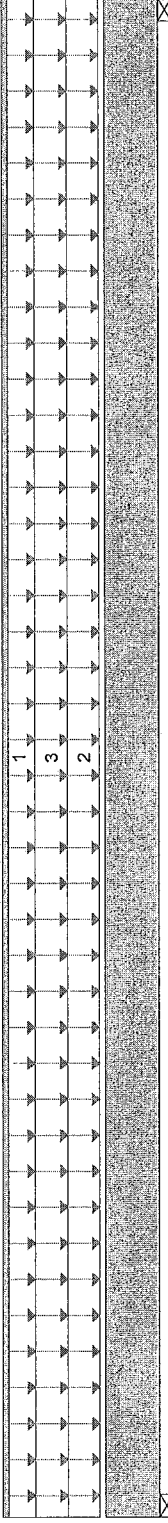
Description: Designs\02

Specifier:

Designer: SG

Company:

Misc:



08-02-00

B1

Total Horizontal Product Length = 08-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,211 / 0	876 / 0		
B1, 3-1/2"	1,211 / 0	876 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	08-02-00	0	60			n/a
2	Unf. Area (lb/ft²)	L	00-00-00	08-02-00	40	15			00-08-00
	Unf. Area (lb/ft²)	L	00-00-00	08-02-00	40	20			06-09-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,298 ft-lbs	25,408 ft-lbs	0.21	1	04-01-00
End Shear	2,140 lbs	11,571 lbs	0.18	1	01-01-00
Total Load Defl.	L/999 (0.081")	n/a	n/a	4	04-01-00
Live Load Defl.	L/999 (0.047")	n/a	n/a	5	04-01-00
Span / Depth	9.7	n/a	n/a		00-00-00

Bearing Supports

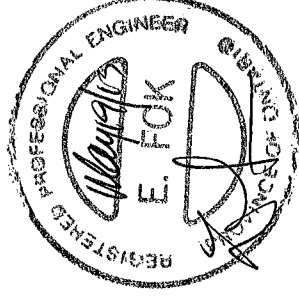
	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	2,913 lbs	0.39	0.19	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	2,913 lbs	0.39	0.19	Spruce Pine Fir

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 086.
BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

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



Site Copy

T-180507



Boise Cascade

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

Floor Beam\03

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

November-22-14

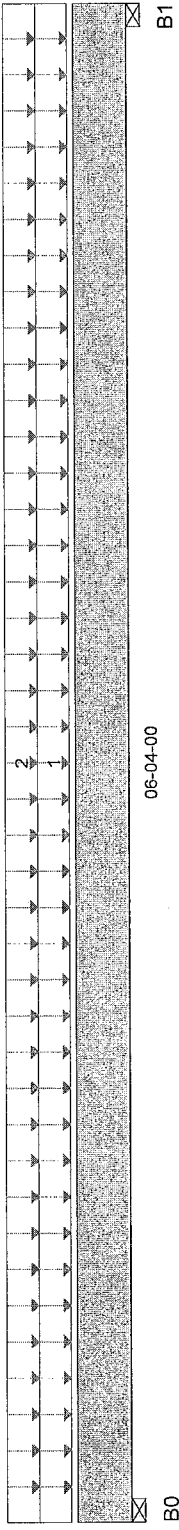
BC CALCO® Design Report

Build 3272

38514

Address: Green Valley Estates, S42-5
City, Province, Postal Code: Bradford, ON
Customer: Bayview Wellington
Code reports: CCMC 12472-R

File Name: 247681
Description: Designs\03
Specifier:
Designer: SG
Company:
Misc:



Total Horizontal Product Length = 06-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B0, 3-1/2"	1,098 / 0	427 / 0			
B1, 3-1/2"	1,098 / 0	427 / 0			

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	06-04-00	40	15			08-00-00
2	Unf. Area (lb/ft²)	L	00-00-00	06-04-00	40	15			00-08-00

Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Moment	2,971 ft-lbs	12,704 ft-lbs	0.23	1	03-02-00
End Shear	1,434 lbs	5,785 lbs	0.25	1	01-01-00
Total Load Defl.	L/999 (0.052")	n/a	n/a	4	03-02-00
Live Load Defl.	L/999 (0.037")	n/a	n/a	5	03-02-00
Span / Depth	7.4	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. In BC, CALCO®, BC FRAMER®, AJS™, ALJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM®, PLUS®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

Bearing Supports

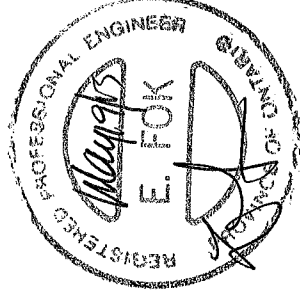
	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,180 lbs	0.58	0.29	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,180 lbs	0.58	0.29	Spruce Pine Fir

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 086.
BC CALCO® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

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



T-1505078



Boise Cascade

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

Floor Beam\04

BC CALC® Design Report

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

November-22-14



Project 3272

File Name: 247681

Name:

Description: Designs\04

Address:

Specifier:

City, Province, Postal Code:

Designer: SG

Customer:

Company:

Code reports:

Misc:

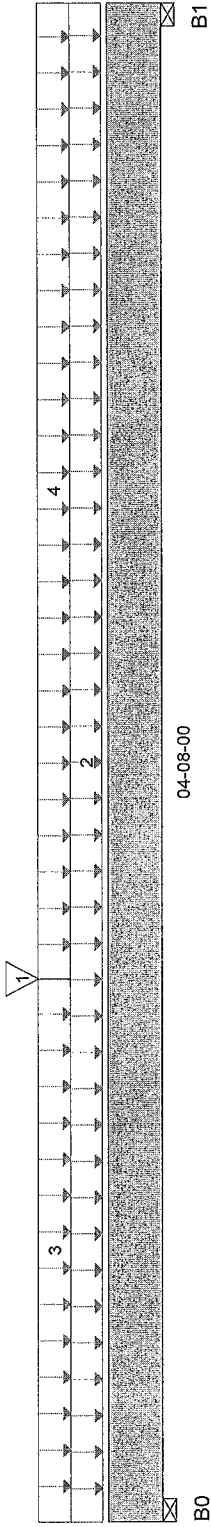
38514

Green Valley Estates, S42-5

Bradford, ON

Bayview Wellington

CCMC 12472-R



04-08-00

B1

Total Horizontal Product Length = 04-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,500 / 0	595 / 0		
B1, 3-1/2"	1,262 / 0	501 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Conc. Pt. (lbs)	L	01-08-00	01-08-00	1,098	427			n/a
2	Unf. Area (lb/ft^2)	L	00-00-00	04-08-00	40	15			06-09-00
	Unf. Area (lb/ft^2)	L	00-00-00	01-08-00	40	15			00-08-00
	Unf. Area (lb/ft^2)	L	01-08-00	04-08-00	40	15			03-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,492 ft-lbs	25,408 ft-lbs	0.14	1	01-08-00
End Shear	2,349 lbs	11,571 lbs	0.2	1	01-01-00
Total Load Defl.	L/999 (0.014")	n/a	n/a	4	02-02-13
Live Load Defl.	L/999 (0.01")	n/a	n/a	5	02-02-13
Span / Depth	5.3	n/a	n/a		00-00-00

Bearing Supports

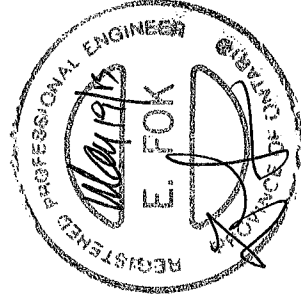
	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	2,995 lbs	0.4	0.2	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	2,519 lbs	0.33	0.17	Spruce Pine Fir

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 086.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

User Notes

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



7-1505079



Boise Cascade

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

Floor Beam\05

BC CALCC® Design Report

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

November-22-14



Build 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code: Bradford, ON

Customer: Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681

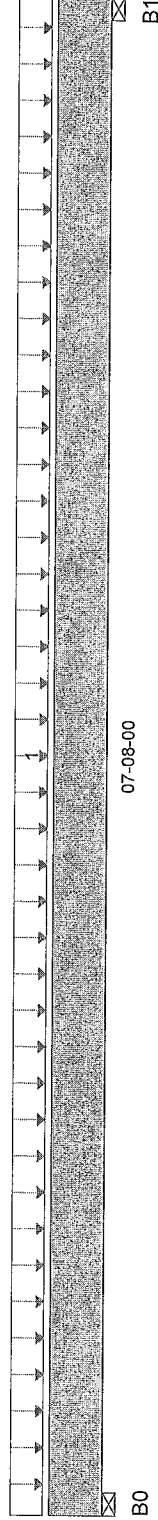
Description: Designs\05

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 07-08-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,495 / 0	598 / 0		
B1, 3-1/2"	1,495 / 0	598 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	07-08-00	40	15			

Controls Summary

Pos.	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Moment	5,065 ft-lbs	25,408 ft-lbs	0.2	1	03-10-00
Shear	2,145 lbs	11,571 lbs	0.19	1	01-01-00
Local Load Defl.	L/999 (0.066")	n/a	n/a	4	03-10-00
Live Load Defl.	L/999 (0.047")	n/a	n/a	5	03-10-00
Span / Depth	9.1	n/a	n/a		00-00-00

Bearing Supports

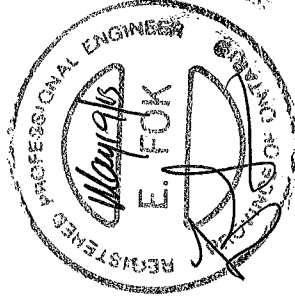
	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	2,989 lbs	0.4	0.2	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	2,989 lbs	0.4	0.2	Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume Member is Fully Braced.
Resistance Factor phi has been applied to all presented results per CSA 086.
BC CALCC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
@ 12" O.C., STAGGERED IN TWO ROWS (top welded)



T-15080820



Boise Cascade

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

Floor Beam\06

BC CALC® Design Report

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

November-22-14



Build 3272

Name:

Green Valley Estates, S42-5

Address:

City, Province, Postal Code: Bradford, ON

Customer: Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681

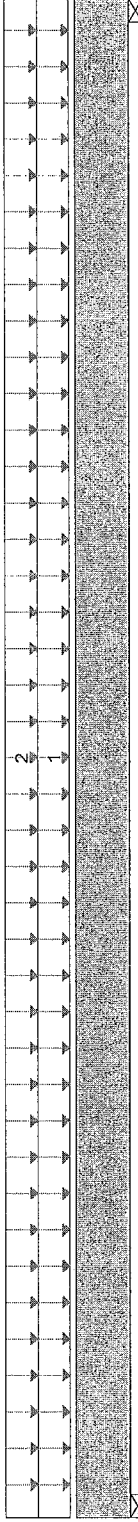
Description: Designs\06

Specifier:

Designer: SG

Company:

Misc:



04-03-00

B1

Total Horizontal Product Length = 04-03-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	815 / 0	386 / 0		
B1, 3-1/2"	815 / 0	386 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	04-03-00	40	15			03-00-00
2	Unf. Area (lb/ft²)	L	00-00-00	04-03-00	40	20			06-07-00

Controls Summary

Pos. Moment	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
End Shear	1,441 ft-lbs	12,704 ft-lbs	0.11	1	02-01-08
Total Load Defl.	835 lbs	5,785 lbs	0.14	1	01-01-00
Live Load Defl.	L/999 (0.011")	n/a	n/a	4	02-01-08
Span / Depth	L/999 (0.007")	n/a	n/a	5	02-01-08
	4.8	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC® BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

Bearing Supports

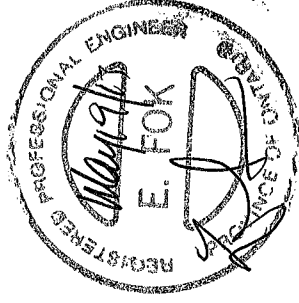
	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	1,704 lbs	0.45	0.23	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,704 lbs	0.45	0.23	Spruce Pine Fir

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 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

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



T-1505081



Boise Cascade

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

Floor Beam\09



BC CALC® Design Report

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

November-22-14

Build 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code:

Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681

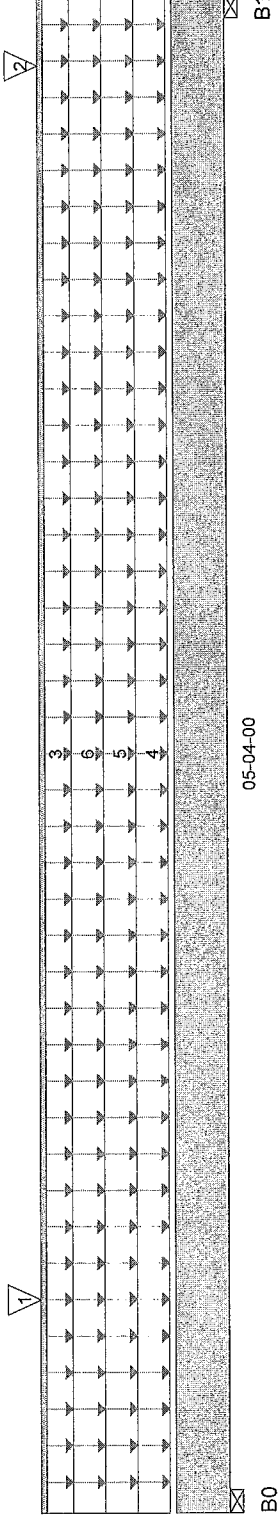
Description: Designs\09

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 05-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,196 / 0	1,020 / 0	1,394 / 0	
B1, 3-1/2"	1,221 / 0	1,027 / 0	1,468 / 0	

Load Summary

Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
2	Conc. Pt. (lbs)	L	00-09-00	00-09-00	244	254	757	1.00	n/a
3	Conc. Pt. (lbs)	L	05-01-00	05-01-00	218	208	675	1.00	n/a
4	Unf. Lin. (lb/ft)	L	00-00-00	05-04-00	0	100		1.00	n/a
5	Unf. Area (lb/ft²)	L	00-00-00	05-04-00	11	10	32	1.00	04-07-00
6	Unf. Area (lb/ft²)	L	00-00-00	05-04-00	11	10	32	1.00	03-08-00
	Unf. Area (lb/ft²)	L	00-00-00	05-04-00	40	15		1.00	07-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,427 ft-lbs	25,408 ft-lbs	0.13	1	02-06-13
End Shear	2,264 lbs	11,571 lbs	0.2	5	01-01-00
Total Load Defl.	L/999 (0.022")	n/a	n/a	11	02-07-07
Live Load Defl.	L/999 (0.014")	n/a	n/a	15	02-07-07
Span / Depth	6.2	n/a	n/a		00-00-00

Bearing Supporting

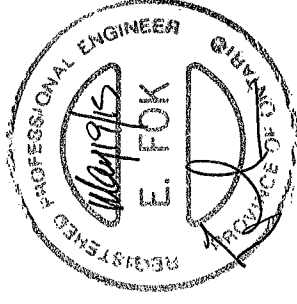
	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	3,964 lbs	0.53	0.27	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	4,096 lbs	0.54	0.27	Spruce Pine Fir

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 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

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



T-1505084



Boise Cascade

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

Floor Beam\10

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

November-22-14

BC CALC® Design Report



Project # 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code:

Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681

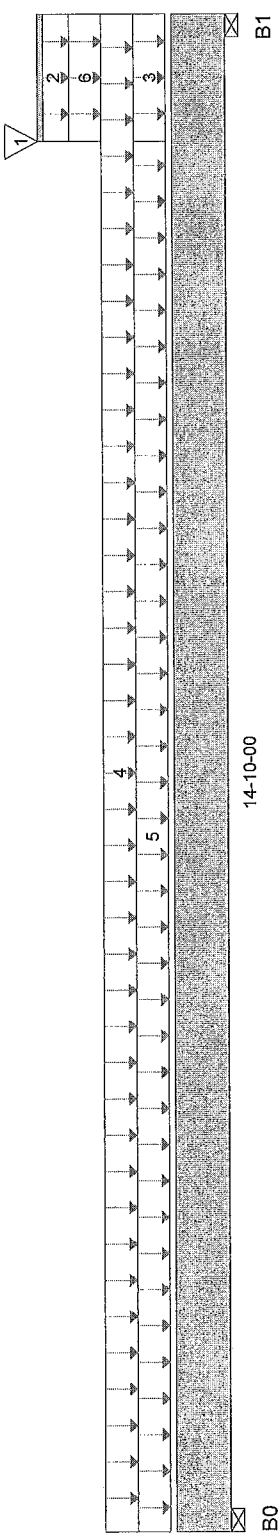
Description: Designs\10

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 14'-10'-00"

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	485 / 0	299 / 0	114 / 0	
B1, 3-1/2"	1,604 / 0	1,384 / 0	1,693 / 0	

Load Summary

Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
2	Conc. Pt. (lbs)	L	13-07-00	13-07-00	1,221	1,027	1,468		n/a
3	Unf. Lin. (lb/ft)	L	13-07-00	14-10-00	0	100			n/a
4	Unf. Area (lb/ft^2)	L	13-07-00	14-10-00	11	10	32		07-04-00
5	Unf. Area (lb/ft^2)	L	00-00-00	14-10-00	40	15			00-08-00
6	Unf. Area (lb/ft^2)	L	00-00-00	13-07-00	40	15			00-08-00
	Unf. Area (lb/ft^2)	L	13-07-00	14-10-00	11	10	32		01-00-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,464 ft-lbs	25,408 ft-lbs	0.22	1	09-10-07
End Shear	4,375 lbs	11,571 lbs	0.38	1	13-09-00
Total Load Defl.	L/573 (0.301")	0.719"	0.42	11	07-11-00
Live Load Defl.	L/894 (0.193")	0.479"	0.4	15	07-11-00
Span / Depth	18.2	n/a	n/a		00-00-00

Bearing Supports

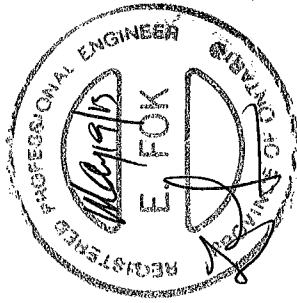
	Dim. (L x W)	Demand	Demand/Resistance Support	Demand/Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,158 lbs	0.15	0.08	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	5,071 lbs	0.67	0.34	Spruce Pine Fir

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 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Reflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS
@ 12" O.C., STAGGERED IN TWO ROWS (top layer)



T-1505045



Boise Cascade

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

Floor Beam\17

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

November-22-14

BC CALC® Design Report



Build 3272

File Name: 247681

Name:

Description: Designs\17

Address:

Green Valley Estates, S42-5

City, Province, Postal Code:

Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

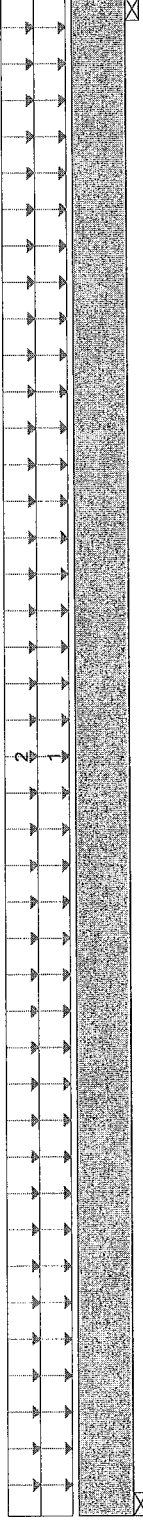
Specifier:

SG

Designer:

Company:

Misc:



07-03-00

B1

Total Horizontal Product Length = 07-03-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,160 / 0	597 / 0		
B1, 3-1/2"	1,160 / 0	597 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft^2)	L	00-00-00	07-03-00	40	20			07-06-00
2	Unf. Area (lb/ft^2)	L	00-00-00	07-03-00	40	20			00-06-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	3,955 ft-lbs	12,704 ft-lbs	0.31	1	03-07-08
End Shear	1,744 lbs	5,785 lbs	0.3	1	01-01-00
Total Load Defl.	L/999 (0.093")	n/a	n/a	4	03-07-08
Live Load Defl.	L/999 (0.061")	n/a	n/a	5	03-07-08
Span / Depth	8.6	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation.\n\nBC CALC®, BC FRAMER®, AJS™, ALJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products LLC.

Bearing Supports

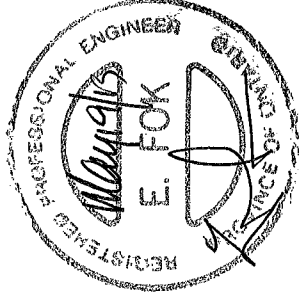
	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Support	Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	2,487 lbs	0.66	0.66	0.33	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	2,487 lbs	0.66	0.66	0.33	Spruce Pine Fir

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 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

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



7-155086



Boise Cascade

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

Floor Beam\11

BC CALC® Design Report

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

May-17-15



Printed 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code:

Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681.bcc

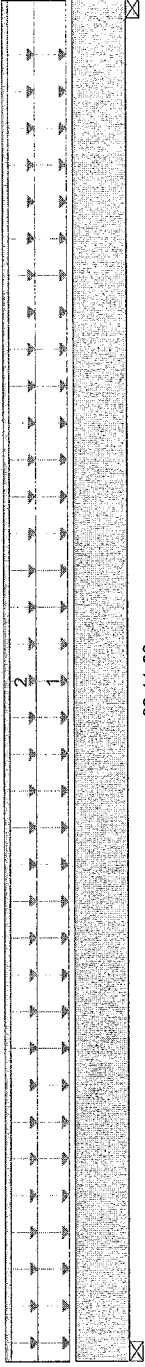
Description: Designs\11

Specifier:

Designer: SG

Company:

Misc:



02-11-00

B0

B1

Total Horizontal Product Length = 02-11-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	87 / 0	138 / 0		
B1, 3-1/2"	87 / 0	138 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	02-11-00	40	20			01-06-00
2	Unf. Lin. (lb/ft)	L	00-00-00	02-11-00	0	60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	158 ft-lbs	12,704 ft-lbs	0.01	1	01-05-08
End Shear	78 lbs	5,785 lbs	0.01	1	01-01-00
Total Load Defl.	L/999 (0.001")	n/a	n/a	4	01-05-08
Live Load Defl.	L/999 (0")	n/a	n/a	5	01-05-08
Span / Depth	3.1	n/a	n/a		00-00-00

Disclosure

Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. In BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCi®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	304 lbs	0.08	0.04	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	304 lbs	0.08	0.04	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 086.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Design based on Dry Service Condition.

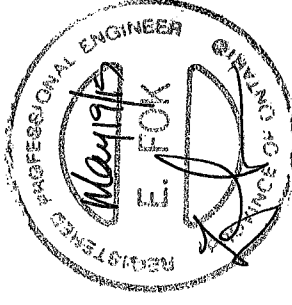
Importance Factor : Normal Part code : Part 4

Deflections less than 1/8" were ignored in the results.

User Notes

NAIL ONE PLY TO ANOTHER WITH 3 1/2" SPIRAL NAILS

@ / O.C., STAGGERED IN TWO ROWS



T. K. S. S. S.



Boise Cascade

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

Floor Beam\12

BC CALC® Design Report

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

November-22-14



Printed 3272

Name:

File Name: 247681

Address:

Description: Designs\12

Green Valley Estates, S42-5

Specifier:

City, Province, Postal Code: Bradford, ON

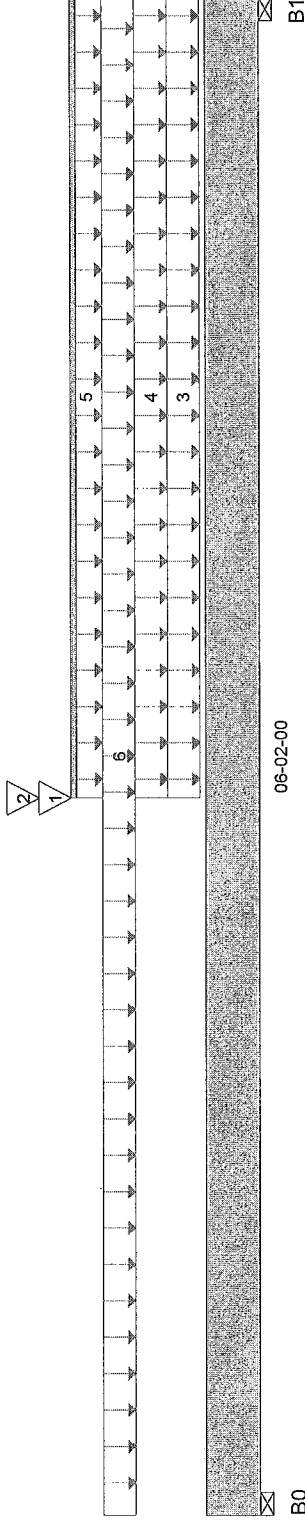
Designer: SG

Customer: Bayview Wellington

Company:

Code reports: CCMC 12472-R

Misc:



Total Horizontal Product Length = 06-02-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,189 / 0	774 / 0		
B1, 3-1/2"	1,146 / 0	935 / 0		

Load Summary

Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Conc. Pt. (lbs)	L	02-11-00	02-11-00	1,760	1,028			n/a
2	Conc. Pt. (lbs)	L	02-11-00	02-11-00	300	113			n/a
3	Unf. Area (lb/ft²)	L	02-11-00	06-02-00	40	15			00-08-00
4	Unf. Area (lb/ft²)	L	02-11-00	06-02-00	40	15			00-06-00
5	Unf. Lin. (lb/ft)	L	02-11-00	06-02-00	0	120			n/a
6	Unf. Area (lb/ft²)	L	00-00-00	06-02-00	40	20			00-06-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	7,164 ft-lbs	25,408 ft-lbs	0.28	1	02-11-00
End Shear	2,693 lbs	11,571 lbs	0.23	1	01-01-00
Total Load Defl.	L/999 (0.049")	n/a	n/a	4	03-00-10
Live Load Defl.	L/999 (0.03")	n/a	n/a	5	03-00-10
Span / Depth	7.2	n/a	n/a		00-00-00

Bearing Supports

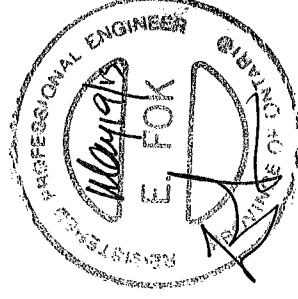
	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	2,752 lbs	0.37	0.18	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	2,887 lbs	0.38	0.19	Spruce Pine Fir

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 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
ortance Factor : Normal Part code : Part 4
ctions less than 1/8" were ignored in the results.

User Notes

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



T-1505089



Boise Cascade

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

Floor Beam\13



BC CALC® Design Report

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

November-22-14

Project 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code:

Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681

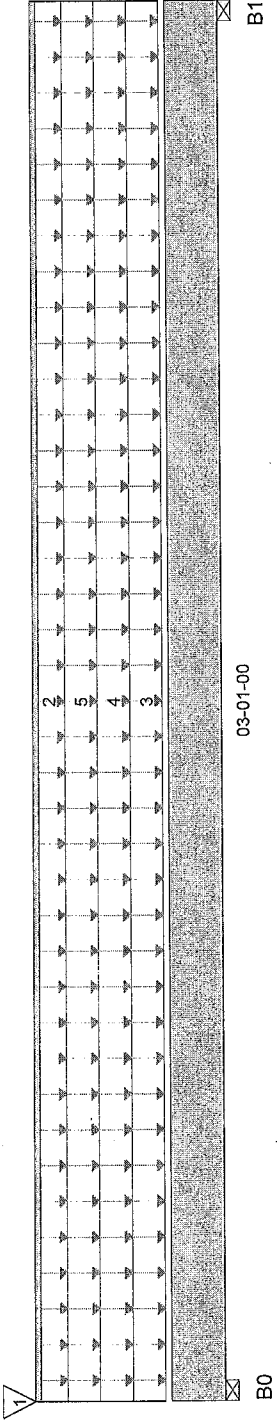
Description: Designs\13

Specifier:

Designer: SG

Company:

Misc:



Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Trib.
B0, 3-1/2"	1,722 / 0	1,407 / 0			
B1, 3-1/2"	576 / 0	472 / 0			

Load Summary

Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
2	Conc. Pt. (lbs)	L	00-00-00	00-00-00	1,146	935			n/a
3	Unf. Lin. (lb/ft)	L	00-00-00	03-01-00	0	120			n/a
3	Unf. Area (lb/ft²)	L	00-00-00	03-01-00	40	15			02-00-00
4	Unf. Area (lb/ft²)	L	00-00-00	03-01-00	40	20			03-08-00
5	Unf. Area (lb/ft²)	L	00-00-00	03-01-00	40	20			03-08-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	812 ft-lbs	25,408 ft-lbs	0.03	1	01-06-08
End Shear	432 lbs	11,571 lbs	0.04	1	01-01-00
Total Load Defl.	L/999 (0.001")	n/a	n/a	4	01-06-08
Live Load Defl.	L/999 (0.001")	n/a	n/a	5	01-06-08
Span / Depth	3.3	n/a	n/a		00-00-00

Bearing Supports

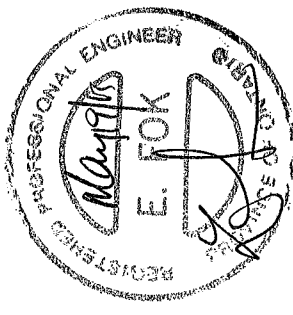
	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	4,341 lbs	0.58	0.29		Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	1,454 lbs	0.19	0.1		Spruce Pine Fir

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Calculations assume Member is Fully Braced.
Resistance Factor phi has been applied to all presented results per CSA 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

Other Notes

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



TS-505090



Boise Cascade

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

Floor Beam\16

BC CALC® Design Report

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

November-22-14



Build 3272

38514

Name:

Green Valley Estates, S42-5

Address:

City, Province, Postal Code: Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681

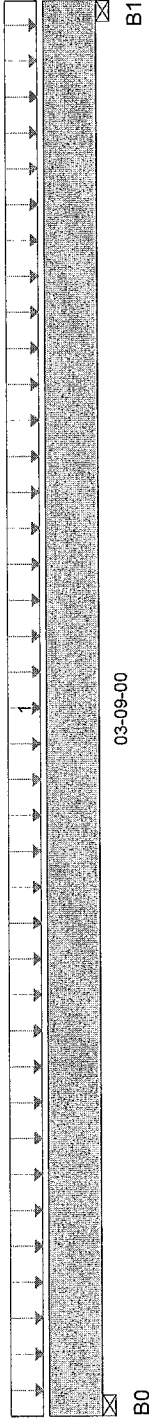
Description: Designs\16

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 03-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live		Dead		Snow		Wind		Trib.
	B0, 3-1/2"	400 / 0	209 / 0	209 / 0	B1, 3-1/2"	400 / 0	209 / 0	209 / 0	
Load Summary									
Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	
1	Unf. Area (lb/ft^2)	L	00-00-00	03-09-00	40	20	1.00	1.15	05-04-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	622 ft-lbs	12,704 ft-lbs	0.05	1	01-10-08
Shear	364 lbs	5,785 lbs	0.06	1	01-01-00
Ult Load Defl.	L/999 (0.003")	n/a	n/a	4	01-10-08
Live Load Defl.	L/999 (0.002")	n/a	n/a	5	01-10-08
Span / Depth	4.2	n/a	n/a		00-00-00

Disclosure

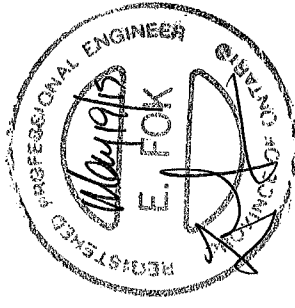
Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC®, BC FRAMER®, AJUS™, ALLJOIST®, BC RIM BOARD™, BC®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

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 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA O86.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

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

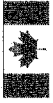




Dry | 1 span | No cantilevers | 0/12 slope (deg)

May-17-15

BC CALC® Design Report



Project 3272

Name: 38514

Address: Green Valley Estates, S42-5

City, Province, Postal Code: Bradford, ON

Customer: Bayview Wellington

Code reports: CCMC 12472-R

File Name: 247681.bcc

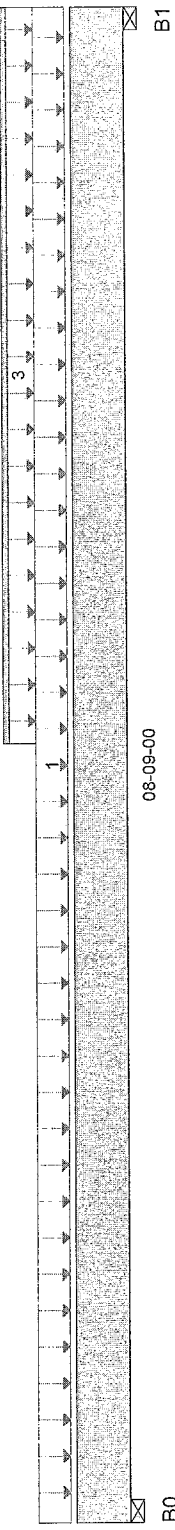
Description: Designs\19

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 08-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	379 / 0	269 / 0		
B1, 3-1/2"	379 / 0	407 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Area (lb/ft²)	L	00-00-00	08-09-00	40	20			02-02-00
3	Unf. Lin. (lb/ft)	L	04-06-00	08-09-00	0	60			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	1,950 ft-lbs	12,704 ft-lbs	0.15	1	04-08-06
End Shear	790 lbs	5,785 lbs	0.14	1	07-08-00
Total Load Defl.	L/999 (0.069")	n/a	n/a	4	04-04-11
Live Load Defl.	L/999 (0.037")	n/a	n/a	5	04-04-11
Span / Depth	10.5	n/a	n/a		00-00-00

Disclosure
Completeness and accuracy of input must be verified by anyone who would rely on output as evidence of suitability for particular application. Output here based on building code-accepted design properties and analysis methods. Installation of BOISE engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call 1-800-964-6999 before installation. \n\nBC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCi®, BOISE GLULAM™, SIMPLE FRAMING SYSTEM®, VERSA-LAM®, VERSA-RIM PLUS®, VERSA-RIM®, VERSA-STRAND®, VERSA-STUD® are trademarks of Boise Cascade Wood Products L.L.C.

Bearing Supports

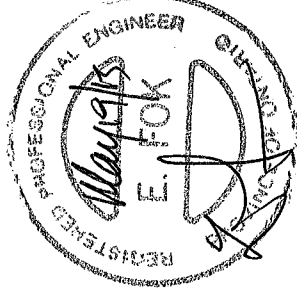
	Dim. (L x W)	Demand	Demand/Resistance Support	Member	Material
B0 Wall/Plate	3-1/2" x 1-3/4"	905 lbs	0.24	0.12	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 1-3/4"	1,078 lbs	0.29	0.14	Spruce Pine Fir

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 086.
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
Design based on Dry Service Condition.
Importance Factor : Normal Part code : Part 4
Deflections less than 1/8" were ignored in the results.

User Notes

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



T-1505094



Boise Cascade

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

Floor Beam\20

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

May-17-15

BC CALC® Design Report



Project 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code: Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681.bcc

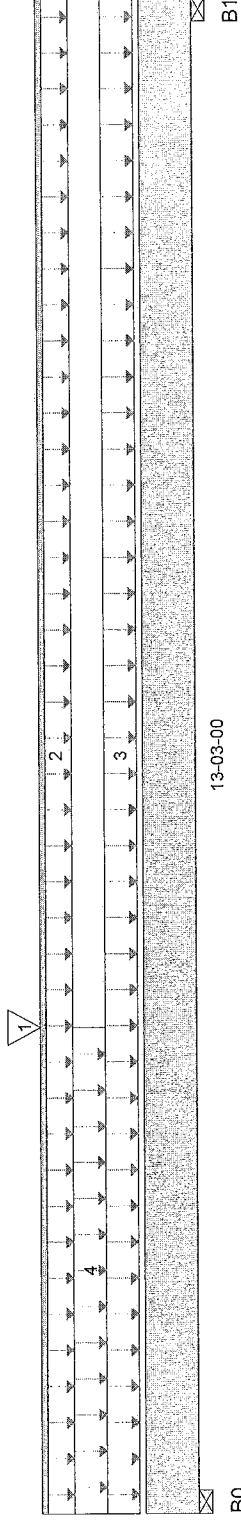
Description: Designs\20

Specifier:

Designer: SG

Company:

Misc:



Total Horizontal Product Length = 13-03-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	509 / 0	748 / 0		
B1, 3-1/2"	308 / 0	618 / 0		

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Conc. Pt. (lbs)	L	04-03-00	04-03-00	379	269			n/a
2	Unf. Lin. (lb/ft)	L	00-00-00	13-03-00	0	60			n/a
3	Unf. Area (lb/ft^2)	L	00-00-00	13-03-00	40	15			00-08-00
4	Unf. Area (lb/ft^2)	L	00-00-00	04-03-00	40	20			00-06-00

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	5,193 ft-lbs	25,408 ft-lbs	0.2	1	04-04-08
End Shear	1,501 lbs	11,571 lbs	0.13	1	01-01-00
Total Load Defl.	L/709 (0.216")	0.64"	0.34	4	06-04-04
Live Load Defl.	L/999 (0.085")	n/a	n/a	5	06-02-12
Span / Depth	16.2	n/a	n/a		00-00-00

Bearing Supports

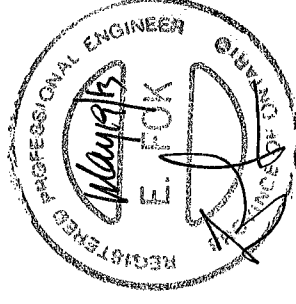
	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Support Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,698 lbs	0.23	0.11	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	866 lbs	0.18	0.09	Spruce Pine Fir

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 086.
 BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.
 Design based on Dry Service Condition.
 Importance Factor : Normal Part code : Part 4
 Deflections less than 1/8" were ignored in the results.

Notes

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





Boise Cascade

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

Floor Beam\12A

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

May-17-15

BC CALC® Design Report



Project 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code: Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681.bcc

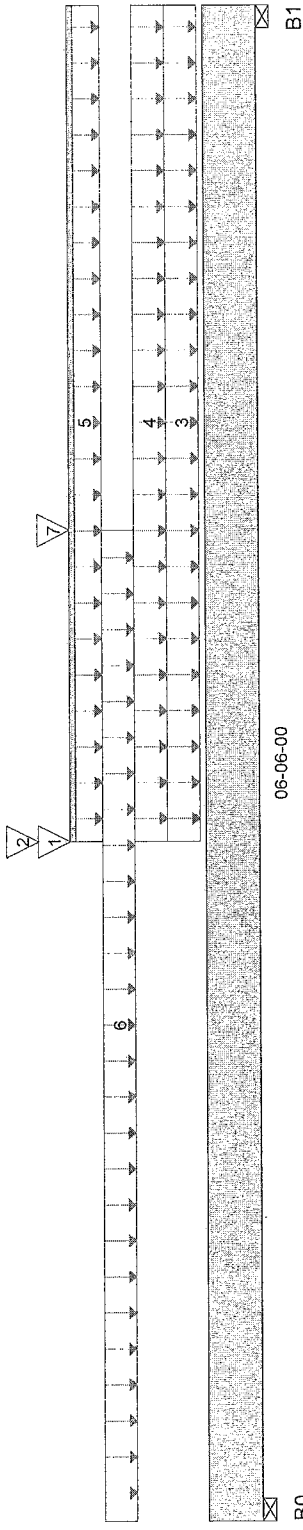
Description: Designs\12A

Specifier:

Designer: SG

Company:

Misc:



06-06-00

Total Horizontal Product Length = 06-06-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Wind
B0, 3-1/2"	1,372 / 0	958 / 0	
B1, 3-1/2"	1,319 / 0	1,188 / 0	

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Conc. Pt. (lbs)	L	02-11-00	02-11-00	1,760	1,028			n/a
2	Conc. Pt. (lbs)	L	02-11-00	02-11-00	300	113			n/a
3	Unf. Area (lb/ft^2)	L	02-11-00	06-06-00	40	15			00-08-00
4	Unf. Area (lb/ft^2)	L	02-11-00	06-06-00	40	15			00-06-00
5	Unf. Lin. (lb/ft)	L	02-11-00	06-06-00	0	120			n/a
6	Unf. Area (lb/ft^2)	L	00-00-00	04-03-00	40	20			00-06-00
7	Conc. Pt. (lbs)	L	04-03-00	04-03-00	379	407			n/a

Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	8,518 ft-lbs	25,408 ft-lbs	0.34	1	02-11-00
End Shear	3,197 lbs	11,571 lbs	0.28	1	01-01-00
Total Load Defl.	L/999 (0.069")	n/a	n/a	4	03-03-00
Live Load Defl.	L/999 (0.04")	n/a	n/a	5	03-02-00
Span / Depth	7.6	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	3,256 lbs	0.43	0.22	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	3,463 lbs	0.46	0.23	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 086.

CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Design based on Dry Service Condition.

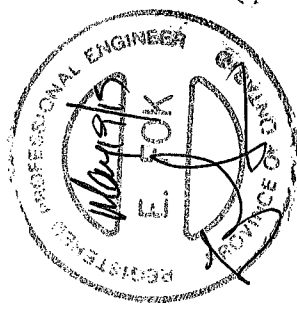
Importance Factor : Normal Part code : Part 4

Deflections less than 1/8" were ignored in the results.

NAIL ONs PUT TO ANOTHER WITH 3 1/2" SPURAL NAILS @ 12" O.C.

User Notes STRUTTED IN 2 ROWS

Page 1 of 2



T-1505096



Boise Cascade

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

Floor Beam\22

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

May-17-15

BC CALC® Design Report



Project 3272

Name: 38514

Address: Green Valley Estates, S42-5

City, Province, Postal Code: Bradford, ON

Customer: Bayview Wellington

Code reports: CCMC 12472-R

File Name: 247681.bcc

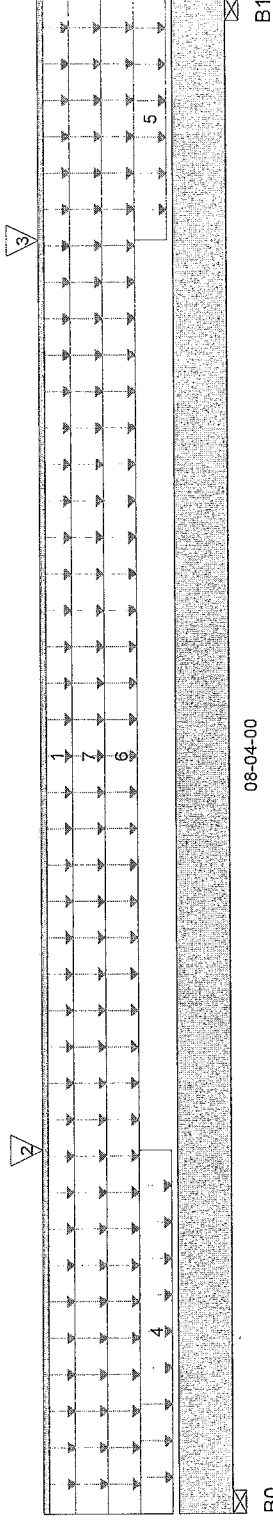
Description: Designs\22

Specifier:

Designer: SG

Company:

Misc:



08-04-00

Total Horizontal Product Length = 08-04-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	1,590 / 0	1,405 / 0	1,050 / 0	
B1, 3-1/2"	1,590 / 0	1,405 / 0	1,050 / 0	

Load Summary

Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Unf. Lin. (lb/ft)	L	00-00-00	08-04-00	0	100			n/a
2	Conc. Pt. (lbs)	L	02-00-00	02-00-00	121	115		373	n/a
3	Conc. Pt. (lbs)	L	07-00-00	07-00-00	121	115		373	n/a
4	Unf. Area (lb/ft^2)	L	00-00-00	02-00-00	11	10		32	04-07-00
5	Unf. Area (lb/ft^2)	L	07-00-00	08-04-00	11	10		32	04-07-00
6	Unf. Area (lb/ft^2)	L	00-00-00	08-04-00	11	10		32	03-02-00
7	Unf. Area (lb/ft^2)	L	00-00-00	08-04-00	40	20			07-06-00

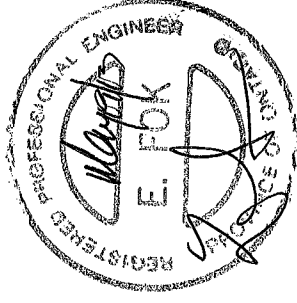
Controls Summary

	Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	8,057 ft-lbs	25,408 ft-lbs	0.32	1	04-01-05
End Shear	3,453 lbs	11,571 lbs	0.3	1	01-01-00
Total Load Defl.	L/698 (0.135")	0.394"	0.34	11	04-02-04
Live Load Defl.	L/999 (0.079")	n/a	n/a	15	04-01-05
Max Defl.	0.135"	1"	0.14	11	04-02-04
Span / Depth	9.9	n/a	n/a		00-00-00

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	4,666 lbs	0.62	0.31	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	4,666 lbs	0.62	0.31	Spruce Pine Fir

Notes: NAIL ONE ROW TO EACH JOINT WITH 2x12 SPRUCE PINE FIR
User Notes @ 10' O.C., STAGGERED IN 2 ROWS





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

May-17-15

BC CALC® Design Report

Project 3272

Name:

38514

Address:

Green Valley Estates, S42-5

City, Province, Postal Code: Bradford, ON

Customer:

Bayview Wellington

Code reports:

CCMC 12472-R

File Name: 247681.bcc

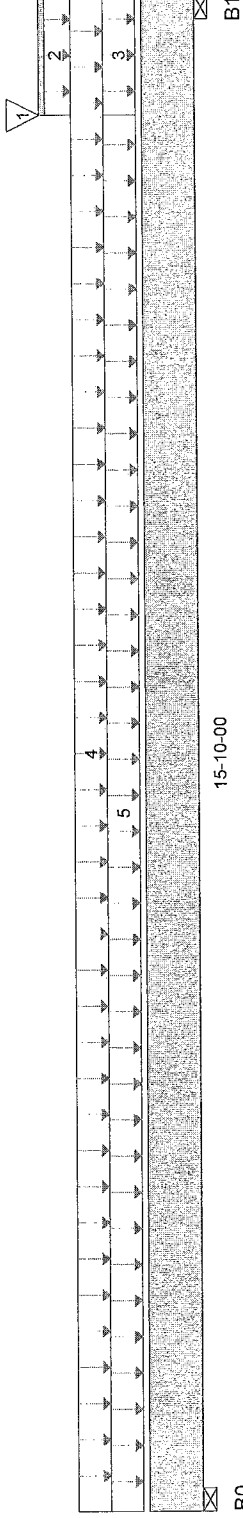
Description: Designs\23

Specifier:

Designer: SG

Company:

Misc:



15-10-00

B1

Total Horizontal Product Length = 15-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind
B0, 3-1/2"	476 / 0	313 / 0	74 / 0	
B1, 3-1/2"	1,881 / 0	1,688 / 0	1,138 / 0	

Load Summary

Tag Description	Load Type	Ref.	Start	End	Live	Dead	Snow	Wind	Trib.
1	Conc. Pt. (lbs)	L	14-07-00	14-07-00	1,590	1,405		1,050	n/a
2	Unf. Lin. (lb/ft)	L	14-07-00	15-10-00	0	100			n/a
3	Unf. Area (lb/ft²)	L	14-07-00	15-10-00	11	10		32	04-00-00
4	Unf. Area (lb/ft²)	L	00-00-00	15-10-00	40	15			00-08-00
5	Unf. Area (lb/ft²)	L	00-00-00	14-07-00	40	15			00-06-00

Controls Summary			Factored Demand	Factored Resistance	Demand / Resistance	Load Case	Location
Pos. Moment	6,011 ft-lbs	25,408 ft-lbs		0.24	1	10-11-15	
End Shear	5,101 lbs	11,571 lbs		0.44	1	14-09-00	
Total Load Defl.	L/494 (0.373")	0.769"		0.49	11	08-05-09	
Live Load Defl.	L/811 (0.228")	0.512"		0.44	15	08-05-09	
Max Defl.	0.373"	1"		0.37	11	08-05-09	
Span / Depth	19.4	n/a		n/a		00-00-00	

Bearing Supports

	Dim. (L x W)	Demand	Demand / Resistance Support	Demand / Resistance Member	Material
B0 Wall/Plate	3-1/2" x 3-1/2"	1,142 lbs	0.15	0.08	Spruce Pine Fir
B1 Wall/Plate	3-1/2" x 3-1/2"	5,500 lbs	0.73	0.37	Spruce Pine Fir

Notes

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

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

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

Calculations assume Member is Fully Braced.

Resistance Factor phi has been applied to all presented results per CSA 086.

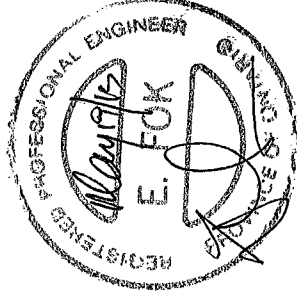
BC CALC® analysis is based on Canadian Limit States Design, as per NBCC and CSA 086.

Design based on Dry Service Condition.

ortance Factor : Normal Part code : Part 4

Deflections less than 1/8" were ignored in the results.

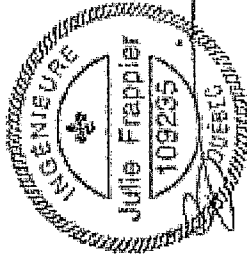
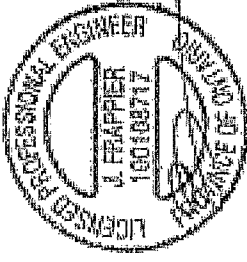
User Notes NAIL ONE ROW TO ANCHOR WITH 3 1/2" SPIRAL NAILS
@ 12" O.C., SPACED IN 2 ROWS



T-1505098



Maximum Spans - A5
Limit States Design (CAN)



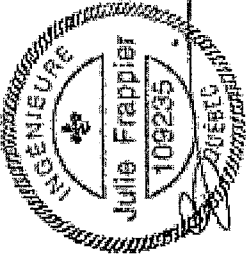
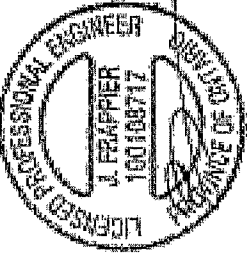
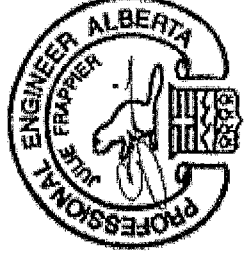
Maximum Floor Spans

Live Load = 40 psf, Dead Load = 15 psf
Simple Spans, L/360 Deflection Limit
5/8" OSB G&N Sheathing

Depth	Series	Bare			1/2" Gypsum Ceiling		
		On Centre Spacing			On Centre Spacing		
9-1/2"	NI-20	12"	15"	19.2"	12"	15"	19.2"
	NI-40x	15.1"	14.2"	13.9"	15.7"	14.8"	14.2"
	NI-60	16.1"	15.2"	14.8"	16.7"	15.7"	15.1"
	NI-70	16.3"	15.4"	14.10"	16.8"	15.9"	15.3"
	NI-80	17.1"	16.1"	15.6"	17.5"	16.5"	15.10"
11-7/8"	NI-20	17.3"	16.3"	15.8"	17.8"	16.7"	16.0"
	NI-40x	16.11"	16.0"	15.5"	17.6"	16.6"	16.0"
	NI-60	18.1"	17.0"	16.5"	18.9"	17.6"	16.11"
	NI-70	18.4"	17.3"	16.7"	19.0"	17.8"	17.1"
	NI-80	19.6"	18.0"	17.4"	20.1"	18.7"	17.9"
14"	NI-20	20.4"	18.3"	17.6"	20.4"	18.10"	17.11"
	NI-40x	20.1"	18.9"	17.11"	20.10"	19.3"	18.5"
	NI-60	20.5"	18.7"	17.10"	20.10"	19.4"	18.6"
	NI-70	21.7"	20.0"	19.1"	21.2"	19.7"	18.9"
	NI-80	21.11"	20.3"	19.4"	22.7"	20.11"	20.0"
16"	NI-20	22.7"	20.11"	19.11"	23.3"	21.6"	20.6"
	NI-40x	22.3"	20.8"	19.9"	23.1"	21.5"	20.6"
	NI-60	23.6"	21.9"	20.9"	24.3"	22.5"	21.5"
	NI-70	23.11"	22.1"	21.1"	24.8"	22.10"	21.9"
	NI-80	24.8"	22.9"	21.9"	25.4"	23.5"	22.4"

Depth	Series	Mid-Span Blocking			Mid-Span Blocking and 1/2" Gypsum Ceiling		
		On Centre Spacing			On Centre Spacing		
9-1/2"	NI-20	12"	16"	19.2"	12"	16"	19.2"
	NI-40x	16.10"	15.5"	14.6"	17.1"	15.5"	14.6"
	NI-60	17.11"	16.11"	16.4"	18.5"	17.4"	16.7"
	NI-70	18.2"	17.1"	16.6"	18.7"	17.6"	16.10"
	NI-80	19.2"	17.10"	17.2"	19.7"	18.3"	17.7"
11-7/8"	NI-20	19.5"	18.0"	17.4"	19.10"	18.5"	17.8"
	NI-40x	19.6"	18.1"	17.5"	20.2"	18.8"	17.6"
	NI-60	21.0"	19.6"	18.8"	21.7"	20.2"	19.3"
	NI-70	21.4"	19.9"	18.11"	21.11"	20.4"	19.6"
	NI-80	22.6"	20.10"	19.11"	23.0"	21.5"	20.5"
14"	NI-20	22.9"	21.1"	20.1"	23.3"	21.7"	20.8"
	NI-40x	23.4"	21.8"	20.8"	23.10"	21.2"	21.2"
	NI-60	23.7"	21.11"	20.11"	24.3"	22.7"	21.7"
	NI-70	24.0"	22.3"	21.3"	24.8"	22.11"	21.11"
	NI-80	25.3"	23.4"	22.3"	25.10"	22.11"	22.11"
16"	NI-20	25.7"	23.8"	22.7"	26.2"	24.4"	23.2"
	NI-40x	26.4"	24.4"	23.3"	26.10"	24.11"	23.9"
	NI-60	26.5"	24.6"	23.4"	27.2"	25.3"	24.2"
	NI-70	27.9"	25.8"	24.6"	28.5"	26.5"	25.2"
	NI-80	28.2"	26.1"	24.10"	28.10"	26.9"	25.6"
16"	NI-90x	29.0"	26.10"	25.7"	29.7"	27.5"	26.2"

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/360 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans

Live Load = 40 psf, Dead Load = 30 psf
Simple Spans, L/360 Deflection Limit
5/8" OSB G&N Sheathing

Depth	Series	Bare				1/2" Gypsum Ceiling			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14'-8"	13'-11"	N/A
	NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
	NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A
11-7/8"	NI-80	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A
	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
	NI-60	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
14"	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18'-10"	17'-11"	N/A
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18'-5"	N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
16"	NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18'-9"	N/A
	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19'-8"	N/A
	NI-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20'-11"	20'-0"	N/A
	NI-90x	22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20'-6"	N/A
16"	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-1"	21'-5"	20'-6"	N/A
	NI-70	23'-6"	21'-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
	NI-80	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A
	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A

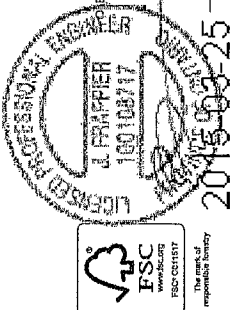
Depth	Series	Mid-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling			
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
9-1/2"	NI-20	16'-4"	14'-10"	13'-11"	N/A	16'-4"	14'-10"	13'-11"	N/A
	NI-40x	17'-11"	16'-10"	15'-7"	N/A	18'-5"	16'-10"	15'-7"	N/A
	NI-60	18'-2"	17'-1"	16'-1"	N/A	18'-7"	17'-2"	16'-1"	N/A
	NI-70	19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
11-7/8"	NI-80	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	17'-8"	N/A
	NI-20	19'-6"	17'-10"	16'-9"	N/A	19'-8"	17'-10"	16'-9"	N/A
	NI-40x	21'-0"	19'-6"	17'-9"	N/A	21'-7"	19'-6"	17'-9"	N/A
	NI-60	21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-4"	N/A
14"	NI-70	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-3"	21'-5"	19'-6"	N/A
16"	NI-60	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
	NI-70	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-11"	N/A
	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-90x	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"	23'-9"	N/A
16"	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25'-3"	24'-1"	N/A
	NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"	25'-2"	N/A
	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	25'-6"	N/A
	NI-90x	29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A

- Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/360 and a total load deflection limit of L/240.
- Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.
- Minimum bearing length shall be 1-3/4 inches for the end bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.
- Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



www.nordicwpc.com

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



WEB HOLE SPECIFICATIONS

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- The distance between the inside edge of the support and the centerline of any hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- I-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified.
- Whenever possible, field-cut holes should be centered on the middle of the web.
- 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 should always be maintained between the top or bottom of the hole or opening and the adjacent I-joist flange.

TABLE 1

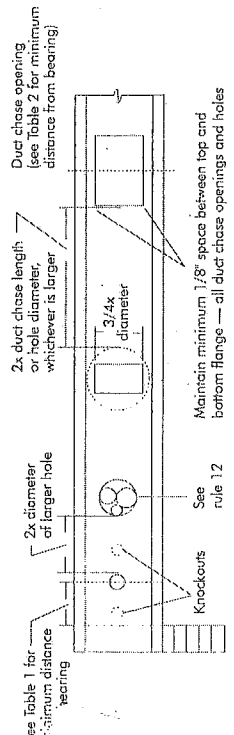
LOCATION OF CIRCULAR HOLES IN JOIST WEBS

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
9-1/2"	NL-20	0-7"	1-6"	2-10"	4-3"	5-8"	6-0"	---	---	---	---	12-3/4"
	NL-40x	0-7"	1-6"	3-0"	4-4"	6-0"	6-4"	---	---	---	---	---
	NL-60	1-3"	2-6"	4-0"	5-4"	7-0"	7-5"	---	---	---	---	---
	NL-80	2-0"	3-4"	4-9"	6-3"	8-0"	8-4"	---	---	---	---	---
11-7/8"	NL-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-6"	7-9"	---	---
	NL-40x	0-7"	0-8"	1-3"	2-8"	4-0"	4-4"	5-5"	7-0"	8-4"	---	---
	NL-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---
	NL-80	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	---	---
14"	NL-20	0-6"	2-10"	4-2"	5-6"	7-0"	7-5"	8-6"	10-3"	11-4"	---	---
	NL-40x	0-6"	2-10"	4-2"	5-6"	7-0"	7-5"	8-6"	10-3"	11-4"	---	---
	NL-60	1-6"	2-10"	4-2"	5-6"	7-0"	7-5"	8-6"	10-3"	11-4"	---	---
	NL-80	1-6"	2-10"	4-2"	5-6"	7-0"	7-5"	8-6"	10-3"	11-4"	---	---
16"	NL-20	0-7"	0-8"	1-0"	2-4"	3-8"	4-0"	5-0"	6-6"	7-9"	---	---
	NL-40x	0-7"	0-8"	1-3"	2-8"	4-0"	4-4"	5-5"	7-0"	8-4"	---	---
	NL-60	0-7"	1-8"	3-0"	4-3"	5-9"	6-0"	7-3"	8-10"	10-0"	---	---
	NL-80	1-3"	2-6"	4-0"	5-4"	6-9"	7-2"	8-4"	10-0"	11-2"	---	---

- 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 supports 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.

FIELD-CUT HOLE LOCATOR



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 unfastened I-joists. Once fastened, 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 each I-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 struts, or temporary sheathing must be applied to prevent I-joist rollover or buckling.
3. Temporary bracing or struts 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 2x12" 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.
4. 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.
5. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bracing.
6. 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.
7. 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.

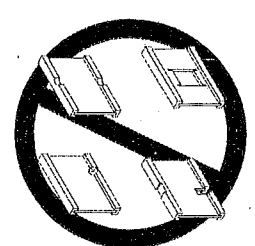
TABLE 2

DUCT CHASE OPENING SIZES AND LOCATIONS

Simple Span Only

Joist Depth	Joist Series	Minimum distance from inside face of supports to centre of opening (ft - in.)										
		8	10	12	14	16	18	20	22	24	24	24
9-1/2"	NL-20	4-1"	4-5"	4-10"	5-4"	5-8"	6-1"	6-5"	7-1"	7-5"	7-5"	7-5"
	NL-40x	5-3"	5-8"	6-0"	6-5"	6-10"	7-3"	7-8"	8-2"	8-6"	8-6"	8-6"
	NL-60	5-4"	5-9"	6-2"	6-7"	7-1"	7-5"	8-0"	8-4"	8-8"	8-8"	8-8"
	NL-80	5-1"	5-5"	5-10"	6-3"	6-7"	7-1"	7-6"	8-1"	8-5"	8-5"	8-5"
11-7/8"	NL-20	5-0"	5-9"	6-2"	6-6"	7-1"	7-5"	7-9"	8-3"	8-7"	8-7"	8-7"
	NL-40x	6-8"	7-2"	7-6"	8-0"	8-6"	9-1"	9-5"	9-9"	10-1"	10-1"	10-1"
	NL-60	7-3"	7-8"	8-0"	8-6"	8-3"	8-7"	9-1"	9-5"	10-1"	10-1"	10-1"
	NL-80	7-1"	7-4"	7-9"	8-3"	8-7"	9-1"	9-5"	9-9"	10-1"	10-1"	10-1"
14"	NL-20	7-6"	7-7"	8-4"	8-5"	8-9"	9-2"	9-7"	10-1"	10-7"	10-7"	10-7"
	NL-40x	8-1"	8-7"	8-5"	8-10"	9-4"	9-8"	10-2"	10-6"	11-2"	11-2"	11-2"
	NL-60	8-7"	9-0"	9-0"	9-6"	10-1"	10-7"	11-2"	11-8"	12-4"	12-4"	12-4"
	NL-80	8-9"	9-3"	9-8"	10-1"	10-6"	11-1"	11-6"	12-1"	12-7"	12-7"	12-7"
16"	NL-20	8-7"	9-1"	9-5"	9-10"	10-4"	10-8"	11-2"	11-7"	12-3"	12-3"	12-3"
	NL-40x	9-3"	9-9"	10-3"	10-7"	11-1"	11-5"	11-9"	12-3"	12-7"	12-7"	12-7"
	NL-60	9-2"	9-8"	10-0"	10-6"	10-11"	11-5"	11-9"	12-3"	12-7"	12-7"	12-7"
	NL-80	9-4"	9-9"	10-3"	10-7"	11-1"	11-5"	11-9"	12-3"	12-7"	12-7"	12-7"
18"	NL-20	10-3"	10-8"	11-2"	11-6"	12-1"	12-6"	13-0"	13-5"	14-0"	14-0"	14-0"
	NL-40x	10-1"	10-5"	11-0"	11-4"	11-10"	12-3"	12-8"	13-3"	13-8"	13-8"	13-8"
	NL-60	10-4"	10-9"	11-3"	11-8"	12-0"	12-5"	13-0"	13-5"	14-0"	14-0"	14-0"
	NL-80	10-9"	11-2"	11-8"	12-0"	12-5"	13-0"	13-5"	14-0"	14-5"	14-5"	14-5"

- 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 supports 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 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.



Knockouts are pre-cored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches 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. Storing the rectangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the I-joist.



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



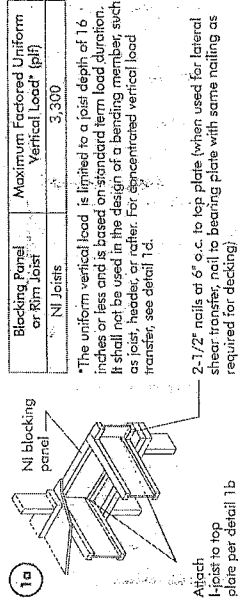
Never stack building materials over unfastened I-joists. Once fastened, do not over-stress I-joists with concentrated loads from building materials.



PRODUCT WARRANTY

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

Furthermore, Chantiers Chibougamau 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.



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (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 bending 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, nail to bearing plate with same nailing as required for decking)

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

2x Lumber: 3-1/2" wide

Pair of Squash Blocks: 3-1/2" wide

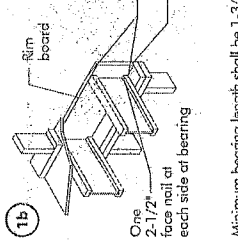
Maximum Factored Vertical Load per Pair of Squash Blocks (lbs): 5,500

2x Lumber: 5,500

1-1/8" Rim Board Plus: 4,300

6,500

Provide lateral bracing per detail 1a or 1b



Blocking Panel or Rim Joist	Maximum Factored Uniform Vertical Load* (plf)
NI Joists	8,050

*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 bending 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.

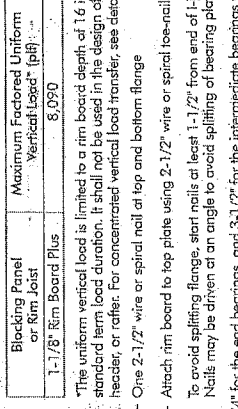
1g: Joist attachment per detail 1b

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



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

*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 bending 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.

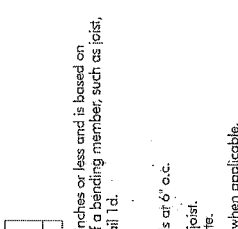
1g: Joist attachment per detail 1b

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



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

*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 bending 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.

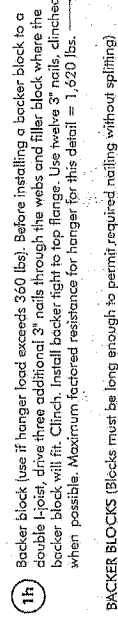
1g: Joist attachment per detail 1b

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



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

* 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-Q325 or CAN/CSA-Q327 Standard.

** For face-mount hangers use nail 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".

1h: Backer block (Blocks must be long enough to permit required nailing without splitting)

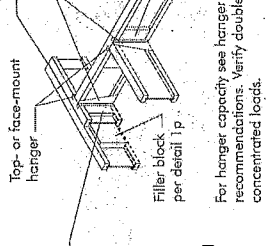
Multiple I-joist header with full depth filler block shown. Nordic Lom or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

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

Install hanger per manufacturer's recommendations

Filler block per detail 1p

Maximum support capacity = 1,620 lbs.



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

* 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-Q325 or CAN/CSA-Q327 Standard.

** For face-mount hangers use nail 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".

1h: Backer block (Blocks must be long enough to permit required nailing without splitting)

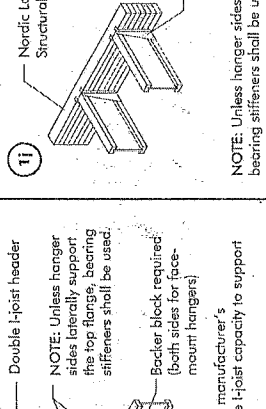
Multiple I-joist header with full depth filler block shown. Nordic Lom or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

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

Install hanger per manufacturer's recommendations

Filler block per detail 1p

Maximum support capacity = 1,620 lbs.



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

* 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-Q325 or CAN/CSA-Q327 Standard.

** For face-mount hangers use nail 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".

1h: Backer block (Blocks must be long enough to permit required nailing without splitting)

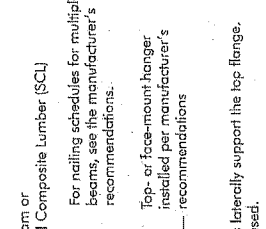
Multiple I-joist header with full depth filler block shown. Nordic Lom or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

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

Install hanger per manufacturer's recommendations

Filler block per detail 1p

Maximum support capacity = 1,620 lbs.



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

* 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-Q325 or CAN/CSA-Q327 Standard.

** For face-mount hangers use nail 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".

1h: Backer block (Blocks must be long enough to permit required nailing without splitting)

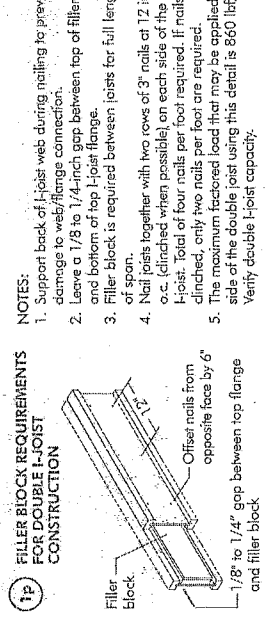
Multiple I-joist header with full depth filler block shown. Nordic Lom or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

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

Install hanger per manufacturer's recommendations

Filler block per detail 1p

Maximum support capacity = 1,620 lbs.



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

* 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-Q325 or CAN/CSA-Q327 Standard.

** For face-mount hangers use nail 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".

1h: Backer block (Blocks must be long enough to permit required nailing without splitting)

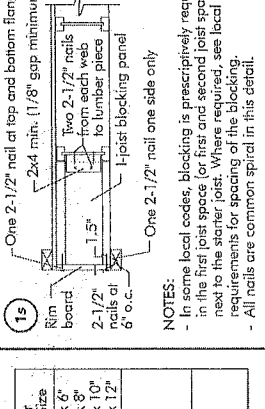
Multiple I-joist header with full depth filler block shown. Nordic Lom or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

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

Install hanger per manufacturer's recommendations

Filler block per detail 1p

Maximum support capacity = 1,620 lbs.



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

* 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-Q325 or CAN/CSA-Q327 Standard.

** For face-mount hangers use nail 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".

1h: Backer block (Blocks must be long enough to permit required nailing without splitting)

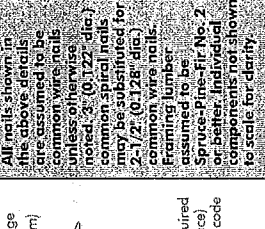
Multiple I-joist header with full depth filler block shown. Nordic Lom or SCL headers may also be used. Verify double I-joist capacity to support concentrated loads.

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

Install hanger per manufacturer's recommendations

Filler block per detail 1p

Maximum support capacity = 1,620 lbs.



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

* 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-Q325 or CAN/CSA-Q327 Standard.

** For face-mount hangers use nail 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".

1h: Backer block (Blocks must be long enough to permit required nailing without splitting)

Multiple I-joist header with full depth filler block shown. Nordic Lom 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

Filler block per detail 1p

Maximum support capacity = 1,620 lbs.

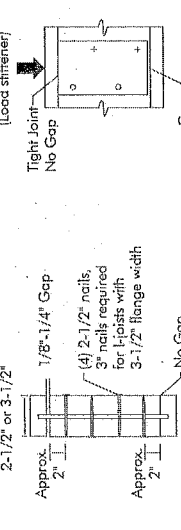
WEB STIFFENERS

RECOMMENDATIONS:

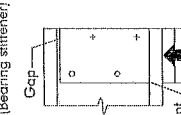
- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the I-joist properties table found in the I-joist Construction Guide (C101). The gap between the stiffener and the flange is at the top.
- A bearing stiffener is required when the I-joist is 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 2,370 lbs is applied to the top flange between supports, or in 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

CONCENTRATED LOAD



END BEARING

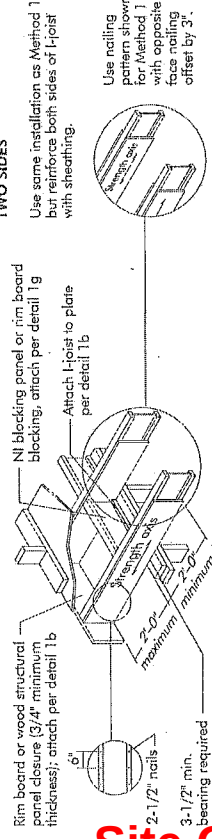


STIFFENER SIZE REQUIREMENTS

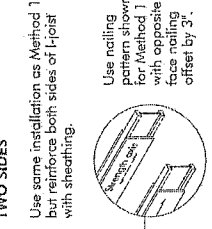
Flange Width	Web Stiffener Size Each Side of Web
2-1/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET

Method 1 — SHEATHING REINFORCEMENT ONE SIDE

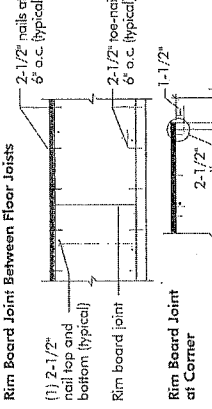


Method 2 — SHEATHING REINFORCEMENT TWO SIDES



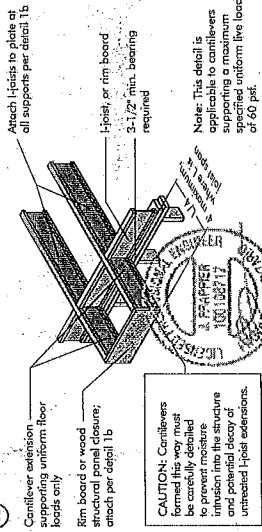
RIM BOARD INSTALLATION DETAILS

8a ATTACHMENT DETAILS WHERE RIM BOARDS ABUT

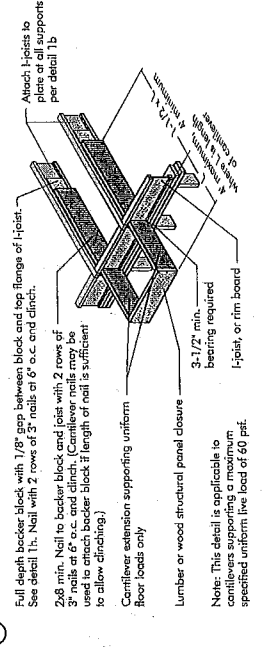


CANTILEVER DETAILS FOR BALCONIES (NO WALL LOAD)

36) I-JOIST CANTILEVER DETAIL FOR BALCONIES (NO WALL LOAD)

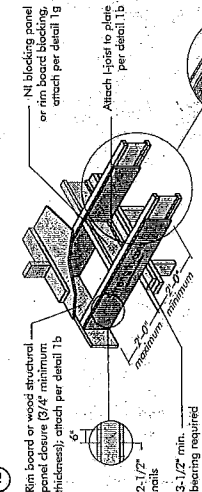


36) LUMBER CANTILEVER DETAIL FOR BALCONIES (NO WALL LOAD)



CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

42) Method 1 — SHEATHING REINFORCEMENT ONE SIDE

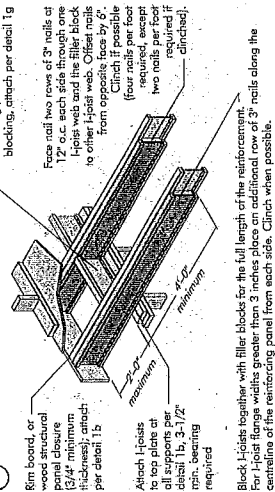


Method 2 — SHEATHING REINFORCEMENT TWO SIDES

- 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".

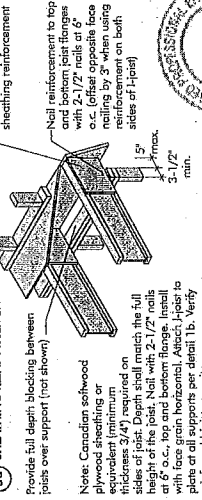
Note: Canadian snowwood plywood sheathing or equivalent (minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails at 6" o.c. top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail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

42b) Alternate Method 2 — DOUBLE I-JOIST

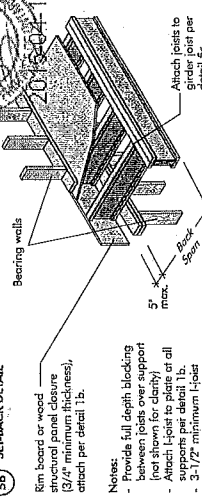


BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD)

56) SHEATHING REINFORCEMENT



56b) SET-BACK DETAIL



56c) SET-BACK CONNECTION

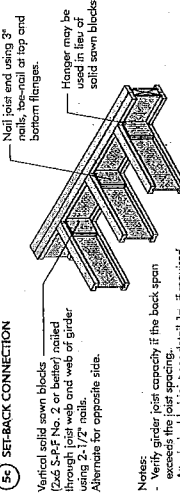


FIGURE 4 (continued)



CANTILEVER REINFORCEMENT METHODS ALLOWED

JOIST DEPTH (in)	JOIST SPACING (in)											
	12	16	18	24	32	40	48	56	64	72	80	96
12	N	N	N	N	N	N	N	N	N	N	N	N
16	N	N	N	N	N	N	N	N	N	N	N	N
18	N	N	N	N	N	N	N	N	N	N	N	N
24	N	N	N	N	N	N	N	N	N	N	N	N
32	N	N	N	N	N	N	N	N	N	N	N	N
40	N	N	N	N	N	N	N	N	N	N	N	N
48	N	N	N	N	N	N	N	N	N	N	N	N
56	N	N	N	N	N	N	N	N	N	N	N	N
64	N	N	N	N	N	N	N	N	N	N	N	N
72	N	N	N	N	N	N	N	N	N	N	N	N
80	N	N	N	N	N	N	N	N	N	N	N	N
96	N	N	N	N	N	N	N	N	N	N	N	N

1. N = No reinforcement required.
- 2 = NI reinforced with 3/4" wood structural panel on one side only.
- 3 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 4 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 5 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 6 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 7 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 8 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 9 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 10 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 11 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 12 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.

FIGURE 5 (continued)



BRICK CANTILEVER REINFORCEMENT METHODS ALLOWED

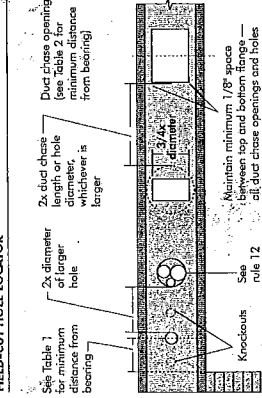
JOIST DEPTH (in)	JOIST SPACING (in)											
	12	16	18	24	32	40	48	56	64	72	80	96
12	N	N	N	N	N	N	N	N	N	N	N	N
16	N	N	N	N	N	N	N	N	N	N	N	N
18	N	N	N	N	N	N	N	N	N	N	N	N
24	N	N	N	N	N	N	N	N	N	N	N	N
32	N	N	N	N	N	N	N	N	N	N	N	N
40	N	N	N	N	N	N	N	N	N	N	N	N
48	N	N	N	N	N	N	N	N	N	N	N	N
56	N	N	N	N	N	N	N	N	N	N	N	N
64	N	N	N	N	N	N	N	N	N	N	N	N
72	N	N	N	N	N	N	N	N	N	N	N	N
80	N	N	N	N	N	N	N	N	N	N	N	N
96	N	N	N	N	N	N	N	N	N	N	N	N

1. N = No reinforcement required.
- 2 = NI reinforced with 3/4" wood structural panel on one side only.
- 3 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 4 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 5 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 6 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 7 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 8 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 9 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 10 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 11 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.
- 12 = NI reinforced with 3/4" wood structural panel on both sides, or double I-joist.

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

1. The distance between the inside edge of the support and the centerlines of any top or duct chase opening shall be in compliance with the requirements of Table 1 on 2, respectively.
2. I-joint top and bottom flanges must NEVER be cut, notched, or otherwise modified.
3. Whenever possible, field-cut holes should be centered 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-joint web shall equal the clear distance between the flanges of the I-joint minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent I-joint flange.
5. The sides of square holes or largest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted in the beam.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed the maximum hole diameter (or twice the length of the longest side of the longer 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 shall be permitted anywhere in a continuous 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.

FIGURE 7
FIELD-CUT HOLE LOCATOR



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

Knockouts are preformed holes provided for the contractor's convenience to install joists. They are not to be used for any other purpose. They are 1-1/2 inches in diameter and are spaced 15 inches on center along the length of the I-joint. 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. The corners are required to be drilled to 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-joint.

INSTALLING THE GLUED FLOOR SYSTEM

1. Wipe any mud, dirt, water, or ice from I-joint flanges before gluing.
2. Snap a chalk line across the I-joints four feet in from the face 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 the first panel with tongue side to the wall and nail in place. This protects the tongue of the next panel from damage when tapping into place with a block and edge hammer.
5. Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joint. Apply glue in a winding pattern on wide areas, such as with double I-joints.
6. Apply two lines of glue on I-joints where panel ends butt to assure proper gluing of each end.
7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time before laying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/8 inch) then used on I-joint flanges.
8. Tap the second row of panels into place, using a block to protect groove edges.
9. Stagger and joints in each succeeding row of panels. A 1/8-inch space between all end joints and 1/8-inch at all edges, including T&G edges, is recommended. (Use a spacer tool on 2-1/2" common nail to assure accurate and consistent spacing.)
10. Complete all nailing of each panel before glue sets. Check the manufacturer's recommendations for cure time. (Warm weather accelerates glue setting.) Use 2" ring- or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2" ring- or screw-shank nails for thicker panels. Space nails per the table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the glue bond.

FASTENERS FOR SHEATHING AND SUBFLOORING(1)

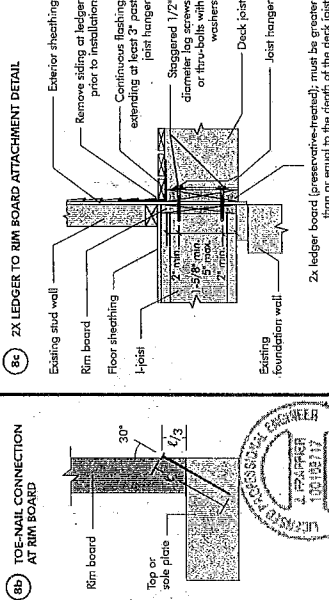
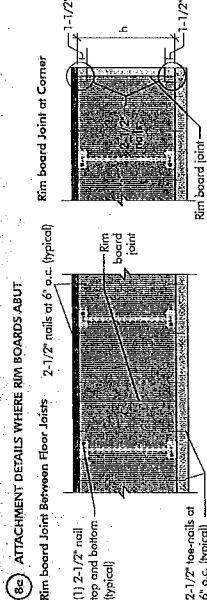
Fastener	Minimum Spacing (inches)	Minimum Edge Spacing (inches)	Minimum End Spacing (inches)
16d	2"	1-3/4"	2"
20d	2"	1-3/4"	2"
24d	2"	1-3/4"	2"

1. Fasteners of sheathing and subflooring shall conform to the above table.
2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/16-inch crown driven with the crown parallel to framing.
3. Flooring screws shall not be less than 1/8-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/CSG 21.26 Standard Adhesives for Field Gluing Plywood to Joists for Floor Systems applied in accordance with the manufacturer's recommendations. If OSB panels with sealed surfaces and edges are to be used, use only solvent-based glues; check with panel manufacturer.

IMPORTANT NOTE:
The sheathing must be field glued to the I-joint flanges in order to achieve the maximum spans shown in this document. If sheathing is nailed only, I-joint spans must be verified with your local distributor.

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

RIM BOARD INSTALLATION DETAILS



Joist Depth (in)	Joist Spacing (in)	Minimum Distance from Inside Face of Joist to Inside Face of Hole (in)												Sum of all distances (in)
		2	3	4	5	6	8	10	12	14	16	18	20	
12	12	12	12	12	12	12	12	12	12	12	12	12	12	
12	16	12	12	12	12	12	12	12	12	12	12	12	12	
12	20	12	12	12	12	12	12	12	12	12	12	12	12	
12	24	12	12	12	12	12	12	12	12	12	12	12	12	
12	28	12	12	12	12	12	12	12	12	12	12	12	12	
12	32	12	12	12	12	12	12	12	12	12	12	12	12	
12	36	12	12	12	12	12	12	12	12	12	12	12	12	
12	40	12	12	12	12	12	12	12	12	12	12	12	12	
12	44	12	12	12	12	12	12	12	12	12	12	12	12	
12	48	12	12	12	12	12	12	12	12	12	12	12	12	
12	52	12	12	12	12	12	12	12	12	12	12	12	12	
12	56	12	12	12	12	12	12	12	12	12	12	12	12	
12	60	12	12	12	12	12	12	12	12	12	12	12	12	
12	64	12	12	12	12	12	12	12	12	12	12	12	12	
12	68	12	12	12	12	12	12	12	12	12	12	12	12	
12	72	12	12	12	12	12	12	12	12	12	12	12	12	
12	76	12	12	12	12	12	12	12	12	12	12	12	12	
12	80	12	12	12	12	12	12	12	12	12	12	12	12	
12	84	12	12	12	12	12	12	12	12	12	12	12	12	
12	88	12	12	12	12	12	12	12	12	12	12	12	12	
12	92	12	12	12	12	12	12	12	12	12	12	12	12	
12	96	12	12	12	12	12	12	12	12	12	12	12	12	
12	100	12	12	12	12	12	12	12	12	12	12	12	12	
16	12	16	16	16	16	16	16	16	16	16	16	16	16	
16	16	16	16	16	16	16	16	16	16	16	16	16	16	
16	20	16	16	16	16	16	16	16	16	16	16	16	16	
16	24	16	16	16	16	16	16	16	16	16	16	16	16	
16	28	16	16	16	16	16	16	16	16	16	16	16	16	
16	32	16	16	16	16	16	16	16	16	16	16	16	16	
16	36	16	16	16	16	16	16	16	16	16	16	16	16	
16	40	16	16	16	16	16	16	16	16	16	16	16	16	
16	44	16	16	16	16	16	16	16	16	16	16	16	16	
16	48	16	16	16	16	16	16	16	16	16	16	16	16	
16	52	16	16	16	16	16	16	16	16	16	16	16	16	
16	56	16	16	16	16	16	16	16	16	16	16	16	16	
16	60	16	16	16	16	16	16	16	16	16	16	16	16	
16	64	16	16	16	16	16	16	16	16	16	16	16	16	
16	68	16	16	16	16	16	16	16	16	16	16	16	16	
16	72	16	16	16	16	16	16	16	16	16	16	16	16	
16	76	16	16	16	16	16	16	16	16	16	16	16	16	
16	80	16	16	16	16	16	16	16	16	16	16	16	16	
16	84	16	16	16	16	16	16	16	16	16	16	16	16	
16	88	16	16	16	16	16	16	16	16	16	16	16	16	
16	92	16	16	16	16	16	16	16	16	16	16	16	16	
16	96	16	16	16	16	16	16	16	16	16	16	16	16	
16	100	16	16	16	16	16	16	16	16	16	16	16	16	
20	12	20	20	20	20	20	20	20	20	20	20	20	20	
20	16	20	20	20	20	20	20	20	20	20	20	20	20	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	
20	24	20	20	20	20	20	20	20	20	20	20	20	20	
20	28	20	20	20	20	20	20	20	20	20	20	20	20	
20	32	20	20	20	20	20	20	20	20	20	20	20	20	
20	36	20	20	20	20	20	20	20	20	20	20	20	20	
20	40	20	20	20	20	20	20	20	20	20	20	20	20	
20	44	20	20	20	20	20	20	20	20	20	20	20	20	
20	48	20	20	20	20	20	20	20	20	20	20	20	20	
20	52	20	20	20	20	20	20	20	20	20	20	20	20	
20	56	20	20	20	20	20	20	20	20	20	20	20	20	
20	60	20	20	20	20	20	20	20	20	20	20	20	20	
20	64	20	20	20	20	20	20	20	20	20	20	20	20	
20	68	20	20	20	20	20	20	20	20	20	20	20	20	
20	72	20	20	20	20	20	20	20	20	20	20	20	20	
20	76	20	20	20	20	20	20	20	20	20	20	20	20	
20	80	20	20	20	20	20	20	20	20	20	20	20	20	
20	84	20	20	20	20	20	20	20	20	20	20	20	20	
20	88	20	20	20	20	20	20	20	20	20	20	20	20	
20	92	20	20	20	20	20	20	20	20	20	20	20	20	
20	96	20	20	20	20	20	20	20	20	20	20	20	20	
20	100	20	20	20	20	20	20	20	20	20	20	20	20	
24	12	24	24	24	24	24	24	24	24	24	24	24	24	
24	16	24	24	24	24	24	24	24	24	24	24	24	24	
24	20	24	24	24	24	24	24	24	24	24	24	24	24	
24	24	24	24	24	24	24	24	24	24	24	24	24	24	
24	28	24	24	24	24	24	24	24	24	24	24	24	24	
24	32	24	24	24	24	24	24	24	24	24	24	24	24	
24	36	24	24	24	24	24	24	24	24	24	24	24	24	
24	40	24	24	24	24	24	24	24	24	24	24	24	24	
24	44	24	24	24	24	24	24	24	24	24	24	24	24	
24	48	24	24	24	24	24	24	24	24	24	24	24	24	
24	52	24	24	24	24	24	24	24	24	24	24	24	24	
24	56	24	24	24	24	24	24	24	24	24	24	24	24	
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24	64	24	24	24	24	24	24	24	24	24	24	24	24	
24	68	24	24	24	24	24	24	24	24	24	24	24	24	
24	72	24	24	24	24	24	24	24	24	24	24	24	24	
24	76	24	24	24	24	24	24	24	24	24	24	24	24	
24	80	24	24	24	24	24	24	24	24	24	24	24	24	
24	84	24	24	24	24	24	24	24	24	24	24	24	24	
24	88	24	24	24	24	24	24	24	24	24	24	24	24	
24	92	24	24	24	24	24	24	24	24	24	24	24	24	
24	96	24	24	24	24	24	24	24	24	24	24	24	24	
24	100	24	24	24	24	24	24	24	24	24	24	24	24	
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28	16	28	28	28	28	28	28	28	28	28	28	28	28	
28	20	28	28	28	28	28	28	28	28	28	28	28	28	
28	24	28	28	28	28	28	28	28	28	28	28	28	28	
28	28	28	28	28	28	28	28	28	28	28	28	28	28	
28	32	28	28	28	28	28	28	28	28	28	28	28	28	
28	36	28	28	28	28	28	28	28	28	28	28	28	28	
28	40	28	28	28	28	28	28	28	28	28	28	28	28	
28	44	28	28	28	28	28	28	28	28	28	28	28	28	
28	48	28	28	28	28	28	28	28	28	28	28	28	28	
28	52	28	28	28	28	28	28	28	28	28	28	28	28	
28	56	28	28	28	28	28	28	28	28	28	28	28	28	
28	60	28	28	28	28	28	28	28	28	28	28	28	28	
28	64	28	28	28	28	28	28	28	28	28	28	28	28	
28	68	28	28	28	28	28	28	28	28	28	28	28	28	
28	72	28	28	28	28	28	28	28	28	28	28	28	28	
28	76	28	28	28	28	28	28	28	28	28	28	28	28	
28	80	28	28	28	28	28	28	28	28	28	28	28	28	
28	84	28	28	28	28	28	28	28	28	28	28	28	28	
28	88	28	28	28	28	28	28	28	28	28	28	28	28	
28	92	28	28	28	28	28	28	28	28	28	28	28	28	
28	96	28	28	28	28	28	28	28	28	28	28	28	28	
28	100	28	28	28	28	28	28	28	28	28	28	28	28	
32	12	32	32	32	32	32	32	32	32	32	32	32	32	
32	16	32	32	32	32	32	32	32	32	32	32	32	32	
32	20	32	32	32	32	32	32	32	32	32	32	32	32	
32	24	32	32	32	32	32	32	32	32	32	32	32	32	
32	28	32	32	32	32	32	32	32	32	32	32			

1. Above table may be used for joist spacing of 24 inches on center or less.
2. The above table is based on the centerline of the hole to the face of any support (D) as given above may be reduced as follows:
3. Distances in this chart are based on uniformly loaded joists.

OPTIONAL:

The above table is based on the centerline of the hole to the face of any support (D) as given above may be reduced as follows:
1. Distances in this chart are based on uniformly loaded joists.
2. The above table is based on the centerline of the hole to the face of any support (D) as given above may be reduced as follows:
3. Distances in this chart are based on uniformly loaded joists.



TABLE 2
DUCT CHASE OPENING SIZES AND LOCATIONS — Simple Span Only

Joist Depth	Joist Spacing	Minimum distance from inside face of joist to inside face of hole (in)	2	3	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100																																																																																																																																																	
12	12	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5	91.0	91.5	92.0	92.5	93.0	93.5	94.0	94.5	95.0	95.5	96.0	96.5	97.0	97.5	98.0	98.5	99.0	99.5	100.0
12	12	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5	91.0	91.5	92.0	92.5	93.0	93.5	94.0	94.5	95.0	95.5	96.0	96.5	97.0	97.5	98.0	98.5	99.0	99.5	100.0
12	12	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5	91.0	91.5	92.0	92.5	93.0	93.5	94.0	94.5	95.0	95.5	96.0	96.5	97.0	97.5	98.0	98.5	99.0	99.5	100.0
12	12	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5	91.0	91.5	92.0	92.5	93.0	93.5	94.0	94.5	95.0	95.5	96.0	96.5	97.0	97.5	98.0	98.5	99.0	99.5	100.0
12	12	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5	91.0	91.5	92.0	92.5	93.0	93.5	94.0	94.5	95.0	95.5	96.0	96.5	97.0	97.5	98.0	98.5	99.0	99.5	100.0
12	12	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5	90.0	90.5	91.0	91.5	92.0	92.5	93.0	93.5	94.0	94.5	95.0	95.5	96.0	96.5	97.0	97.5	98.0	98.5	99.0	99.5	100.0
12	12	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5	72.0																																																								

1. Above table may be used for joist spacing of 24 inches on center or less.
2. Duct chase opening location distance is measured from inside face of supports to center of opening.
3. Distances in this chart are based on uniformly loaded joists.
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. For other applications, contact your local distributor.

PRODUCT WARRANTY

Canadian Chasing Systems warrants that its accessories and materials are free from manufacturing defects in material and workmanship.

Excludes: Damage caused by fire, flood, war, terrorism, acts of God, or other causes beyond the control of the manufacturer.

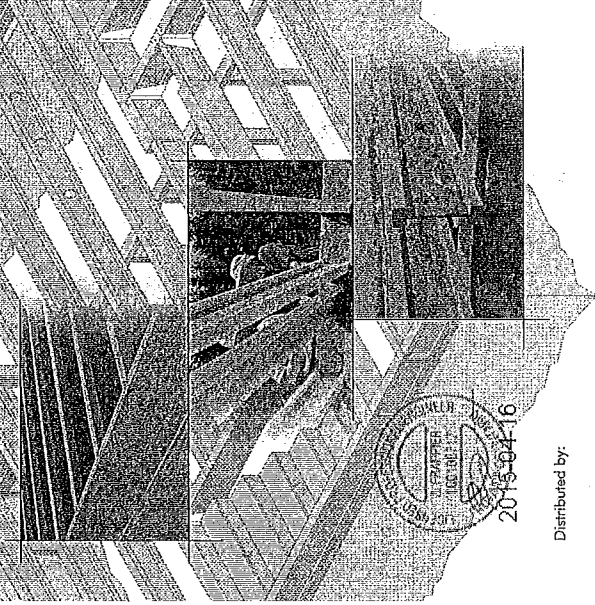
Warranty is void where prohibited by law.

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ENGINEERED WOOD

INSTALLATION GUIDE FOR RESIDENTIAL FLOORS



2015-04-16

Distributed by:



N-C301 / November 2014

SAFETY AND CONSTRUCTION PRECAUTIONS



WARNING
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 each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bracing at joist ends. When I-joists are applied continuous over multiple spans, blocking will be required at that location.
2. When the building is completed, the floor sheathing will provide lateral bracing for 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.
- Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on center, 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.
- 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 I-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 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.



Do not walk on I-joists until they are fully braced and sheathed. Serious injuries can result.

Never stack building materials over unbraced I-joists. Once sheathed, do not over-stress I-joists by stacking loads from building materials.

1. Bundle wrap can be slippery when wet. Avoid walking on wrapped bundles.
2. Store, stack, 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 flammable.
5. Protect I-joists from weather, and use spacers to separate bundles.
6. Bundled units should be kept intact until time of installation.
7. When handling I-joists with a crane on the job site, take a few simple precautions to prevent damage to the I-joist and injury to your work crew.
 - 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.
8. Do not handle I-joists in a horizontal orientation.
9. NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

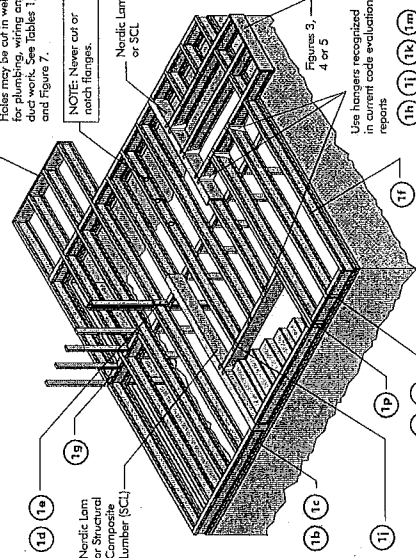
STORAGE AND HANDLING GUIDELINES

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 spans must be level.
5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearing.
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 roof lighting fixtures, ceiling joists, and security doors. Do not apply concentrated loads to the bottom flange of the I-joist. Do not apply 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. Retrain 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 next 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 struts must be used.
14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue 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 section bracing and blocking panels have been omitted for clarity.



All joists shown in the above details are assumed to be common wire nails unless otherwise noted. 3" (0.125" dia.) common joist 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 Attach I-joist to top plate with one nail at top and bottom. Nail must provide 1 inch minimum penetration into floor joist. Toe-nailing may be used.

1b 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.

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.

1d 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.

1e 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.

1f 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.

1g 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.

1h 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.

1i 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.

1j 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.

1k 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.

1l 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.

1m 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.

Blocking Panel or Rim Joist	Maximum Fastened Uniform Vertical Load (plf)
1-1/8" Rim Board Plus <td>8,090</td>	8,090
Ni Joists <td>3,300</td>	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 bending member such as joists, beams, or rafters. For concentrated vertical load transfer, see detail 1d.

1a 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.

1b 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.

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.

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1m 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.

Pair of Squash Blocks	Maximum Fastened Vertical Load (plf)
2x Lumber <td>5,500</td>	5,500
1-1/8" Rim Board Plus <td>4,300</td>	4,300
6,600	

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

**MAXIMUM FLOOR SPANS FOR NORDIC L-JOISTS
SIMPLE AND MULTIPLE SPANS**

6. Tables are based on Limit States Design per CAN/CSA

WEB STIFFENERS

SI units conversion: 1 inch = 25.4 mm

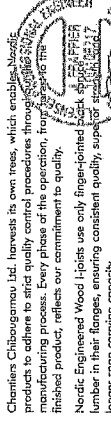
WEB STIFFENER INSTALLATION DETAILS



See table below for web stiffener size requirements

STIFFENER SIZE REQUIREMENTS	
Flange Width	Web Stiffener Size Each Side of Web
2-3/2"	1" x 2-5/16" minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

The diagrams show three different ways to attach a book cover to a spine. The 'Stewed' mount shows the cover being sewn into the spine. The 'Top Mount' shows the cover being attached to the top of the spine. The 'Face Mount' shows the cover being attached to the front face of the spine.

[illegible]

2015-02-16

transfer load from above to bearing below. Install squash blocks per detail 1a. Match bearing area of blocks below to steel above.

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

— Nordic Lam or Sci.

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

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

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

[illegible]

as required

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

Top-mount hanger installed per manufacturer's recommendations

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

Joist -
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port back of I-joint web during nailing. The double I-joint web/flange connection is made by driving two 1/2-in. x 8-in. nails at 1/8 to 1/4-in. gap between top and bottom flanges. The double I-joint block is required between joists for length of span.

Double I-joints together with two rows of 3" x 12 inches o.c. (climbed when available) on each side of the double I-joint block are required for spans of 12 ft or more. If 4 or fewer nails per foot required, I-joints must be clinched, only two nails per foot required.

The maximum factored load that may be applied to one side of the double joint is 860 lb/ft. This detail is 860 lb/ft. Verify double capacity.

CALLER BLOCK RECOMMENDS FOR

Flange Size	Joist Depth	Filler Block Size
2-1/2" x 1-1/2"	9-1/2" 14" 16"	2-1/8" x 6" 2-1/8" x 8" 2-1/8" x 10" 2-1/8" x 12"
3-1/2" x 1-1/2"	9-1/2" 14" 16"	3" x 6" 3" x 8" 3" x 10" 3" x 12"
3-1/2" x 2"	11-7/8" 14" 16"	3" x 7" 3" x 9" 3" x 11"

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locking
ing

1b

One 2-1/2" nails at top and bottom flange

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

2x4 min. 1/8" gap minimum

Form board

Lumber piece

Joint blocking panel

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

One 2-1/2" nails one side only

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

Notes:

- In some local codes, blocking is prescriptively required in the top and bottom flange and second floor space (not to be derided). We have selected, and local code requirements for spacing of the blocking.
- All nails are common steel, 16d.

- In some local codes, blocking is prescriptively required in the first joist space (or first and second joist space) next to the starter joist. Where required, see local code requirements for spacing of the blocking.
- All nails are common spiral in this detail.

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