

		Products		
PlotID	Length	Product	Plies	Net Qty
J1	10-00-00	9 1/2" NI-40x	1	2
J2	8-00-00	9 1/2" NI-40x	1	4
J3	6-00-00	9 1/2" NI-40x	1	2
J4	16-00-00	11 7/8" NI-40x	1	6
J5	14-00-00	11 7/8" NI-40x	1	3
J6	10-00-00	11 7/8" NI-40x	1	1
J7	6-00-00	11 7/8" NI-40x	1	2
J8	2-00-00	11 7/8" NI-40x	1	4
J9	20-00-00	11 7/8" NI-80	1	22
B4L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B5L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B7	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B6	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B1A	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B8	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B2A	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B9	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B3A	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
R1	28-00-00	1 1/8" x 9 1/2" APA Rim Board	1	1
R2	86-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1
Bk1	8-00-00	11 7/8" NI-40x	1	1

Connector Summary						
Qty	Manuf	Product				
2	H1	IUS2.56/11.88				
9	H1	IUS2.56/11.88				
4	H1	IUS2.56/11.88				
1	H2	HUS1.81/10				
1	H3	HUC410				
2	H4	HGUS410				
1	H9	IUS2.56/9.5				

DATE: 1/19/24

1st FLOOR FRAMING

TOWN OF BRADFORD WEST GWILLIMBURY BUILDING DEPARTMENT PLANS EXAMINED ONTARIO BUILDING CODE APPLIES

DATE: 2024-04-23

INSPECTOR: SE





FROM PLAN DATED: 2023/10

BUILDER: BAYVIEW WELLINGTON

SITE: BRADFORD CAPITAL

MODEL: THWU-16E ELEVATION: A,B

LOT:

CITY: BRADFORD

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

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.

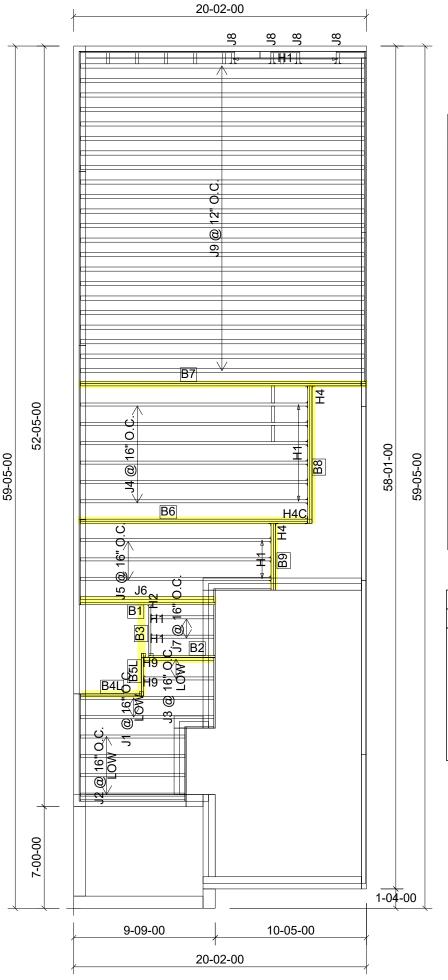
ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD

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: 3/4" GLUED AND NAILED



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	10-00-00	9 1/2" NI-40x	1	2
J2	8-00-00	9 1/2" NI-40x	1	4
J3	6-00-00	9 1/2" NI-40x	1	2
J4	16-00-00	11 7/8" NI-40x	1	6
J5	14-00-00	11 7/8" NI-40x	1	3
J6	10-00-00	11 7/8" NI-40x	1	1
J7	6-00-00	11 7/8" NI-40x	1	2
J8	2-00-00	11 7/8" NI-40x	1	4
J9	20-00-00	11 7/8" NI-80	1	22
B4L	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B5L	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1
B7	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B6	16-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B1	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B8	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B2	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
В9	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B3	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
R1	28-00-00	1 1/8" x 9 1/2" APA Rim Board	1	1
R2	84-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1
Bk1	8-00-00	11 7/8" NI-40x	1	1

Connector Summary						
Qty	Manuf	Product				
2	H1	IUS2.56/11.88				
9	H1	IUS2.56/11.88				
4	H1	IUS2.56/11.88				
1	H2	HUS1.81/10				
1	H4C	HUC410				
2	H4	HGUS410				
2	H9	IUS2.56/9.5				

DATE: 1/19/24

1st FLOOR FRAMING ADDITION STEP

TOWN OF BRADFORD WEST GWILLIMBURY
BUILDING DEPARTMENT
PLANS EXAMINED
ONTARIO BUILDING CODE APPLIES

DATE: 2024-04-23
INSPECTOR: SE





FROM PLAN DATED: 2023/10

BUILDER: BAYVIEW WELLINGTON

SITE: BRADFORD CAPITAL

MODEL: THWU-16E ELEVATION: A,B

LOT:

CITY: BRADFORD

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

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.

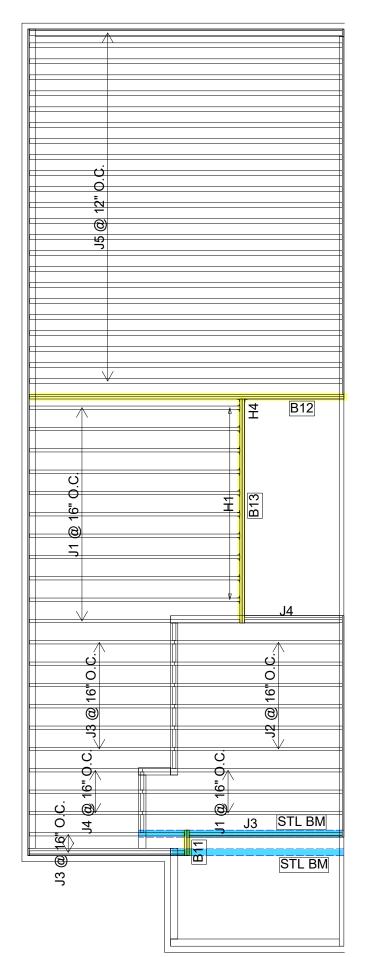
ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD

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: 3/4" GLUED AND NAILED



Products							
PlotID	Length	Product	Plies	Net Qty			
J1	14-00-00	11 7/8" NI-40x	1	14			
J2	12-00-00	11 7/8" NI-40x	1	6			
J3	10-00-00	11 7/8" NI-40x	1	9			
J4	8-00-00	11 7/8" NI-40x	1	4			
J5	20-00-00	11 7/8" NI-80	1	23			
B12	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2			
B13	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2			
B11	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2			
R1	134-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1			
Bk1	12-00-00	11 7/8" NI-40x	1	1			

Connector Summary						
Qty	Manuf	Product				
10	H1	IUS2.56/11.88				
1	H4	HGUS410				

TOWN OF BRADFORD WEST GWILLIMBURY
BUILDING DEPARTMENT
PLANS EXAMINED
ONTARIO BUILDING CODE APPLIES

DATE: 2024-04-23

INSPECTOR: SE

REVIEWED



FROM PLAN DATED: 2023/10

BUILDER: BAYVIEW WELLINGTON

SITE: BRADFORD CAPITAL

MODEL: THWU-16E ELEVATION: A

LOT:

CITY: BRADFORD

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

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:

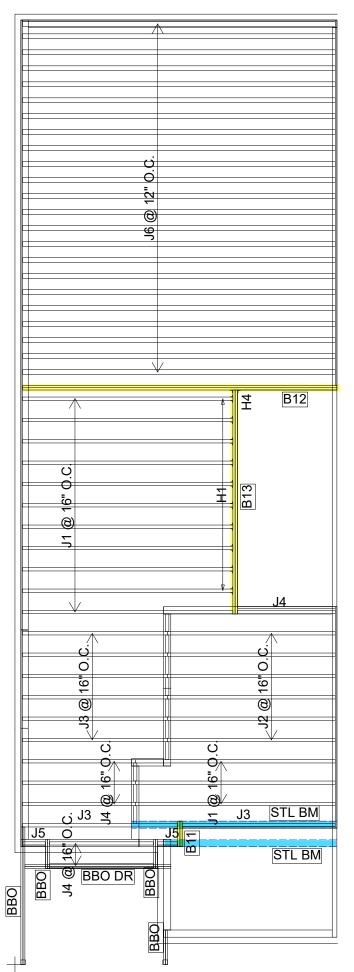
LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILE LOAD: +5.0 lb/ft²

JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 3/4" GLUED AND NAILED

DATE: 1/19/24

2nd FLOOR FRAMING



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	14-00-00	11 7/8" NI-40x	1	14
J2	12-00-00	11 7/8" NI-40x	1	6
J3	10-00-00	11 7/8" NI-40x	1	8
J4	8-00-00	11 7/8" NI-40x	1	6
J5	2-00-00	11 7/8" NI-40x	1	2
J6	20-00-00	11 7/8" NI-80	1	23
B12	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B11	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
R1	134-00-00	1 1/8" x 11 7/8" APA Rim Board	1	1
Bk1	12-00-00	11 7/8" NI-40x	1	1

Connector Summary						
Qty	Manuf	Product				
10	H1	IUS2.56/11.88				
1	H4	HGUS410				

TOWN OF BRADFORD WEST GWILLIMBURY BUILDING DEPARTMENT PLANS EXAMINED ONTARIO BUILDING CODE APPLIES DATE: 2024-04-23

INSPECTOR: SE





FROM PLAN DATED: 2023/10

BUILDER: BAYVIEW WELLINGTON

SITE: BRADFORD CAPITAL

MODEL: THWU-16E ELEVATION: B

LOT:

CITY: BRADFORD

SALESMAN: RICK DICIANO

DESIGNER: AJ REVISION:

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.

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.

CANTILEVERED JOISTS INCLUDING CANT' OVER

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: 3/4" GLUED AND NAILED

DATE: 1/19/24

2nd FLOOR FRAMING

NORDIC

INSTALLATION GUIDE NORDIC JOIST NS-GI33 **■**◆■

Engineered Wood Products

BASIC INSTALLATION **GUIDE FOR RESIDENTIAL FLOORS**

NORDIC **U**JOIST

NORDIC **STRUCTURES**

WEB STIFFENERS

nordic.ca

1g

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 alignment
- 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-inists 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).
- 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. Individual components not shown to scale for clarity.

1b

1

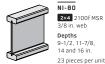
2×3 S-P-F No. 2

NORDIC I-JOIST SERIES RESIDENTIAL SERIES

2x3 1950f MSR 3/8 in. web 33 pieces per unit



1k



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

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.

5. 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

NI-90 2x4 2400f MSR 7/16 in. web

Width Length 1-1/8 in. 16 ft APA Rim Board Plus

RIM BOARDS

Do not walk on I-joist

Never stack building

braced or serious

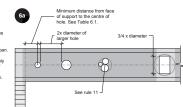
until fully fastened an

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 requirement of Table 6.1.

- A 1-1/2 inch hole or smaller can be placed anywhere in the web provide
- materials over unsheathed I-joists Once sheathed, do no overstress I-joist with



DUCT CHASE OPENINGS

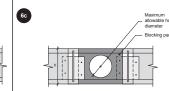
6b

Rules for Cutting Duct Chase Openings in I-joists

- he distance between the inside edge of the support and the cu uct chase opening shall be in compliance with the requiremen
- 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. Holes cut into the blocking panels are subject to the following limitations 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 6h

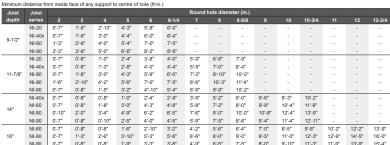
Allowable Hole Size in Lateral-restraint-only Blocking Panels

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

TABLE 6.1 - LOCATION OF WEB HOLES



I-joist depth (in.)	Maximum depth of the opening (in.)				
9-1/2	6-1/4				
11-7/8	8-5/8				
14	10-3/4				
16	12-3/4				

Minimum 1/8" space between top or bottom flange and openin

Simple or multiple span Minimum distance from inside face of any support to centre of hole (ft-in.)									Simple spa Minimum di								
Joist	Joist							Round	hole diam	eter (in.)							Joist
depth	series						6-1/4			8-5/8		10	10-3/4		12	12-3/4	depth :
	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"
9-1/2	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"	-	-	-	-	-	-	-	-	-	9-1/2
	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"	-	-	-	-	-	-	11-7/8"
	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"	-	-	-	
	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"	-	-	-	

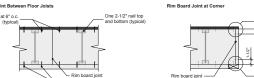
Design Criteria		
Joist spacing	Up to 24 inches	
Loads	Live load = 40 psf and dead load = 15 psf	
Deflection limits	L/480 under live load and L/240 under total load	

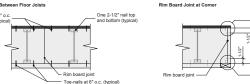
TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS

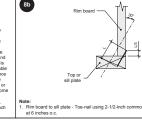
aeptn	series	8	10	12	14	16	18	20	22	24
	NI-20	4'-1"	4'-5"	4'-10"	-	-	-	-	-	-
0.4/01	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	-	-
9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	-	-
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
	NI-20	5'-9"	6'-2"	6'-6"	-	-	-	-	-	-
	NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	-	-
11-7/8"	NI-60	7'-3"	7'-8"	8'-0"	8'-6"	9'-0"	9'-3"	9'-9"	-	-
	NI-80	7'-2"	7'-7"	8'-0"	8'-5"	8'-10"	9'-3"	9'-8"	10'-2"	10'-8
	NI-90	7'-6"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10'-1
	NI-40x	8'-1"	8'-7"	9'-0"	9'-6"	10'-1"	10'-7"	11'-2"	-	-
14"	NI-60	8'-9"	9'-3"	9'-8"	10'-11"	10'-6"	11'-1"	11'-6"	-	-
14"	NI-80	9'-0"	9'-3"	9'-9"	10'-1"	10'-7"	11'-1"	11'-6"	12'-1"	12'-€
	NI-90	9'-2"	9'-8"	10'-0"	10'-6"	10'-11"	11'-5"	11'-9"	12'-4"	12'-1
	NI-60	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	-	-
16"	NI-80	10'-4"	10'-9"	11'-3"	11'-9"	12'-1"	12'-7"	13'-1"	13'-8"	14'-4
	NI-90	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14'-1
		D! 0								
		Design C	riteria							

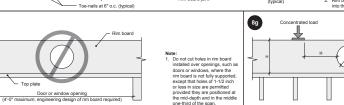
RIM BOARDS 8a

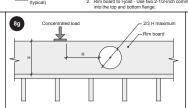
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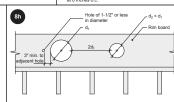




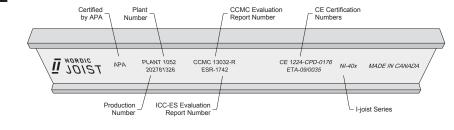








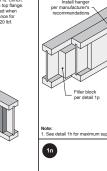
-JOIST MARKING

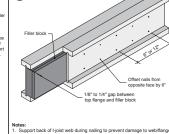


For the latest version, consult nordic.ca or contact Nordic Structures.	

construction details

use net joist depth minus 3-1/4 inches for joists with





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

1.) Filler block size (in.) Example

2-1/8 to 2-1/4 x 6 2x6 + 5/8" or 3/4" she

2-1/8 to 2-1/4 x 8 2x8 + 5/8" or 3/4" she

2-1/8 to 2-1/4 x 10 2x10 + 5/8" or 3/4" she 2-1/8 to 2-1/4 x 12 2x12 + 5/8" or 3/4" she 2 x 2x10 2 x 2x12

1s-1

FOR ALL \rightarrow DC3

1 x 2-5/16 Minimum width 1-1/2 x 2-5/16 Minimum width NAIL SPACING 1h



CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING
Label: B1 - i1913

Type: **B1 - I1**

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

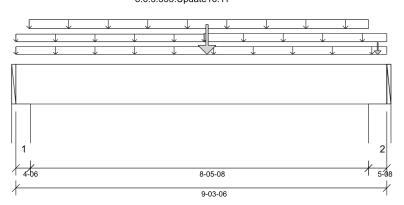
Status:

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 01/19/2024 10:07



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: 4'- 4 1/8"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 8'- 10 7/8"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 9 3/8"	1.25D + 1.5L	0.90	2638 lb ft	15988 lb ft	Passed - 17%
Factored Shear:	7'- 10"	1.25D + 1.5L	0.90	783 lb	6249 lb	Passed - 13%
Live Load (LL) Pos. Defl.:	4'- 8 1/16"	L		0.021"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 7 3/4"	D + L		0.048"	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	4-06	1.25D +	1.5L 0.90	830 lb		7204 lb	4260 lb	Passed - 19%
2	5-08	1.25D +	1.5L 0.90	1086 lb		9056 lb	5355 lb	Passed - 20%
SPECII	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 3 3/8"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'	9'- 3 3/8"	FC2 Floor Decking (Plan View Fill)	Тор	4 lb/ft	8 lb/ft	-	-
Uniform	0'	4'- 8 1/2"	FC2 Floor Decking (Plan View Fill)	Тор	2 lb/ft	3 lb/ft	-	-
Uniform	0'- 3 15/16"	8'- 9 7/8"	User Load	Тор	60 lb/ft	-	-	-
Uniform	4'- 8 1/2"	9'- 3 3/8"	FC2 Floor Decking (Plan View Fill)	Тор	10 lb/ft	19 lb/ft	-	-
Point	4'- 9 3/8"	4'- 9 3/8"	B3(i1814)	Front	173 lb	327 lb	-	-
Point	9'- 5/8"	9'- 5/8"	3(i338)	Тор	40 lb	57 lb	-	-
UNFAC	CTORED RE	EACTIONS						

Ш	UNFAC	CTORED RE	EACTIONS					
	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
	1	0'	0'- 4 3/8"	W14(i25)	400 lb	225 lb	-	-
	2	8'- 9 7/8"	9'- 3 3/8"	W15(i26)	464 lb	332 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY DWG # TF24010960



CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E **BRADFORD** Job Name: THWU-16E

Level: 1ST FLOOR FRAMING B2 - i1925

Label: Type: **Beam**

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

Report Version: 2021.03.26

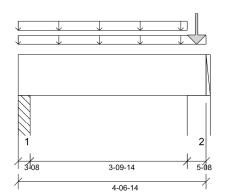
Design Passed

01/19/2024 10:07

Status:

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: 3'- 11 5/8"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Wall @ 4'- 2 3/8'

D	esign Criteria	Loc	cation	Load	Combination	n LDF	Design	Limit	Result
Factored	d Pos. Moment:	1'- 7	15/16"		1.4D	0.65	116 lb ft	11487 lb ft	Passed - 1%
Factored	d Neg. Moment:	4'- 2	2 3/8"	1.2	25D + 1.5L	1.00	566 lb ft	11314 lb ft	Passed - 5%
Factored	d Shear:	3'-	1 1/2"	1.2	25D + 1.5L	1.00	273 lb	6908 lb	Passed - 4%
SUPP	ORT AND RE	ACTION	INFORMAT	TION					
Input Controlling Load Factored Factored Factored ID Bearing Combination LDF Downward Uplift Resistance Resistance Result Length Reaction Reaction of Member of Support									
1	3-08	1.4D) (0.65	187 lb		4141 lb	2449 lb	Passed - 8%
2	5-08	1.25D +	1.5L ·	1.00	4293 lb		10010 lb	5919 lb	Passed - 73%
SPEC	IFIED LOADS	3							
Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 6 7/8"	Self Weigh	nt	Тор	6 lb/ft	-	-	-
Uniform	0'	4'- 6 7/8"	FC2 Floor Dec		Тор	14 lb/ft	29 lb/ft	-	-
Uniform	0'	4'- 1 3/8"	User Load	,	Тор	60 lb/ft	-	-	-
Point	4'- 4 1/8"	4'- 4 1/8"	3(i338)		Тор	1193 lb	1570 lb	-	-
UNFA	CTORED REA	ACTIONS							
ID	Start Loc	End Loc	Sou	rce		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO ²	1(i21)		174 lb	63 lb	-	-
2	4'- 1 3/8"	4'- 6 7/8"	W15	(i26)		1358 lb	1638 lb	-	-
DESIG	N NOTES								

ANALYSIS RESULTS

- The dead loads used in the design of this member were applied to the structure as sloped 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 capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=2.113", W=1.750". LDF=1.00, Pf=3846 lb, Q'r=3846 lb, Result=100.00%.
- 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 width.





CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING

Label: B3 - i1814 Type: Beam 1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

Report Version: 2021.03.26

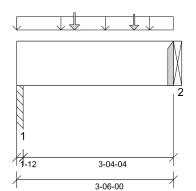
Status:

Design
Passed

01/19/2024 10:07

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

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: 1'- 2 1/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3/4"
- 615 psi Beam @ 3'- 6"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 7 5/8"	1.25D + 1.5L	1.00	639 lb ft	17672 lb ft	Passed - 4%
Factored Shear:	1'- 1 5/8"	1.25D + 1.5L	1.00	387 lb	6908 lb	Passed - 6%
CURRORT AND DEAC	TION INFORM	AATION				

Ш	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	1-12	1.25D + 1.5L	1.00	685 lb		3182 lb	1881 lb	Passed - 36%
Ш	2	1-08	1.25D + 1.5L	1.00	698 lb		2730 lb	-	Passed - 26%

CONNECTOR INFORMATION

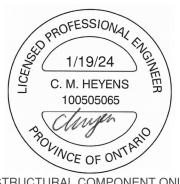
ID	Part No.	Manufacturer	Nai	ling Requirem	ents	Other Information or Requirement for
טו	Fait No.		Тор	Face	Member	Reinforcement Accessories
2	HUS1.81/10		-	-	-	Connector manually specified by the user.

* 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	FIED LOAD	S						
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 6"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'	3'- 6"	User Load	Back	60 lb/ft	120 lb/ft	-	-
Point	1'- 3 1/2"	1'- 3 1/2"	J7(i1912)	Front	60 lb	120 lb	-	-
Point	2'- 7 1/2"	2'- 7 1/2"	J7(i1897)	Front	49 lb	99 lb	-	-
UNFAC	TORED RI	EACTIONS						ı
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	PBO1(i21)		166 lb	312 lb	-	-
2	3'- 6"	3'- 6"	B1(i1913)		173 lb	327 lb	-	-
DECIC	LNOTEC							

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped 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 # TF24010962



CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E **BRADFORD** Job Name: THWU-16E

Level: **1ST FLOOR FRAMING** Label: B4L - i1501

Type: **Beam**

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

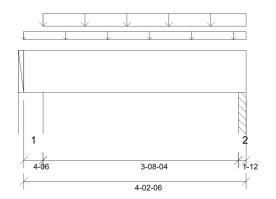
WestFraser LVL

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 01/19/2024 10:07



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: 3'- 10"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Column @ 4'- 1 5/8"

ANAL	.I 313 KESUL	13									
	Design Criteria	Loc	cation	Load	Combinatio	n LDF	Design	Limit	Result		
Factore	d Pos. Moment	2'-	2 1/2"	1.2	25D + 1.5L	1.00	505 lb ft	11650 lb ft	Passed - 4%		
Factore	d Shear:	1'-	1 7/8"	1.2	25D + 1.5L	1.00	287 lb	5526 lb	Passed - 5%		
SUPF	ORT AND RE	ACTION	INFORMA [®]	TION							
ID	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result		
1	4-06	1.25D +	1.5L	1.00	510 lb		7962 lb	4709 lb	Passed - 11%		
2	1-12	1.25D +	1.5L	1.00	542 lb		3185 lb	1883 lb	Passed - 29%		
SPEC	IFIED LOAD	5									
Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)		
Self Weight	0'	4'- 2 3/8"	Self Weig	ht	Тор	5 lb/ft	-	-	-		
Uniform		4'- 2 3/8"	FC1 Floor De (Plan View		Тор	3 lb/ft	5 lb/ft	-	-		
Uniform	0'- 4 3/8"	4'- 2 3/8"	User Loa	d [′]	Тор	60 lb/ft	120 lb/ft	-	-		
UNFA	CTORED RE	ACTIONS	5								
ID	Start Loc	End Loc	Sou	ırce		Dead (D)	Live (L)	Snow (S)	Wind (W)		
1	0'	0'- 4 3/8"	W	2(i5)		130 lb	239 lb	-	-		
2	4'- 5/8"	4'- 2 3/8"	PBO	2(i28)		132 lb	244 lb	-	-		
DESI	DESIGN NOTES										

ANALYSIS RESULTS

- The dead loads used in the design of this member were applied to the structure as sloped 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 BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING Label: B5L - i1601

Type: **Bot - I**

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

WestFraser LVL

Report Version: 2021.03.26

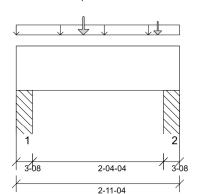
Status:

Design
Passed

01/19/2024 10:07

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

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'- 3 1/2" Bottom: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Column @ 2'- 8 3/4"

[Design Criteria	Locati	on Loa	d Combinatio	n LDF	Design	Limit	Result
Factore	d Pos. Moment	1'- 2 1	/2" 1	.25D + 1.5L	0.92	243 lb ft	10741 lb ft	Passed - 2%
Factore	ed Shear:	1'- 10 1	1/4" 1	.25D + 1.5L	0.92	282 lb	5095 lb	Passed - 6%
SUPF	ORT AND RE	ACTION IN	FORMATION	1				
ID	Input Bearing Length	Controlling Lo		Factored Downward Reaction	Factored I Uplift Reaction	Factored Resistance of Member		Result
1 2	3-08 3-08	1.25D + 1.5 1.25D + 1.5				5873 lb 5873 lb	3473 lb 3473 lb	Passed - 9% Passed - 11%
SPEC	IFIED LOAD	5						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	2'- 11 1/4"	Self Weight	Тор	5 lb/ft	-	-	-
Uniform	n 0'	2'- 11 1/4"	User Load	Тор	60 lb/ft	-	-	-
Point	1'- 2 1/2"	1'- 2 1/2"	J3(i1495)	Front	67 lb	134 lb	-	-
Point	2'- 6 1/2"	2'- 6 1/2"	J3(i1621)	Front	35 lb	70 lb	-	-
UNFA	CTORED RE	ACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	PBO2(i28)	135 lb	81 lb	-	-
2	2'- 7 3/4"	2'- 11 1/4"	PBO3(i29)	157 lb	123 lb	-	-
DESI	CN NOTES							

DESIGN NOTES

ANALYSIS RESULTS

- The dead loads used in the design of this member were applied to the structure as sloped 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 BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING
Label: B6 - i1839

Type: **B6 - 118**

2 Ply Member 1 3/4" x 11 7/8" (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 01/19/2024 10:07 8.6.3.353.Update 16.11

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: 12'- 9 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Beam @ 15'- 7 7/8"

PLY TO PLY CONNECTION: 4 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.



STRUCTURAL COMPONENT ONLY
DWG # TF24010965

l	ANALYSIS RESULTS						
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
l	Factored Pos. Moment:	9'- 3 5/16"	1.25D + 1.5L	1.00	5172 lb ft	35345 lb ft	Passed - 15%
l	Factored Shear:	14'- 8"	1.25D + 1.5L	1.00	1775 lb	13815 lb	Passed - 13%
l	Live Load (LL) Pos. Defl.:	8'- 3 5/16"	L		0.100"	L/360	Passed - L/999
١	Total Load (TL) Pos. Defl.:	8'- 3 1/8"	D + L		0.169"	L/240	Passed - L/999

l	SUP	PORT AND	REACTION INFORM	MATION					
	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	4-06	1.25D + 1.5L	1.00	1199 lb		15925 lb	9417 lb	Passed - 13%
l	2	1-08	1.25D + 1.5L	1.00	1947 lb		5460 lb	-	Passed - 36%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for
טו	rait No.	Manuacturei	Тор	Face	Member	Reinforcement Accessories
2	HUC410					Connector manually engeified by the use

* 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'	15'- 7 7/8"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'	13'- 5 1/8"	FC2 Floor Decking (Plan View Fill)	Тор	27 lb/ft	53 lb/ft	-	-
Uniform	13'- 1 5/8"	15'- 7 7/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	13'- 5 1/8"	15'- 7 7/8"	FC2 Floor Decking (Plan View Fill)	Тор	15 lb/ft	30 lb/ft	-	-
Point	13'- 3 3/8"	13'- 3 3/8"	B9(i1828)	Front	224 lb	500 lb	-	-
UNFAC	TORED RE	EACTIONS	;					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	W14(i25)		351 lb	499 lb	-	-
2	15'- 7 7/8"	15'- 7 7/8"	B8(i1805)		608 lb	799 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped 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 BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING
Label: B7 - i1923

Type: Beam

2 Ply Member 1 3/4" x 11 7/8" (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 01/19/2024 10:07 8.6.3.353.Update16.11

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: 12'- 9 3/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 19'- 4 7/8"

PLY TO PLY CONNECTION: 4 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.



STRUCTURAL COMPONENT ONLY DWG # TF24010966

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	14'- 11 1/4"	1.25D + 1.5L	1.00	14752 lb ft	35345 lb ft	Passed - 42%
Factored Neg. Moment:	19'- 4 7/8"	1.25D + 1.5L	1.00	428 lb ft	26931 lb ft	Passed - 2%
Factored Shear:	18'- 4"	1.25D + 1.5L	1.00	4290 lb	13815 lb	Passed - 31%
Live Load (LL) Pos. Defl.:	10'- 7 5/16"	L		0.385"	L/360	Passed - L/590
Total Load (TL) Pos. Defl.:	10'- 7 5/16"	D + L		0.680"	L/240	Passed - L/334
Permanent Deflection:	10'- 7 5/16"			-	L/360	Passed - L/796

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	4-06	1.25D + 1.5L	1.00	1897 lb		15925 lb	9417 lb	Passed - 20%		
2	4-00	1.25D + 1.5L	1.00	8535 lb		14560 lb	8610 lb	Passed - 99%		
SPE	SPECIFIED LOADS									

П	3F LOII	ILD LOAL	,,,						
ı	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
l	Self Weight	0'	19'- 7 7/8"	Self Weight	Тор	12 lb/ft	-	-	-
l	Uniform	0'	15'- 11 3/8"	FC2 Floor Decking (Plan View Fill)	Тор	23 lb/ft	47 lb/ft	-	-
ı	Uniform	13'- 3 1/4"	19'- 4 3/8"	User Load	Top	60 lb/ft	-	-	-
l	Uniform	15'- 11 3/8"	19'- 7 7/8"	FC2 Floor Decking (Plan View Fill)	Тор	10 lb/ft	21 lb/ft	-	-
ı	Point	15'- 9 5/8"	15'- 9 5/8"	B8(i1805)	Front	1001 lb	1685 lb	-	-
l	Point	13'- 3 1/2"	13'- 3 1/2"	FC2 Floor Decking (Plan View Fill)	Тор	15 lb	29 lb	-	-
ı	Point	19'- 6 1/8"	19'- 6 1/8"	E7(i284)	Тор	1432 lb	1533 lb	-	-

Point	19'- 6 1/8"	19'- 6 1/8"	E7(i284)	Top	1432 lb	1533 lb	-	-
UNFAC	CTORED RI	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	W14(i25)		589 lb	770 lb	-	-
2	19'- 3 7/8"	19'- 7 7/8"	-		2870 lb	3303 lb	-	-
++>	19'- 4 1/8"	19'- 4 1/8"	PBO5(i1922)		359 lb	413 lb	-	-
++>	19'- 6 1/8"	19'- 6 1/8"	W17(i69)		2511 lb	2890 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped 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 2. Required Load Area: L=1.500", W=3.500". LDF=1.00, Pf=4090 lb, Q'r=5460 lb, Result=74.90%.

PLY TO PLY CONNECTION



CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING

Label: **B8 - i1805**Type: **Beam**

2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

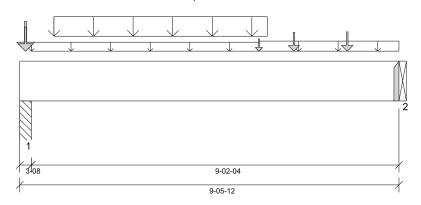
Status:

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

sion Report Version: 2021.03.26 01/19/2024 10:07



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:

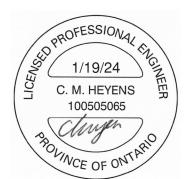
Top: 0' Bottom: 1'- 2 1/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Beam @ 9'- 5 3/4"

PLY TO PLY CONNECTION: 4 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.



STRUCTURAL COMPONENT ONLY DWG # TF24010967 PG 1/2

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 6 1/4"	1.25D + 1.5L	1.00	9507 lb ft	35345 lb ft	Passed - 27%
Factored Neg. Moment:	0'- 2 1/2"	1.25D + 1.5L	1.00	216 lb ft	35345 lb ft	Passed - 1%
Factored Shear:	8'- 5 7/8"	1.25D + 1.5L	1.00	3671 lb	13815 lb	Passed - 27%
Live Load (LL) Pos. Defl.:	4'- 11 1/8"	L		0.066"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 10 7/8"	D + L		0.109"	L/240	Passed - L/999

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	6894 lb		12740 lb	7534 lb	Passed - 92%		
2	1-08	1.25D + 1.5L	1.00	3833 lb		5460 lb	-	Passed - 70%		

	MATION

ID	Part No.	Manufacturer	Nailing Requirements			Other Information or Requirement for
טו	Part No.	Manufacturer	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	SPECIFIED LOADS										
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)			
Self Weight	0'	9'- 5 3/4"	Self Weight	Тор	12 lb/ft	-	-	-			
Uniform	0'- 3 1/2"	5'- 11 3/4"	User Load	Тор	60 lb/ft	-	-	-			
Uniform	5'- 11 3/4"	9'- 5 3/4"	User Load	Top	35 lb/ft	70 lb/ft	-	-			
Tapered	0'- 10 1/4"	6'- 2 1/4"	Smoothed Load	Back	162 lb/ft	325 To 323 lb/ft	-	-			
Point	0'- 1 3/4"	0'- 1 3/4"	B6(i1839)	Back	608 lb	799 lb	-	-			
Point	6'- 10 1/4"	6'- 10 1/4"	J4(i1906)	Back	239 lb	478 lb	-	-			
Point	8'- 2 1/4"	8'- 2 1/4"	J4(i1907)	Back	250 lb	500 lb	-	-			
Point	0'- 1 3/4"	0'- 1 3/4"	User Load	Тор	350 lb	700 lb	-	-			
Point	5'- 11 3/4"	5'- 11 3/4"	User Load	Top	105 lb	210 lb	-	-			

UNFA	UNFACTORED REACTIONS										
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)				
1	0'	0'- 3 1/2"	PBO4(i72)	1991 lb	2973 lb	-	-				
2	9'- 5 3/4"	9'- 5 3/4"	B7(i1923)	1001 lb	1685 lb	-	-				

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped 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



BUILDER: SITE: MODEL: CITY: BAYVIEW WELLINGTON BRADFORD CAPITAL

BRADFORD CAP THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING Label: B8 - i1805

Label: **B8 - i18** Type: **Beam** 2 Ply Member

1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL Status:

Design
Passed

PLY TO PLY CONNECTION





CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING

Label: **B9 - i1828**Type: **Beam**

2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

Report Version: 2021.03.26

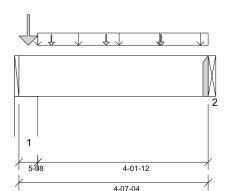
Status:

Design
Passed

01/19/2024 10:07

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

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: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Beam @ 4'- 7 1/4"

PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 6" 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 # TF24010968 PG 1/2

l	ANALYSIS RESULTS						
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
l	Factored Pos. Moment:	2'- 6"	1.25D + 1.5L	1.00	1455 lb ft	35345 lb ft	Passed - 4%
l	Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	1.00	767 lb ft	35345 lb ft	Passed - 2%
l	Factored Shear:	3'- 7 3/8"	1.25D + 1.5L	1.00	1049 lb	13815 lb	Passed - 8%

	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		
Ш	1	5-08	1.25D + 1.5L	1.00	7251 lb		20020 lb	11839 lb	Passed - 61%		
ΙL	2	1-08	1.25D + 1.5L	1.00	1316 lb		5460 lb	-	Passed - 24%		

CONNECTOR INFORMATION

ID	Dort No.	Manufacturer	Na	iling Requirem	ents	Other Information or Requirement for
טו	Part No.	Manuacturei	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	IED LOAL)5							
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)	
Self Weight	0'	4'- 7 1/4"	Self Weight	Тор	12 lb/ft	-	-	-	
Uniform	0'- 5 1/2"	4'- 7 1/4"	User Load	Front	60 lb/ft	120 lb/ft	-	-	
Point	0'- 9 1/2"	0'- 9 1/2"	J5(i1899)	Back	160 lb	319 lb	-	-	
Point	2'- 1 1/2"	2'- 1 1/2"	J5(i1900)	Back	179 lb	358 lb	-	-	
Point	3'- 5 1/2"	3'- 5 1/2"	J5(i1901)	Back	176 lb	352 lb	-	-	
Point	0'- 2 3/4"	0'- 2 3/4"	4(i335)	Тор	1638 lb	2138 lb	-	-	
UNFAC	UNFACTORED REACTIONS								
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 5 1/2"	W13(i17))	2232 lb	3165 lb	-	-	

224 lb

500 lb

DESIGN NOTES

4'- 7 1/4"

4'- 7 1/4"

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

B6(i1839)

- 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=5255 lb, Q'r=5460 lb, Result=96.24%.
- 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.

PLY TO PLY CONNECTION



BUILDER: SITE: MODEL: CITY: BAYVIEW WELLINGTON BRADFORD CAPITAL THWU-16E

BRADFORD

Level:

Job Name: **THWU-16E**Level: **1ST FLOOR FRAMING**

Label: **B9 - i1828** Type: **Beam**

2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

Status:

Design
Passed

PLY TO PLY CONNECTION





CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 2ND FLOOR FRAMING
Label: B11 - i1714

Type: Beam

2 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

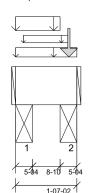
Status:

Design
Passed

01/19/2024 10:07

Illustration Not to Scale. Pitch: 0/12

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



SUPPORT AND REACTION INFORMATION

Controlling Load

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'- 8 5/8"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'- 4 1/4"
- 615 psi Beam @ 1'- 2 7/8"

PLY TO PLY CONNECTION: 4 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.



ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Neg. Moment:	1'- 2 7/8"	1.25D + 1.5L + S	0.77	228 lb ft	27213 lb ft	Passed - 1%
Factored Moment:	1'- 2 7/8"	1.25D + 1.5L + S	0.77	228 lb ft	27213 lb ft	Passed - 1%
Factored Moment:				0 lb ft	0 lb ft	
Factored Moment:				0 lb ft	0 lb ft	
Factored Shear:	1'- 5 1/8"	1.25D + 1.5L + S	0.77	124 lb	10637 lb	Passed - 1%
Live Load (LL) Deflection:	0'- 10 5/8"	S		0.000"	L/360	Passed - L/999
Total Load (TL) Deflection:	0'- 10 1/2"	D + S		0.000"	L/240	Passed - L/999

Factored

Uplift

Factored

Resistance

Factored

Resistance

Result

Factored

Downward

	Length	Combina	ation		Reaction	Reaction	of Member	of Support	
1	5-04	1.25D + 1.	-	0.92	181 lb		17533 lb	10368 lb	Passed - 2%
2	5-04	1.25D + 1.	.5L + S	0.77	1954 lb		14713 lb	8700 lb	Passed - 22%
SPECI	FIED LOAD	os							
Туре	Start Loc	End Loc	Source	;	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	1'- 7 1/8"	Self Wei	ght	Тор	12 lb/ft	-	-	-
Uniform	0'	1'- 7 1/8"	E14(i118	33)	Тор	100 lb/ft	-	-	-
Uniform	0'	1'- 1 7/8"	E14(i118	33)	Тор	76 lb/ft	-	208 lb/ft	-
Uniform	0'- 2 3/8"	1'- 4 1/4"	FC3 Floor D (Plan View		Тор	3 lb/ft	6 lb/ft	-	-
Point	1'- 4 5/8"	1'- 4 5/8"	E14(i118	33)	Тор	804 lb	-	492 lb	-
UNFAC	CTORED R	EACTIONS	5						
ID	Start Loc	End Loc	Sc	ource		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/4"	STLE	3M(i1160)	151 lb	3 lb	165 lb	-
2	1'- 1 7/8"	1'- 7 1/8"	STLI	BM(i339))	925 lb	4 lb	568 lb	-

DESIGN NOTES

Input

Bearing

- The dead loads used in the design of this member were applied to the structure as sloped 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.
- 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 BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 2ND FLOOR FRAMING
Label: B12 - i1768

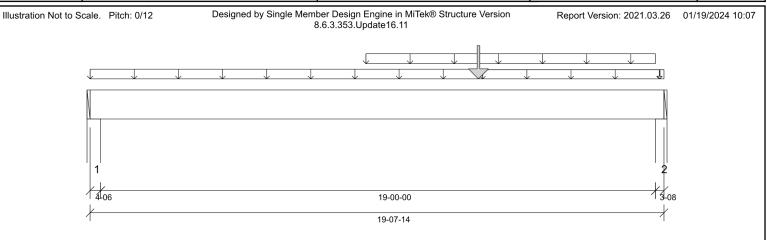
Type: Beam

SUPPORT AND REACTION INFORMATION

2 Ply Member

1 3/4" x 11 7/8" (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: 12'- 9 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 19'- 5 3/8"

PLY TO PLY CONNECTION: 4 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 # TF24010970

	ANALYSIS RESULTS						
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
l	Factored Pos. Moment:	13'- 3 5/8"	1.25D + 1.5L	1.00	21863 lb ft	35345 lb ft	Passed - 62%
l	Factored Shear:	18'- 4 1/2"	1.25D + 1.5L	1.00	3833 lb	13815 lb	Passed - 28%
l	Live Load (LL) Pos. Defl.:	10'- 6 15/16"	L		0.511"	L/360	Passed - L/446
l	Total Load (TL) Pos. Defl.:	10'- 6 5/8"	D + L		0.924"	L/240	Passed - L/246
l	Permanent Deflection:	10'- 6 1/4"			-	L/360	Passed - L/568

s		Input Bearing Length	Controlling Combina		Factored Downward Reaction	d Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
١	1	4-06	1.25D +	1.5L 1.00	2310 lb		15925 lb	9417 lb	Passed - 25%
١	2	3-08	1.25D +	1.5L 1.00	4011 lb		12740 lb	7534 lb	Passed - 53%
١	SPECI	FIED LOAD	S						
1	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
١	Self Weight	0'	19'- 7 7/8"	Self Weight	Тор	12 lb/ft	-	-	-
١	Uniform	0'	13'- 5 3/8"	FC3 Floor Decking (Plan View Fill)	Тор	17 lb/ft	33 lb/ft	-	-
1	Uniform	9'- 5 3/8"	19'- 4 3/8"	User Load	Тор	60 lb/ft	-	-	-
١	Uniform	13'- 5 3/8"	19'- 7 7/8"	FC3 Floor Decking (Plan View Fill)	Тор	11 lb/ft	23 lb/ft	-	-
1	Point	13'- 3 5/8"	13'- 3 5/8"	B13(i1797)	Front	998 lb	1840 lb	-	-
1	Point	19'- 6 1/8"	19'- 6 1/8"	E10(i1176)	Тор	19 lb	-	-	-
1	UNFA	CTORED RI	EACTIONS						
٦l	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
	1	0'	0'- 4 3/8"	E6(i237)		746 lb	898 lb	-	-
$\ $	2	19'- 4 3/8"	19'- 7 7/8"	E7(i284)		1394 lb	1533 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped 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



BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 2ND FLOOR FRAMING

Label: **B13 - i1797**Type: **Beam**

2 Ply Member 1 3/4" x 11 7/8" (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 01/19/2024 10:07

13-06-08 14-00-00

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: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Beam @ 14'

PLY TO PLY CONNECTION: 4 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.



STRUCTURAL COMPONENT ONLY DWG # TF24010971

l	ANALYSIS RESULTS						
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
l	Factored Pos. Moment:	6'- 9 1/2"	1.25D + 1.5L	1.00	14479 lb ft	35345 lb ft	Passed - 41%
l	Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	1.00	4427 lb	13815 lb	Passed - 32%
l	Live Load (LL) Pos. Defl.:	7'- 1 9/16"	L		0.235"	L/360	Passed - L/691
l	Total Load (TL) Pos. Defl.:	7'- 1 9/16"	D + L		0.362"	L/240	Passed - L/449

l	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			
l	1	5-08	1.25D + 1.5L	1.00	4539 lb		20020 lb	11839 lb	Passed - 38%			
l	2	1-08	1.25D + 1.5L	1.00	4006 lb		5460 lb	-	Passed - 73%			

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Na	iling Requirem	ents	Other Information or Requirement for
טו	Fait No.	Manuacturei	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'	14'	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'- 1 1/2"	1'- 5 1/2"	FC3 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 5 1/2"	3'- 11 1/2"	User Load	Front	60 lb/ft	120 lb/ft	-	-
Tapered	0'- 9 1/2"	12'- 9 1/2"	Smoothed Load	Back	133 To 135 lb/ft	267 To 271 lb/ft	-	-
Point	13'- 5 1/2"	13'- 5 1/2"	J1(i1631)	Back	136 lb	272 lb	-	-

Point	13-5 1/2	13-5 1/2	31(11631)	Dack 130 ID	27210	-	-
UNFAC	CTORED RI	EACTIONS					
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	4(i335)	1126 lb	2087 lb	-	-
2	14'	14'	B12(i1768)	998 lb	1840 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped 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 BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING
Label: B1A - i1540

Type: **B1A** - I

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

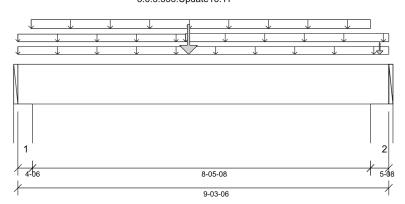
Status:

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 01/19/2024 10:08



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:

Top: 0' Bottom: 4'- 5 3/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Wall @ 8'- 10 7/8"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 3 1/4"	1.25D + 1.5L	0.91	2700 lb ft	16073 lb ft	Passed - 17%
Factored Shear:	1'- 4 1/4"	1.25D + 1.5L	0.91	774 lb	6283 lb	Passed - 12%
Live Load (LL) Pos. Defl.:	4'- 6 7/16"	L		0.021"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 6 11/16"	D + L		0.050"	L/240	Passed - L/999
SUPPORT AND REAC	TION INFORM	IATION				

	Input Bearing Length	Controllin Combin	□ [1] ⊢	Factored Downward Reaction	d Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-06	1.25D +	1.5L 0.91	893 lb		7242 lb	4283 lb	Passed - 21%
2	5-08	1.25D +	1.5L 0.91	1063 lb		9104 lb	5384 lb	Passed - 20%
SPECI	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 3 3/8"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'	9'- 3 3/8"	FC2 Floor Decking (Plan View Fill)	Тор	4 lb/ft	8 lb/ft	-	-
Uniform	0'	4'- 2 3/8"	FC2 Floor Decking (Plan View Fill)	Тор	2 lb/ft	3 lb/ft	-	-
Uniform	0'- 3 15/16"	8'- 9 7/8"	User Load	Тор	60 lb/ft	-	-	-
Uniform	4'- 2 3/8"	9'- 3 3/8"	FC2 Floor Decking (Plan View Fill)	Тор	10 lb/ft	19 lb/ft	-	-
Point	4'- 3 1/4"	4'- 3 1/4"	B3A(i1420)	Front	179 lb	338 lb	-	-
Point	9'- 5/8"	9'- 5/8"	5(i1380)	Тор	40 lb	57 lb	_	_

ı	UNFAC	CTORED RE	EACTIONS					
l	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
l	1	0'	0'- 4 3/8"	W14(i25)	415 lb	255 lb	-	-
l	2	8'- 9 7/8"	9'- 3 3/8"	W15(i26)	459 lb	321 lb	-	-

DESIGN NOTES

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



STRUCTURAL COMPONENT ONLY DWG # TF24010972



CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E **BRADFORD** Job Name: THWU-16E

Level: 1ST FLOOR FRAMING Label: B2A - i1546

Type: **Beam**

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100)

WestFraser LVL

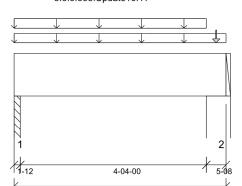
Report Version: 2021.03.26

Status: Design Passed

01/19/2024 10:08

Illustration Not to Scale. Pitch: 0/12

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



4-11-04

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: 4'- 5 3/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3/4"
- 615 psi Wall @ 4'- 6 3/4"

ANAL	YSIS RESUL	TS							
D	esign Criteria	Loc	cation	Load	Combination	n LDF	Design	Limit	Result
Factore	d Pos. Moment	2'-	3 1/2"		1.4D	0.65	279 lb ft	11487 lb ft	Passed - 2%
Factore	d Shear:	3'-	5 7/8"		1.4D	0.65	135 lb	4490 lb	Passed - 3%
SUPP	ORT AND RE	EACTION	INFORM <i>A</i>	NOITA					
ID	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1	1-12	1.40)	0.65	261 lb		2070 lb	1224 lb	Passed - 21%
2	5-08	1.25D +	1.5L	0.85	483 lb		8478 lb	5014 lb	Passed - 10%
SPEC	IFIED LOADS	S							
Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	4'- 11 1/4"	Self Wei	-	Тор	6 lb/ft	-	-	-
Uniform	0'	4'- 11 1/4"	FC2 Floor D (Plan View		Тор	14 lb/ft	29 lb/ft	-	-
Uniform	0'	4'- 5 3/4"	User Lo	ad	Тор	60 lb/ft	-	-	-
Point	4'- 8 1/2"	4'- 8 1/2"	5(i1380	0)	Тор	40 lb	57 lb	-	-
UNFA	CTORED RE	ACTIONS							
ID	Start Loc	End Loc	Sc	urce		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 1 3/4"	PB	O1(i21)		185 lb	70 lb	-	-
2	4'- 5 3/4"	4'- 11 1/4"	W	15(i26)		226 lb	133 lb	-	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped 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 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





CITY:

BAYVIEW WELLINGTON BRADFORD CAPITAL

THWU-16E BRADFORD Job Name: THWU-16E

Level: 1ST FLOOR FRAMING
Label: B3A - i1420

Type: Beam

1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

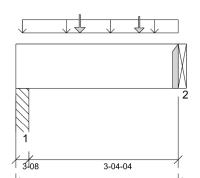
Status:

Design
Passed

01/19/2024 10:08

Illustration Not to Scale. Pitch: 0/12

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



3-07-12

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: 1'- 2 1/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 2 1/2"
- 615 psi Beam @ 3'- 7 3/4"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 9 3/16"	1.25D + 1.5L	1.00	668 lb ft	17672 lb ft	Passed - 4%
Factored Shear:	1'- 3 3/8"	1.25D + 1.5L	1.00	412 lb	6908 lb	Passed - 6%
CURRORS AND DEAD	TION INCOME	A THOU				

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	3-08	1.25D + 1.5L	1.00	711 lb		6370 lb	3767 lb	Passed - 19%
l	2	1-08	1.25D + 1.5L	1.00	727 lb		2730 lb	-	Passed - 27%

CONNECTOR INFORMATION

ID	Part No.	Manufacturer	Nai	ling Requirem	ents	Other Information or Requirement for
טו	Fait No.	Manuacturei	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	FIED LOAD	S										
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)				
Self Weight 0' 3'- 7 3/4" Self Weight Top 6 lb/ft -												
Uniform	0'- 1 3/4"	3'- 7 3/4"	User Load	Back	60 lb/ft	120 lb/ft	-	-				
Point	1'- 5 1/4"	1'- 5 1/4"	J7(i1445)	Front	67 lb	134 lb	-	-				
Point	2'- 9 1/4"	2'- 9 1/4"	J7(i1418)	Front	55 lb	110 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"	PBO1(i21)		175 lb	326 lb	-	-				
2	3'- 7 3/4"	3'- 7 3/4"	B1A(i1540))	179 lb	338 lb	-	-				
DECIC	LNOTEC											

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as sloped 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 # TF24010974



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

		Mi	d-span blocking	g with 1x4 inch s	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'-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	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'-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

			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"	-

Joist depth 9-1/2" 11-7/8" 14"	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing			
		0.4/01	NI-20	16'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"
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"	-
14"	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	20'-11"	-
	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"	-
16"	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
	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

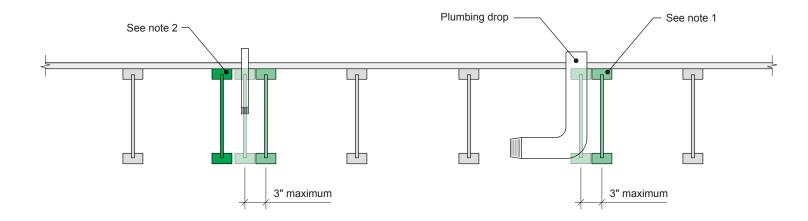
Loads: Live load = 40 psf and dead load = 20 psf
Deflection limits: L/480 under live load and L/240 under total load
Sheathing: 3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

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



Notes:

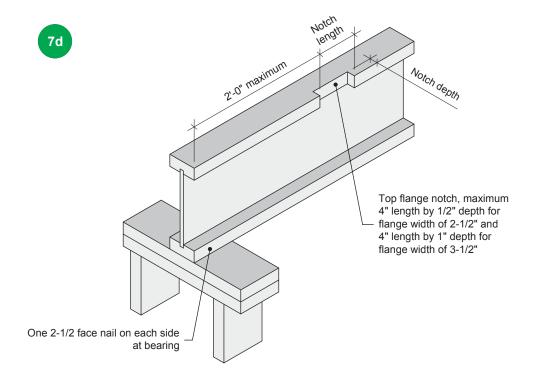
- 1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.
- 2. In all other cases, an additional joist is required.

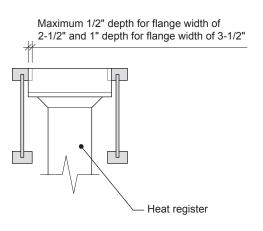
All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.





Allowance for Piping		7c	
CATEGORY Openings for Vertical Elements	SCALE	DATE 2020-10-01	PAGE 3.10
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		7d		
CATEGORY	SCALE	DATE	PAGE	
Openings for Vertical Elements	-	2020-10-01	3.11	