

J1 14-00-00 9 1/2" NI-40x 1 32 J2 DJ 14-00-00 9 1/2" NI-40x 2 10	t Qty
J2 DJ 14-00-00 9 1/2" NI-40x 2 10	
J2 12-00-00 9 1/2" NI-40x 1 16	
J3 10-00-00 9 1/2" NI-40x 1 11	
J4DJ 10-00-00 9 1/2" NI-40x 2 2	
J4 8-00-00 9 1/2" NI-40x 1 2	
J5 4-00-00 9 1/2" NI-40x 1 5	
J6 2-00-00 9 1/2" NI-40x 1 6	
B6 14-00-00 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL 2 2	
B11 10-00-00 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL 1 1	
B2 8-00-00 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL 1 1	
B4 8-00-00 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL 1 1	
B1 6-00-00 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL 1 1	
B7L 6-00-00 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL 1 1	
B3 4-00-00 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL 1 1	
B5 4-00-00 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL 1 1	
R1 144-00-00 1 1/8" x 9 1/2" APA Rim Board 1 1	
Bk1 34-00-00 9 1/2" NI-40x 1 1	

	Connector	Summary					
Qty	Manuf	Product					
13	H1	IUS2.56/9.5					
6	H1	IUS2.56/9.5					
4	H1	IUS2.56/9.5					
2	H3	HUS1.81/10					
1	H3	HUS1.81/10					



SITE: ALCONA SHORES MODEL: \$32-3-12

ELEVATION: A & B

LOT:

CITY: INNISFIL

SALESMAN: WILLIAM GARCIA

DESIGNER: LBV REVISION: Ibv

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS.

MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1.

CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS.

FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 6 AND TABLES 6.1/6.2. CERAMIC TILE APPLICATION AS PER OBC 9.30.6.

ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD

LOADING:

LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILE LOAD: +5.0 lb/ft²

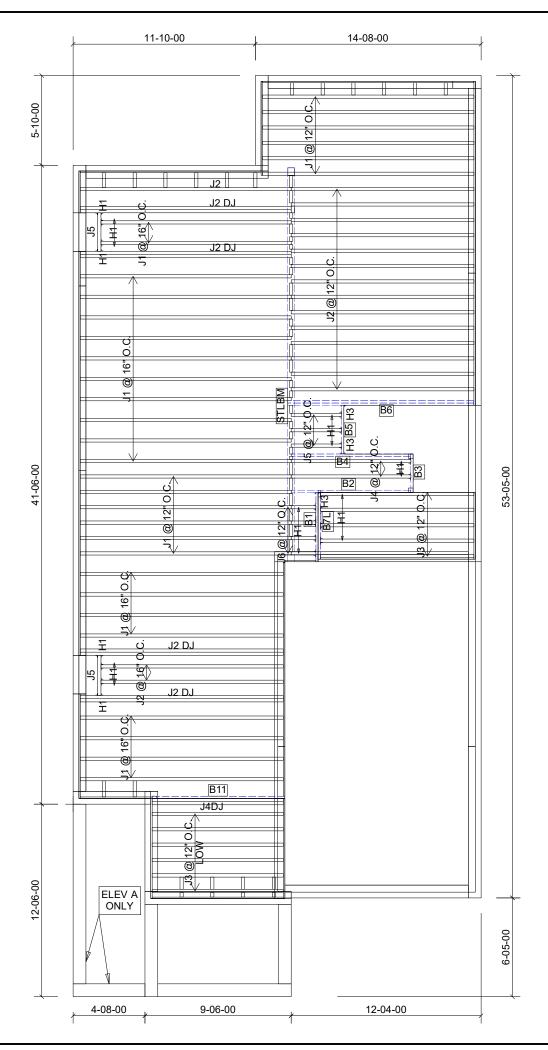
JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2023-12-14

1st FLOOR FRAMING





		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	9 1/2" NI-40x	1	32
J2	14-00-00	9 1/2" NI-40x	1	1
J2 DJ	14-00-00	9 1/2" NI-40x	2	8
J2	12-00-00	9 1/2" NI-40x	1	16
J3	10-00-00	9 1/2" NI-40x	1	11
J4DJ	10-00-00	9 1/2" NI-40x	2	2
J4	8-00-00	9 1/2" NI-40x	1	2
J5	4-00-00	9 1/2" NI-40x	1	5
J6	2-00-00	9 1/2" NI-40x	1	4
В6	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B11	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B2	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B4	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B1	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B7L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
В3	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B5	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
R1	148-00-00	1 1/8" x 9 1/2" APA Rim Board	1	1
Bk1	34-00-00	9 1/2" NI-40x	1	1
Con	nector Summ	oon/		

C	Connector Summary								
Qty	Manuf	Product							
13	H1	IUS2.56/9.5							
4	H1	IUS2.56/9.5							
4	H1	IUS2.56/9.5							
2	H3	HUS1.81/10							
1	H3	HUS1.81/10							



SITE: ALCONA SHORES MODEL: S32-3-12

ELEVATION: A & B

LOT:

CITY: INNISFIL

SALESMAN: WILLIAM GARCIA

DESIGNER: LBV REVISION: lbv

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS.

MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1.

CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS.

CUT OPENINGS SEE FIGURE 6 AND TABLES 6.1/6.2.
CERAMIC TILE APPLICATION AS PER OBC 9.30.6.
ALL CONNECTORS MUST BE INSTALLED AS PER THE

FOR HOLES INCLUDING DUCT CHASE AND FIELD

MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD

LOADING:

LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILE LOAD: +5.0 lb/ft²

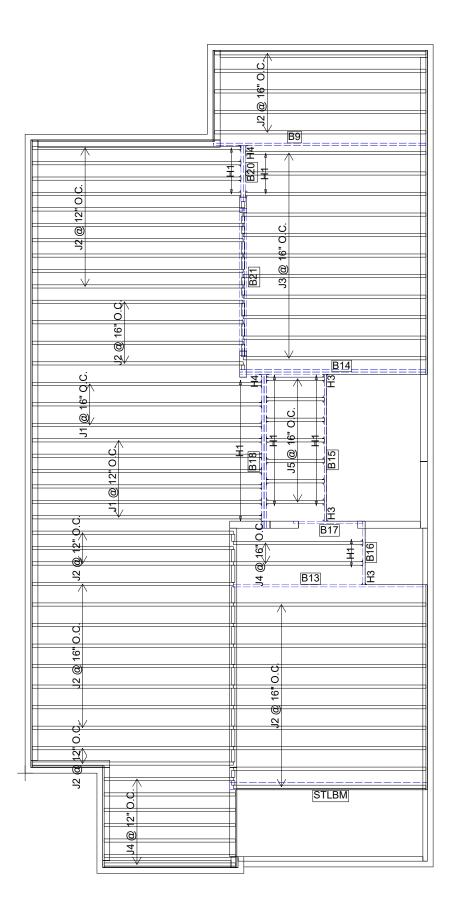
JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2023-12-14

1st FLOOR FRAMING WALKOUT DECK CONDITION





		Products		
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	9
J2	14-00-00	9 1/2" NI-40x	1	42
J3	12-00-00	9 1/2" NI-40x	1	11
J4	10-00-00	9 1/2" NI-40x	1	9
J5	4-00-00	9 1/2" NI-40x	1	7
B13	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B14	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B15	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B18	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B21	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B16	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B17	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B20	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
R1	144-00-00	1 1/8" x 9 1/2" APA Rim Board	1	1
Bk1	20-00-00	9 1/2" NI-40x	1	1

	Connector	Summary
Qty	Manuf	Product
9	H1	IUS2.56/9.5
23	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
1	H4	HGUS410
1	H4	HGUS410



SITE: ALCONA SHORES MODEL: S32-3-12 ELEVATION: A & B

LOT:

CITY: INNISFIL

SALESMAN: WILLIAM GARCIA

DESIGNER: LBV REVISION: lbv

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS.

MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1.

CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4/5 FOR REINFORCEMENT REQUIREMENTS.

FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 6 AND TABLES 6.1/6.2. CERAMIC TILE APPLICATION AS PER OBC 9.30.6.

ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS.

ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD

LOADING:

LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILE LOAD: +5.0 lb/ft²

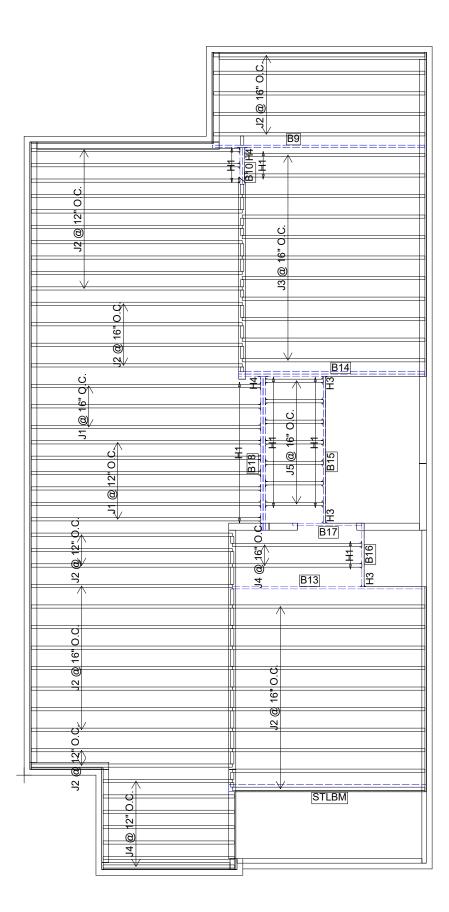
JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2023-12-14

2nd FLOOR FRAMING
GRD FLR OPEN KITCHEN CONDITION





		Products		
PlotID	Length	Product	Plies	Net Qty
J1	16-00-00	9 1/2" NI-40x	1	9
J2	14-00-00	9 1/2" NI-40x	1	42
J3	12-00-00	9 1/2" NI-40x	1	11
J4	10-00-00	9 1/2" NI-40x	1	9
J5	4-00-00	9 1/2" NI-40x	1	7
B13	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B9	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B14	14-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B15	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B18	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
B16	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B17	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B10	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2
R1	144-00-00	1 1/8" x 9 1/2" APA Rim Board	1	1
Bk1	22-00-00	9 1/2" NI-40x	1	1

C	Connector	Summary
Qty	Manuf	Product
9	H1	IUS2.56/9.5
21	H1	IUS2.56/9.5
2	H3	HUS1.81/10
1	H3	HUS1.81/10
1	H4	HGUS410
1	H4	HGUS410
	Qty 9 21 2	9 H1 21 H1 2 H3 1 H3 1 H4



SITE: ALCONA SHORES MODEL: S32-3-12 ELEVATION: A & B

LOT:

CITY: INNISFIL

SALESMAN: WILLIAM GARCIA

DESIGNER: LBV REVISION: lbv

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION.

SQUASH BLOCKS OF 2x4, 2x6, 2x8 SPF #2 REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS.

MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1.

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CUT OPENINGS SEE FIGURE 6 AND TABLES 6.1/6.2.
CERAMIC TILE APPLICATION AS PER OBC 9.30.6.

ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE

FOR HOLES INCLUDING DUCT CHASE AND FIELD

MANUFACTURER SPECIFIED FASTENERS.

ALL BEAM HANGER FASTENERS INSTALLED INTO
THE SUPPORTING MEMBER MUST BE A MINIMUM
OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED
BY THE SUPPORTING MEMBER ENGINEER OF RECORD

LOADING:

LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2023-12-14

2nd FLOOR FRAMING

INSTALLATION GUIDE NORDIC JOIST

NS-GI33 **■**◆■

Engineered Wood Products

BASIC INSTALLATION **GUIDE FOR RESIDENTIAL FLOORS**

NORDIC **U**JOIST

NORDIC **STRUCTURES**

WEB STIFFENERS

NAIL SPACING

nordic.ca

1 x 2-5/16 Minimum width 1-1/2 x 2-5/16 Minimum width

1a

1g

1h

INSTALLING NORDIC I-JOISTS

- Except for cutting to length, I-joist flanges should never be cut, drilled or notched Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignmen
- Concentrated loads should only be applied to the top surface of the top flange. Concentrated loads should not be suspended from the bottom flange with the exception of light loads, such as ceiling fans or light fixtures.
- I-joists must be protected from the weather prior to installation.
- I-joists must not be used in applications where they will be permanently exposed to weather, or will reach a moisture content of 15 percent or greater, such as in swimming pool or hot tub areas. They must not be installed where they will remain in direct contact with
- End bearing length must be at least 1-3/4 inch. For multiple-span joists, intermediate bearing length must be at least 3-1/2 inches.
- I-joists installed beneath bearing walls perpendicular to the joists shall have full-depth blocking panels, rim board, or squash blocks (cripple blocks) to transfer gravity loads from above the floor system to the wall or foundation below.
- . For I-joists installed directly beneath bearing walls parallel to the joists or used as rim board or blocking panels, the using a single I-joist is 3.300 plf, and 6.600 plf if double I-joists are used.
- . Continuous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4, or 5,
- . Nails installed in flange face or edge shall be spaced in accordance

with the applicable building code requirements or approved building plans, but should not be closer than those specified on page 3.3 of the Nordic Joist Technical Guide (NS-GT3).

1b

1

- B. Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code.
- 4. For proper temporary bracing of wood I-joists and placement of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors, Form J735.

All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. ndividual components not shown to scale for clarity.

2x3 1950f MSR 3/8 in. web 2x3 S-P-F No. 2 33 pieces per unit

NORDIC I-JOIST SERIES RESIDENTIAL SERIES



1d

1k





SAFETY AND CONSTRUCTION PRECAUTIONS

Avoid Accidents by Following these Important Guidelines

of I-ioists at the end of the bay.

rim board, or cross-bridging.

Never install a damaged I-joist

-joists are not stable until completely installed, and will not carry any load until fully brace

I. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and

or cross-bridging at joist ends. When I-joists are applied continuous over interior supports

and a load-bearing wall is planned at that location, blocking will be required at the interior

2. When the building is completed, the floor sheathing will provide lateral support for the top

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

system. Then, stack building materials over beams or walls only.

flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts,

no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2-inch 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

3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels

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

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

NI-90 RIM BOARDS 2x4 2400f MSR 7/16 in. web Width 1-1/8 in. Depths 11-7/8, 14 and 16 in. 23 pieces per unit

APA Rim Board Plus

Do not walk on I-joist

Never stack building

braced or serious

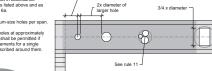
until fully fastened an

WEB HOLES AND OPENINGS

WEB HOLES IN I-JOISTS

- Rules for Cutting Holes in I-Joists The distance between the inside edge of the support and the centreline of any hole shall be in compliance with the requiremen of Table 6.1.

- A 1-1/2 inch hole or smaller can be placed anywhere in the web provide that it meets the requirements of rule number 6 above.
- materials over unsheathed I-joists All holes shall be cut in acc with the restrictions listed a illustrated in detail 6a. Once sheathed, do no overstress I-joist with



DUCT CHASE OPENINGS

6b

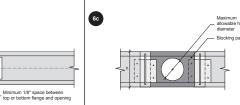
he distance between the inside edge of the support and the cu uct chase opening shall be in compliance with the requiremen

Rules for Cutting Duct Chase Openings in I-joists

- I-joist top and bottom flanges must never be cut, notched or otherwise mo
- 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 opening and the adjacent I-joist flange. The top and bottom flanges of an I-joist blocking panel must never be cut,
- All openings shall be cut in accordance with the restrictions listed above and as illustrated in detail 6b.

Allowable Hole Size in Lateral-restraint-only Blocking Panels

Holes cut into the blocking panels are subject to the following limitations



HOLES IN BLOCKING PANELS

I-joist or rim board blocking depth (in.)	Maximum allowable hole diameter (in.) ^(a)
9-1/2	6-1/4
11-7/8	7-3/4
14	9-1/4
16	10-1/2
(ii) Maximum allowable hole diameter in	blocking panel, where the blocking panel

TABLE 6.1 - LOCATION OF WEB HOLES



Joist	Joist		Round hole diameter (in.)													
depth	series						6-1/4			8-5/8		10	10-3/4		12	12-3/4
	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	-	-	-	-	-	-	-	-	-
	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6"-0"	6'-4"	-	-	-	-	-	-	-	-	-
9-1/2"	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7"-0"	7'-5"	-	-	-	-	-	-	-	-	-
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"	-	-	-	-	-	-	-	-	
	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	-	-	-	-	-	-
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	-	-	-	-	-	
11-7/8"	NI-60	0'-7"	1'-8"	3"-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"	-	-	-	-	-	-
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	-	-	-	-	-	
	NI-90	0'-7"	0'-8"	1'-5"	3'-2"	4"-10"	5'-4"	6'-9"	8'-9"	10'-2"	-	-	-	-	-	-
	NI-40x	0'-7"	0'-8"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	-	-	-
440	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"	-	-	-
14"	NI-80	0'-10"	2"-0"	3'-4"	4'-9"	6'-2"	6'-5"	7'-6"	9'-0"	10'-0"	10'-8"	12'-4"	13'-9"	-	-	-
	NI-90	0'-7"	0'-8"	0'-10"	2'-5"	4'-0"	4'-5"	5'-9"	7'-5"	8'-8"	9'-4"	11'-4"	12'-11"	-	-	-
	NI-60	0'-7"	0'-8"	0'-8"	1'-6"	2'-10"	3'-2"	4'-2"	5'-6"	6'-4"	7'-0"	8'-5"	9'-8"	10'-2"	12'-2"	13'-9"
16"	NI-80	0'-7"	1'-3"	2'-6"	3'-10"	5'-3"	5'-6"	6'-6"	8'-0"	9"-0"	9'-5"	11'-0"	12'-3"	12'-9"	14'-5"	16'-0"
	NI-90	0'-7"	0'-8"	0'-8"	1'-9"	3'-3"	3'-8"	4'-9"	6'-5"	7'-5"	8'-0"	9'-10"	11'-3"	11'-9"	13'-9"	15'-4"

8-5/8

TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS



11-7/8

Joist	Joist							Round	hole diam	eter (in.)						
depth	series						6-1/4			8-5/8		10	10-3/4			12-3/4
	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	-	-	-	-	-	-	-	-	-
9-1/2"	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6"-0"	6'-4"	-	-	-	-	-	-	-	-	-
9-1/2	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"	-	-	-	-	-	-	-	-	-
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"	-	-	-	-	-	-	-	-	-
	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	-	-	-	-	-	-
	NI-40x	0'-7"	0'-8"	1'-3"	2"-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	-	-	-	-	-	-
11-7/8"	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"	-	-	-	-	-	-
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	-	-	-	-	-	-
	NI-90	0'-7"	0'-8"	1'-5"	3'-2"	4"-10"	5'-4"	6'-9"	8'-9"	10'-2"	-	-	-	-	-	-
	NI-40x	0'-7"	0'-8"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	-	-	-
14"	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"	-	-	-
144	NI-80	0'-10"	2"-0"	3'-4"	4'-9"	6'-2"	6'-5"	7'-6"	9'-0"	10'-0"	10'-8"	12'-4"	13'-9"	-	-	-
	NI-90	0'-7"	0'-8"	0'-10"	2'-5"	4'-0"	4'-5"	5'-9"	7'-5"	8'-8"	9'-4"	11'-4"	12'-11"	-	-	-
	NI-60	0'-7"	0'-8"	0'-8"	1'-6"	2'-10"	3'-2"	4'-2"	5'-6"	6'-4"	7'-0"	8'-5"	9'-8"	10'-2"	12'-2"	13'-9
16"	NI-80	0'-7"	1'-3"	2'-6"	3'-10"	5'-3"	5'-6"	6'-6"	8'-0"	9'-0"	9'-5"	11'-0"	12'-3"	12'-9"	14'-5"	16'-0
	NI_90	0'-7"	0'-8"	0'-8"	1'-9"	3'-3"	3'-8"	4'-0"	6'-5"	7'-5"	8'_0"	9'_10"	11'-3"	11'-0"	13'-0"	15'-4

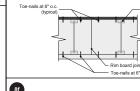
	8'-0"	9'-10"	11'-3"	11'-9"	13'-9"	15'-4"	
24	inches						
oad	= 40 psf a	nd dead lo	ad = 15 ps	sf			
uno	der live loa	d and L/24	0 under to	otal load			

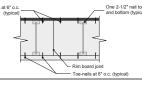
NI-20 4'-1" 4'-5" 4'-10" - - - - - - NI-40x 5'-3" 5'-8" 6'-0" 6'-5" 6'-10" 7'-3" 7'-8" NI-60 5'-4" 5'-9" 6'-2" 6'-7" 7'-1" 7'-5" 8'-0"

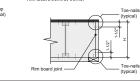
RIM BOARDS

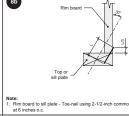


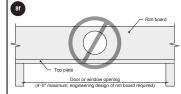




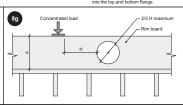


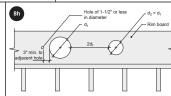


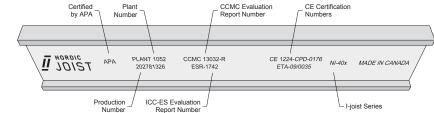








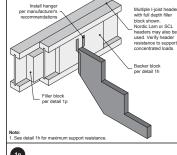


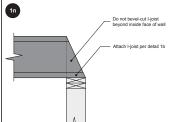


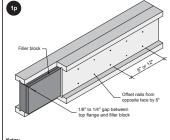
-JOIST MARKING

FOR ALL \rightarrow DC3

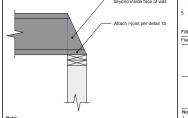
	Flange width (in.)	required (in.) (a)	Minimum depth (in.)					
Ξ	2-1/2	1	5-1/2					
Ξ	3-1/2	1-1/2	7-1/4					
(a)	 Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-O325 Standard. 							
(b)	For face-mount hangers	use net joist depth minus 3	3-1/4 inches for joists wit					





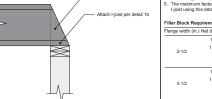






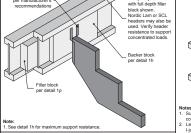
connection. Leave a 1/8-inch to 1/4-inch gap between top of filler block and bottom of top

2 x 2x10 2 x 2x12



1s-1

construction details





CITY:

BAYVIEW WELLINGTON ALCONA SHORES

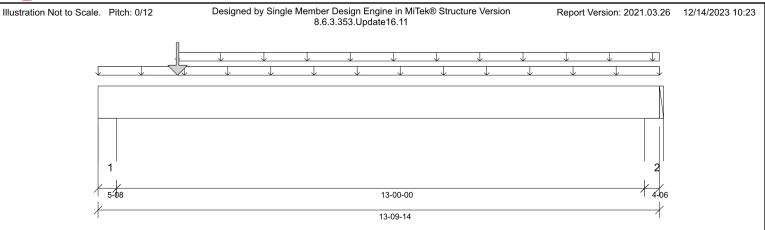
S32-3-12 INNISFIL Job Name: **S32-3-12**

Level: 2ND FLR FRAMING

Label: **B9 - i4280** Type: **Beam**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL Status:

Design
Passed



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360, TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0' Bottom: 11'- 4 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 13'- 6 1/2"

ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	4'- 4 3/8"	1.25D + 1.5L	1.00	2631 lb ft	11650 lb ft	Passed - 23%				
Factored Shear:	1'- 3"	1.25D + 1.5L	1.00	1546 lb	5526 lb	Passed - 28%				
Live Load (LL) Pos. Defl.:	6'- 5 7/8"	L		0.150"	L/360	Passed - L/999				
Total Load (TL) Pos. Defl.:	6'- 6 1/8"	D + L		0.240"	L/240	Passed - L/650				
CURRORT AND DEACT	SUDDODT AND DEACTION INFORMATION									

		Input Bearing Length	Controlling Load Combination		Factored Downward Reaction	d Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
ı	1	5-08	1.25D +	1.5L 1.00	1606 lb		10010 lb	5921 lb	Passed - 27%
ı	2	4-06	1.25D +	1.5L 1.00	597 lb		7963 lb	4710 lb	Passed - 13%
ı	SPECIFIED LOADS								
ı	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
l	Self Weight	0'	13'- 9 7/8"	Self Weight	Тор	5 lb/ft	-	-	-
l	Uniform	-0'	13'- 9 7/8"	FC4 Floor Decking (Plan View Fill)	Тор	8 lb/ft	15 lb/ft	-	-
l	Uniform	1'- 11 1/2"	13'- 9 7/8"	FC4 Floor Decking (Plan View Fill)	Тор	6 lb/ft	11 lb/ft	-	-
ı	Point	1'- 11 1/2"	1'- 11 1/2"	B10(i4248)	Front	329 lb	633 lb	-	-
ı	UNFACTORED REACTIONS								
۱	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
۱	1	0'	0'- 5 1/2"	E6(i768)		409 lb	730 lb	-	-
۱	2	13'- 5 1/2"	13'- 9 7/8"	E9(i771)		164 lb	261 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the
 default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already
 specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if
 required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.





CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 **INNISFIL** Job Name: **S32-3-12**

Level: 2ND FLR FRAMING Label: B10 - i4248

Type: **Beam**

2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

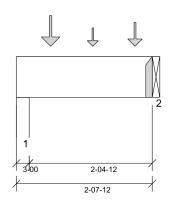
Report Version: 2021.03.26

Status: Design Passed

12/14/2023 10:23

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019)

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 0'- 5 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2"
- 615 psi Beam @ 2'- 7 3/4"

PLY TO PLY CONNECTION: 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 4" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.

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STRUCTURAL COMPONENT ONL DWG # TF23120771	

ANALYSIS RESUI	ANALYSIS RESULTS									
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Momen	t: 1'- 5 7/8"	1.25D + 1.5L	1.00	811 lb ft	23299 lb ft	Passed - 3%				
Factored Shear:	1'- 10 1/4"	1.25D + 1.5L	1.00	444 lb	11052 lb	Passed - 4%				

SUPPORT AND REACTION INFORMATION									
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
l	1	3-00	1.25D + 1.5L	1.00	1395 lb		10920 lb	6460 lb	Passed - 22%
ı	2	1-08	1.25D + 1.5L	1.00	1336 lb		5460 lb	-	Passed - 24%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nai	iling Requirem	ents	Other Information or Requirement for	
טו			Тор	Face	Member	Reinforcement Accessories	
2	HGUS410		-	-	-	Connector manually specified by the user.	

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECI	SPECIFIED LOADS											
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)				
Self Weight	0'	2'- 7 3/4"	Self Weight	Тор	9 lb/ft	-	-	-				
Point	0'- 8"	0'- 8"	-	Front	292 lb	584 lb	-	-				
Point	2'- 3 11/16"	2'- 3 11/16"	-	Front	208 lb	415 lb	-	-				
Point	1'- 5 7/8"	1'- 5 7/8"	J2(i4235)	Back	136 lb	271 lb	-	-				
UNFAC	TORED R	EACTIONS										
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)				
1	0'	0'- 3"	5(i786)	5(i786)		637 lb	-	-				
2	2'- 7 3/4"	2'- 7 3/4"	B9(i4280)	B9(i4280)		633 lb	-	-				
DESIG	DESIGN NOTES											

- · The dead loads used in the design of this member were applied to the structure as projected dead loads.
- · Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



CITY:

BAYVIEW WELLINGTON

S32-3-12 **INNISFIL**

ALCONA SHORES

Job Name: **S32-3-12**

Level: 2ND FLR FRAMING B13 - i4208

Label: Type: **Beam**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

Status: Design Passed

Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 12/14/2023 10:23 8.6.3.353.Update16.11 2-12 12-01-00 12-07-04

DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 8'- 2 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/4"
- 615 psi Wall @ 12'- 4 3/4"

l	ANALYSIS RESULTS									
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result			
l	Factored Pos. Moment:	8'- 5 7/8"	1.25D + 1.5L	1.00	6332 lb ft	11650 lb ft	Passed - 54%			
l	Factored Shear:	11'- 6 1/4"	1.25D + 1.5L	1.00	1772 lb	5526 lb	Passed - 32%			
l	Live Load (LL) Pos. Defl.:	6'- 7 1/16"	L		0.251"	L/360	Passed - L/577			
l	Total Load (TL) Pos. Defl.:	6'- 7 3/16"	D + L		0.460"	L/240	Passed - L/314			
l	Permanent Deflection:	6'- 7 5/16"			-	L/360	Passed - L/714			
I	SUPPORT AND REACTION INFORMATION									
I	Input Com	stralling Lood	Factored	Factored	Factored	Factored				

	ID	Bearing Length	Controlling		Downward Reaction		Resistance of Member	Resistance of Support	Result
ı	1			1.5L 1.00	1308 lb		5005 lb	2961 lb	Passed - 44%
۱	2			1.5L 1.00	1897 lb		6370 lb	3768 lb	Passed - 50%
1	SPEC	IFIED LOAD)S						
1	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
	Self Weight	0'	12'- 7 1/4"	Self Weight	Тор	5 lb/ft	-	-	-
۱	Uniform	0'	8'- 6 3/4"	FC4 Floor Decking (Plan View Fill)	Тор	27 lb/ft	53 lb/ft	-	-
1	Uniform	5'- 8 3/4"	12'- 3 3/4"	User Load	Тор	60 lb/ft	-	-	-
١	Uniform	8'- 6 3/4"	12'- 7 1/4"	FC4 Floor Decking (Plan View Fill)	Тор	13 lb/ft	26 lb/ft	-	-
ı	Point	8'- 6"	8'- 6"	-	Back	346 lb	675 lb	-	-
1	UNFA	CTORED R	EACTIONS						
۱	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	1	0'	0'- 2 3/4"	2(i781)		405 lb	529 lb	-	-
1	2	12'- 3 3/4"	12'- 7 1/4"	E15(i779)		676 lb	707 lb	-	-

DESIGN NOTES

- · The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.





CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 INNISFIL Job Name: **S32-3-12**

Level: **2ND FLR FRAMING**Label: **B14 - i4116**

Type: Beam

2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL Status:

Design
Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version Report Version: 2021.03.26 12/14/2023 10:23 8.6.3.353.Update16.11 2 2 5.08 11-03-04 5.08

DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD
Service Condition: Dry
LL Deflection Limit: L/360,
TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Гор: 0' Bottom: 6'- 1"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 11'- 9 3/4"

PLY TO PLY CONNECTION: 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 6 7/8"	1.25D + 1.5L	1.00	7259 lb ft	23299 lb ft	Passed - 31%
Factored Shear:	1'- 3"	1.25D + 1.5L	1.00	4891 lb	11052 lb	Passed - 44%
Live Load (LL) Pos. Defl.:	5'- 7 1/2"	L		0.126"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 8 11/16"	D + L		0.248"	L/240	Passed - L/544

ı	SUP	PORT AND F	REACTION I	NFORMATIC	N				
	ID	Input Controlling Load D Bearing Combination Length			Factored F Downward Reaction	d Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
ı	1	5-08	1.25D + 1	.5L 1.0	0 4978 lb		20020 lb	11843 lb	Passed - 42%
l	2	5-08	1.25D + 1	.5L 1.0	0 1588 lb		20020 lb	11843 lb	Passed - 13%
SPECIFIED LOADS									
ı	Туре	e Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
۱	Self	. 0'	12'- 2 1/4"	Self Weight	Top	9 lb/ft	_	_	

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 2 1/4"	Self Weight	Тор	9 lb/ft	-	-	-
Uniform	0'- 2 3/4"	5'- 7 3/4"	FC4 Floor Decking (Plan View Fill)	Тор	9 lb/ft	18 lb/ft	-	-
Uniform	1'- 7"	5'- 7 3/4"	FC4 Floor Decking (Plan View Fill)	Тор	-	9 lb/ft	-	-
Uniform	3'- 9 3/4"	11'- 8 3/4"	User Load	Тор	60 lb/ft	-	-	-
Uniform	5'- 7 3/4"	12'- 2 1/4"	FC4 Floor Decking (Plan View Fill)	Тор	10 lb/ft	21 lb/ft	-	-
Point	1'- 7"	1'- 7"	B18(i4130)	Front	1267 lb	1855 lb	-	-
Point	5'- 6 7/8"	5'- 6 7/8"	B15(i4258)	Front	215 lb	385 lb	-	-
LINEAC	TOPED DI	EACTIONS	:					

ı	OI II A	STORED IN	LACTIONS					
l	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
ı	1	0'	0'- 5 1/2"	5(i786)	1551 lb	2021 lb	-	-
	2	11'- 8 3/4"	12'- 2 1/4"	E9(i771)	666 lb	508 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the
 default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already
 specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if
 required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load
 transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

 Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



CITY:

BAYVIEW WELLINGTON

S32-3-12 INNISFIL

ALCONA SHORES

Job Name: **S32-3-12** Level:

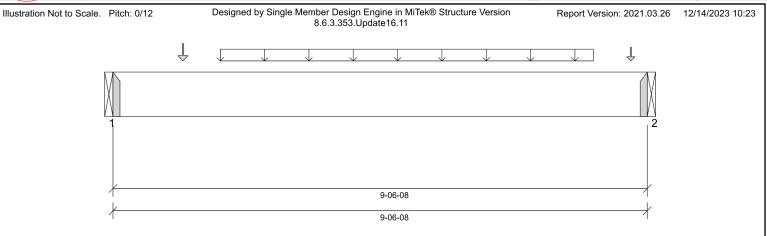
2ND FLR FRAMING Label: B15 - i4258

Type: **Beam**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100)

WestFraser LVL

Status: Design Passed



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 1'- 1 3/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 9'- 6 1/2"

ANALYSIS RESULTS									
ation Load Combina	ation LDF	Design	Limit	Result					
3" 1.25D + 1.5	5L 1.00	2025 lb ft	11650 lb ft	Passed - 17%					
1/2" 1.25D + 1.5	5L 1.00	765 lb	5526 lb	Passed - 14%					
3/16" L		0.062"	L/360	Passed - L/999					
3/16" D + L		0.097"	L/240	Passed - L/999					
	3" 1.25D + 1.4 1/2" 1.25D + 1.4 3/16" L	3" 1.25D + 1.5L 1.00 1/2" 1.25D + 1.5L 1.00 3/16" L 3/16" D + L	3" 1.25D + 1.5L 1.00 2025 lb ft 1/2" 1.25D + 1.5L 1.00 765 lb 3/16" L 0.062" 3/16" D + L 0.097"	3" 1.25D + 1.5L 1.00 2025 lb ft 11650 lb ft 1/2" 1.25D + 1.5L 1.00 765 lb 5526 lb 3/16" L 0.062" L/360 3/16" D + L 0.097" L/240					

П	SUP	PORT AND	REACTION INFORM	IATION					
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
Ш	1	1-08	1.25D + 1.5L	1.00	769 lb		2730 lb	-	Passed - 28%
lL	2	1-08	1.25D + 1.5L	1.00	841 lb		2730 lb	-	Passed - 31%

CONIN	ECTOD	INFOR	MATION
CONN	EUIUK	INFUR	MATION

ID	Part No.	Manufacturer	Na	ailing Requireme	nts	Other Information or Requirement for
טו	Fait No.		Тор	Face	Member	Reinforcement Accessories
1	HUS1.81/10		-	-	-	Connector manually specified by the user.
2	HUS1.81/10		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIFIED LOADS								
Туре	Start Loc End Loc Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)	
Self Weight	0'	9'- 6 1/2"	Self Weight	Тор	5 lb/ft	-	-	-
Uniform	1'- 11"	8'- 7"	Smoothed Load	Back	41 lb/ft	81 lb/ft	-	-
Point	1'- 3"	1'- 3"	J5(i4320)	Back	60 lb	119 lb	-	-
Point	9'- 3"	9'- 3"	J5(i4237)	Back	36 lb	72 lb	-	-
UNFAC	TORED RE	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B17(i4287)		196 lb	346 lb	-	-
2	9'- 6 1/2"	9'- 6 1/2"	B14(i4116)		215 lb	385 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY DWG # TF23120774



CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 **INNISFIL**

Job Name: **S32-3-12**

Level: 2ND FLR FRAMING Label: B16 - i4148

Type: **Beam**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

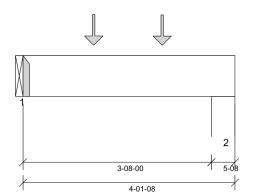
Report Version: 2021.03.26

Status: Design Passed

12/14/2023 10:23

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 1'- 3 1/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Wall @ 3'- 9"

ANALYSIS RESULTS								
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result		
Factored Pos. Moment:	1'- 4 1/2"	1.25D + 1.5L	1.00	1524 lb ft	11650 lb ft	Passed - 13%		
Factored Shear:	2'- 10 1/2"	1.25D + 1.5L	1.00	1316 lb	5526 lb	Passed - 24%		
Total Load (TL) Pos. Defl.:	1'- 10 5/8"	D + L		0.011"	L/240	Passed - L/999		

l	SUP	PORT AND	REACTION INFORM	IATION					
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
l	1	1-08	1.25D + 1.5L	1.00	1112 lb		2730 lb	-	Passed - 41%
l	2	5-08	1.25D + 1.5L	1.00	1323 lb		10010 lb	5921 lb	Passed - 22%

CONNECTOD INFORM	ATION	ŧП
CONNECTOR INFORM		

ID	Part No.	Manufacturar	Na	iling Requirem	ents	Other Information or Requirement for
טו	Part No.	Manufacturer	Тор	Face	Member	Reinforcement Accessories
1	HUS1.81/10		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIF	FIED LOAD)S									
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)			
Self Weight	0'	4'- 1 1/2"	Self Weight			-	-	-			
Point	1'- 4 1/2"	1'- 4 1/2"	J4(i4189)	Back	286 lb	571 lb	-	-			
Point	2'- 8 1/2"	2'- 8 1/2"	J4(i4164)	Back	282 lb	563 lb	-	-			
UNFACTORED REACTIONS											
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)			
1	0'	0'	B13(i4208	B13(i4208)		518 lb	-	-			
2	3'- 8"	4'- 1 1/2"	1(i780)	1(i780)		616 lb	-	-			

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY DWG # TF23120775



CITY:

BAYVIEW WELLINGTON ALCONA SHORES

> S32-3-12 **INNISFIL**

Job Name: **S32-3-12** Level:

2ND FLR FRAMING Label: B17 - i4287 Type: **Beam**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

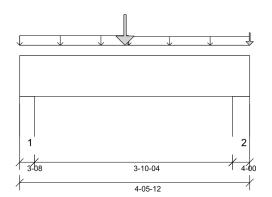
Report Version: 2021.03.26

Status: Design Passed

12/14/2023 10:23

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 2'- 4 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Wall @ 4'- 2 3/4"

[Design Criteria	Loc	cation	Load	Combinatio	n LDF	Design	Limit	Result	
Factore	ed Pos. Moment	2'-	- 5/8"	1.2	25D + 1.5L	1.00	926 lb ft	11650 lb ft	Passed - 8%	
Factore	ed Shear:	1	'- 1"	1.2	25D + 1.5L	1.00	509 lb	5526 lb	Passed - 9%	
SUPF	PORT AND RE	EACTION	INFORM <i>E</i>	NOIT						
ID	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result	
1	3-08	1.25D +	1.5L	1.00	638 lb		6370 lb	3768 lb	Passed - 17%	
2	4-00	1.25D +	1.5L	1.00	709 lb		7280 lb	4306 lb	Passed - 16%	
SPEC	SPECIFIED LOADS									
Туре	Start Loc	End Loc	Source	,	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)	
Self Weight	0'	4'- 5 3/4"	Self Wei	ght	Тор	5 lb/ft	-	-	-	
Uniforn	n 0'	2'- 1 1/2"	FC4 Floor D (Plan View	/ Fill)	Тор	27 lb/ft	53 lb/ft	-	-	
Uniforn	n 2'- 1 1/2"	4'- 5 3/4"	FC4 Floor D (Plan View		Тор	14 lb/ft	28 lb/ft	-	-	
Point	2'- 5/8"	2'- 5/8"	B15(i42	,	Back	196 lb	346 lb	-	-	
Point	4'- 5 3/4"	4'- 5 3/4"	FC4 Floor D (Plan Viev		Тор	39 lb	78 lb	-	-	
UNFACTORED REACTIONS										
ID	Start Loc	End Loc	Sc	urce		Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 3 1/2"	9	i818)		165 lb	286 lb	-	-	
2	4'- 1 3/4"	4'- 5 3/4"	10	(i780)		183 lb	322 lb	-	-	

DESIGN NOTES

ANALYSIS RESULTS

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.





CITY:

BAYVIEW WELLINGTON

S32-3-12 INNISFIL

ALCONA SHORES

Job Name: \$32-3-12

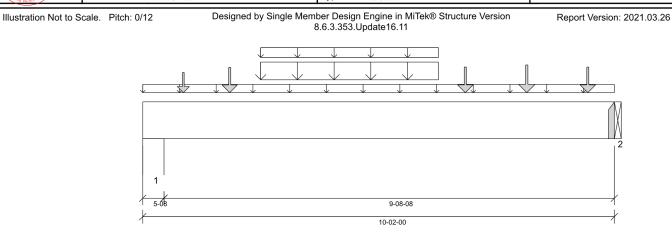
Level: 2ND FLR FRAMING Label: B18 - i4130

Type: Beam

2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL Status:

Design
Passed

12/14/2023 10:23



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019

Amendment)
Design Methodology: LSD

Service Condition: Dry
LL Deflection Limit: L/360,
TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

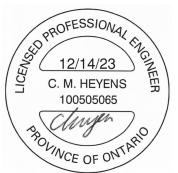
op: 0' Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Beam @ 10'- 2"

PLY TO PLY CONNECTION: 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



STRUCTURAL COMPONENT ONLY DWG # TF23120777 PG 1/2

ı	ANALYSIS RESULTS						
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
l	Factored Pos. Moment:	4'- 10 1/2"	1.25D + 1.5L	1.00	10766 lb ft	23299 lb ft	Passed - 46%
l	Factored Shear:	1'- 3"	1.25D + 1.5L	1.00	3594 lb	11052 lb	Passed - 33%
l	Live Load (LL) Pos. Defl.:	5'- 3 3/16"	L		0.163"	L/360	Passed - L/714
l	Total Load (TL) Pos. Defl.:	5'- 3 3/16"	D + L		0.274"	L/240	Passed - L/425

SUP	SUPPORT AND REACTION INFORMATION											
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result				
1	5-08	1.25D + 1.5L	1.00	4389 lb		20020 lb	11843 lb	Passed - 37%				
2	1-08	1.25D + 1.5L	1.00	4362 lb		5460 lb	-	Passed - 80%				

CONNECTOR INFORMATION

ID	II) Part No. Manufacturer	Other Information or Requirement for				
טו	Fait No.	Manuacturei	Тор	Face	Member	Reinforcement Accessories
2	HCHS/10					Connector manually enecified by the us

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECII	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 2"	Self Weight	Тор	9 lb/ft	-	-	-
Uniform	0'	10'- 2"	User Load	Тор	60 lb/ft	-	-	-
Uniform	2'- 6 1/2"	6'- 4 1/2"	Smoothed Load	Back	155 lb/ft	311 lb/ft	-	-
Uniform	2'- 6 1/2"	6'- 4 1/2"	Smoothed Load	Front	42 lb/ft	84 lb/ft	-	-
Point	1'- 10 1/2"	1'- 10 1/2"	-	Front	223 lb	447 lb	-	-
Point	6'- 11 7/16"	6'- 11 7/16"	-	Front	228 lb	456 lb	-	-
Point	8'- 3 3/8"	8'- 3 3/8"	-	Front	253 lb	506 lb	-	-
Point	9'- 7 1/8"	9'- 7 1/8"	-	Front	227 lb	455 lb	-	-
Point	0'- 10 1/2"	0'- 10 1/2"	J1(i4323)	Back	162 lb	323 lb	-	-
LINEAG	TODED D	- A OTIONIO						

Point	0 - 10 1/2	0 - 10 1/2	31(14323)	Dack 162 ID	323 ID	-	-
UNFAC	CTORED R	EACTIONS					
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	3(i782)	1291 lb	1848 lb	-	-
2	10'- 2"	10'- 2"	B14(i4116)	1267 lb	1855 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already
 specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if
 required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION



CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 INNISFIL Job Name: **S32-3-12**

Level: 2ND FLR FRAMING
Label: B18 - i4130

Type: Beam

2 Ply Member

1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL Status:

Design
Passed

PLY TO PLY CONNECTION

 Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.





CITY:

ALCONA SHORES

S32-3-12 **INNISFIL**

BAYVIEW WELLINGTON

1ST FLR FRAMING Level:

Label: B1 - i4099 Type: **Beam**

Job Name: **S32-3-12**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

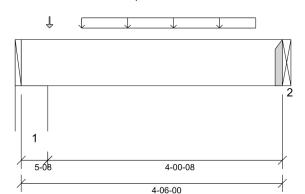
Report Version: 2021.03.26

Status: Design Passed

12/14/2023 10:23

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 0'- 10 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Beam @ 4'- 6"

ANALYSIS RESULTS											
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result					
Factored Pos. Moment:	2'- 6 1/2"	1.25D + 1.5L	1.00	175 lb ft	11650 lb ft	Passed - 2%					
Factored Shear:	3'- 8 1/2"	1.25D + 1.5L	1.00	130 lb	5526 lb	Passed - 2%					

П	SUP	SUPPORT AND REACTION INFORMATION											
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result				
П	1	5-08	1.25D + 1.5L	1.00	195 lb		10010 lb	5921 lb	Passed - 3%				
П	2	1-08	1.25D + 1.5L	1.00	134 lb		2730 lb	-	Passed - 5%				

CONNECTOR INFORMATION

ID Part No. Manufacturer Top Face Men	ents	Other Information or Requirement for				
	Part No.	Manufacturei	Тор	Face	Member	Reinforcement Accessories
2	HUS1.81/10		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIF	IED LOAD	S									
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)			
Self Weight	0'	4'- 6"	Self Weight	Тор	5 lb/ft	-	-	-			
Uniform	1'- 1/2"	4'- 1/2"	Smoothed Load	Back	18 lb/ft	36 lb/ft	-	-			
Point	0'- 5 7/8"	0'- 5 7/8"	-	Back	26 lb	28 lb	-	-			
UNFAC	UNFACTORED REACTIONS										
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)			
1	0'	0'- 5 1/2"	W23(i34)		64 lb	79 lb	-	-			
2	4'- 6"	4'- 6"	B2(i4131)		37 lb	56 lb	-	-			

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing length at support 1 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.





CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 **INNISFIL**

Job Name: **S32-3-12**

1ST FLR FRAMING Level:

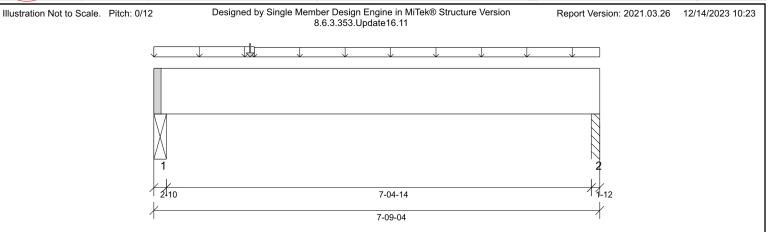
Type: **Beam**

Label: B2 - i4131

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100)

WestFraser LVL

Status: Design Passed



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry L/360 LL Deflection Limit: TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 6'- 1/4"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 1 5/8"
- 615 psi Column @ 7'- 8 1/2"

D	esign Criteria	Loc	ation	Load	Combinatio	n LDF	Design	Limit	Result
Factored	d Pos. Momen	t: 3'- 3	1/16"	1.2	25D + 1.5L	1.00	497 lb ft	11650 lb ft	Passed - 4%
Factored	d Shear:	1'-	1/8"	1.2	25D + 1.5L	1.00	273 lb	5526 lb	Passed - 5%
Total Lo	ad (TL) Pos. D	efl.: 3'- 9	9 3/8"		D + L		0.015"	L/240	Passed - L/999
SUPP	ORT AND R	EACTION	INFORMA	TION					
ID	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1	2-10	1.25D +	1.5L	1.00	365 lb		4778 lb	2825 lb	Passed - 13%
2	1-12	1.25D +	1.5L	1.00	233 lb		3185 lb	1883 lb	Passed - 12%
SPEC	IFIED LOAD	S							
Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 9 1/4"	Self Weig	ght	Тор	5 lb/ft	-	-	-
Uniform	0'	1'- 9"	FC2 Floor D (Plan View		Тор	20 lb/ft	40 lb/ft	-	-
Uniform	1'- 9"	7'- 9 1/4"	FC2 Floor D (Plan View		Тор	10 lb/ft	21 lb/ft	-	-
Point	1'- 8 1/8"	1'- 8 1/8"	B1(i409	9)	Front	37 lb	56 lb	-	-
UNFA	CTORED RE	EACTIONS							
ID	Start Loc	End Loc	So	urce		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 5/8"	STLI	3M(i24)		104 lb	156 lb	-	-
2	7'- 7 1/2"	7'- 9 1/4"	PBC)2(i32)		69 lb	99 lb	-	-

DESIGN NOTES

ANALYSIS RESULTS

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.





CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 **INNISFIL** Job Name: **S32-3-12** Level:

1ST FLR FRAMING Label: B3 - i4053

Type: **Beam**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

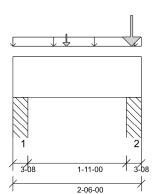
Report Version: 2021.03.26

Status: Design Passed

12/14/2023 10:23

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry L/360 LL Deflection Limit: TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Column @ 2'- 3 1/2"

[Design Criteria	Locat	tion	Load	Combinatio	n LDF	Design	Limit	Result
Factore	d Pos. Moment:	1'- 1	/2"	1.2	25D + 1.5L	1.00	200 lb ft	11650 lb ft	Passed - 2%
Factore	d Neg. Moment	: 2'- 3 ′	1/2"	1.2	25D + 1.5L	1.00	95 lb ft	11650 lb ft	Passed - 1%
Factore	d Shear:	1'- 5	5"	1.2	25D + 1.5L	1.00	410 lb	5526 lb	Passed - 7%
SUPPORT AND REACTION INFORMATION									
ID	Input Bearing Length	Controlling L Combination		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1	3-08	1.25D + 1.	5L	1.00	292 lb		6370 lb	3767 lb	Passed - 8%
2	3-08	1.25D + 1.	5L	1.00	1985 lb		6370 lb	3767 lb	Passed - 53%
SPEC	IFIED LOADS	5							
Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 6"	Self Wei	ght	Тор	5 lb/ft	-	-	-
Uniform	ט "	2'- 6"	User Lo	ad	Тор	60 lb/ft	-	-	-
Point	1'- 1/2"	1'- 1/2"	J4(i408	3)	Back	81 lb	162 lb	-	-
Point	2'- 3 3/4"	2'- 3 3/4"	-		Back	407 lb	815 lb	-	-
UNFA	UNFACTORED REACTIONS								
ID	Start Loc	End Loc	Sc	urce		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBG	D2(i32)		130 lb	97 lb	-	-

DESIGN NOTES

2'- 2 1/2"

ANALYSIS RESULTS

The dead loads used in the design of this member were applied to the structure as projected dead loads.

PBO3(i33)

Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.

520 lb

880 lb

- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.





CITY:

ALCONA SHORES

S32-3-12 **INNISFIL**

BAYVIEW WELLINGTON

1ST FLR FRAMING Level:

Label: B4 - i4065 Type: **Beam**

Job Name: **S32-3-12**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100)

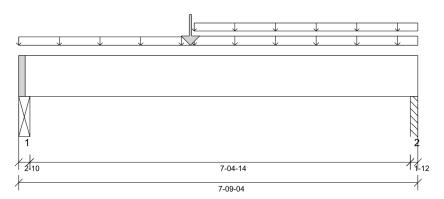
WestFraser LVL

Status: Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11

Report Version: 2021.03.26 12/14/2023 10:23



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 4'- 4 1/4"

Factored Resistance of Support Material:

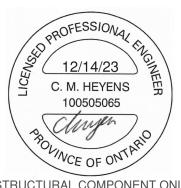
- 615 psi Beam @ 0'- 1 5/8"
- 615 psi Column @ 7'- 8 1/2"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 4 1/8"	1.25D + 1.5L	0.99	2417 lb ft	11589 lb ft	Passed - 21%
Factored Shear:	1'- 1/8"	1.25D + 1.5L	0.99	789 lb	5497 lb	Passed - 14%
Live Load (LL) Pos. Defl.:	3'- 9 1/16"	L		0.034"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 9 7/8"	D + L		0.063"	L/240	Passed - L/999
SUPPORT AND REACT	TION INFORM	MATION				

	Input Bearing Length	Controlling Combina	·	Factored Downward Reaction	d Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
1	2-10	1.25D +	1.5L 0.99	838 lb		4753 lb	2810 lb	Passed - 30%
2	1-12	1.25D +	1.5L 0.99	782 lb		3168 lb	1874 lb	Passed - 42%
SPECII	FIED LOAD)S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 9 1/4"	Self Weight	Тор	5 lb/ft	-	-	-
Uniform	-0'	3'- 5"	FC2 Floor Decking (Plan View Fill)	Тор	10 lb/ft	20 lb/ft	-	-
Uniform	3'- 5"	7'- 9 1/4"	User Load	Тор	60 lb/ft	-	-	-
Uniform	3'- 5"	7'- 9 1/4"	FC2 Floor Decking (Plan View Fill)	Тор	5 lb/ft	9 lb/ft	-	-
Point	3'- 4 1/8"	3'- 4 1/8"	B5(i4000)	Back	244 lb	473 lb	-	-
UNFAC	TORED RI	EACTIONS	5					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 2 5/8"	STLBM(i24))	261 lb	332 lb	-	-
2	7'- 7 1/2"	7'- 9 1/4"	PBO3(i33)		335 lb	251 lb	-	-

DESIGN NOTES

- · The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY DWG # TF23120781



CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 **INNISFIL** Job Name: **S32-3-12**

1ST FLR FRAMING Level: B5 - i4000

Label: Type: **Beam**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100)

WestFraser LVL

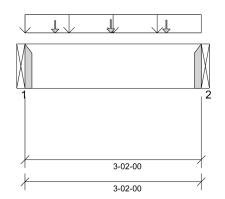
Report Version: 2021.03.26

Status: Design Passed

12/14/2023 10:23

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 3'- 2"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 6 1/2"	1.25D + 1.5L	1.00	832 lb ft	11650 lb ft	Passed - 7%
Factored Shear:	0'- 9 1/2"	1.25D + 1.5L	1.00	488 lb	5526 lb	Passed - 9%

SUF	SUPPORT AND REACTION INFORMATION												
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result					
1	1-08	1.25D + 1.5L	1.00	1014 lb		2730 lb	-	Passed - 37%					
2	1-08	1.25D + 1.5L	1.00	1011 lb		2730 lb	-	Passed - 37%					

CONNECTOR INFORMATION	
-----------------------	--

ID Part No.	Manufacturer		ailing Requireme	nts	Other Information or Requirement for	
		manaraota o	Тор	Face	Member	Reinforcement Accessories
1	HUS1.81/10		-	-	-	Connector manually specified by the user.
2	HUS1.81/10		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

	SPECIFIED LOADS											
Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)					
0'	3'- 2"	Self Weight	Тор	5 lb/ft	-	-	-					
0'	3'- 2"	User Load	Тор	120 lb/ft	240 lb/ft	-	-					
0'- 6 1/2"	0'- 6 1/2"	J5(i3742)	Back	28 lb	55 lb	-	-					
1'- 6 1/2"	1'- 6 1/2"	J5(i3780)	Back	34 lb	68 lb	-	-					
2'- 6 1/2"	2'- 6 1/2"	J5(i4007)	Back	30 lb	61 lb	-	-					
ORED RE	ACTIONS											
Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)					
0'	0'	B4(i4065)		244 lb	473 lb	-	-					
3'- 2"	3'- 2"	B6(i4129)		243 lb	472 lb	-	-					
	0' 0' 0'- 6 1/2" 1'- 6 1/2" 2'- 6 1/2" ORED RE Start Loc 0'	0' 3'- 2" 0' 3'- 2" 0'- 6 1/2" 0'- 6 1/2" 1'- 6 1/2" 1'- 6 1/2" 2'- 6 1/2" 2'- 6 1/2" ORED REACTIONS Start Loc End Loc 0' 0'	0' 3'- 2" Self Weight 0' 3'- 2" User Load 0'- 6 1/2" 0'- 6 1/2" J5(i3742) 1'- 6 1/2" 1'- 6 1/2" J5(i3780) 2'- 6 1/2" 2'- 6 1/2" J5(i4007) ORED REACTIONS Start Loc End Loc Source 0' 0' B4(i4065)	0' 3'- 2" Self Weight Top 0' 3'- 2" User Load Top 0'- 6 1/2" 0'- 6 1/2" J5(i3742) Back 1'- 6 1/2" 1'- 6 1/2" J5(i3780) Back 2'- 6 1/2" 2'- 6 1/2" J5(i4007) Back ORED REACTIONS Start Loc End Loc Source 0' 0' B4(i4065)	0' 3'- 2" Self Weight Top 5 lb/ft 0' 3'- 2" User Load Top 120 lb/ft 0'- 6 1/2" U-6 1/2" J5(i3742) Back 28 lb 1'- 6 1/2" 1'- 6 1/2" J5(i3780) Back 34 lb 2'- 6 1/2" 2'- 6 1/2" J5(i4007) Back 30 lb ORED REACTIONS Start Loc End Loc Source Dead (D) 0' 0' B4(i4065) 244 lb	0' 3'- 2" Self Weight Top 5 lb/ft - 0' 3'- 2" User Load Top 120 lb/ft 240 lb/ft 0'- 6 1/2" 0'- 6 1/2" J5(i3742) Back 28 lb 55 lb 1'- 6 1/2" 1'- 6 1/2" J5(i3780) Back 34 lb 68 lb 2'- 6 1/2" 2'- 6 1/2" J5(i4007) Back 30 lb 61 lb ORED REACTIONS Start Loc End Loc Source Dead (D) Live (L) 0' 0' B4(i4065) 244 lb 473 lb	0' 3'- 2" Self Weight Top 5 lb/ft - - 0' 3'- 2" User Load Top 120 lb/ft 240 lb/ft - 0'- 6 1/2" 0'- 6 1/2" J5(i3742) Back 28 lb 55 lb - 1'- 6 1/2" 1'- 6 1/2" J5(i3780) Back 34 lb 68 lb - 2'- 6 1/2" 2'- 6 1/2" J5(i4007) Back 30 lb 61 lb - ORED REACTIONS Start Loc End Loc Source Dead (D) Live (L) Snow (S) 0' 0' B4(i4065) 244 lb 473 lb -					

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.



STRUCTURAL COMPONENT ONLY DWG # TF23120782



BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 **INNISFIL**

Job Name: **S32-3-12** Level: 1ST FLR FRAMING

Label: B6 - i4129 Type: **Beam**

2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

Status: Design Passed

CITY: Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 12/14/2023 10:23 8.6.3.353.Update16.11

> 11-03-06 12-02-02

DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 8'- 1"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/4"
- 615 psi Wall @ 11'- 9 5/8"

PLY TO PLY CONNECTION: 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



DWG # TF23120783

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 4 5/8"	1.25D + 1.5L	1.00	5072 lb ft	23299 lb ft	Passed - 22%
Factored Neg. Moment:	0'- 4 1/4"	1.25D + 1.5L	1.00	701 lb ft	21887 lb ft	Passed - 3%
Factored Shear:	1'- 2 3/4"	1.25D + 1.5L	1.00	1752 lb	11052 lb	Passed - 16%
Live Load (LL) Pos. Defl.:	6'- 1"	L		0.087"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 1"	D + L		0.183"	L/240	Passed - L/740
SUBBORT AND DEACT	TION INFORM	MATION				

SUP	SUPPORT AND REACTION INFORMATION												
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result					
1	5-04	1.25D + 1.5L	1.00	7065 lb		19110 lb	11301 lb	Passed - 63%					
2	5-08	1.25D + 1.5L	1.00	2177 lb		20020 lb	11842 lb	Passed - 18%					
CDE	CIEIED I C	MDC											

SPECII	-IED LOAL	08						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 2 1/8"	Self Weight	Тор	9 lb/ft	-	-	-
Uniform	0'- 2 5/8"	3'- 7 5/8"	FC2 Floor Decking (Plan View Fill)	Тор	17 lb/ft	33 lb/ft	-	-
Uniform	0'- 5 1/4"	11'- 8 5/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	3'- 7 5/8"	12'- 2 1/8"	FC2 Floor Decking (Plan View Fill)	Тор	10 lb/ft	21 lb/ft	-	-
Point	3'- 6 3/4"	3'- 6 3/4"	B5(i4000)	Front	243 lb	472 lb	-	-
Point	0'- 2 5/8"	0'- 2 5/8"	5(i786)	Top	1614 lb	2100 lb	-	-
Point	7'- 11 7/8"	7'- 11 7/8"	User Load	Тор	200 lb	400 lb	-	-
Point	11'- 11 3/8"	11'- 11 3/8"	E9(i771)	Тор	263 lb	182 lb	-	-

Point	11'- 11 3/8"	11'- 11 3/8"	E9(i771)	Top	263 lb	182 lb	-	-
UNFAC	TORED RE	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	STLBM(i24)		2379 lb	2793 lb	-	-
2	11'- 8 5/8"	12'- 2 1/8"	W37(i2312)		879 lb	653 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=1.500", W=3.500". LDF=1.00, Pf=5168 lb, Q'r=5460 lb, Result=94.64%.

PLY TO PLY CONNECTION

Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 INNISFIL Job Name: **S32-3-12**

Level: 1ST FLR FRAMING Label: B7L - i4296

Type: **B7L - i**

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

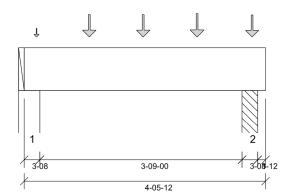
Status:

Design
Passed

12/14/2023 10:23

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11



ANALYSIS RESULTS

DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD
Service Condition: Dry
LL Deflection Limit: L/180,
TL Deflection Limit: L/120,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0'- 1 3/4" Bottom: 0'- 9 3/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Column @ 4'- 2 1/4"

	esign Criteria	Locati	on	Load	Combinatio	n LDF	Design	Limit	Result
Factore	d Pos. Moment:	2'- 2 1	/2"	1.2	25D + 1.5L	1.00	857 lb ft	11650 lb ft	Passed - 7%
Factore	d Shear:	3'- 3'	•	1.2	25D + 1.5L	1.00	670 lb	5526 lb	Passed - 12%
SUPP	ORT AND RE	ACTION IN	FORMA	TION					
ID	Input Bearing Length	Controlling Lo		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1	3-08	1.25D + 1.5	L	1.00	667 lb		6370 lb	3768 lb	Passed - 18%
2	3-08	1.25D + 1.5	L	1.00	1089 lb		6370 lb	3767 lb	Passed - 29%
SPEC	IFIED LOADS	5							
Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 5 3/4"	Self Wei	ght	Тор	5 lb/ft	-	-	-
Point	1'- 2 1/2"	1'- 2 1/2"	J3(i378	4)	Front	100 lb	200 lb	-	-
Point	2'- 2 1/2"	2'- 2 1/2"	J3(i378	4)	Front	100 lb	199 lb	-	-
Point	3'- 2 1/2"	3'- 2 1/2"	J3(i369	7)	Front	106 lb	212 lb	-	-
Point	4'- 2 3/4"	4'- 2 3/4"	J3(i403	4)	Front	97 lb	194 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	9(i818)	Тор	15 lb	-	-	-
UNFA	CTORED RE	ACTIONS							
ID	Start Loc	End Loc	So	urce		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	W1	0(i10)		177 lb	301 lb	-	-
2	4'- 1/2"	4'- 4"	PBO	04(i39)		262 lb	504 lb	-	-
DESIG	ON NOTES								

- · The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the
 default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already
 specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if
 required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall study, or beveled plates are required to transfer the loads to this beam.
- Bearing length at support 1 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full width.



STRUCTURAL COMPONENT ONLY DWG # TF23120784



CITY:

BAYVIEW WELLINGTON

S32-3-12 INNISFIL

ALCONA SHORES

Job Name: **S32-3-12**

Level: 1ST FLR FRAMING

Label: B11 - i4326 Type: **Beam**

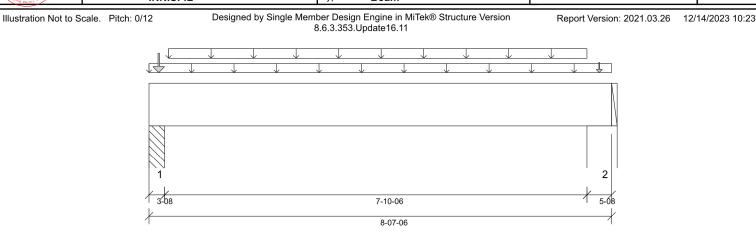
Controlling Load

1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100)

WestFraser LVL

Design Passed

Status:



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

> Amendment) LSD

Design Methodology: Service Condition: Dry L/360 LL Deflection Limit: TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 8'- 1 7/8"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Wall @ 8'- 2 7/8'

ANALYSIS RESULTS									
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result			
Factored Pos. Moment:	4'- 2 11/16"	1.4D	0.65	866 lb ft	7572 lb ft	Passed - 11%			
Factored Shear:	7'- 4 3/8"	1.4D	0.65	340 lb	3592 lb	Passed - 9%			
Total Load (TL) Pos. Defl.:	4'- 2 11/16"	D + L		0.039"	L/240	Passed - L/999			
SUDDOPT AND DEACTION INFORMATION									

Factored

Factored

Factored

Factored

	Length	Combina	ation	Reaction	Reaction	of Member	of Support	Result			
1 1	3-08	1.25D +	1.5L 0.85	867 lb		5433 lb	3213 lb	Passed - 27%			
2	5-08	1.25D +	1.5L 0.85	616 lb		8538 lb	5051 lb	Passed - 12%			
SPEC	SPECIFIED LOADS										
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)			
Self Weight	0'	8'- 7 3/8"	Self Weight	Тор	5 lb/ft	-	-	-			
Uniform	0'	8'- 7 3/8"	FC2 Floor Decking (Plan View Fill)	Тор	12 lb/ft	25 lb/ft	-	-			
Uniform	0'- 4 3/8"	8'- 1 7/8"	User Load	Тор	60 lb/ft	-	-	-			
Point	0'- 2 3/16"	0'- 2 3/16"	E4(i770)	Тор	98 lb	137 lb	-	-			
Point	8'- 4 5/8"	8'- 4 5/8"	2(i781)	Тор	23 lb	22 lb	-	-			
UNFA	CTORED RI	EACTIONS	5								
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)			
1	0'	0'- 3 1/2"	PBO5(i2441)	407 lb	246 lb	-	-			
2	8'- 1 7/8"	8'- 7 3/8"	W11(i11)		330 lb	128 lb	-	-			

DESIGN NOTES

Input

- · The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.
- Bearing length at support 2 was calculated based on the actual bearing area divided by the supported member width and may not match expected value when bearing is not rectangular or when the supported member is not supported by its full



STRUCTURAL COMPONENT ONLY DWG # TF23120785



CITY:

BAYVIEW WELLINGTON ALCONA SHORES

S32-3-12 **INNISFIL**

Job Name: **S32-3-12**

2ND FLR FRAMING Level: Label: B20 - i3470

Type: **Beam**

2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100)

WestFraser LVL

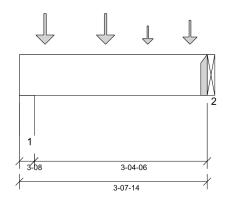
Report Version: 2021.03.26

Status: Design Passed

12/14/2023 10:27

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11



DESIGN INFORMATION

NBCC 2015, Part9, BCBC 2018, **Building Code:** ABC 2019, OBC 2012 (2019

Amendment)

Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360 TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Bottom: 0'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Beam @ 3'- 7 7/8"

PLY TO PLY CONNECTION: 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 4" O/C

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



Location	Load Combination	LDF	Design	Limit	Result
1'- 10"	1.25D + 1.5L	1.00	1627 lb ft	23299 lb ft	Passed - 7%
2'- 10 3/8"	1.25D + 1.5L	1.00	943 lb	11052 lb	Passed - 9%
	1'- 10"	1'- 10" 1.25D + 1.5L	1'- 10" 1.25D + 1.5L 1.00	1'- 10" 1.25D + 1.5L 1.00 1627 lb ft	1'- 10" 1.25D + 1.5L 1.00 1627 lb ft 23299 lb ft

SUP	SUPPORT AND REACTION INFORMATION											
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result				
1	3-08	1.25D + 1.5L	1.00	2150 lb		12740 lb	7536 lb	Passed - 29%				
2	1-08	1.25D + 1.5L	1.00	1835 lb		5460 lb	-	Passed - 34%				

CONNECTOR INFORMATION

ID Part No.		Manufacturer	Nai	iling Requirem	ents	Other Information or Requirement for
טו	Fait No.	Manufacturei	Тор	Face	Member	Reinforcement Accessories
2	HGUS410		-	-	-	Connector manually specified by the user.

* Connectors: Refer to manufacturer's specifications, fasteners requirements and installation instruction. Where header fasteners are longer than the width of the supporting member, install backer block or clinch header nails.

SPECIF	FIED LOAD)S							
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)	
Self Weight	0'	3'- 7 7/8"	Self Weight	Тор	9 lb/ft	-	-	-	
Point	0'- 6"	0'- 6"	-	Front	292 lb	584 lb	-	-	
Point	1'- 8 1/8"	1'- 8 1/8"	-	Front	292 lb	584 lb	-	-	
Point	3'- 3 7/8"	3'- 3 7/8"	-	Front	208 lb	415 lb	-	-	
Point	2'- 6"	2'- 6"	J2(i3596)	Back	136 lb	271 lb	-	-	
UNFAC	TORED RI	EACTIONS							
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 3 1/2"	5(i786)		539 lb	1041 lb	-	-	
2	3'- 7 7/8"	3'- 7 7/8"	B9(i3537)		423 lb	813 lb	-	-	
DESIGN NOTES									

- The dead loads used in the design of this member were applied to the structure as projected dead loads
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



CITY:

BAYVIEW WELLINGTON

S32-3-12 INNISFIL

ALCONA SHORES S32-3-12 Job Name: **\$32-3-12**

Level: 2ND FLR FRAMING

Label: **B21 - i3608** Type: **Beam**

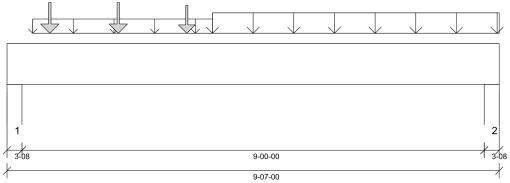
3 Ply Member
 1 3/4" x 9 1/2" (2.0E 3100)

WestFraser LVL

Status:

Design
Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.6.3.353.Update16.11 Report Version: 2021.03.26 12/14/2023 10:27



DESIGN INFORMATION

Building Code: NBCC 2015, Part9, BCBC 2018, ABC 2019, OBC 2012 (2019

Amendment) logv: LSD

Design Methodology: LSD
Service Condition: Dry
LL Deflection Limit: L/360,
TL Deflection Limit: L/240,

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:

Top: 0'- 10 3/4" Bottom: 9'- 7"

Factored Resistance of Support Material:

- 1334 psi Wall @ 0'- 2 1/2"
- 1334 psi Wall @ 9'- 4 1/2"

PLY TO PLY CONNECTION: 3 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 8" O/C

NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

PLY TO PLY CONNECTION ASSUMES ANY SUPPORTED BEAM HANGERS ARE FASTENED TO THIS BEAM WITH MIN. 3.5" FASTENERS.



ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 11 5/8"	1.25D + 1.5L	1.00	11421 lb ft	34949 lb ft	Passed - 33%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	4598 lb	16578 lb	Passed - 28%
Live Load (LL) Pos. Defl.:	4'- 9 7/16"	L		0.110"	L/360	Passed - L/982
Total Load (TL) Pos. Defl.:	4'- 9 7/16"	D + L		0.168"	L/240	Passed - L/642

ı	SUP	SUPPORT AND REACTION INFORMATION										
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result			
ı	1	3-08	1.25D + 1.5L	1.00	4859 lb		19110 lb	24519 lb	Passed - 25%			
l	2	3-08	1.25D + 1.5L	1.00	5609 lb		19110 lb	24520 lb	Passed - 29%			
l	SPE	CIFIED LO	ADS									

Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)		
Self Weight	0'	9'- 7"	Self Weight	Тор	14 lb/ft	-	-	-		
Uniform	0'- 6"	4'	Smoothed Load	Top	134 lb/ft	267 lb/ft	-	-		
Uniform	4'	9'- 7"	Smoothed Load	Top	257 lb/ft	515 lb/ft	-	-		
Point	0'- 10"	0'- 10"	J2(i3423)	Top	181 lb	361 lb	-	-		
Point	2'- 2"	2'- 2"	J2(i3447)	Top	181 lb	361 lb	-	-		
Point	3'- 6"	3'- 6"	J2(i3482)	Тор	158 lb	316 lb	-	-		
UNFAC	UNFACTORED REACTIONS									

ONIA	OILED IL	LACTIONS					
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	8(i3415)	1190 lb	2243 lb	-	-
2	9'- 3 1/2"	9'- 7"	5(i786)	1368 lb	2604 lb	-	-
	ID 1	ID Start Loc 1 0'	1 0' 0'- 3 1/2"	ID Start Loc End Loc Source 1 0' 0'- 3 1/2" 8(i3415)	ID Start Loc End Loc Source Dead (D) 1 0' 0'- 3 1/2" 8(i3415) 1190 lb	ID Start Loc End Loc Source Dead (D) Live (L) 1 0' 0'- 3 1/2" 8(i3415) 1190 lb 2243 lb	ID Start Loc End Loc Source Dead (D) Live (L) Snow (S) 1 0' 0'- 3 1/2" 8(i3415) 1190 lb 2243 lb -

DESIGN NOTES

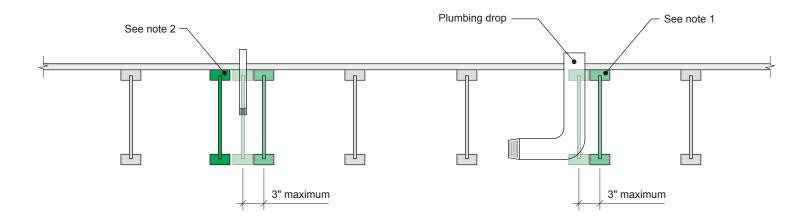
- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Lateral stability factor (KL) was based on user preference to use the width of all plies. (Consult with manufacturer for guideline pertaining to this design option.)
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already
 specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if
 required) as per manufacturer's instruction.
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (KL) = 1.00
- When the applied loads are coming from a member/post/wall above that does not sit directly on this beam, adequate load
 transfer elements, such as squash blocks, wall studs, or beveled plates are required to transfer the loads to this beam.

PLY TO PLY CONNECTION

 Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.



7c



Notes:

- 1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.
- 2. In all other cases, an additional joist is required.

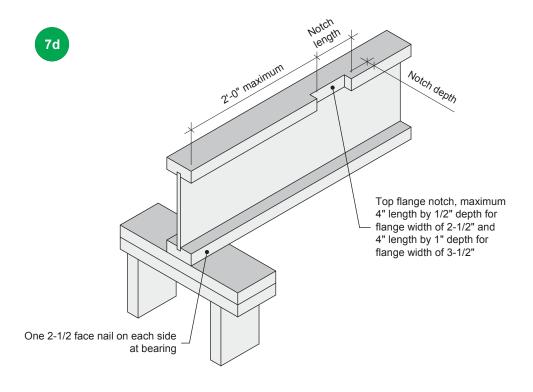
All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.

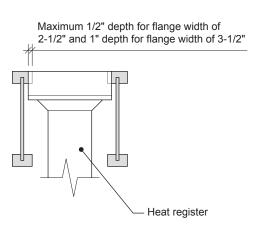




Allowance for Piping		7c		
CATEGORY	SCALE	DATE	PAGE	
Openings for Vertical Elements	-	2020-10-01	3.10	







Notes:

- 1. Blocking required at bearing for lateral support, not shown for clarity.
- 2. The maximum dimensions for a notch on the side of the top flange are 4-inch length by 1/2-inch depth for flange width of 2-1/2 inches, and 4-inch length by 1-inch depth for flange width of 3-1/2 inches.
- 3. This detail applies to simple-span joists and multiple-span joists where the notch is located at the end half-span.
- 4. For other applications, contact Nordic Structures.

All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.





TITLE		DRAWING		
Notch in I-joist for Heat Register		7 u		
CATEGORY	SCALE	DATE	PAGE	
Openings for Vertical Elements	-	2020-10-01	3.11	



Maximum Floor Spans - S2.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 15 psf

Deflection limits: L/480 under live load and L/240 under total load

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

Maximum Floor Spans

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

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

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - S4.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 15 psf

Deflection limits: L/480 under live load and L/240 under total load

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

Maximum Floor Spans

			В	are			1/2 in. gy	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	15'-2"
9-1/2"	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-2"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
11-7/8"	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
14"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10
14	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
16"	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

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

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



Maximum Floor Spans - S6.1

Design Criteria

Spans: Simple span

Loads: Live load = 40 psf and dead load = 15 psf

Deflection limits: L/480 under live load and L/240 under total load

Sheathing: 5/8 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

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

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

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



Maximum Floor Spans - S7.1

Design Criteria

Spans: Simple span

Loads: Live load = 40 psf and dead load = 15 psf
Deflection limits: L/480 under live load and L/240 under total load
Sheathing: 3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

			В	are			1/2 in. gyp	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	16'-11"	15'-11"	15'-4"	14'-9"	17'-4"	16'-4"	15'-9"	15'-1"
9-1/2"	NI-60	17'-1"	16'-1"	15'-6"	14'-10"	17'-6"	16'-6"	15'-11"	15'-3"
	NI-80	18'-1"	17'-0"	16'-4"	15'-8"	18'-7"	17'-4"	16'-8"	16'-0"
	NI-20	17'-10"	16'-10"	16'-2"	15'-7"	18'-5"	17'-4"	16'-9"	16'-1"
	NI-40x	19'-3"	17'-10"	17'-2"	16'-6"	19'-10"	18'-5"	17'-8"	16'-11'
11-7/8"	NI-60	19'-6"	18'-1"	17'-4"	16'-8"	20'-1"	18'-8"	17'-10"	17'-1"
	NI-80	20'-11"	19'-4"	18'-5"	17'-7"	21'-5"	19'-10"	18'-11"	17'-11'
	NI-90	21'-4"	19'-9"	18'-9"	17'-10"	21'-10"	20'-3"	19'-3"	18'-3"
	NI-40x	21'-4"	19'-9"	18'-10"	17'-11"	22'-0"	20'-5"	19'-6"	18'-6"
14"	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
14	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11'
	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"
	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
16"	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"

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

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - M2.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf

Deflection limits: L/480 under live load and L/240 under total load

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

Maximum Floor Spans

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

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

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



Maximum Floor Spans - M4.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf

Deflection limits: L/480 under live load and L/240 under total load

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

Maximum Floor Spans

			В	are			1/2 in. gy	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-11"	15'-0"	14'-6"	13'-5"	16'-5"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	17'-0"	16'-0"	15'-5"	14'-10"	17'-5"	16'-5"	15'-10"	14'-11'
9-1/2"	NI-60	17'-2"	16'-2"	15'-7"	14'-11"	17'-7"	16'-7"	16'-0"	15'-4"
	NI-80	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-20	17'-11"	16'-11"	16'-3"	15'-8"	18'-7"	17'-5"	16'-10"	16'-1"
	NI-40x	19'-4"	17'-11"	17'-3"	16'-7"	19'-11"	18'-6"	17'-9"	17'-0"
11-7/8"	NI-60	19'-7"	18'-2"	17'-6"	16'-9"	20'-2"	18'-9"	17'-11"	17'-2"
	NI-80	21'-1"	19'-6"	18'-6"	17'-7"	21'-7"	20'-0"	19'-0"	18'-0"
	NI-90	21'-6"	19'-10"	18'-11"	17'-11"	22'-0"	20'-4"	19'-5"	18'-4"
	NI-40x	21'-5"	19'-11"	18'-11"	18'-0"	22'-1"	20'-7"	19'-7"	18'-7"
14"	NI-60	21'-10"	20'-2"	19'-3"	18'-3"	22'-6"	20'-10"	19'-11"	18'-10'
14	NI-80	23'-5"	21'-7"	20'-7"	19'-5"	24'-0"	22'-3"	21'-2"	20'-0"
	NI-90	23'-10"	22'-1"	21'-0"	19'-10"	24'-5"	22'-7"	21'-6"	20'-4"
	NI-60	23'-9"	22'-0"	21'-0"	19'-10"	24'-6"	22'-9"	21'-8"	20'-7"
16"	NI-80	25'-6"	23'-7"	22'-5"	21'-2"	26'-2"	24'-3"	23'-1"	21'-10'
	NI-90	26'-0"	24'-0"	22'-10"	21'-6"	26'-7"	24'-8"	23'-5"	22'-2"

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

- 1. The tabulated clear spans are based on CSA 086-14 and NBC 2015, and are applicable to residential floor construction meeting the above design criteria.
- 2. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- 3. Minimum bearing length shall be 1-3/4 inch for end bearings, and 3-1/2 inches for intermediate bearings.
- 4. Bearing stiffeners are not required when I-joists are used in accordance with this table, except as required for hangers.
- 5. Nordic I-joists are listed in CCMC Evaluation Report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans - M6.1

Design Criteria

Spans: Simple span

Loads: Live load = 40 psf and dead load = 20 psf
Deflection limits: L/480 under live load and L/240 under total load
Sheathing: 5/8 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

	Joist series	Bare On centre spacing				1/2 in. gypsum ceiling On centre spacing				
loist depth										
		12"	16"	19.2"	24"	12"	16"	19.2"	24"	
	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-	
0.4/01	NI-40x	15'-11"	15'-0"	14'-6"	-	16'-4"	15'-5"	14'-11"	-	
9-1/2"	NI-60	16'-1"	15'-2"	14'-8"	-	16'-6"	15'-7"	15'-1"	-	
	NI-80	17'-1"	16'-1"	15'-6"	-	17'-5"	16'-5"	15'-10"	-	
11-7/8"	NI-20	16'-9"	15'-10"	15'-4"	-	17'-4"	16'-4"	15'-10"	-	
	NI-40x	17'-10"	16'-10"	16'-3"	-	18'-6"	17'-4"	16'-9"	-	
	NI-60	18'-1"	17'-0"	16'-5"	-	18'-9"	17'-6"	16'-11"	-	
	NI-80	19'-6"	18'-0"	17'-4"	-	20'-1"	18'-7"	17'-9"	-	
	NI-90	19'-11"	18'-4"	17'-8"	-	20'-5"	18'-11"	18'-1"	-	
	NI-40x	19'-10"	18'-4"	17'-8"	-	20'-6"	19'-1"	18'-3"	-	
14"	NI-60	20'-2"	18'-8"	17'-11"	-	20'-10"	19'-4"	18'-6"	-	
14	NI-80	21'-8"	20'-0"	19'-1"	-	22'-4"	20'-8"	19'-9"	-	
	NI-90	22'-1"	20'-5"	19'-6"	-	22'-9"	21'-0"	20'-1"	-	
	NI-60	22'-0"	20'-4"	19'-6"	-	22'-9"	21'-1"	20'-2"	-	
16"	NI-80	23'-7"	21'-10"	20'-10"	-	24'-4"	22'-6"	21'-6"	-	
	NI-90	24'-1"	22'-2"	21'-2"	-	24'-9"	22'-11"	21'-10"	-	

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

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



Maximum Floor Spans - M7.1

Design Criteria

Spans: Simple span

Loads: Live load = 40 psf and dead load = 20 psf
Deflection limits: L/480 under live load and L/240 under total load
Sheathing: 3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

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

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

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