

Products									
PlotID	Length	Product	Plies	Net Qty					
J1	14-00-00	9 1/2" NI-40x	1	15					
J1DJ	14-00-00	9 1/2" NI-40x	2	4					
J2	12-00-00	9 1/2" NI-40x	1	26					
J3	10-00-00	9 1/2" NI-40x	1	4					
J4	8-00-00	9 1/2" NI-40x	1	9					
J5	4-00-00	9 1/2" NI-40x	1	1					
J6	2-00-00	9 1/2" NI-40x	1	2					
B1	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B4	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B5	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B2	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1					
B7	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
В3	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1					

	C	Connector	Summary
	Qty	Manuf	Product
S	3	H1	IUS2.56/9.5
	14	H1	IUS2.56/9.5
	2	H1	IUS2.56/9.5
	4	H1	IUS2.56/9.5
	1	H4	HGUS410
83			

8/03/22 C. M. HEYENS 100505065 NOVINCE OF ONTARIO STRUCTURAL COMPONENTS ONLY DWG# TF22080107

THIS IS A FLOOR COMPONENT PLACEMENT PLAN ONLY.

The wood beams and joists outlined on this plan are designed as individual building components to be incorporated into the design of the building at the specification of the building designer. Please see the individual beam reports, joist reports, and/or joist span tables for each component identified on this placement plan.

The supporting structure is to be specified by the building designer prior to the

installation of joist(s) and/or beam(s). The building designer is responsible for the bracing of the floor system and its integration into the bracing of the overall structure. All components labelled "by others" or "as per plan", and all steel beams are not within the scope of work of this seal.

The building designer must review and approve this plan to acertain conformity to the overall structural plan of the building. All dimensions to be verified on site.

DATE: 2022-07-15

1st FLOOR FRAMING

Garden 1 Elevation 1



FROM PLAN DATED: 2022/06 **BUILDER: GREENPARK HOMES** SITE: BARLASSINA CONSTRUCTION

MODEL: GARDEN 1 **ELEVATION**: 1,2

LOT:

CITY: CAMBRIDGE

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

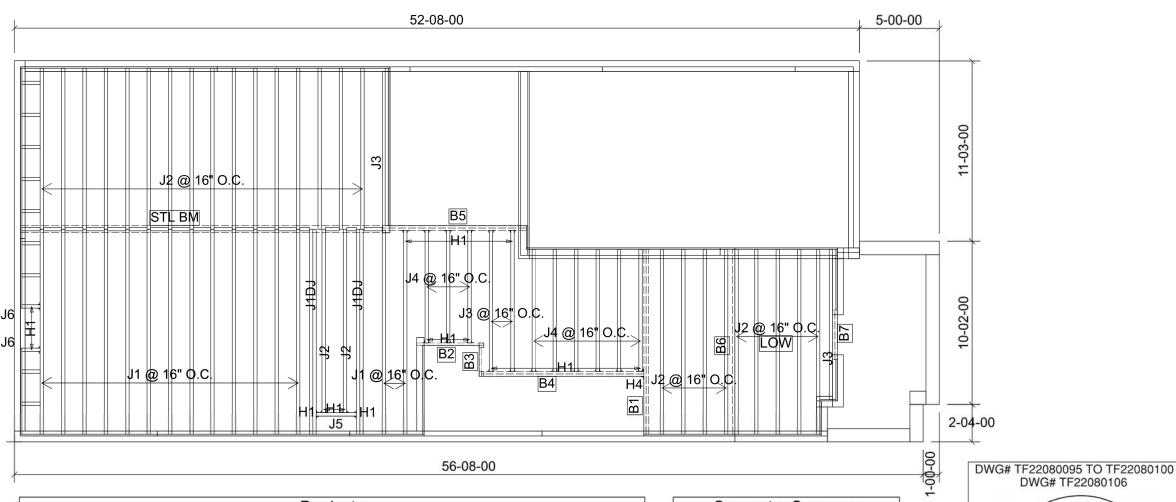
BY THE SUPPORTING MEMBER ENGINEER OF RECORD

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	9 1/2" NI-40x	1	15					
J1DJ	14-00-00	9 1/2" NI-40x	2	4					
J2	12-00-00	9 1/2" NI-40x	1	27					
J3	10-00-00	9 1/2" NI-40x	1	4					
J4	8-00-00	9 1/2" NI-40x	1	9					
J5	4-00-00	9 1/2" NI-40x	1	1					
J6	2-00-00	9 1/2" NI-40x	1	2					
B6	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1					
B1	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B4	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B5	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B2	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1					
B7	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B3	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1					

Connector Summary									
Qty	Manuf	Product							
3	H1	IUS2.56/9.5							
14	H1	IUS2.56/9.5							
2	H1	IUS2.56/9.5							
4	H1	IUS2.56/9.5							
1	H4	HGUS410							

PROFESSIONAL & 100505065 ROVINCE OF ONTARIO STRUCTURAL COMPONENTS ONLY DWG# TF22080108

THIS IS A FLOOR COMPONENT PLACEMENT PLAN ONLY.

The wood beams and joists outlined on this plan are designed as individual building components to be incorporated into the design of the building at the specification of the building designer. Please see the individual beam reports, joist reports, and/or joist span tables for each component identified on this placement plan.

The supporting structure is to be specified by the building designer prior to the

installation of joist(s) and/or beam(s). The building designer is responsible for the bracing of the floor system and its integration into the bracing of the overall structure. All components labelled "by others" or "as per plan", and all steel beams are not within the scope of work of this seal.

The building designer must review and approve this plan to acertain conformity to the overall structural plan of the building. All dimensions to be verified on site.

DATE: 2022-07-15

1st FLOOR FRAMING SUNKEN

Garden 1 Elevation 1



FROM PLAN DATED: 2022/06 **BUILDER: GREENPARK HOMES** SITE: BARLASSINA CONSTRUCTION

MODEL: GARDEN 1 **ELEVATION**: 1,2

LOT:

CITY: CAMBRIDGE

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.**

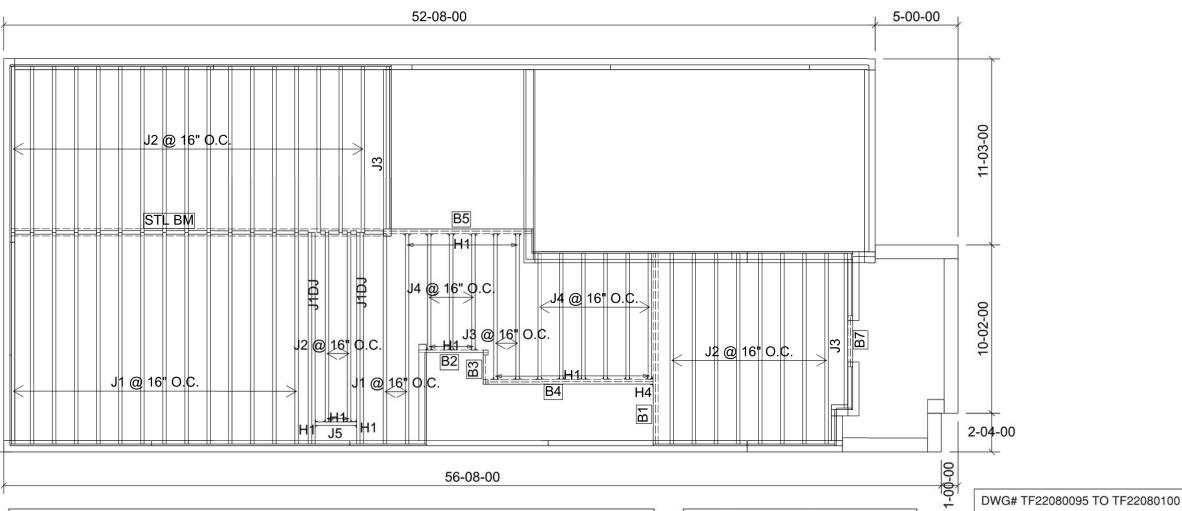
ALL CONNECTORS MUST BE INSTALLED AS PER THE MANUFACTURER'S SPECIFICATIONS USING THE MANUFACTURER SPECIFIED FASTENERS. ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD

LOADING:

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

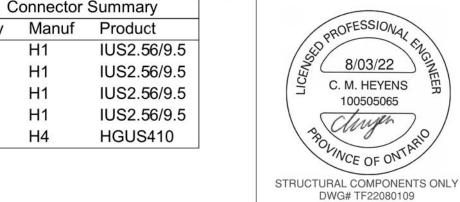
JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 3/4" GLUED AND NAILED



Products									
PlotID	Length	Product	Plies	Net Qty					
J1	14-00-00	9 1/2" NI-40x	1	16					
J1DJ	14-00-00	9 1/2" NI-40x	2	4					
J2	12-00-00	9 1/2" NI-40x	1	27					
J3	10-00-00	9 1/2" NI-40x	1	4					
J4	8-00-00	9 1/2" NI-40x	1	9					
J5	4-00-00	9 1/2" NI-40x	1	1					
B1	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B4	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B5	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B2	6-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1					
B7	4-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2					
B3	2-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1					

C	Connector Summary					
Qty	Manuf	Product				
3	H1	IUS2.56/9.5				
14	H1	IUS2.56/9.5				
2	H1	IUS2.56/9.5				
2	H1	IUS2.56/9.5				
1	H4	HGUS410				



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DATE: 2022-07-15

1st FLOOR FRAMING WALKOUT CONDITION

Garden 1 Elevation 1



FROM PLAN DATED: 2022/06 **BUILDER: GREENPARK HOMES** SITE: BARLASSINA CONSTRUCTION

MODEL: GARDEN 1 **ELEVATION**: 1,2

LOT:

CITY: CAMBRIDGE

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

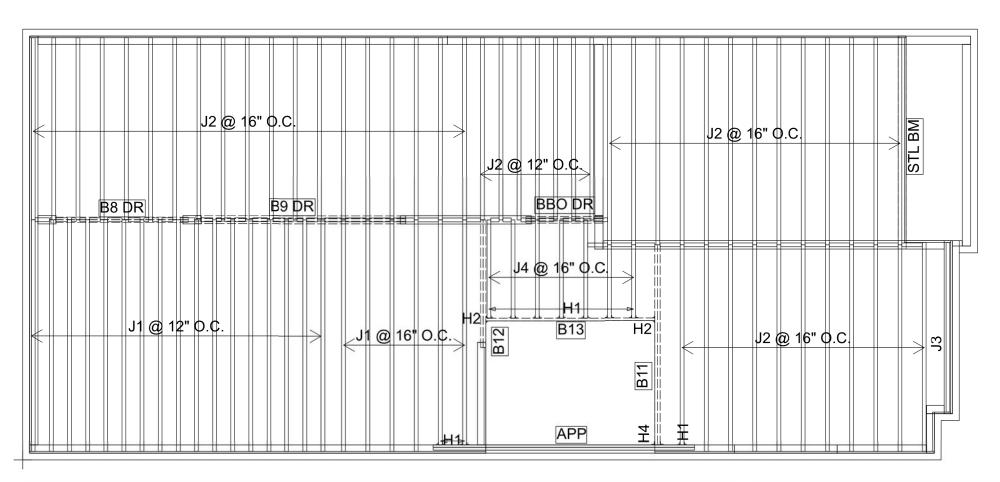
BY THE SUPPORTING MEMBER ENGINEER OF RECORD

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	9 1/2" NI-40x	1	23				
J2	12-00-00	9 1/2" NI-40x	1	50				
J3	10-00-00	9 1/2" NI-40x	1	1				
J4	6-00-00	9 1/2" NI-40x	1	7				
APP	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2				
B11	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2				
B9 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3				
B13	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1				
B12	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2				
B8 DR	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2				

C	Connector	Summary
Qty	Manuf	Product
7	H1	IUS2.56/9.5
3	H1	IUS2.56/9.5
2	H2	HUS1.81/10
1	H4	HGUS410



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The wood beams and joists outlined on this plan are designed as individual building components to be incorporated into the design of the building at the specification of the building designer. Please see the individual beam reports, joist reports, and/or joist span tables for each component identified on this placement plan.

the building designer. Please see the individual beam reports, joist reports, and/or joist span tables for each component identified on this placement plan.

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DATE: 2022-06-21

2nd FLOOR FRAMING

Garden 1 Elevation 1



FROM PLAN DATED: 2022/06
BUILDER: GREENPARK HOMES
SITE: BARLASSINA CONSTRUCTION

MODEL: GARDEN 1 ELEVATION: 1,2

LOT:

CITY: CAMBRIDGE

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**.

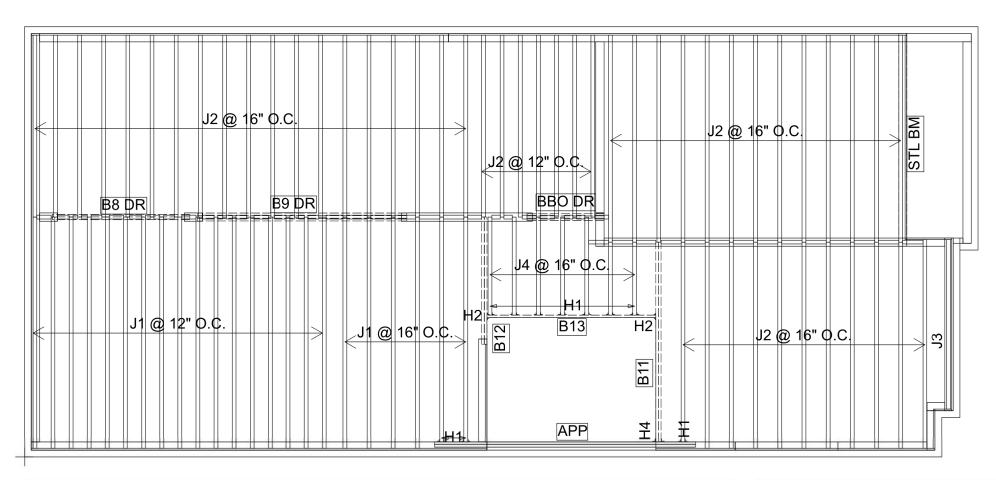
ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD

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: 5/8" GLUED AND NAILED



Products								
PlotID	Length	Product	Plies	Net Qty				
J1	14-00-00	9 1/2" NI-40x	1	23				
J2	12-00-00	9 1/2" NI-40x	1	50				
J3	10-00-00	9 1/2" NI-40x	1	1				
J4	6-00-00	9 1/2" NI-40x	1	7				
APP	16-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2				
B11	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2				
B9 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3				
B13	10-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	1	1				
B12	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2				
B8 DR	8-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	2	2				

Connector Summary								
Qty	Manuf	Product						
7	H1	IUS2.56/9.5						
3	H1	IUS2.56/9.5						
2	H2	HUS1.81/10						
1	H4	HGUS410						



THIS IS A FLOOR COMPONENT PLACEMENT PLAN ONLY.

The wood beams and joists outlined on this plan are designed as individual building components to be incorporated into the design of the building at the specification of the building designer. Please see the individual beam reports, joist reports, and/or joist span tables for each component identified on this placement plan.

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The building designer must review and approve this plan to acertain conformity to the overall structural plan of the building. All dimensions to be verified on site.

DATE: 2023-01-16

2nd FLOOR FRAMING WITH 4 BEDROOM

Garden 1 Elevation 1



FROM PLAN DATED: 2022/06
BUILDER: GREENPARK HOMES
SITE: BARLASSINA CONSTRUCTION

MODEL: GARDEN 1 ELEVATION: 1,2

LOT:

CITY: CAMBRIDGE

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: 5/8" GLUED AND NAILED

NORDIC

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

Engineered Wood Products

BASIC INSTALLATION **GUIDE FOR RESIDENTIAL FLOORS**

NORDIC **/**JOIST

NORDIC **STRUCTURES**

WEB STIFFENERS

NAIL SPACING

nordic.ca

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

1g

1h

INSTALLING NORDIC I-JOISTS

- Except for cutting to length, I-joist flanges should never be cut, drilled or notched
- Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment
- Concentrated loads should only be applied to the top surface of the top flance. 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 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

- 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.
- using a single I-joist is 3,300 plf, and 6,600 plf if double I-joists are used.
- . Continuous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4, or 5,
- Nails installed in flange face or edge shall be spaced in accordance

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

1b

B. Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code.

4. For proper temporary bracing of wood I-joists and placement of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors, Form J735.

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

NORDIC I-JOIST SERIES RESIDENTIAL SERIES

2x3 1950f MSR 3/8 in. web 2×3 S-P-F No. 2

33 pieces per unit

1d

1k

NI-60 2x3 2100f MSR 3/8 in. web 33 pieces per unit



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

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

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

• Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet

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

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

or temporary sheathing must be applied to prevent I-joist rollover or buckling. Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on 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.

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,

ring wall is planned at that location, blocking will be required at the interior

Avoid Accidents by Following these Important Guidelines

of I-ioists at the end of the bay.

rim board, or cross-bridging.

Never install a damaged I-joist

NI-90 2x4 2400f MSR 7/16 in. web 2×4 2100f MSR

Width 1-1/8 in. APA Rim Board Plus

RIM BOARDS

Do not walk on I-jois until fully fastened an

braced, or serious

Never stack building

Improper storage or installation, failure to follow applicable building codes, failure to follow

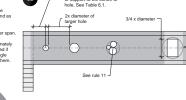
WEB HOLES AND OPENINGS

WEB HOLES IN I-JOISTS

- Rules for Cutting Holes in I-Joists

- materials over unsheathed I-joists Once sheathed, do no overstress I-joist with





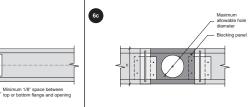
DUCT CHASE OPENINGS

6b

- ules for Cutting Duct Chase Openings in I-joists he distance between the inside edge of the support and the uct chase opening shall be in compliance with the requireme
- I-joist top and bottom flanges must never be cut, notched or otherwise mi
- 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 '14i 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 limitation: The top and bottom flanges of an I-joist blocking panel must never be cut

Allowable Hole Size in Lateral-restraint-only Blocking Panel

HOLES IN BLOCKING PANELS



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

TABLE 6.1 - LOCATION OF WEB HOLES

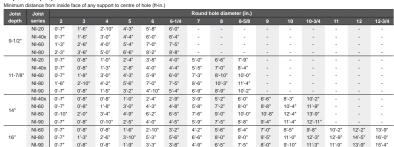


TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS

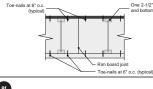
Simple or multiple spa

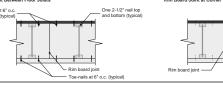
oan															Simple s	pan		
n inside	face of any	support to	centre of	hole (ft-in	.)										Minimum	distance t	from insid	e face
						Round I	hole diam	eter (in.)							Joist	Joist		
					6-1/4			8-5/8		10	10-3/4			12-3/4	depth	series		10
0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	-		-	-	-	-	-	-			NI-20	4'-1"	4'-5"
0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"						-					NI-40x	5'-3"	5'-8"

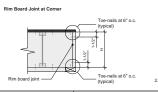
		NI-20	4'-1"	4'-5"	4'-10"	-					
	4.01	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	-	
٤	9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	-	
		NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-
		NI-20	5'-9"	6'-2"	6'-6"	-	-	-	-	-	
		NI-40x	6'-8"	7'-2"	7'-6"	8'-1"	8'-6"	9'-1"	9'-6"	-	
1	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
		NI-90	7'-6"	7'-11"	8'-4"	8'-9"	9'-2"	9'-7"	10'-1"	10'-7"	10
		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
		NI-60	10'-3"	10'-8"	11'-2"	11'-6"	12'-1"	12'-6"	13'-2"	-	
- 1	16"	NI-80	10'-4"	10'-9"	11'-3"	11'-9"	12'-1"	12'-7"	13'-1"	13'-8"	14
		NI-90	10'-9"	11'-2"	11'-8"	12'-0"	12'-6"	13'-0"	13'-6"	14'-2"	14

RIM BOARDS

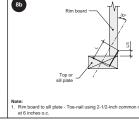


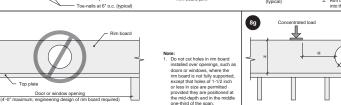


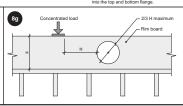


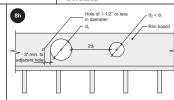


8-5/8

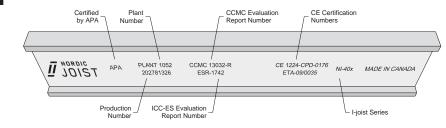








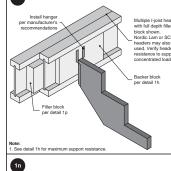
-JOIST MARKING

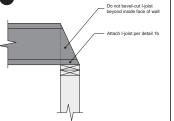


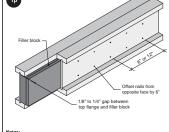
8f

FOR ALL

Top- or face-mount hanger		
	Backer block rec oaded side for top-mount ha both sides for face-mount ha	ingers —
Flange width (in.)	Material thickness required (in.) (a)	Minimum depth (
Flange width (in.)		Minimum depth (

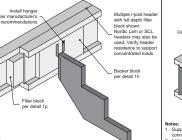






	9-1/2	2-1/8 to 2-1/4 x 6	2x6 + 5/8" or 3/4" sheathing						
2-1/2	11-7/8	2-1/8 to 2-1/4 x 8	2x8 + 5/8" or 3/4" sheathing						
2-1/2	14	2-1/8 to 2-1/4 x 10	2x10 + 5/8" or 3/4" sheathing						
	16	2-1/8 to 2-1/4 x 12	2x12 + 5/8" or 3/4" sheathing						
	9-1/2	3 x 6	2 x 2x6						
3-1/2	11-7/8	3 x 8	2 x 2x8						
3-1/2	14	3 x 10	2 x 2x10						
	16	3 x 12	2 x 2x12						
Note:									
 The height of the filler block may be different from that specified in the table, as long as it allows nailing and respects the required gap. 									

 \rightarrow DC3



construction details



GREENPARK HOMES

GARDEN 1

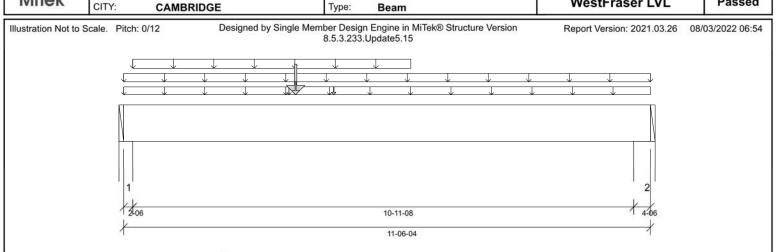
BARLASSINA CONSTRUCTION

Job Name: GARDEN 1 EL 1,2 STD Level: 1ST FLR FRAMING

Label: B1 - i1770

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

Status: Design Passed



DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Top: 0' Bottom: 7'- 3"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/8"
- 615 psi Wall @ 11'- 2 7/8"

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

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



DWG # TF22080095

ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	3'- 9 1/8"	1.25D + 1.5L	1.00	12234 lb ft	23299 lb ft	Passed - 53%				
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	3489 lb	11052 lb	Passed - 32%				
Live Load (LL) Pos. Defl.:	5'- 2 5/8"	L		0.193"	L/360	Passed - L/682				
Total Load (TL) Pos. Defl.:	5'- 2 13/16"	D + L		0.326"	L/240	Passed - L/403				

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	2-06	1.25D + 1.5L	1.00	3619 lb		8645 lb	5114 lb	Passed - 71%
2	4-06	1.25D + 1.5L	1.00	1954 lb		15925 lb	9420 lb	Passed - 21%

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0"	11'- 6 1/4"	Self Weight	Тор	9 lb/ft	784 74	£.	2
Uniform	0"	11'- 6 1/4"	FC1 Floor Decking (Plan View Fill)	Тор	10 lb/ft	20 lb/ft	-	
Uniform	0"	3'- 7 3/8"	FC1 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	<u>*</u>	*
Uniform	0'- 2 3/8"	6'- 3 3/8"	User Load	Top	60 lb/ft	-	*	-
Uniform	3'- 7 3/8"	11'- 6 1/4"	FC1 Floor Decking (Plan View Fill)	Тор	3 lb/ft	7 lb/ft	-5	*
Point	3'- 9 1/8"	3'- 9 1/8"	B4(i1771)	Back	847 lb	1582 lb	*5	
Point	3'- 9 1/8"	3'- 9 1/8"	User Load	Тор	200 lb	400 lb	¥:	2
Point	4'- 7 1/8"	4'- 7 1/8"	FC1 Floor Decking (Plan View Fill)	Тор	11 lb	21 lb	*	~

u	UNFACTORED REACTIONS										
	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)			
Г	1	0,	0'- 2 3/8"	W29(i47)	1116 lb	1521 lb	20	ű.			
	2	11'- 1 7/8"	11'- 6 1/4"	W28(i35)	570 lb	790 lb	71				

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.
- 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:

GREENPARK HOMES

GARDEN 1 CAMBRIDGE

BARLASSINA CONSTRUCTION

Level: 1ST FLR FRAMING Label: B2 - i1636 Type: Beam

Job Name: GARDEN 1 EL 1,2 STD

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

Report Version: 2021.03.26

Status: Design Passed

08/03/2022 06:54

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

> 1 5-0B 3-05-02

> > 4-02-02

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'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Column @ 3'- 11 5/8"

D	esign Criteria	Loc	ation	Load	Combinatio	n LDF	Design	Limit	Result
actored	d Pos. Moment	: 1'- 1	1 1/2"	1.2	25D + 1.5L	1.00	867 lb ft	11650 lb ft	Passed - 7%
actored	d Neg. Moment	t: 0'- 4	4 1/2"	1.2	25D + 1.5L	1.00	172 lb ft	11650 lb ft	Passed - 1%
Factored	d Shear:	1'	- 3"	1.2	25D + 1.5L	1.00	980 lb	5526 lb	Passed - 18%
SUPP	ORT AND RE	EACTION	INFORM	ATION					
	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1 2	5-08 3-08	1.25D + 1.25D +		1.00	2379 lb 973 lb		10010 lb 6371 lb	5921 lb 3767 lb	Passed - 40% Passed - 26%
100.10	IFIED LOAD	AGRICOCUECIA .			(8.008).080		35.50.0.150.0	9.7.94.7.1.04	11.34000000
Туре	Start Loc	End Loc	Source	e	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0*	4'- 2 1/8"	Self We	eight	Тор	5 lb/ft		-	-
Uniform	0,	3'- 11 1/2"	Smoothe	d Load	Back	74 lb/ft	147 lb/ft	-	
Uniform	0'- 5"	3'- 11 11/16"	User L	10 TO	Тор	60 lb/ft	120 lb/ft	-	-
Uniform	3'- 3 1/2"	3'- 10 5/8"	FC1 Floor (Plan Vie		Тор	2 lb/ft	3 lb/ft	*	*
Point	0'- 2 3/4"	0'- 2 3/4"	11(i3		Тор	329 lb	510 lb	-	-
Point	0'- 5 1/2"	0'- 5 1/2"	FC1 Floor (Plan Vie		Тор	1 lb	1 lb	-	•
Point	0'- 6 1/2"	0'- 6 1/2"	FC1 Floor (Plan Vie		Тор	0 lb	1 lb	51	
Point	3'- 10 5/8"	3'- 10 5/8"	FC1 Floor (Plan Vie	Decking	Тор	0 lb	1 lb	£	2
UNFA	CTORED RE	ACTIONS	81						
ID	Start Loc	End Loc	8	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0,	0'- 5 1/2"		2(i38)		650 lb	1115 lb	-	-
2	3'- 10 5/8"	4'- 2 1/8"	PB	O2(i138)		206 lb	407 lb		



- · 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.
- 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 # TF22080096



CITY:

GREENPARK HOMES

GARDEN 1 CAMBRIDGE

BARLASSINA CONSTRUCTION

1ST FLR FRAMING Level: Label: B3 - i1660 Type: Beam

Job Name: GARDEN 1 EL 1,2 STD

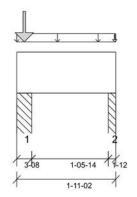
1 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

Status: Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 08/03/2022 06:54



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:

Bottom: 1'- 7 5/8" Top: 0'

Factored Resistance of Support Material:

• 615 psi Column @ 0'- 2 1/2"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Neg. Moment:	0'- 2 1/2"	1.25D + 1.5L	1.00	94 lb ft	11650 lb ft	Passed - 1%
Factored Moment:	0'- 2 1/2"	1.25D + 1.5L	1.00	94 lb ft	11650 lb ft	Passed - 1%
Factored Moment:				0 lb ft	0 lb ft	
Factored Moment:				0 lb ft	0 lb ft	
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	58 lb	5526 lb	Passed - 1%
Live Load (LL) Deflection:	0'- 10 9/16"	L		0.000"	L/360	Passed - L/999
Total Load (TL) Deflection:	0'- 10 7/16"	D + L		0.000"	L/240	Passed - L/999

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	1583 lb		6370 lb	3767 lb	Passed - 42%
2	1-12	1.25D + 1.5L	1.00		-22 lb	-	(i+)	

SPECIF	FIED LOAD)S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0*	1'- 11 1/8"	Self Weight	Тор	5 lb/ft	: - :	=8	
Uniform	0"	1'- 11 1/8"	FC1 Floor Decking (Plan View Fill)	Тор	7 lb/ft	15 lb/ft	8	ā
Point	0'- 1 3/4"	0'- 1 3/4"	User Load	Top	350 lb	700 lb	51	-
Point	1'- 10 7/8"	1'- 10 7/8"	FC1 Floor Decking (Plan View Fill)	Тор	0 lb	1 lb	50	ā

Foint	1-10770	1-10770	(Plan View Fill)	iop	O ID	TID	20	
UNFAC	CTORED R	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0"	0'- 3 1/2"	PBO1(i43)		399 lb	788 lb	-	-
2	1'- 9 3/8"	1'- 11 1/8"	PBO2(i138)		-25 lb	-59 lb	40	-

- 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.
- 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:

GREENPARK HOMES

BARLASSINA CONSTRUCTION **GARDEN 1**

CAMBRIDGE

Job Name: GARDEN 1 EL 1,2 STD Level: 1ST FLR FRAMING

Label: B4 - i1771 Type: Beam

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

Status: Design Passed

Designed by Single Member Design Engine in MiTek® Structure Version Report Version: 2021.03.26 08/03/2022 06:54 Illustration Not to Scale. Pitch: 0/12 8.5.3.233.Update5.15 1-12 9-11-14 10-01-10

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:

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

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3/4"
- 615 psi Beam @ 10'- 1 5/8"

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

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



STRUCTURAL COMPONENT ONLY DWG # TF22080098 PG 1/2

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	6'- 7 5/8"	1.25D + 1.5L	1.00	8364 lb ft	23299 lb ft	Passed - 36%
Factored Shear:	9'- 4 1/8"	1.25D + 1.5L	1.00	2923 lb	11052 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	5'- 3 1/2"	L		0.137"	L/360	Passed - L/873
Total Load (TL) Pos. Defl.:	5'- 3 5/16"	D + L		0.213"	L/240	Passed - L/563

SUF	PPORT AND	REACTION INFORM	NOITAN					
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-12	1.25D + 1.5L	1.00	2686 lb		6370 lb	3767 lb	Passed - 71%
2	1-08	1.25D + 1.5L	1.00	3407 lb		5460 lb	¥	Passed - 62%

CONNECTOR INFORMATION

ID	ID Part No. Manuf	Manufacturer	Na	iling Requirem	ents	Other Information or Requirement for
IU	Fait No.	wanuacturer	Тор	Face	Member	Reinforcement Accessories
2	HGUS410		- 2	2	21	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.

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	10'- 1 5/8"	Self Weight	Тор	9 lb/ft		•	
Uniform	0'	2'	User Load	Тор	60 lb/ft	0.76	±:	
Uniform	5'- 11 1/8"	9'- 11 1/8"	FC1 Floor Decking (Plan View Fill)	Тор	10 lb/ft	20 lb/ft	5	
Uniform	6'- 7 5/8"	9'- 11 1/8"	FC1 Floor Decking (Plan View Fill)	Тор	0 lb/ft	1 lb/ft	3	9
Tapered	2'- 7 1/8"	6'- 7 1/8"	Smoothed Load	Back	78 To 80 lb/ft	158 To 159 lb/ft	-	-
Point	0'- 7 1/8"	0'- 7 1/8"	J3(i1655)	Back	114 lb	228 lb	-	
Point	1'- 11 1/8"	1'- 11 1/8"	J3(i1578)	Back	125 lb	250 lb	20	2
Point	7'- 3 1/8"	7'- 3 1/8"	J4(i1583)	Back	154 lb	309 lb	2	-
Point	8'- 7 1/8"	8'- 7 1/8"	J4(i1663)	Back	163 lb	329 lb	-	
Point	9'- 11 1/8"	9'- 11 1/8"	J4(i1621)	Back	105 lb	212 lb	2	2
Point	6'- 7 5/8"	6'- 7 5/8"	User Load	Тор	350 lb	700 lb	2	2

Point	0 - 7 3/0	0 - 7 3/0	User Load	тор	350 ID	700 10	- 3	
UNFAC	CTORED RI	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0,	0'- 1 3/4"	PBO1(i43)		736 lb	1160 lb	-	
2	10'- 1 5/8"	10'- 1 5/8"	B1(i1770)		847 lb	1582 lb	¥3	2

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.
- 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:

GREENPARK HOMES BARLASSINA CONSTRUCTION GARDEN 1

CAMBRIDGE

Level: Label:

Job Name: GARDEN 1 EL 1,2 STD **1ST FLR FRAMING** B4 - i1771 Type: Beam

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

Status: Design Passed

PLY TO PLY CONNECTION





CITY:

GREENPARK HOMES

GARDEN 1 CAMBRIDGE

BARLASSINA CONSTRUCTION

Job Name: GARDEN 1 EL 1,2 STD Level: **1ST FLR FRAMING**

Label: B5 - i1599 Type: Beam

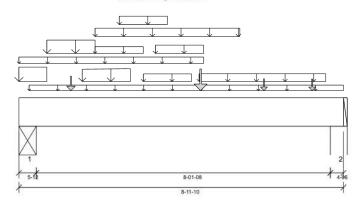
2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

Status: Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 08/03/2022 06:54



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:

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

Factored Resistance of Support Material:

• 615 psi Beam @ 0'- 4 3/4"

• 615 psi Wall @ 8'- 8 1/4"

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

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



STRUCTURAL COMPONENT ONLY DWG # TF22080099 PG 1/2

ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	4'- 4 7/8"	1.25D + 1.5L	1.00	10797 lb ft	23299 lb ft	Passed - 46%				
Factored Shear:	1'- 3 1/4"	1.25D + 1.5L	1.00	4702 lb	11052 lb	Passed - 43%				
Live Load (LL) Pos. Defl.:	4'- 5 13/16"	L		0.119"	L/360	Passed - L/822				
Total Load (TL) Pos. Defl.:	4'- 5 11/16"	D + L		0.193"	L/240	Passed - L/506				

ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-12	1.25D + 1.5L	1.00	6016 lb		20930 lb	12377 lb	Passed - 49%
2	4-06	1.25D + 1.5L	1.00	4090 lb		15925 lb	9420 lb	Passed - 43%

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0"	8'- 11 5/8"	Self Weight	Тор	9 lb/ft	(*)	*	-
Uniform	-0'	5'- 1 1/4"	10(i383)	Тор	81 lb/ft		€0	-
Jniform	-0"	0'- 9 1/4"	10(i383)	Тор	224 lb/ft	449 lb/ft	₽:	2
Jniform	0'- 3 3/8"	8'- 11 5/8"	FC1 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	21	2
Jniform	0'- 9 1/4"	2'- 1 1/4"	10(i383)	Top	199 lb/ft	398 lb/ft	20	2
Uniform	1'- 9"	3'- 1"	10(i383)	Тор	189 lb/ft	326 lb/ft	55	-
Uniform	2'- 1 1/4"	6'- 1 1/4"	Smoothed Load	Front	74 lb/ft	146 lb/ft	*	-
Uniform	2'- 1 1/4"	3'- 5 1/4"	10(i383)	Top	35 lb/ft	69 lb/ft	20	2
Uniform	2'- 9 1/4"	4'- 1 1/4"	10(i383)	Тор	75 lb/ft	150 lb/ft	₹5	
Uniform	3'- 5 1/4"	4'- 9 1/4"	10(i383)	Тор	56 lb/ft	111 lb/ft	2	
Uniform	3'- 9 1/4"	5'- 1 1/4"	10(i383)	Тор	74 lb/ft	149 lb/ft	-	9
Uniform	4'- 11 3/4"	8'- 5 3/4"	User Load	Тор	60 lb/ft	120 lb/ft		
Point	1'- 5 1/4"	1'- 5 1/4"	J1(i1659)	Front	170 lb	340 lb	20	-
Point	6'- 9 1/4"	6'- 9 1/4"	J3(i1655)	Front	120 lb	241 lb	-	2
Point	8'- 1 1/4"	8'- 1 1/4"	J3(i1578)	Front	117 lb	234 lb	#5	
Point	5'- 1/4"	5'- 1/4"	10(i383)	Тор	317 lb	593 lb	20	2

UNFA	CIOKEDK	EACTIONS					
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 3/4"	STL BM(i44)	1690 lb	2606 lb		8
2	8'- 7 1/4"	8'- 11 5/8"	W27(i36)	1081 lb	1822 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.
- 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: GREENPARK HOMES BARLASSINA CONSTRUCTION GARDEN 1

CAMBRIDGE

Job Name: GARDEN 1 EL 1,2 STD Level: 1ST FLR FRAMING Label: B5 - i1599 Type: Beam

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

PLY TO PLY CONNECTION





CITY:

GREENPARK HOMES BARLASSINA CONSTRUCTION

GARDEN 1 CAMBRIDGE

Job Name: GARDEN 1 EL 1,2 STD **1ST FLR FRAMING** Level:

Label: B7 - i1573 Type: Beam

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

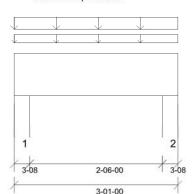
Report Version: 2021.03.26

Status: Design Passed

08/03/2022 06:54

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15



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: 3'- 1"

Factored Resistance of Support Material:

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

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

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



De	sign Criteria	Lo	cation	Load	Combination	n LDF	Design	Limit	Result
actored	Pos. Moment:	1'-	6 1/2"	1.2	25D + 1.5L	0.76	207 lb ft	17662 lb ft	Passed - 1%
Factored	Shear:		2'	1.2	25D + 1.5L	0.76	110 lb	8378 lb	Passed - 1%
SUPPO	ORT AND RE	ACTION	INFORM.	ATION					
ID B	Input Searing Length	Controlling		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1	3-08	1.25D +	1.5L	0.76	369 lb		9657 lb	5713 lb	Passed - 6%
2	3-08	1.25D +	1.5L	0.76	369 lb		9658 lb	5713 lb	Passed - 6%
SPECIF	FIED LOADS	6							
Туре	Start Loc	End Loc	Sourc	е	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	3'- 1"	Self We	ight	Тор	9 lb/ft	Ç.		
Uniform	0,	3'- 1"	E5(i28	4)	Тор	124 lb/ft	37 lb/ft	21	-
Uniform	0'	3'- 1"	FC1 Floor I (Plan Vie		Тор	4 lb/ft	8 lb/ft	5	
UNFAC	TORED RE	ACTIONS	3						
ID	Start Loc	End Loc	S	ource		Dead (D)	Live (L)	Snow (S)	Wind (W)
1 2	0' 2'- 9 1/2"	0'- 3 1/2" 3'- 1"		31(i261) 24(i34)		212 lb 212 lb	69 lb	-	:

- · 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:

GREENPARK HOMES
BARLASSINA CONSTRUCTION

GARDEN 1 CAMBRIDGE

3-08

Job Name: GARDEN 1 EL 1,2 STD Level: 2ND FLR FRAMING

Label: B8 DR - i1456 Type: Beam 2 Ply Member 1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL

Report Version: 2021.03.26

2

Status: Design Passed

08/03/2022 06:54

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

7-00-00

SUPPORT AND REACTION INFORMATION

7-07-00

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:

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:

L/240.

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

Factored Resistance of Support Material:

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

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

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



STRUCTURAL COMPONENT ONLY
DWG # TF22080101

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 3/8"	1.25D + 1.5L	1.00	6165 lb ft	23299 lb ft	Passed - 26%
Factored Neg. Moment:	0'- 2 1/2"	1.25D + 1.5L	1.00	116 lb ft	22056 lb ft	Passed - 1%
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	2999 lb	11052 lb	Passed - 27%
Live Load (LL) Pos. Defl.:	3'- 9 5/8"	L		0.054"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 9 5/8"	D + L		0.082"	L/240	Passed - L/999

				200	-0.0				
ID	Input Bearing Length	Controlling Combina	07/19/00/00	DF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	3-08	1.25D + 1	1.5L 1	.00	4093 lb		12740 lb	9947 lb	Passed - 41%
2	3-08	1.25D + 1	1.5L 1	.00	3556 lb		12740 lb	9947 lb	Passed - 36%
SPE	CIFIED LOAD	os							
Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weigh	t 0'	7'- 7"	Self Weight	į.	Тор	9 lb/ft	190	-	

Self Weight	0'	7'- 7"	Self Weight	Тор	9 lb/ft	127	2	¥
Uniform	0'- 10"	7'- 6"	Smoothed Load	Top	230 lb/ft	460 lb/ft	2	4
Point	0'- 3/8"	0'- 3/8"	J1(i1558)	Тор	125 lb	250 lb	7.0	
Point	0'- 2"	0'- 2"	J2(I1493)	Тор	121 lb	242 lb	*	*
UNFAC	TORED RE	EACTIONS	Ni Ni					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	8(i378)		981 lb	1893 lb	41	-
2	7'- 3 1/2"	7'- 7"	9(i380)		867 lb	1666 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.
- 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.

PLY TO PLY CONNECTION



CITY:

GREENPARK HOMES

GARDEN 1 CAMBRIDGE

BARLASSINA CONSTRUCTION

Level: 2ND FLR FRAMING Label: B9 DR - i1419

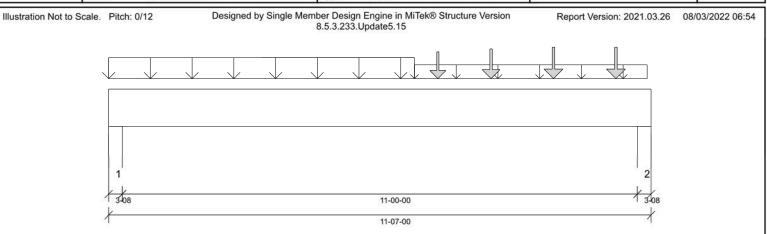
Job Name: GARDEN 1 EL 1,2 STD

Type: Beam

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

Status:

Design Passed



DESIGN INFORMATION

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

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

Lateral Restraint Requirements:

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

Top: 1'- 2 3/4" Bottom: 11'- 7'

Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 2 1/2"
- 812 psi Wall @ 11'- 4 1/2"

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

NAIL FROM BOTH FACES (STAGGER 1/2 SPACE)

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



DWG # TF22080102

ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	6'- 3/8"	1.25D + 1.5L	1.00	15140 lb ft	34949 lb ft	Passed - 43%				
Factored Shear:	10'- 6"	1.25D + 1.5L	1.00	4981 lb	16578 lb	Passed - 30%				
Live Load (LL) Pos. Defl.:	5'- 9 9/16"	L		0.215"	L/360	Passed - L/612				
Total Load (TL) Pos. Defl.:	5'- 9 9/16"	D + L		0.330"	L/240	Passed - L/400				

П	SUF	PORT AND	REACTION INFORM	NOITAN					
	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	3-08	1.25D + 1.5L	1.00	6124 lb		19110 lb	14920 lb	Passed - 41%
Ш	2	3-08	1.25D + 1.5L	1.00	5538 lb		19110 lb	14921 lb	Passed - 37%
П	SPE	CIFIED I OA	ADS.						

Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0,	11'- 7"	Self Weight	Тор	14 lb/ft	72	<u>=</u>	-
Uniform	6'- 6 3/8"	11'- 6"	Smoothed Load	Top	106 lb/ft	213 lb/ft	20	2
Tapered	0,	6'- 6 3/8"	Smoothed Load	Тор	235 To 237 lb/ft	472 To 473 lb/ft	70	
Point	7'- 3/8"	7'- 3/8"	J1(i1381)	Тор	135 lb	269 lb	+1	*
Point	8'- 2"	8'- 2"	J1(i1549)	Тор	156 lb	311 lb	26	<u>u</u>
Point	9'- 6"	9'- 6"	J1(i1498)	Тор	168 lb	336 lb	•:	
Point	10'- 10"	10'- 10"	J1(i1471)	Тор	168 lb	336 lb	+	-

U	UNFACTORED REACTIONS											
	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)				
г	1	0,	0'- 3 1/2"	9(i380)	1495 lb	2826 lb	-	<u> </u>				
1	2	11'- 3 1/2"	11'- 7"	10(i383)	1365 lb	2565 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.
- 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:

GREENPARK HOMES

GARDEN 1 CAMBRIDGE

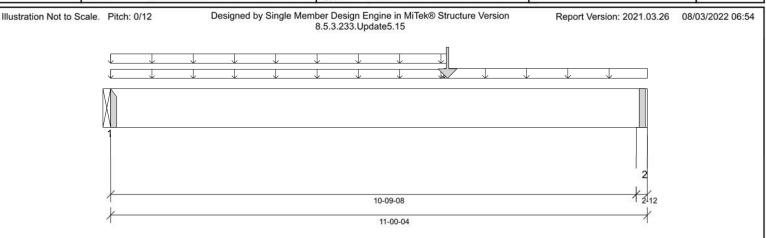
BARLASSINA CONSTRUCTION

2ND FLR FRAMING Level: Label: B11 - i1359 Type: Beam

Job Name: GARDEN 1 EL 1,2 STD

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

Status: Design Passed



DESIGN INFORMATION

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

Amendment) Design Methodology: LSD Service Condition: Dry LL Deflection Limit: L/360.

Lateral Restraint Requirements:

TL Deflection Limit:

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:

L/240.

Bottom: 6'- 10 1/8" Top: 0'

Factored Resistance of Support Material:

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

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

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



STRUCTURAL COMPONENT ONLY DWG # TF22080103

ANALYSIS RESULTS	ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result					
Factored Pos. Moment:	6'- 11"	1.25D + 1.5L	0.98	4585 lb ft	22841 lb ft	Passed - 20%					
Factored Shear:	10'	1.25D + 1.5L	0.98	1297 lb	10835 lb	Passed - 12%					
Live Load (LL) Pos. Defl.:	5'- 8 15/16"	L		0.065"	L/360	Passed - L/999					
Total Load (TL) Pos. Defl.:	5'- 7 7/16"	D + L		0.134"	L/240	Passed - L/969					

П	SUP	SUPPORT AND REACTION INFORMATION											
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result				
I	1	1-08	1.25D + 1.5L	0.98	1193 lb		5353 lb	(*)	Passed - 22%				
I	2	2-12	1.25D + 1.5L	0.98	1425 lb		9813 lb	5805 lb	Passed - 25%				

CONNECTOR INFORMATION

ID Part No.	Manufactures	Na	iling Requiren	nents	Other Information or Requirement for	
טו	Part No.	Manufacturer	Тор	Face	Member	Reinforcement Accessories
4	LICHICAAO					Connector measurable enecified by the co

* 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.

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 1/4"	Self Weight	Тор	9 lb/ft			-
Uniform	-0"	6'- 11 1/8"	User Load	Тор	60 lb/ft	1075	5:	
Uniform	0'	6'- 10 1/8"	FC3 Floor Decking (Plan View Fill)	Тор	15 lb/ft	30 lb/ft	5	
Uniform	6'- 10 1/8"	11'- 1/4"	FC3 Floor Decking (Plan View Fill)	Тор	27 lb/ft	53 lb/ft	8	-
Point	6'- 11"	6'- 11"	B13(i1376)	Back	263 lb	480 lb	2	2
UNFAC	TORED R	EACTIONS	6					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	APP(i1571)		526 lb	363 lb	-	-
2	10'- 9 1/2"	11'- 1/4"	5(i348)		473 lb	550 lb	20	

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.
- 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:

GREENPARK HOMES
BARLASSINA CONSTRUCTION

GARDEN 1 CAMBRIDGE Job Name: GARDEN 1 EL 1,2 STD Level: 2ND FLR FRAMING

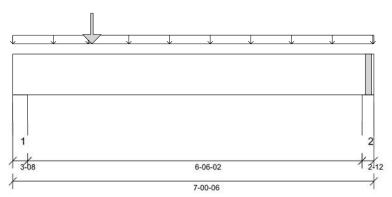
Label: **B12 - i1373** Type: **Beam**

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

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

rsion Report Version: 2021.03.26 08/03/2022 06:54



SUPPORT AND REACTION INFORMATION

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:

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:

L/240,

Top: 0' Bottom: 5'- 2 1/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 2 1/2"
- 615 psi Wall @ 6'- 10 5/8"

PLY T	O PLY CON	NECTION:
3 ROWS C	F 3.25" PN	EUMATIC GUN
NAILS	(0.120"x3.25	5") @ 8" O/C

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



DWG # TF22080104

ANALYSIS RESULTS	ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result					
Factored Pos. Moment:	1'- 6 1/2"	1.25D + 1.5L	1.00	2190 lb ft	23299 lb ft	Passed - 9%					
Factored Shear:	1'- 1"	1.25D + 1.5L	1.00	1631 lb	11052 lb	Passed - 15%					
Live Load (LL) Pos. Defl.:	3'- 2 5/16"	L		0.013"	L/360	Passed - L/999					
Total Load (TL) Pos. Defl.:	3'- 2 7/16"	D + L		0.021"	L/240	Passed - L/999					

Factored

Factored

Factored

Factored

ID	Bearing Length	Combin		Downwar		Resistance of Member	Resistance of Support	Result
1	3-08	1.25D +	1.5L 1.00	1697 lb		12740 lb	7536 lb	Passed - 23%
2	2-12	1.25D +	1.5L 1.00	603 lb		10010 lb	5921 lb	Passed - 10%
SPEC	IFIED LOAD	os						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	7'- 3/8"	Self Weight	Тор	9 lb/ft	-	<u>=</u>	-
Uniform	n -0'	1'- 5 5/8"	FC3 Floor Decking (Plan View Fill)	Тор	12 lb/ft	23 lb/ft	*	
Uniform	1'- 5 5/8"	7'- 3/8"	FC3 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	**	
Point	1'- 6 1/2"	1'- 6 1/2"	B13(i1376)	Front	447 lb	847 lb	80	
UNFA	CTORED R	EACTIONS	5					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0,	0'- 3 1/2"	11(i392)		441 lb	777 lb	20	2
2	6'- 9 5/8"	7'- 3/8"	10(i383)		164 lb	252 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.
- 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.

PLY TO PLY CONNECTION



CITY:

GREENPARK HOMES

GARDEN 1 CAMBRIDGE

BARLASSINA CONSTRUCTION

Level: 2ND FLR FRAMING Label: B13 - i1376 Beam

Type:

Job Name: GARDEN 1 EL 1,2 STD

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

Other Information or Requirement for

Status: Design Passed

Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 08/03/2022 06:54 8.5.3.233.Update5.15 9-04-00 9-04-00

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:

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

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 9'- 4"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 2"	1.25D + 1.5L	1.00	3365 lb ft	11650 lb ft	Passed - 29%
Factored Shear:	0'- 9 1/2"	1.25D + 1.5L	1.00	1426 lb	5526 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	4'- 6 1/16"	L		0.099"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	4'- 6 1/16"	D + L		0.151"	L/240	Passed - L/739

SUF	PPORT AND	REACTION INFORM	NOITAN					
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	1-08	1.25D + 1.5L	1.00	1827 lb		2730 lb	(1 4)	Passed - 67%
2	1-08	1.25D + 1.5L	1.00	1052 lb		2730 lb	-	Passed - 39%

CON	INECTOR	INFORMATION	
ID	Part No.	Manufacturer	Nailing Requirements

ID	Part No.	Manufacturer				Other information of requirement for
ID.	Part No.	Manufacturer	Тор	Face	Member	Reinforcement Accessories
1	HUS1.81/10		927	2	25	Connector manually specified by the user.
2	HUS1.81/10		-	-	-	Connector manually specified by the user.
						er ne facilità a creation a maintine de l'Allè de la competité de la Mille de la competité de la comme

* 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.

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	9'- 4"	Self Weight	Тор	5 lb/ft	S - 8	¥	¥
Uniform	0'	3'- 6"	User Load	Top	60 lb/ft	120 lb/ft	*	
Tapered	0'- 10"	6'- 2"	Smoothed Load	Back	56 To 57 lb/ft	111 To 112 lb/ft		-
Point	0'- 2"	0'- 2"	J4(i1443)	Back	46 lb	91 lb	÷:	
Point	6'- 10"	6'- 10"	J4(i1545)	Back	56 lb	111 lb	2	2
Point	8'- 2"	8'- 2"	J4(i1547)	Back	55 lb	110 lb	-	-

Point	8'- 2"	8'- 2"	J4(i1547)	Back	55 lb	110 lb	7.5	2.
UNFAC	CTORED RE	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B12(i1373)		447 lb	847 lb	•:	*
2	9'- 4"	9'- 4"	B11(i1359)	¥.	263 lb	480 lb	2	-

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.
- 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 # TF22080105



CITY:

GREENPARK HOMES

GARDEN 1 CAMBRIDGE

BARLASSINA CONSTRUCTION

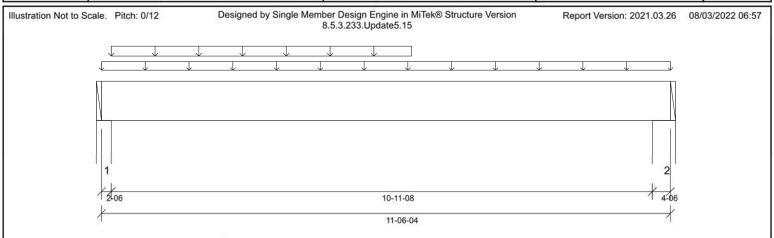
Level: Label:

Job Name: GARDEN 1 EL 1,2 SUNKEN 1ST FLR FRAMING

B6 - i1707 Type: Beam

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

Status: Design Passed



DESIGN INFORMATION

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

Amendment) Design Methodology: LSD Dry

Service Condition: 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: 10'- 11 1/2" Top: 0'

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/8"
- 615 psi Wall @ 11'- 2 7/8"

Location	Load Combination	LDF	Design	Limit	Result
4'- 10 9/16"	1.25D + 1.5L	0.71	1179 lb ft	8268 lb ft	Passed - 14%
0'- 11 7/8"	1.25D + 1.5L	0.71	404 lb	3922 lb	Passed - 10%
5'- 8 1/8"	L		0.015"	L/360	Passed - L/999
5'- 5 5/16"	D + L		0.080"	L/240	Passed - L/999
	4'- 10 9/16" 0'- 11 7/8" 5'- 8 1/8"	4'- 10 9/16" 1.25D + 1.5L 0'- 11 7/8" 1.25D + 1.5L 5'- 8 1/8" L	4'- 10 9/16" 1.25D + 1.5L 0.71 0'- 11 7/8" 1.25D + 1.5L 0.71 5'- 8 1/8" L	4'- 10 9/16" 1.25D + 1.5L 0.71 1179 lb ft 0'- 11 7/8" 1.25D + 1.5L 0.71 404 lb 5'- 8 1/8" L 0.015"	4'- 10 9/16" 1.25D + 1.5L 0.71 1179 lb ft 8268 lb ft 0'- 11 7/8" 1.25D + 1.5L 0.71 404 lb 3922 lb 5'- 8 1/8" L 0.015" L/360

ID	Input Bearing Length	Controlling Combina		Factored Downward Reaction		Factored Resistance of Member	Factored Resistance of Support	Result
1	2-06	1.25D +	1.5L 0.71	494 lb		3068 lb	1815 lb	Passed - 27%
2	4-06	1.25D +	1.5L 0.71	300 lb		5651 lb	3343 lb	Passed - 9%
SPEC	IFIED LOAD	s						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	11'- 6 1/4"	Self Weight	Тор	5 lb/ft	76 2 4	# NA	-
Uniform	0*	11'- 6 1/4"	FC1 Floor Decking (Plan View Fill)	Тор	5 lb/ft	11 lb/ft	**	
Uniform	0'- 2 3/8"	6'- 3 3/8"	User Load	Тор	60 lb/ft	-	₽:	72
UNFA	CTORED R	EACTIONS	2					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0,	0'- 2 3/8"	W29(i47)		322 lb	63 lb	-	-
2	11'- 1 7/8"	11'- 6 1/4"	W28(i35)		161 lb	64 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.
- 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.





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

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

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



Maximum Floor Spans - S6.1

Design Criteria

Spans: Simple span

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

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

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

Maximum Floor Spans

			В	are			1/2 in. gyp	sum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	14'-11"	14'-1"	13'-7"	-	15'-4"	14'-6"	14'-1"	-
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	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'-6"	15'-1"	14'-3"	-	16'-6"	15'-1"	14'-3"	-
0.4/0"	NI-40x	17'-9"	16'-10"	15'-11"	-	18'-2"	16'-11"	15'-11"	-
9-1/2"	NI-60	17'-11"	16'-11"	16'-2"	-	18'-5"	17'-2"	16'-2"	-
	NI-80	19'-3"	17'-10"	17'-3"	-	19'-8"	18'-3"	17'-7"	-
	NI-20	19'-4"	18'-0"	17'-1"	-	19'-9"	18'-1"	17'-1"	-
	NI-40x	20'-10"	19'-4"	18'-6"	-	21'-5"	19'-11"	19'-0"	-
11-7/8"	NI-60	21'-1"	19'-7"	18'-8"	-	21'-8"	20'-2"	19'-3"	-
	NI-80	22'-6"	20'-10"	19'-11"	-	23'-1"	21'-5"	20'-5"	-
	NI-90	23'-0"	21'-3"	20'-4"	-	23'-6"	21'-10"	20'-10"	-
	NI-40x	23'-5"	21'-8"	20'-9"	-	24'-0"	22'-5"	21'-5"	-
14"	NI-60	23'-9"	22'-0"	21'-0"	-	24'-5"	22'-8"	21'-8"	-
14	NI-80	25'-4"	23'-6"	22'-5"	-	25'-11"	24'-1"	23'-0"	-
	NI-90	25'-10"	23'-11"	22'-9"	-	26'-5"	24'-6"	23'-4"	-
	NI-60	26'-2"	24'-3"	23'-2"	-	26'-11"	25'-0"	23'-11"	-
16"	NI-80	27'-11"	25'-10"	24'-7"	-	28'-7"	26'-6"	25'-3"	-
	NI-90	28'-5"	26'-3"	25'-0"	-	29'-0"	26'-11"	25'-8"	_

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



Maximum Floor Spans - S7.1

Design Criteria

Spans: Simple span

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

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

Sheathing: 3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

			В	are			1/2 in. gyp	osum ceiling	
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-10"	15'-0"	14'-5"	13'-5"	16'-4"	15'-5"	14'-6"	13'-5"
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	m ceiling
Joist depth	Joist series		On cent	re spacing			On cent	re spacing	
		12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"
0.4/0"	NI-40x	18'-7"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	16'-3"	15'-2"
9-1/2"	NI-60	18'-10"	17'-6"	16'-6"	15'-5"	19'-1"	17'-6"	16'-6"	15'-5"
	NI-80	20'-2"	18'-9"	17'-11"	16'-10"	20'-7"	19'-2"	18'-2"	16'-10'
	NI-20	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"
	NI-40x	21'-9"	20'-3"	19'-4"	17'-8"	22'-4"	20'-5"	19'-4"	17'-8"
11-7/8"	NI-60	22'-0"	20'-6"	19'-7"	18'-4"	22'-7"	20'-10"	19'-8"	18'-4"
	NI-80	23'-6"	21'-10"	20'-10"	19'-9"	24'-0"	22'-5"	21'-4"	20'-0"
	NI-90	24'-0"	22'-4"	21'-3"	20'-1"	24'-6"	22'-10"	21'-9"	20'-7"
	NI-40x	24'-4"	22'-8"	21'-8"	19'-5"	25'-0"	23'-2"	21'-9"	19'-5"
14"	NI-60	24'-9"	23'-0"	22'-0"	20'-9"	25'-5"	23'-8"	22'-4"	20'-10'
14	NI-80	26'-5"	24'-6"	23'-4"	22'-1"	27'-0"	25'-2"	24'-0"	22'-8"
	NI-90	26'-11"	25'-0"	23'-10"	22'-6"	27'-5"	25'-7"	24'-5"	23'-1"
	NI-60	27'-2"	25'-4"	24'-2"	22'-10"	27'-11"	26'-1"	24'-9"	23'-1"
16"	NI-80	29'-0"	26'-11"	25'-8"	24'-3"	29'-7"	27'-7"	26'-4"	24'-11'
	NI-90	29'-6"	27'-5"	26'-1"	24'-8"	30'-1"	28'-1"	26'-9"	25'-4"

- 1. The tabulated clear spans are based on CSA 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 - M2.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf

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

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

Maximum Floor Spans

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

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

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

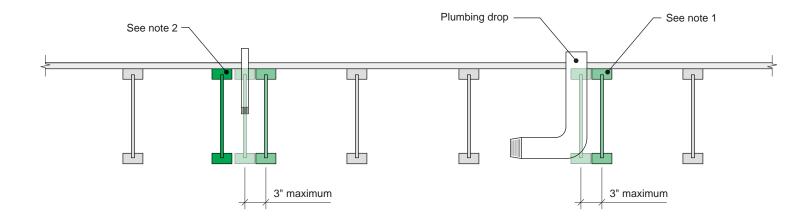
Sheathing: 3/4 in. nailed-glued Canadian softwood plywood

Maximum Floor Spans

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

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

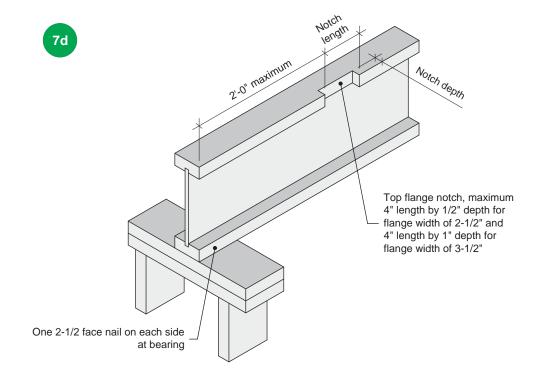
- 1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.
- 2. In all other cases, an additional joist is required.

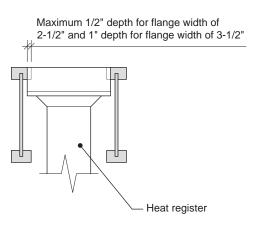
All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.





TITLE	DRAWING			
Allowance for Piping		7c		
CATEGORY	SCALE	DATE	PAGE	





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