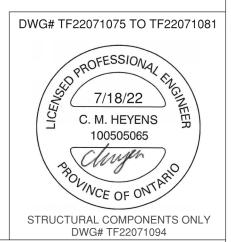


Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	30
J1DJ	18-00-00	11 7/8" NI-40x	2	8
J2	14-00-00	11 7/8" NI-40x	1	23
J2DJ	14-00-00	11 7/8" NI-40x	2	2
J3	12-00-00	11 7/8" NI-40x	1	7
J4	10-00-00	11 7/8" NI-40x	1	8
J5	6-00-00	11 7/8" NI-40x	1	5
J6	4-00-00	11 7/8" NI-40x	1	6
J7	2-00-00	11 7/8" NI-40x	1	4
B9	20-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B3	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B4	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B5	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B7	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B6	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B8	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1

Connector Summary			
Qty	Manuf	Product	
13	H1	IUS2.56/11.88	
12	H1	IUS2.56/11.88	
4	H1	IUS2.56/11.88	
3	H3	HUS1.81/10	
1	H3	HUS1.81/10	



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

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.

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: 7/15/22

1st FLOOR FRAMING STANDARD



FROM PLAN DATED: JANUARY 11 2021

BUILDER: ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

MODEL: 3803

ELEVATION: A / B / C

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO 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.

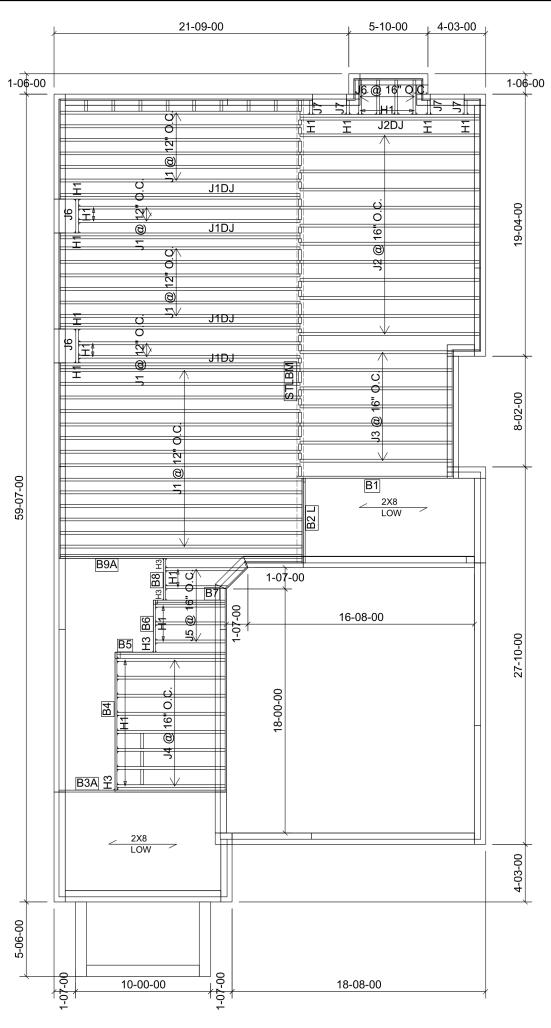
ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

LOADING:

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

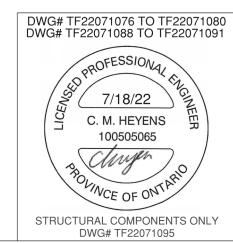
JOIST LL DEFLECTION LIMIT: L/480

SUBFLOOR: 3/4" GLUED AND NAILED



PlotID J1	Length 18-00-00	Product	Plies	Net Qty
	18-00-00			MEL CILY
MDI		11 7/8" NI-40x	1	30
J1DJ	18-00-00	11 7/8" NI-40x	2	8
J2	14-00-00	11 7/8" NI-40x	1	12
J2DJ	14-00-00	11 7/8" NI-40x	2	2
J3	12-00-00	11 7/8" NI-40x	1	7
J4	10-00-00	11 7/8" NI-40x	1	8
J5	6-00-00	11 7/8" NI-40x	1	5
J6	4-00-00	11 7/8" NI-40x	1	6
J7	2-00-00	11 7/8" NI-40x	1	4
B9A	18-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 2	2
B3A	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 1	1
B1	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 1	1
B4	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 1	1
B5	10-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 1	1
B2 L	8-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 1	1
B7	6-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 1	1
B6	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 1	1
B8	4-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LV	L 1	1

Connector Summary			
Qty	Manuf	Product	
13	H1	IUS2.56/11.88	
12	H1	IUS2.56/11.88	
4	H1	IUS2.56/11.88	
3	H3	HUS1.81/10	
1	H3	HUS1.81/10	



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

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.

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: 7/15/22

1st FLOOR FRAMING OPT SUNKEN



FROM PLAN DATED: JANUARY 11 2021

BUILDER: ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

MODEL: 3803

ELEVATION: A / B / C

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO 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.

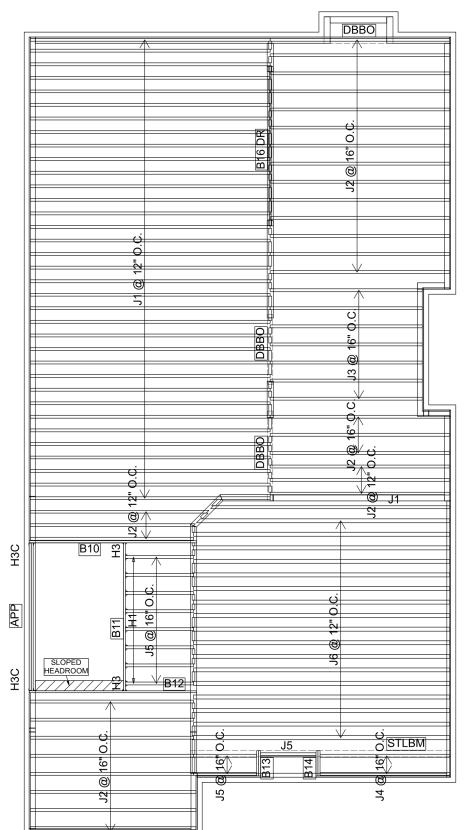
ALL BEAM HANGER FASTENERS INSTALLED INTO THE SUPPORTING MEMBER MUST BE A MINIMUM OF 3.5" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE SUPPORTING MEMBER ENGINEER OF RECORD.

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	18-00-00	11 7/8" NI-40x	1	36
J2	14-00-00	11 7/8" NI-40x	1	32
J3	12-00-00	11 7/8" NI-40x	1	7
J4	10-00-00	11 7/8" NI-40x	1	2
J5	6-00-00	11 7/8" NI-40x	1	11
J6	20-00-00	11 7/8" NI-80	1	17
B16 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B10	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B12	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B11	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B14	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
Connector Cummon,				

Connector Summary			
Qty	Manuf	Product	
8	H1	IUS2.56/11.88	
2	H3C	HUC410	
2	H3	HUS1.81/10	



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

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DATE: 7/15/22

2nd FLOOR FRAMING



FROM PLAN DATED: JANUARY 11 2021

BUILDER: ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

MODEL: 3803 ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO 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.

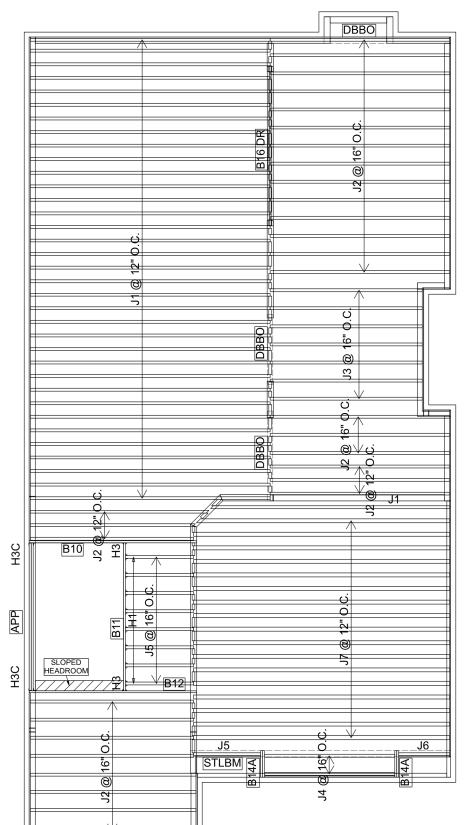
LOADING:

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

JOIST LL DEFLECTION LIMIT: L/480

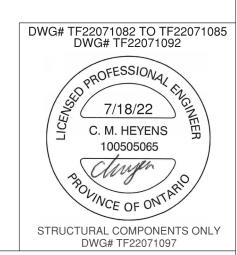
SUBFLOOR: 5/8" GLUED AND NAILED

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Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	36
J2	14-00-00	11 7/8" NI-40x	1	32
J3	12-00-00	11 7/8" NI-40x	1	7
J4	10-00-00	11 7/8" NI-40x	1	2
J5	6-00-00	11 7/8" NI-40x	1	9
J6	4-00-00	11 7/8" NI-40x	1	1
J7	20-00-00	11 7/8" NI-80	1	17
B16 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B10	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B12	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B11	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B14A	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	4

Connector Summary			
Qty	Manuf	Product	
8	H1	IUS2.56/11.88	
2	H3C	HUC410	
2	H3	HUS1.81/10	



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: 7/15/22

2nd FLOOR FRAMING



FROM PLAN DATED: JANUARY 11 2021

BUILDER: ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

MODEL: 3803 ELEVATION: B

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO 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.

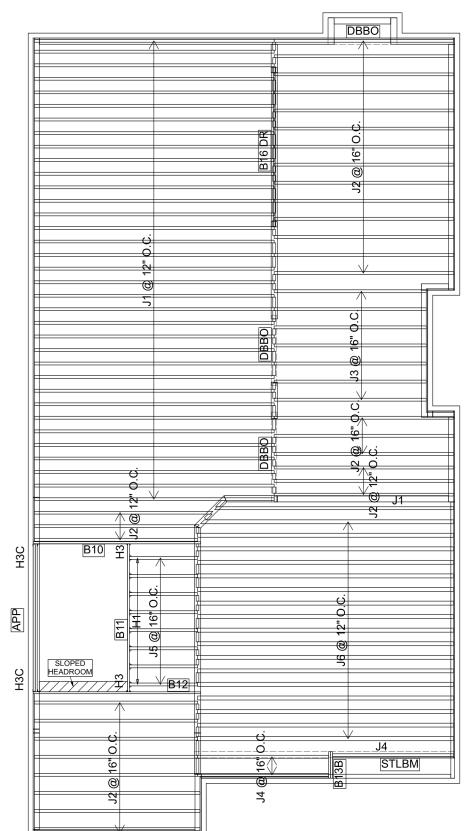
LOADING:

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

JOIST LL DEFLECTION LIMIT: L/480

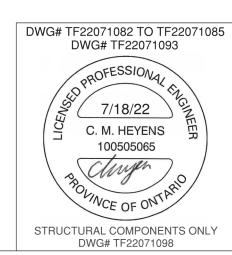
SUBFLOOR: 5/8" GLUED AND NAILED

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Products				
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	36
J2	14-00-00	11 7/8" NI-40x	1	32
J3	12-00-00	11 7/8" NI-40x	1	7
J4	10-00-00	11 7/8" NI-40x	1	3
J5	6-00-00	11 7/8" NI-40x	1	8
J6	20-00-00	11 7/8" NI-80	1	17
B16 DR	12-00-00	1 3/4" x 9 1/2" (2.0E 3100) WestFraser LVL	3	3
B10	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B12	14-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
B11	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	1	1
APP	12-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
B13B	2-00-00	1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL	2	2
O company of the O company of the Co				

Connector Summary				
Qty	Manuf	Product		
8	H1	IUS2.56/11.88		
2	H3C	HUC410		
2	H3	HUS1.81/10		



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

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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: 7/15/22

2nd FLOOR FRAMING



FROM PLAN DATED: JANUARY 11 2021

BUILDER: ROYAL PINE HOMES **SITE**: FORESTSIDE ESTATES

MODEL: 3803 ELEVATION: C

LOT:

CITY: BRAMPTON

SALESMAN: RICK DICIANO

DESIGNER: EEO 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 **U**JOIST

NORDIC **STRUCTURES**

WEB STIFFENERS

NAIL SPACING

nordic.ca

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

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 flange. Concentrated loads should not be suspended from the bottom flange with the exception of light loads, such as ceiling fans or light fixtures.
- I-joists must be protected from the weather prior to installation.
- I-joists must not be used in applications where they will be permanently exposed to weather, or will reach a moisture content of 15 percent or greater, such as in swimming pool or hot tub areas. They must not be installed where they will remain in direct contact with
- End bearing length must be at least 1-3/4 inch. For multiple-span joists, intermediate bearing length must be at least 3-1/2 inches.
- I-joists installed beneath bearing walls perpendicular to the joists shall have full-depth blocking panels, rim board, or squash blocks (cripple blocks) to transfer gravity loads from above the floor system to the wall or foundation below.
- For I-inists installed directly beneath bearing walls parallel to the joists or used as rim board or blocking panels, the using a single I-joist is 3.300 plf, and 6.600 plf if double I-joists are used.
- . Continuous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4, or 5.
- . Nails installed in flange face or edge shall be spaced in accordance with the applicable building code requirements or approved building plans, but should not be closer than those specified on page 3.3 of the Nordic Joist Technical Guide (NS-GT3).
- B. Details 1 show only I-joist-specific fastener requirements. For other fastener requirements, see the applicable building code.
- 4. For proper temporary bracing of wood I-joists and placement of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joist Roofs and Floors, Form J735.

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

1b

1

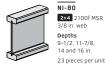
2×3 S-P-F No. 2

NORDIC I-JOIST SERIES RESIDENTIAL SERIES

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



1k



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

SAFETY AND CONSTRUCTION PRECAUTIONS

Avoid Accidents by Following these Important Guidelines

of I-ioists at the end of the bay.

rim board, or cross-bridging.

5. Never install a damaged I-joist

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

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

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

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

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

or temporary sheathing must be applied to prevent I-joist rollover or buckling. Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced

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

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

no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2-inch nails fastened to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two I-joists.

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

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

Improper storage or installation, failure to follow applicable building codes, failure to follow span ratings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure

to use web stiffeners when required can result in serious accidents. Follow these installation

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

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

RIM BOARDS

Do not walk on I-joist

Never stack building

braced or serious

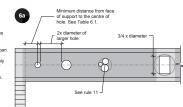
until fully fastened an

WEB HOLES AND OPENINGS

WEB HOLES IN I-JOISTS

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

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



DUCT CHASE OPENINGS

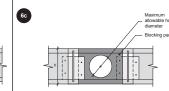
6b

Rules for Cutting Duct Chase Openings in I-joists

- he distance between the inside edge of the support and the cu uct chase opening shall be in compliance with the requiremen
- I-joist top and bottom flanges must never be cut, notched or otherwise mo
- The maximum depth of a duct chase opening that can be cut into an I-joist web shall equal the clear distance between the flanges of the I-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the opening and the adjacent I-joist flange. Holes cut into the blocking panels are subject to the following limitations The top and bottom flanges of an I-joist blocking panel must never be cut,
- All openings shall be cut in accordance with the restrictions listed above and as illustrated in detail 6h

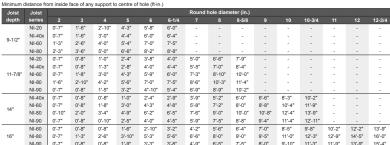
Allowable Hole Size in Lateral-restraint-only Blocking Panels

HOLES IN BLOCKING PANELS



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

TABLE 6.1 - LOCATION OF WEB HOLES



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

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

	imple or multiple span finimum distance from inside face of any support to centre of hole (ft-in.)														Simple spa Minimum di		
Joist	Joist	Round hole diameter (in.)														Joist	
depth	series						6-1/4			8-5/8		10	10-3/4		12	12-3/4	depth :
	NI-20	0'-7"	1'-6"	2'-10"	4'-3"	5'-8"	6'-0"	-	-	-	-	-	-	-	-	-	
9-1/2"	NI-40x	0'-7"	1'-6"	3'-0"	4'-4"	6'-0"	6'-4"	-	-	-	-	-	-	-	-	-	9-1/2"
9-1/2	NI-60	1'-3"	2'-6"	4'-0"	5'-4"	7'-0"	7'-5"	-	-	-	-	-	-	-	-	-	9-1/2
	NI-80	2'-3"	3'-6"	5'-0"	6'-6"	8'-2"	8'-8"	-	-	-	-	-	-	-	-	-	
	NI-20	0'-7"	0'-8"	1'-0"	2'-4"	3'-8"	4'-0"	5'-0"	6'-6"	7'-9"	-	-	-	-	-	-	
	NI-40x	0'-7"	0'-8"	1'-3"	2'-8"	4'-0"	4'-4"	5'-5"	7'-0"	8'-4"	-	-	-	-	-	-	
11-7/8"	NI-60	0'-7"	1'-8"	3'-0"	4'-3"	5'-9"	6'-0"	7'-3"	8'-10"	10'-0"	-	-	-	-	-	-	11-7/8"
	NI-80	1'-6"	2'-10"	4'-2"	5'-6"	7'-0"	7'-5"	8'-6"	10'-3"	11'-4"	-	-	-	-	-	-	
	NI-90	0'-7"	0'-8"	1'-5"	3'-2"	4"-10"	5'-4"	6'-9"	8'-9"	10'-2"	-	-	-	-	-	-	
	NI-40x	0'-7"	0"-8"	0'-8"	1'-0"	2'-4"	2'-9"	3'-9"	5'-2"	6'-0"	6'-6"	8'-3"	10'-2"	-	-	-	
	NI-60	0'-7"	0'-8"	1'-8"	3'-0"	4'-3"	4'-8"	5'-8"	7'-2"	8'-0"	8'-8"	10'-4"	11'-9"	-	-	-	

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

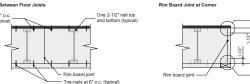
TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS

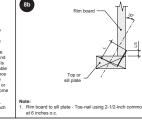
aeptn	series	8	10	12	14	16	18	20	22	24
	NI-20	4'-1"	4'-5"	4'-10"	-	-	-	-	-	-
0.4/01	NI-40x	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	-	-
9-1/2"	NI-60	5'-4"	5'-9"	6'-2"	6'-7"	7'-1"	7'-5"	8'-0"	-	-
	NI-80	5'-3"	5'-8"	6'-0"	6'-5"	6'-10"	7'-3"	7'-8"	8'-2"	8'-6"
	NI-20	5'-9"	6'-2"	6'-6"	-	-	-	-	-	-
	NI-40x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

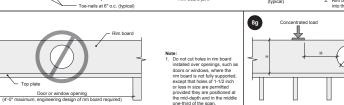
RIM BOARDS 8a

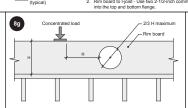
8f

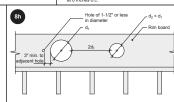




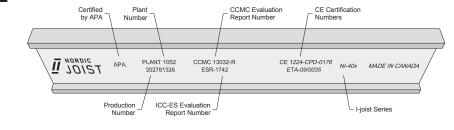




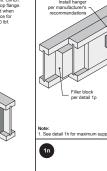




-JOIST MARKING



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



1.) Filler block size (in.) Example

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

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

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

1s-1

FOR ALL construction details \rightarrow DC3

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

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



CITY:

ER: ROYAL PINE HOMES
FORESTSIDE ESTATES

3803 BRAMPTON Job Name: 3803 EL A

Level: 1ST FLR FRAMING Label: B3 - i8425

Label: B3 - i842 Type: Beam 1 Ply Member

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

Design
Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15 Report Version: 2021.03.26 07/15/2022 09:15

DESIGN INFORMATION

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

Amendment) logv: LSD

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

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 12'

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	4'- 2 3/8"	1.25D + 1.5L	1.00	11846 lb ft	17672 lb ft	Passed - 67%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	1.00	3207 lb	6908 lb	Passed - 46%
Live Load (LL) Pos. Defl.:	5'- 8 5/8"	L		0.214"	L/360	Passed - L/643
Total Load (TL) Pos. Defl.:	5'- 8 5/8"	D + L		0.349"	L/240	Passed - L/394
AUDDODE AND DEAGE	ION INCOR					

	Input learing Length	Controlling Combina		Downwar Reaction	d Uplift	Factored Resistance of Member	Factored Resistance of Support	Result
1	5-08	1.25D +	1.5L 1.00	3393 lb		10010 lb	5921 lb	Passed - 57%
2	4-06	1.25D +	1.5L 1.00	1836 lb		7962 lb	4710 lb	Passed - 39%
SPECI	FIED LOAD	os						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 3 3/8"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	-0'	4'- 1 1/2"	FC3 Floor Decking (Plan View Fill)	Тор	10 lb/ft	21 lb/ft	-	-
Uniform	0'- 5 1/2"	4'- 8 1/2"	User Load	Тор	60 lb/ft	-	-	-
Uniform	4'- 1 1/2"	12'- 3 3/8"	FC3 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	-	-
Uniform	11'- 4 1/2"	11'- 10 1/2"	User Load	Тор	60 lb/ft	-	-	-
Point	4'- 2 3/8"	4'- 2 3/8"	B4(i8426)	Back	805 lb	1473 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E36(i3938)	Тор	29 lb	-	-	-
Point	4'- 2 3/8"	4'- 2 3/8"	User Load	Тор	200 lb	400 lb	-	-
Point	6'- 1 1/2"	6'- 1 1/2"	FC3 Floor Decking (Plan View Fill)	Тор	7 lb	14 lb	-	-
UNFAC	TORED R	EACTIONS	;					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	W40(i3934))	1031 lb	1420 lb	-	-
2	11'- 11"	12'- 3 3/8"	W41(i3935)	520 lb	773 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.



DWG # TF22071075



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 **BRAMPTON** Job Name: 3803 EL A

1ST FLR FRAMING Level: Label: B4 - i8426

Type: **Beam** 1 Ply Member

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

Report Version: 2021.03.26

Status: Design Passed

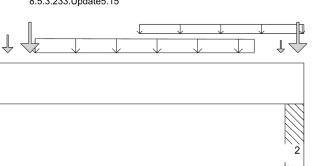
07/15/2022 09:15

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version

8.5.3.233.Update5.15

9-08-08 10-02-00



DESIGN INFORMATION

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

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

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 6"	1.25D + 1.5L	1.00	7912 lb ft	17672 lb ft	Passed - 45%
Factored Neg. Moment:	9'- 9 1/2"	1.25D + 1.5L	1.00	347 lb ft	17672 lb ft	Passed - 2%
Factored Shear:	0'- 11 7/8"	1.25D + 1.5L	1.00	3166 lb	6908 lb	Passed - 46%
Live Load (LL) Pos. Defl.:	4'- 8 3/16"	L		0.121"	L/360	Passed - L/960
Total Load (TL) Pos. Defl.:	4'- 8 9/16"	D + L		0.192"	L/240	Passed - L/606

SUP	SUPPORT AND REACTION INFORMATION													
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result						
1	1-12	1.25D + 1.5L	1.00	3173 lb		3173 lb	-	Passed - 100%						
2	5-08	1.25D + 1.5L	1.00	4160 lb		10010 lb	5919 lb	Passed - 70%						

	INFORMAT	

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

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

SPECIF	-IED LOAL	08						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 2"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	6'- 2"	10'- 2"	User Load	Тор	60 lb/ft	-	-	-
Tapered	3'- 7 1/2"	8'- 11 1/2"	Smoothed Load	Front	84 To 78 lb/ft	168 To 156 lb/ft	-	-
Point	0'- 3 1/2"	0'- 3 1/2"	J4(i8448)	Front	106 lb	213 lb	-	-
Point	1'- 7 1/2"	1'- 7 1/2"	J4(i8438)	Front	168 lb	335 lb	-	-
Point	2'- 11 1/2"	2'- 11 1/2"	J4(i8434)	Front	157 lb	314 lb	-	-
Point	9'- 7 1/4"	9'- 7 1/4"	J4(i8433)	Front	74 lb	148 lb	-	-
Point	3'- 6"	3'- 6"	User Load	Top	350 lb	700 lb	-	-
Point	10'- 1/4"	10'- 1/4"	User Load	Тор	350 lb	700 lb	-	-

ı	UNFAC	UNFACTORED REACTIONS												
l	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)						
ı	1	0'	0'	B3(i8425)	805 lb	1473 lb	-	-						
l	2	9'- 8 1/2"	10'- 2"	PBO2(i3947)	1132 lb	1801 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.



DWG # TF22071076



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 BRAMPTON Job Name: 3803 EL A

Level: 1ST FLR FRAMING Label: B5 - i8430

Type: **B5 - i8**

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

WestFraser LVL

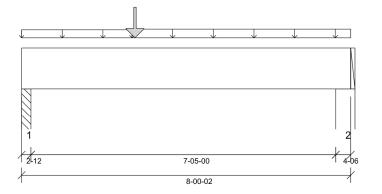
Status:

Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 09:15



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: 4'- 9 3/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 1 3/4"
- 615 psi Wall @ 7'- 8 3/4"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	2'- 9 1/8"	1.25D + 1.5L	1.00	1693 lb ft	17672 lb ft	Passed - 10%
Factored Shear:	1'- 2 5/8"	1.25D + 1.5L	1.00	655 lb	6908 lb	Passed - 9%
Live Load (LL) Pos. Defl.:	3'- 8 9/16"	L		0.014"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 8 11/16"	D + L		0.022"	L/240	Passed - L/999
SUPPORT AND REAC	TION INFORM	IATION				

0011	SOLI OKLAND KEASTION IN SKINATION									
ID	Input Bearing Length	Controllin Combin	○ II)⊨	Factored Downward Reaction	d Uplift	Factored Resistance of Member	Factored Resistance of Support	Result		
1	2-12	1.25D +	- 1.5L 1.00	697 lb		5005 lb	2960 lb	Passed - 24%		
2	4-06	1.25D +	- 1.5L 1.00	526 lb		7962 lb	4710 lb	Passed - 11%		
SPEC	CIFIED LOAD	os								
Туре	e Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)		
Self Weigh	ıt O'	8'- 1/8"	Self Weight	Тор	6 lb/ft	-	-	-		
Uniforn	m 0'	2'- 8 1/4"	FC3 Floor Decking (Plan View Fill)	Тор	6 lb/ft	11 lb/ft	-	-		
Uniforn	m 2'- 8 1/4"	8'- 1/8"	FC3 Floor Decking (Plan View Fill)	Тор	14 lb/ft	27 lb/ft	-	-		
Point	2'- 9 1/8"	2'- 9 1/8"	B6(i8441)	Back	192 lb	363 lb	-	-		
UNFA	ACTORED R	EACTIONS	S							
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)		
1	0'	0'- 2 3/4"	PBO2(i3947	7)	187 lb	314 lb	-	-		
2	7'- 7 3/4"	8'- 1/8"	W41(i3935))	142 lb	228 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.





ROYAL PINE HOMES FORESTSIDE ESTATES

3803 CITY: **BRAMPTON** Job Name: 3803 EL A

1ST FLR FRAMING Level:

Label: B6 - i8441 Type: **Beam**

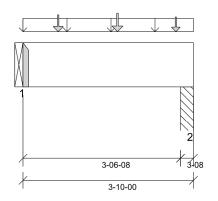
1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL

Status: Design Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 09:15



DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

ANALYSIS RESULTS										
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result				
Factored Pos. Moment:	2'- 1 3/16"	1.25D + 1.5L	1.00	770 lb ft	17672 lb ft	Passed - 4%				
Factored Shear:	2'- 6 5/8"	1.25D + 1.5L	1.00	770 lb	6908 lb	Passed - 11%				
SUPPORT AND REACTION INFORMATION										

l	SUP	SUPPORT AND REACTION INFORMATION											
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result				
l	1	1-08	1.25D + 1.5L	1.00	793 lb		2730 lb	-	Passed - 29%				
l	2	3-08	1.25D + 1.5L	1.00	928 lb		6370 lb	3767 lb	Passed - 25%				

CONNECTOR INFORMATION

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

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

SPECIF	FIED LOAD	S							
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)	
Self Weight	0'	3'- 10"	Self Weight	Тор	6 lb/ft	-	-	-	
Uniform	0'	3'- 10"	User Load	Back	60 lb/ft	120 lb/ft	-	-	
Point	0'- 9 1/2"	0'- 9 1/2"	J5(i8429)	Front	57 lb	114 lb	-	-	
Point	2'- 1 1/2"	2'- 1 1/2"	J5(i8428)	Front	68 lb	137 lb	-	-	
Point	3'- 5 1/4"	3'- 5 1/4"	J5(i8446)	Front	43 lb	86 lb	-	-	
UNFAC	TORED R	EACTIONS							
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'	B5(i8430)		192 lb	363 lb	-	-	
2	3'- 6 1/2"	3'- 10"	PBO3(i394	3)	229 lb	434 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.



STRUCTURAL COMPONENT ONLY DWG # TF22071078



ROYAL PINE HOMES FORESTSIDE ESTATES

MODEL: 3803
CITY: BRAMPTON

Job Name: 3803 EL A

Level: 1ST FLR FRAMING
Label: B7 - i8452

Type: **B7 - i8 Beam**

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

WestFraser LVL

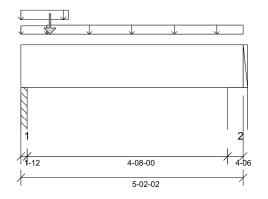
Status:

Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 09:15



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: 4'- 3/4"

Factored Resistance of Support Material:

- 615 psi Column @ 0'- 3/4"
- 615 psi Wall @ 4'- 10 3/4"

De	esign Criteria	Loc	cation	Load	Combinatio	n LDF	Design	Limit	Result	
Factored	Pos. Moment:	1'- 8	3 1/16"	1.2	5D + 1.5L	0.94	334 lb ft	16561 lb ft	Passed - 2%	
Factored	Shear:	1'-	1 5/8"	1.2	5D + 1.5L	0.94	385 lb	6473 lb	Passed - 6%	
SUPPO	ORT AND RE	ACTION	INFORM	ATION						
	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result	
1	1-12	1.25D +	1.5L	0.94	519 lb		2985 lb	1765 lb	Passed - 29%	
2	4-06	1.25D +	1.5L	0.94	233 lb		7462 lb	4414 lb	Passed - 5%	
SPECI	SPECIFIED LOADS									
Туре	Start Loc	End Loc	Source	е	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)	
Self Weight	0'	5'- 2 1/8"	Self We	ight	Тор	6 lb/ft	-	-	-	
Uniform	0'	1'- 1 1/4"	User Lo		Тор	60 lb/ft	-	-	-	
Uniform	0'	0'- 7 1/4"	FC3 Floor [(Plan Viev	v Fill)	Тор	4 lb/ft	8 lb/ft	-	-	
Uniform	0'- 7 1/4"	5'- 2 1/8"	FC3 Floor I (Plan Viev		Тор	14 lb/ft	27 lb/ft	-	-	
Point	0'- 8 1/8"	0'- 8 1/8"	B8(i84	31)	Back	154 lb	105 lb	-	-	
UNFAC	CTORED RE	ACTIONS								
ID	Start Loc	End Loc	S	ource		Dead (D)	Live (L)	Snow (S)	Wind (W)	
1	0'	0'- 1 3/4"	PBC)3(i3948)		237 lb	148 lb	-	-	
2	4'- 9 3/4"	5'- 2 1/8"	W4	1(i3935)		80 lb	89 lb	-	-	

DESIGN NOTES

ANALYSIS RESULTS

- The dead loads used in the design of this member were applied to the structure as sloped dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the
 default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already
 specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if
 required) as per manufacturer's instruction.
- 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:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 BRAMPTON Job Name: 3803 EL A

Level: 1ST FLR FRAMING
Label: B8 - i8431

Type: **B8 - 184**

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

WestFraser LVL

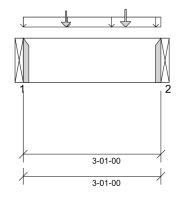
Status:

Design
Passed

Illustration Not to Scale. Pitch: 0/12

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

Report Version: 2021.03.26 07/15/2022 09:15



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: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 3'- 1"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	1'- 6 11/16"	1.25D + 1.5L	0.93	311 lb ft	16448 lb ft	Passed - 2%
Factored Shear:	0'- 11 7/8"	1.4D	0.65	51 lb	4490 lb	Passed - 1%
CURRORT AND DEAC	CTION INFORM	ATION				

SUF	SUPPORT AND REACTION INFORMATION										
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result			
1	1-08	1.25D + 1.5L	0.93	349 lb		2541 lb	-	Passed - 14%			
2	1-08	1.25D + 1.5L	0.93	398 lb		2541 lb	-	Passed - 16%			

COI	CONNECTOR INFORMATION										
ID	Part No.	Manufacturer	Na	illing Requirem	ents	Other Information or Requirement for					
טו	Fait No.	Manufacturer	Тор	Face	Member	Reinforcement Accessories					
1	HUS1.81/10		-	-	-	Connector manually specified by the user.					
2	HUS1 81/10		_	_	_	Connector manually specified by the user					

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

SPECIF	FIED LOAD	S						
Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	3'- 1"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'	3'- 1"	User Load	Тор	60 lb/ft	-	-	-
Point	0'- 11 1/2"	0'- 11 1/2"	J5(i8447)	Front	52 lb	104 lb	-	-
Point	2'- 3 1/2"	2'- 3 1/2"	J5(i8479)	Front	64 lb	128 lb	-	-
UNFAC	TORED RE	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B7(i8452)		154 lb	105 lb	-	-
2	3'- 1"	3'- 1"	B9(i8451)		165 lb	127 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.



STRUCTURAL COMPONENT ONLY DWG # TF22071080



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 BRAMPTON Job Name: 3803 EL A

Level: 1ST FLR FRAMING Label: B9 - i8451

Type: **B9 - 18**

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

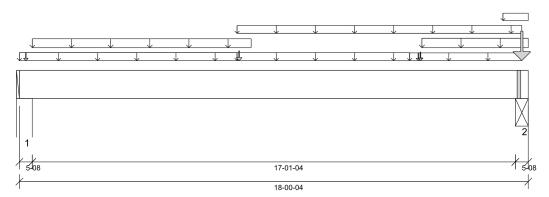
WestFraser LVL

Status:

Design
Passed

Illustration Not to Scale. Pitch: 0/12 Designed by Single Member Design Engine in MiTek® Structure Version 8.5.3.233.Update5.15

Report Version: 2021.03.26 07/15/2022 09:15



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: 9'- 8 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Beam @ 17'- 7 3/4"

PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" O/C

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



STRUCTURAL COMPONENT ONLY DWG # TF22071081 PG 1/2

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	7'- 9 3/8"	1.4D	0.65	4070 lb ft	22974 lb ft	Passed - 18%
Factored Neg. Moment:	17'- 7 3/4"	1.25D + 1.5L	1.00	566 lb ft	30514 lb ft	Passed - 2%
Factored Shear:	1'- 5 3/8"	1.4D	0.65	848 lb	8980 lb	Passed - 9%
Live Load (LL) Pos. Defl.:	8'- 11 3/4"	L		0.079"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	8'- 10 7/16"	D + L		0.237"	L/240	Passed - L/865

SUP	SUPPORT AND REACTION INFORMATION								
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result	
1	5-08	1.4D	0.65	1056 lb		13013 lb	7698 lb	Passed - 14%	
2	5-08	1.25D + 1.5L	1.00	5320 lb		20020 lb	11839 lb	Passed - 45%	

SPECII	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	18'- 1/4"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	-0'	7'- 8 1/2"	FC3 Floor Decking (Plan View Fill)	Тор	9 lb/ft	18 lb/ft	-	-
Uniform	0'- 5 1/2"	8'- 2 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	7'- 8 1/2"	17'- 9 1/2"	FC3 Floor Decking (Plan View Fill)	Тор	7 lb/ft	15 lb/ft	-	-
Uniform	7'- 8 1/2"	13'- 9 13/16"	FC3 Floor Decking (Plan View Fill)	Тор	9 lb/ft	19 lb/ft	-	-
Uniform	13'- 9 13/16"	17'- 9 1/2"	FC3 Floor Decking (Plan View Fill)	Тор	5 lb/ft	10 lb/ft	-	-
Uniform	14'- 3 1/16"	18'- 1/4"	3(i3891)	Top	81 lb/ft	-	-	-
Uniform	17'- 1 1/2"	18'- 1/4"	3(i3891)	Top	1 lb/ft	1 lb/ft	-	-
Point	7'- 9 3/8"	7'- 9 3/8"	B8(i8431)	Front	165 lb	127 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E37(i4264)	Top	59 lb	-	-	-
Point	14'- 1 9/16"	14'- 1 9/16"	3(i3891)	Тор	4 lb	-	-	-
Point	14'- 2 7/16"	14'- 2 7/16"	2(i3890)	Тор	70 lb	81 lb	-	-
Point	14'- 2 7/16"	14'- 2 7/16"	3(i3891)	Тор	8 lb	-	-	-
Point	17'- 9 1/2"	17'- 9 1/2"	3(i3891)	Тор	864 lb	1828 lb	-	-

UNFAC	LOKED KE	EACTIONS					
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	W40(i3934)	764 lb	288 lb	-	-
2	17'- 6 3/4"	18'- 1/4"	STLBM(i3911)	1607 lb	2184 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.



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 BRAMPTON Job Name: 3803 EL A

Level: 1ST FLR FRAMING
Label: B9 - i8451

Type: **B9 - 182**Type: **Beam**

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

WestFraser LVL

Status:

Design
Passed

Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support.
 At support 2. Required Load Area: L=1.500", W=5.500". LDF=1.00, Pf=3822 lb, Q'r=8580 lb, Result=44.55%.

PLY TO PLY CONNECTION

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





ROYAL PINE HOMES FORESTSIDE ESTATES

3803

BRAMPTON

Job Name: 3803 EL A

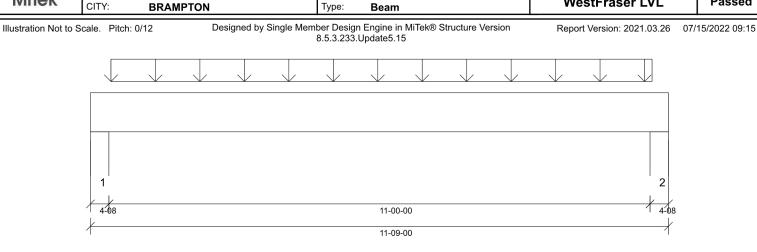
Level: 2ND FLR FRAMING Label: B16 DR - i8378

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: 0'- 10 3/4" Bottom: 11'- 9'

Factored Resistance of Support Material:

- 812 psi Wall @ 0'- 3 1/2"
- 812 psi Wall @ 11'- 5 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.



li	ANALYSIS RESULTS						
11	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Ш	Factored Pos. Moment:	5'- 11"	1.25D + 1.5L	1.00	20700 lb ft	34949 lb ft	Passed - 59%
Ш	Factored Shear:	1'- 2"	1.25D + 1.5L	1.00	6674 lb	16578 lb	Passed - 40%
Ш	Live Load (LL) Pos. Defl.:	5'- 10 1/2"	L		0.294"	L/360	Passed - L/448
Ш	Total Load (TL) Pos. Defl.:	5'- 10 1/2"	D + L		0.448"	L/240	Passed - L/294
Ц	Permanent Deflection:	5'- 10 1/2"			-	L/360	Passed - L/885

l	SUP	PORT AND	D REACTION INFORM	AHON					
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
l	1	4-08	1.25D + 1.5L	1.00	7475 lb		24570 lb	19184 lb	Passed - 39%
l	2	4-08	1.25D + 1.5L	1.00	7586 lb		24570 lb	19184 lb	Passed - 40%
l	SDE	CIEIED I O	ADS						

ı									
	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
	Self Weight	0'	11'- 9"	Self Weight	Тор	14 lb/ft	-	-	-
	Uniform	0'- 5"	11'- 5"	Smoothed Load	Тор	317 lb/ft	636 lb/ft	-	-
	UNFAC	TORED RE	EACTIONS						
	ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)

1817 lb

1841 lb

3473 lb

3520 lb

11'- 4 1/2" **DESIGN NOTES**

0'

0'- 4 1/2'

11'- 9"

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

5(i3894)

4(i3893)

- · 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

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



ROYAL PINE HOMES FORESTSIDE ESTATES

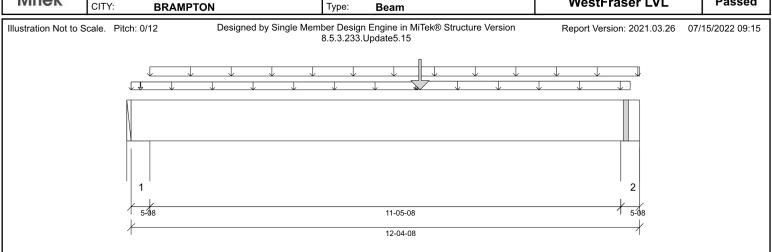
3803 **BRAMPTON** Job Name: 3803 EL A

Level: 2ND FLR FRAMING Label: B10 - i8372

Type: **Beam** 1 Ply Member

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

Status: Design



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: 6'- 6" Top: 0'

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 12'

ANA	ALYSIS RES	SULTS							
	Design Crite	ria	Location	Load	Combination	LDF	Design	Limit	Result
Factor	red Pos. Mom	nent:	7'- 3/8"	1.2	25D + 1.5L	0.94	7257 lb ft	16677 lb ft	Passed - 44%
Factor	red Shear:		10'- 11 1/8"	1.2	25D + 1.5L	0.94	1658 lb	6519 lb	Passed - 25%
Live L	oad (LL) Pos.	Defl.:	6'- 5 7/16"		L		0.113"	L/360	Passed - L/999
Total L	Load (TL) Pos	s. Defl.:	6'- 4 11/16"		D + L		0.230"	L/240	Passed - L/597
SUP	PORT AND	REACT	TION INFORM	MATION					
ID	Input Bearing Length		trolling Load ombination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result
1	5-08	1.2	25D + 1.5L	0.94	1426 lb		9446 lb	5588 lb	Passed - 26%

2	5-08	1.25D +	1.5L 0.94	1847	lb	9446 lb	5588 lb	Passed - 33%
SPECIF	IED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 4 1/2"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	-0'	6'- 11 1/2"	FC4 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 5 1/2"	12'- 4 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	6'- 11 1/2"	12'- 1 3/4"	FC4 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	-	-
Point	7'- 3/8"	7'- 3/8"	B11(i8351)	Front	467 lb	870 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E33(i3973)	Top	15 lb	-	-	-
UNFAC	TORED R	EACTIONS	;					
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 5 1/2"	E38(i4265)		629 lb	437 lb	-	-
2	11'- 11"	12'- 4 1/2"	9(i3937)		730 lb	612 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.





CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 **BRAMPTON** Job Name: 3803 EL A

Level: 2ND FLR FRAMING Label: B11 - i8351 Type: **Beam**

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

Status: Design Passed

Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 07/15/2022 09:15 8.5.3.233.Update5.15 10-11-00 10-11-00

DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

- 615 psi Beam @ 0'
- 615 psi Beam @ 10'- 11"

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	5'- 10 1/2"	1.25D + 1.5L	1.00	4214 lb ft	17672 lb ft	Passed - 24%
Factored Shear:	9'- 11 1/8"	1.25D + 1.5L	1.00	1802 lb	6908 lb	Passed - 26%
Live Load (LL) Pos. Defl.:	5'- 7 3/16"	L		0.088"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	5'- 7 1/8"	D + L		0.136"	L/240	Passed - L/966

SU	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	1333 lb		2730 lb	-	Passed - 49%
2	1-08	1.25D + 1.5L	1.00	1883 lb		2730 lb	-	Passed - 69%

	ORMATION	

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

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

SPECIF	IED LOAL	13						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	10'- 11"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	1'- 2 1/2"	9'- 2 1/2"	Smoothed Load	Front	52 lb/ft	104 lb/ft	-	-
Uniform	7'- 5"	10'- 11"	User Load	Back	60 lb/ft	120 lb/ft	-	-
Point	0'- 6 1/2"	0'- 6 1/2"	J5(i8332)	Front	50 lb	101 lb	-	-
Point	9'- 10 1/2"	9'- 10 1/2"	J5(i8234)	Front	63 lb	127 lb	-	-
UNFAC	TORED RI	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'	B12(i8264)		335 lb	606 lb	-	-
2	10'- 11"	10'- 11"	B10(i8372)		467 lb	870 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.



STRUCTURAL COMPONENT ONLY DWG # TF22071084



ROYAL PINE HOMES FORESTSIDE ESTATES

3803 **BRAMPTON** Job Name: 3803 EL A

Level: 2ND FLR FRAMING Label: B12 - i8264

Type: **Beam**

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

WestFraser LVL

Status: Design Passed

CITY: Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 07/15/2022 09:15 8.5.3.233.Update5.15

> 11-05-08 12-04-08

DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 6'- 6" Top: 0'

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 12'

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	7'- 3/8"	1.25D + 1.5L	0.95	6643 lb ft	16828 lb ft	Passed - 39%
Factored Shear:	10'- 11 1/8"	1.25D + 1.5L	0.95	1535 lb	6577 lb	Passed - 23%
Live Load (LL) Pos. Defl.:	6'- 3 3/4"	L		0.108"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	6'- 3 3/8"	D+L		0.223"	L/240	Passed - L/615

ı	SUPPORT AND REACTION INFORMATION												
	ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result				
ı	1	5-08	1.25D + 1.5L	0.95	1689 lb		9532 lb	5638 lb	Passed - 30%				
l	2	5-08	1.25D + 1.5L	0.95	1733 lb		9532 lb	5638 lb	Passed - 31%				
П	00-	ALEIER I A	400										

ı	SPECIF	IED LOAL	15						
l	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
l	Self Weight	0'	12'- 4 1/2"	Self Weight	Тор	6 lb/ft	-	-	-
l	Uniform	0'	6'- 11 1/2"	FC4 Floor Decking (Plan View Fill)	Тор	8 lb/ft	16 lb/ft	-	-
ı	Uniform	0'- 5 1/2"	12'- 4 1/2"	User Load	Тор	60 lb/ft	-	-	-
l	Uniform	0'- 5 1/2"	6'- 11 1/2"	User Load	Back	20 lb/ft	40 lb/ft	-	-
l	Uniform	6'- 11 1/2"	12'- 1 3/4"	FC4 Floor Decking (Plan View Fill)	Тор	13 lb/ft	27 lb/ft	-	-
ı	Point	7'- 3/8"	7'- 3/8"	B11(i8351)	Back	335 lb	606 lb	-	-
l	Point	0'- 2 3/4"	0'- 2 3/4"	E31(i3898)	Тор	15 lb	-	-	-
l	Point	12'- 3 1/8"	12'- 3 1/8"	FC4 Floor Decking (Plan View Fill)	Тор	2 lb	5 lb	-	-

	(Fight view Fill)											
UNFACTORED REACTIONS												
ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)					
1	0'	0'- 5 1/2"	E38(i4265)	691 lb	560 lb	-	-					
2	11'- 11"	12'- 4 1/2"	9(i3937)	704 lb	559 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.



DWG # TF22071085



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 BRAMPTON Job Name: 3803 EL A

Level: 2ND FLR FRAMING
Label: B13 - i8232

Type: **B13** -

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

Report Version: 2021.03.26

Status:

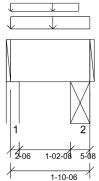
Design
Passed

07/15/2022 09:15

Illustration Not to Scale. Pitch: 0/12

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

Jpdates. 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: 1'- 1 1/2"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/8"
- 615 psi Beam @ 1'- 5 7/8"

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

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



ANALY	ANALYSIS RESULTS										
De	esign Criteria	Loc	cation	Load	Combinatio	on LDF	Design	Limit	Result		
Factored	Pos. Momen	t: 0'-	9 1/8"	1.25	D + 1.5L + 9	S 0.65	46 lb ft	22974 lb ft	Passed - 0%		
Factored	l Shear:	1'-	2 1/4"	1.25	O + 1.5L + 9	0.65	98 lb	8980 lb	Passed - 1%		
SUPPO	ORT AND R	EACTION	INFORMA	MOITA							
	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result		
1 2	2-06 5-08	1.25D + 1. 1.25D + 1.		0.65 0.65	174 lb 249 lb		5619 lb 13013 lb	3324 lb 7695 lb	Passed - 5% Passed - 3%		
SPECIFIED LOADS											
Туре	Start Loc	End Loc	Source	;	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)		
Self Weight	0'	1'- 10 3/8"	Self We	ght	Тор	12 lb/ft	-	-	-		
Uniform	0'	1'- 10 3/8"	E27(i39	,	Тор	125 lb/ft	-	44 lb/ft	-		
Uniform	0'	1'- 7 1/4"	FC4 Floor D (Plan View		Тор	3 lb/ft	6 lb/ft	-	-		
UNFAC	CTORED RE	ACTIONS	:								
ID	Start Loc	End Loc	So	ource		Dead (D)	Live (L)	Snow (S)	Wind (W)		
1 2	0' 1'- 4 7/8"	0'- 2 3/8" 1'- 10 3/8"		'(i3886) M(i3974)	108 lb 154 lb	5 lb 5 lb	34 lb 48 lb	-		
DESIG	N 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

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



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 **BRAMPTON** Job Name: 3803 EL A

Level: 2ND FLR FRAMING Label: B14 - i8309

Type: **Beam**

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

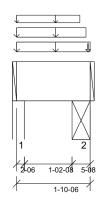
Report Version: 2021.03.26

Status: Design Passed

07/15/2022 09:15

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:

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

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 1 3/8"
- 615 psi Beam @ 1'- 5 7/8"

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

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



ANAL	ANALYSIS RESULTS										
	Design Criteria	Lo	cation	Load	Combinatio	on LDF	Design	Limit	Result		
Factore	d Pos. Moment	t: 0'- 8	15/16"	1.25	D + 1.5L + 3	S 0.73	48 lb ft	25749 lb ft	Passed - 0%		
Factore	d Shear:	1'-	2 1/4"	1.25	D + 1.5L + 3	S 0.73	110 lb	10064 lb	Passed - 1%		
SUPP	ORT AND R	EACTION	INFORM	ATION							
ID	Input Bearing Length	Controlling Combina		LDF	Factored Downward Reaction	d Uplift	Factored Resistance of Member		Result		
1	2-06	1.25D + 1.	.5L + S	0.73	186 lb		6298 lb	3725 lb	Passed - 5%		
2	5-08	1.25D + 1.	.5L + S	0.73	290 lb		14585 lb	8625 lb	Passed - 3%		
SPECIFIED LOADS											
Туре	Start Loc	End Loc	Sourc	е	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)		
Self Weight	0'	1'- 10 3/8"	Self We	ight	Тор	12 lb/ft	-	-	-		
Uniform	n 0'	1'- 10 3/8"	E25(i39	09)	Top	100 lb/ft	-	-	-		
Uniform	ט "	1'- 9 1/8"	E25(i39	,	Тор	24 lb/ft	-	66 lb/ft	-		
Uniform	n 0'	1'- 7 1/4"	FC4 Floor [(Plan Vie		Тор	3 lb/ft	6 lb/ft	-	-		
Point	1'- 9 3/4"	1'- 9 3/4"	E25(i39	09)	Тор	8 lb	-	15 lb	-		
UNFA	CTORED RE	ACTIONS	5								
ID	Start Loc	End Loc	S	ource		Dead (D)	Live (L)	Snow (S)	Wind (W)		
1	0'	0'- 2 3/8"	E1	7(i3886)		107 lb	5 lb	51 lb	-		
2	1'- 4 7/8"	1'- 10 3/8"	STLE	3M(i3974	·)	157 lb	5 lb	80 lb	-		
BEOL	DECION NOTES										

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

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



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 **BRAMPTON**

Job Name: 3803 EL A,B,C SUNKEN **1ST FLR FRAMING** Level:

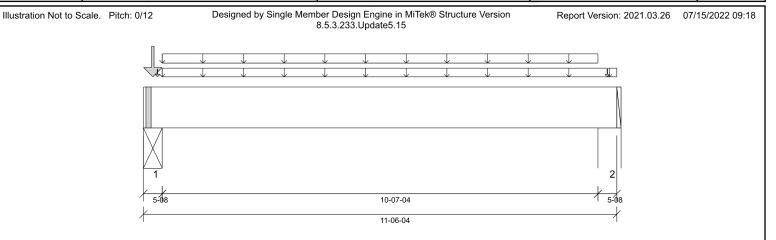
Label: B1 - i7460 Type: **Beam**

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

WestFraser LVL

Status:

Design Passed



DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Bottom: 10'- 11 5/8" Top: 0'

Factored Resistance of Support Material:

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

ANAL	LYSIS RESUL	.TS					
[Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:		: 5'- 11 3/8"	1.4D	0.65	1484 lb ft	11487 lb ft	Passed - 13%
Factored Neg. Moment: 0'- 4 1		: 0'- 4 1/2"	1.25D + 1.5L	1.00	668 lb ft	4092 lb ft	Passed - 16%
Factored Shear:		1'- 5 3/8"	1.4D	0.65	497 lb	4490 lb	Passed - 11%
Total Lo	oad (TL) Pos. De	efl.: 5'- 11 1/16"	D + L		0.054"	L/240	Passed - L/999
SUPF	PORT AND RE	EACTION INFORM	ATION				
ID	Input Bearing Length	Controlling Load Combination	Factored LDF Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member		Result

	Length	Combin	ation	Reaction	Reaction	of Member	of Support	7.000.0			
1	5-08	1.25D +	1.5L 1.00	5371 lb		10010 lb	5919 lb	Passed - 91%			
2	5-08	1.40	0.65	600 lb		6506 lb	3849 lb	Passed - 16%			
SPECIFIED LOADS											
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	6 lb/ft	-	-	-			
Uniform	0'- 5 1/2"	11'- 6 1/4"	FC3 Floor Decking (Plan View Fill)	Тор	13 lb/ft	26 lb/ft	-	-			
Uniform	0'- 5 1/2"	11'- 3/4"	User Load	Тор	60 lb/ft	-	-	-			
Point	0'- 2 3/4"	0'- 2 3/4"	6(i3895)	Тор	1127 lb	2112 lb	-	-			
Point	0'- 4 1/8"	0'- 4 1/8"	FC3 Floor Decking (Plan View Fill)	Тор	0 lb	1 lb	-	-			
Point	11'- 3 1/2"	11'- 3 1/2"	E9(i3877)	Тор	17 lb	-	-	-			
UNFA	CTORED R	EACTIONS	3								
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)			
1	0'	0'- 5 1/2"	STLBM(i3911	1)	1588 lb	2324 lb	-	-			
2	11'- 3/4"	11'- 6 1/4"	W15(i3837)		404 lb	74 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.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 1. Required Load Area: L=2.515", W=1.750". LDF=1.00, Pf=4577 lb, Q'r=4577 lb, Result=100.00%.



STRUCTURAL COMPONENT ONLY DWG # TF22071088



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 **BRAMPTON** Job Name: 3803 EL A,B,C SUNKEN **1ST FLR FRAMING** Level:

Type: **Beam**

Label: B2 L - i7120

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

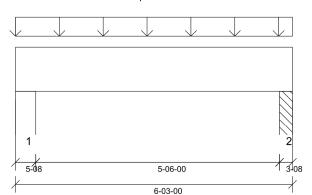
Report Version: 2021.03.26

Status: Design Passed

07/15/2022 09:18

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: 5'- 9 1/2" Bottom: 5'- 9 1/2"

Factored Resistance of Support Material:

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

ANALYSIS RESULTS						
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment:	3'- 2 5/8"	1.25D + 1.5L	1.00	2222 lb ft	7750 lb ft	Passed - 29%
Factored Neg. Moment:	0'- 4 1/2"	1.25D + 1.5L	1.00	39 lb ft	7750 lb ft	Passed - 1%
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	1.00	990 lb	6908 lb	Passed - 14%
Live Load (LL) Pos. Defl.:	3'- 2 9/16"	L		0.013"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	3'- 2 9/16"	D + L		0.019"	L/240	Passed - L/999

П	TOTAL LOS	au (TL) F03. L	Jell 3-2	5/10		טי ב		0.019	L/240	r asseu - L/333			
ı	SUPP	ORT AND R	REACTION I	NFORMA	TION								
	ID	Input Bearing Length	Controlling Combinat		LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result			
ı	1	5-08	1.25D + 1	.5L	1.00	1801 lb		10010 lb	5921 lb	Passed - 30%			
l	2	3-08	1.25D + 1	.5L	1.00	1698 lb		6370 lb	3767 lb	Passed - 45%			
l	SPECIFIED LOADS												
ı	Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)			
l	Self Weight	0'	6'- 3"	Self Wei	ght	Тор	6 lb/ft	-	-	-			
ı	Uniform	0'	6'- 3"	User Loa	ad	Тор	130 lb/ft	260 lb/ft	-	-			
ı	UNFACTORED REACTIONS												
ı	ID	Start Loc	End Loc	So	urce		Dead (D)	Live (L)	Snow (S)	Wind (W)			
ı	1	0'	0'- 5 1/2"	W38	(i3913)		437 lb	836 lb	-	-			
ı	2	5'- 11 1/2"	6'- 3"	PBO ⁻	1(i3917)	412 lb	789 lb	-	-			
ı	DECIC	N 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.





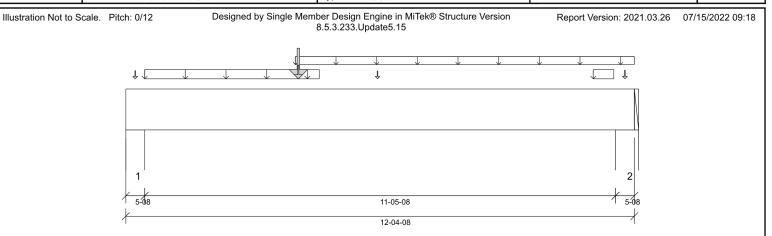
CITY:

ER: ROYAL PINE HOMES FORESTSIDE ESTATES

EL: 3803 BRAMPTON Job Name: 3803 EL A,B,C SUNKEN
Level: 1ST FLR FRAMING

Label: B3A - i7392 Type: Beam 1 Ply Member 1 3/4" x 11 7/8" (2.0E 3100) WestFraser LVL Status:

Design
Passed



DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

Top: 3'- 8" Bottom: 7'- 7 3/4"

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 4 1/2"
- 615 psi Wall @ 12'

ANALYSIS RESULTS									
Design Criteria	Location	Load Combination	LDF	Design	Limit	Result			
Factored Pos. Moment:	4'- 2 3/8"	1.25D + 1.5L	1.00	11272 lb ft	12160 lb ft	Passed - 93%			
Factored Shear:	1'- 5 3/8"	1.25D + 1.5L	1.00	3021 lb	6908 lb	Passed - 44%			
Live Load (LL) Pos. Defl.:	5'- 8 3/16"	L		0.198"	L/360	Passed - L/694			
Total Load (TL) Pos. Defl.:	5'- 8 1/4"	D + L		0.325"	L/240	Passed - L/422			
SUPPORT AND REACTION INFORMATION									

	ID	Input Bearing Length	Controlling Combinat		Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
l	1	5-08	1.25D + 1	.5L 1.00	3179 lb		10010 lb	5921 lb	Passed - 54%
l	2	5-08	1.25D + 1	.5L 1.00	1736 lb		10010 lb	5921 lb	Passed - 29%
l	SPE	CIFIED LOAI	DS						
l	Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
ı	Self	01	401 4 4 (011	0-1610/-:	T	O 11-164			

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	12'- 4 1/2"	Self Weight	Тор	6 lb/ft	-	-	-
Uniform	0'- 5 1/2"	4'- 8 1/2"	User Load	Top	60 lb/ft	-	-	-
Uniform	4'- 1 1/2"	12'- 4 1/2"	FC3 Floor Decking (Plan View Fill)	Тор	4 lb/ft	9 lb/ft	-	-
Uniform	11'- 4 1/2"	11'- 10 1/2"	User Load	Top	60 lb/ft	-	-	-
Point	4'- 2 3/8"	4'- 2 3/8"	B4(i7393)	Back	809 lb	1480 lb	-	-
Point	0'- 2 3/4"	0'- 2 3/4"	E36(i3938)	Top	59 lb	-	-	-
Point	4'- 2 3/8"	4'- 2 3/8"	User Load	Top	200 lb	400 lb	-	-
Point	6'- 1 1/2"	6'- 1 1/2"	FC3 Floor Decking (Plan View Fill)	Тор	6 lb	12 lb	-	-
Point	12'- 1 3/4"	12'- 1 3/4"	9(i3937)	Top	40 lb	56 lb	-	-

ı	UNFAC	STORED R	EACTIONS					
l	ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Wind (W)
ı	1	0'	0'- 5 1/2"	W40(i3934)	1004 lb	1303 lb	-	-
l	2	11'- 11"	12'- 4 1/2"	W41(i3935)	504 lb	717 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.



STRUCTURAL COMPONENT ONLY DWG # TF22071090



ROYAL PINE HOMES FORESTSIDE ESTATES

BRAMPTON

3803

Job Name: 3803 EL A,B,C SUNKEN **1ST FLR FRAMING** Level:

Label: B9A - i7429 Type: **Beam**

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

Status: Design Passed

CITY: Designed by Single Member Design Engine in MiTek® Structure Version Illustration Not to Scale. Pitch: 0/12 Report Version: 2021.03.26 07/15/2022 09:18 8.5.3.233.Update5.15

> 17-01-04 17-10-00

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: 9'- 8 1/2" Top: 0'

Factored Resistance of Support Material:

- 615 psi Wall @ 0'- 3 3/8"
- 615 psi Beam @ 17'- 6 5/8"

PLY TO PLY CONNECTION: 4 ROWS OF 3.25" PNEUMATIC GUN NAILS (0.120"x3.25") @ 12" O/C

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



STRUCTURAL COMPONENT ONLY DWG # TF22071091 PG 1/2

I	ANALYSIS RESULTS						
1	Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
l	Factored Pos. Moment:	7'- 8 1/4"	1.4D	0.65	4109 lb ft	22974 lb ft	Passed - 18%
l	Factored Neg. Moment:	17'- 6 5/8"	1.25D + 1.5L	1.00	566 lb ft	30514 lb ft	Passed - 2%
l	Factored Shear:	1'- 4 1/4"	1.4D	0.65	857 lb	8980 lb	Passed - 10%
l	Live Load (LL) Pos. Defl.:	8'- 10 5/16"	L		0.082"	L/360	Passed - L/999
۱	Total Load (TL) Pos. Defl.:	8'- 9 3/16"	D + L		0.241"	L/240	Passed - L/851

SUP	PORT AND	REACTION INFORM	IATION					
ID	Input Bearing Length	Controlling Load Combination	LDF	Factored Downward Reaction	Factored Uplift Reaction	Factored Resistance of Member	Factored Resistance of Support	Result
1	4-06	1.4D	0.65	983 lb		10351 lb	6123 lb	Passed - 16%
2	4-06	1.25D + 1.5L	1.00	5331 lb		15925 lb	9417 lb	Passed - 57%

SPECI	FIED LOAD	S						
Туре	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	17'- 10"	Self Weight	Тор	12 lb/ft	-	-	-
Uniform	0'	17'- 10"	FC3 Floor Decking (Plan View Fill)	Тор	7 lb/ft	15 lb/ft	-	-
Uniform	0'	7'- 7 3/8"	FC3 Floor Decking (Plan View Fill)	Тор	3 lb/ft	6 lb/ft	-	-
Uniform	0'- 4 3/8"	8'- 1 3/8"	User Load	Top	60 lb/ft	-	-	-
Uniform	7'- 7 3/8"	13'- 8 11/16"	FC3 Floor Decking (Plan View Fill)	Тор	9 lb/ft	19 lb/ft	-	-
Uniform	13'- 8 11/16"	17'- 10"	FC3 Floor Decking (Plan View Fill)	Тор	5 lb/ft	10 lb/ft	-	-
Uniform	14'- 1 15/16"	17'- 10"	3(i3891)	Top	81 lb/ft	-	-	-
Uniform	17'- 3/8"	17'- 10"	3(i3891)	Top	1 lb/ft	1 lb/ft	-	-
Point	7'- 8 1/4"	7'- 8 1/4"	B8(i7644)	Front	165 lb	127 lb	-	-
Point	14'- 7/16"	14'- 7/16"	3(i3891)	Top	4 lb	-	-	-
Point	14'- 1 5/16"	14'- 1 5/16"	2(i3890)	Top	70 lb	81 lb	-	-
Point	14'- 1 5/16"	14'- 1 5/16"	3(i3891)	Тор	8 lb	-	-	-
Point	17'- 8 3/8"	17'- 8 3/8"	3(i3891)	Тор	864 lb	1828 lb	-	-
UNFAC	TORED R	EACTIONS						
ID	Start Loc	End Loc	Source		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 4 3/8"	W40(i3934)		711 lb	306 lb	-	-

17'- 10" 17'- 5 5/8" STLBM(i3911) 1605 lb 2194 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.
- Bearing capacity of member at support 1, 2 was verified for the effect of concentrated load applied near the support. At support 2. Required Load Area: L=1.500", W=5.500". LDF=1.00, Pf=3822 lb, Q'r=8580 lb, Result=44.55%



CITY:

ROYAL PINE HOMES FORESTSIDE ESTATES

3803 BRAMPTON Job Name: 3803 EL A,B,C SUNKEN Level: 1ST FLR FRAMING Label: B9A - i7429

Label: **B9A - i7**Type: **Beam**

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

Design
Passed

PLY TO PLY CONNECTION

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





CITY:

ROYAL PINE HOMES

3803

FORESTSIDE ESTATES

BRAMPTON

Job Name: 3803 EL B

Level: 2ND FLR FRAMING Label: B14A - i8279

Type: **Beam**

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

Report Version: 2021.03.26

Status: Design Passed

07/15/2022 09:49

Illustration Not to Scale. Pitch: 0/12

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

1-11-08

DESIGN INFORMATION

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

Amendment)

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

Lateral Restraint Requirements:

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

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

Factored Resistance of Support Material:

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

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

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



ANIAIN	VOID DECLU	T 0							
ANALY	YSIS RESUL	.18							
De	esign Criteria	Loc	cation	Load	Combination	on LDF	Design	Limit	Result
Factored	l Pos. Moment	:: 0'- 1	0 5/16"	1.25	D + 1.5L +	S 0.73	53 lb ft	25843 lb ft	Passed - 0%
Factored	l Shear:	1'-	3 3/8"	1.25	D + 1.5L +	S 0.73	115 lb	10101 lb	Passed - 1%
SUPPO	ORT AND R	EACTION	INFORM	ATION					
	Input Bearing Length	Controlling Combina		LDF	Factored Downwar Reaction	d Uplift	Factored Resistance of Member		Result
1 2	3-08 5-08	1.25D + 1. 1.25D + 1.		0.73 0.73	233 lb 298 lb		9315 lb 14638 lb	5510 lb 8656 lb	Passed - 4% Passed - 3%
SPECI	FIED LOAD	S							
Туре	Start Loc	End Loc	Sourc	е	Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
Self Weight	0'	1'- 11 1/2"	Self We	ight	Тор	12 lb/ft	-	-	-
Uniform	0'	1'- 11 1/2"	E25(i39	,	Тор	135 lb/ft	-	78 lb/ft	-
Uniform	0'- 3"	1'- 8 3/8"	FC4 Floor [(Plan Vie		Тор	3 lb/ft	6 lb/ft	-	-
UNFA	CTORED RE	ACTIONS	;						
ID	Start Loc	End Loc	S	ource		Dead (D)	Live (L)	Snow (S)	Wind (W)
1	0'	0'- 3 1/2"	E1	7(i3886)		129 lb	4 lb	68 lb	-
2	1'- 6"	1'- 11 1/2"	STLE	3M(i3974	·)	163 lb	5 lb	85 lb	-
DESIG	N 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

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



JILDER: ROYAL PINE HOMES
TE: FORESTSIDE ESTATES

MODEL: 3803
CITY: BRAMPTON

Job Name: 3803 EL C

Level: **2ND FLR FRAMING**Label: **B13B - i7118**

Type: Beam

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

Report Version: 2021.03.26

Status:

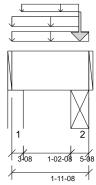
Design
Passed

07/15/2022 09:52

Illustration Not to Scale. Pitch: 0/12

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

gates, 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: 1'- 1 1/2"

Factored Resistance of Support Material:

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

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

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



Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Factored Pos. Moment	:: 0'- 6 1/2"	1.25D + 1.5L	0.65	7 lb ft	22974 lb ft	Passed - 0%
Factored Neg. Moment	t: 1'- 7"	1.25D + 1.5S + L	1.00	298 lb ft	35345 lb ft	Passed - 1%
Factored Shear:	1'- 3 3/8"	1.25D + 1.5S + L	1.00	331 lb	13815 lb	Passed - 2%
SUPPORT AND RI	EACTION INFORM	IATION				
Input ID Bearing	Controlling Load	Factored LDF Downward	Factored Uplift	Factored Resistance	Factored Resistance	Result

		Bearing ₋ength	Combina		LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
ı	1	3-08	1.40)	0.65	109 lb		8281 lb	4898 lb	Passed - 2%
,	2	5-08	1.25D + 1.	5S + L	1.00	2469 lb		20020 lb	11839 lb	Passed - 21%
١	SPECI	FIED LOAD	S							
ı	Туре	Start Loc	End Loc	Source		Face	Dead (D)	Live (L)	Snow (S)	Wind (W)
١	Self Weight	0'	1'- 11 1/2"	Self Wei	ght	Тор	12 lb/ft	-	-	-
ı	Uniform	0'	1'- 11 1/2"	E27(i391	10)	Тор	100 lb/ft	-	-	-
ı	Uniform	0'	1'- 8 3/4"	E27(i391	10)	Тор	34 lb/ft	-	77 lb/ft	-
ı	Uniform	0'- 3"	1'- 8 3/8"	FC4 Floor D (Plan View		Тор	3 lb/ft	6 lb/ft	-	-
ı	Point	1'- 8 3/4"	1'- 8 3/4"	E27(i391	10)	Тор	486 lb	-	907 lb	-
ı	UNFAC	TORED RI	EACTIONS	5						
ı	ID	Start Loc	End Loc	So	urce		Dead (D)	Live (L)	Snow (S)	Wind (W)
ı	1	0'	0'- 3 1/2"	E17	(i3886)		132 lb	4 lb	74 lb	-
	2	1'- 6"	1'- 11 1/2"	STLB	M(i3974	ł)	637 lb	5 lb	966 lb	-

DESIGN NOTES

ANALYSIS RESULTS

- 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

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



Maximum Floor Spans - S2.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 15 psf

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

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

Maximum Floor Spans

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

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

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



Maximum Floor Spans - S6.1

Design Criteria

Spans: Simple span

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

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

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

Maximum Floor Spans

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

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

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



Maximum Floor Spans - M2.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf

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

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

Maximum Floor Spans

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

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

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



Maximum Floor Spans - M4.1

Design Criteria

Spans: Simple span

Live load = 40 psf and dead load = 20 psf

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

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

Maximum Floor Spans

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

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

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



Maximum Floor Spans - M6.1

Design Criteria

Spans: Simple span

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

Maximum Floor Spans

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

		Mi	d-span blocking	with 1x4 inch st	rap	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"	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

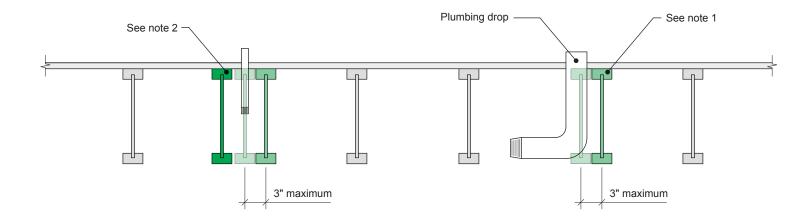
Loads: Live load = 40 psf and dead load = 20 psf
Deflection limits: L/480 under live load and L/240 under total load
Sheathing: 3/4 in. nailed-glued Canadian softwood plywood

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"
14"	NI-60	21'-8"	20'-1"	19'-2"	18'-2"	22'-4"	20'-9"	19'-9"	18'-9"
14	NI-80	23'-3"	21'-6"	20'-5"	19'-4"	23'-10"	22'-1"	21'-0"	19'-11'
	NI-90	23'-9"	21'-11"	20'-10"	19'-8"	24'-3"	22'-6"	21'-5"	20'-3"
	NI-60	23'-7"	21'-10"	20'-10"	19'-9"	24'-4"	22'-7"	21'-7"	20'-5"
16"	NI-80	25'-4"	23'-5"	22'-3"	21'-1"	26'-0"	24'-1"	22'-11"	21'-8"
	NI-90	25'-10"	23'-10"	22'-8"	21'-5"	26'-5"	24'-6"	23'-4"	22'-0"

Joist depth	Joist series	Mid-span blocking with 1x4 inch strap On centre spacing				Mid-span blocking and 1/2 in. gypsum ceiling On centre spacing			
		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:

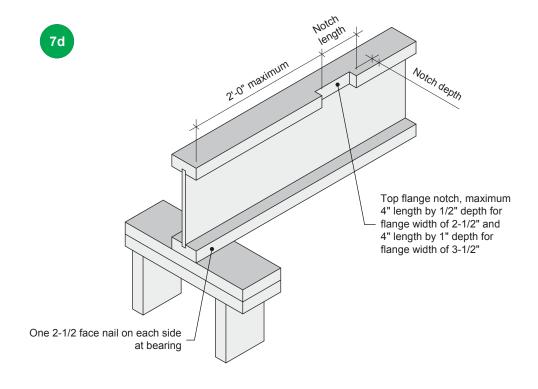
- 1. To prevent interference with plumbing, a joist may be shifted up to 3 inches if the edge of the floor panel is supported and the span rating is not exceeded.
- 2. In all other cases, an additional joist is required.

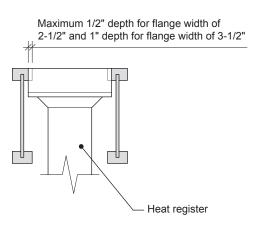
All nails shown in the details are assumed to be common nails unless otherwise noted. Nails shall have a diameter not less than 0.128 inch for 2-1/2-inch nails, or 0.144 inch for 3-inch nails. Individual components not shown to scale for clarity.





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





Notes:

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

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





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