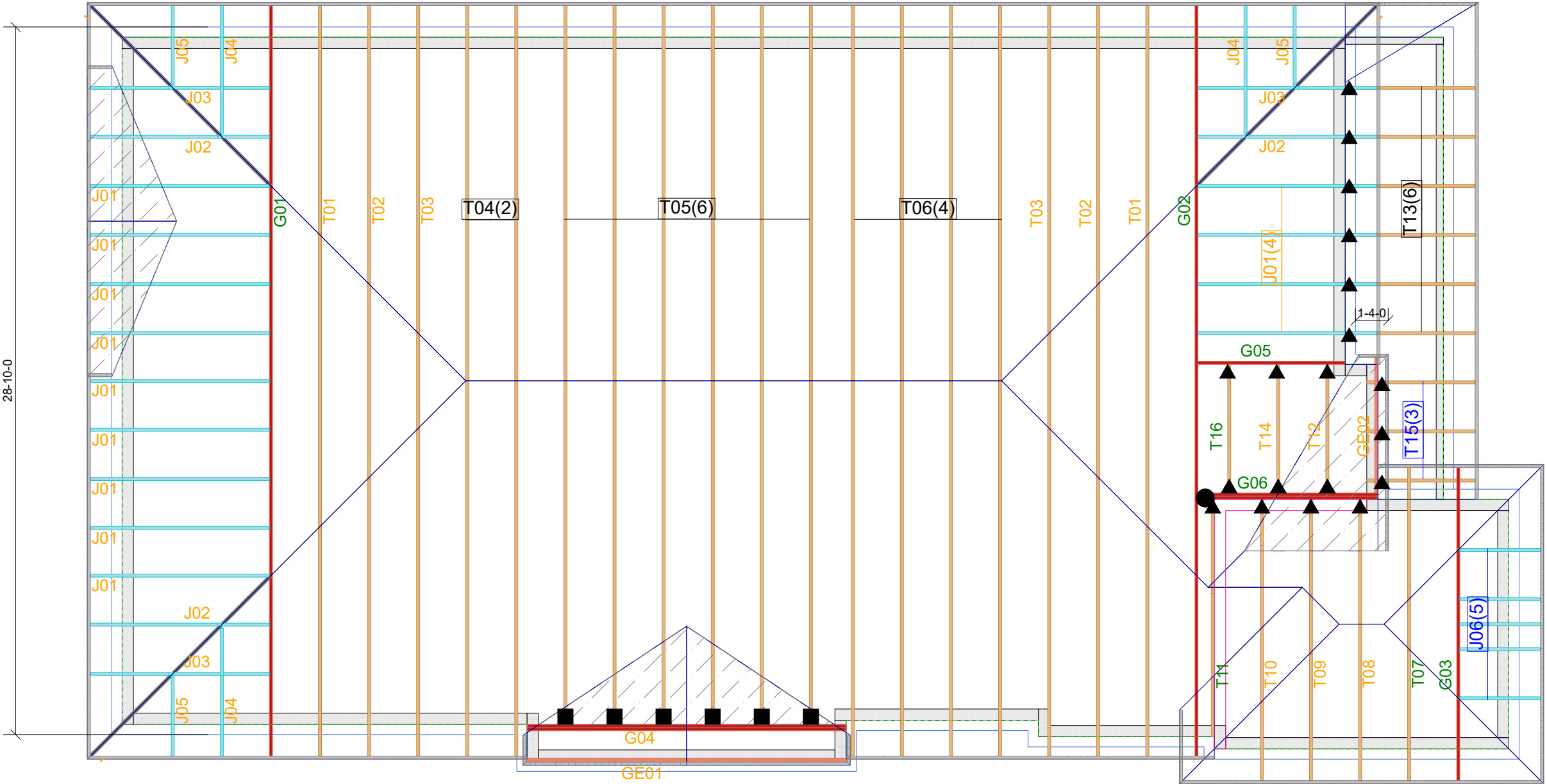




Hanger Name	Symbol	QTY
LUS24	▲	19
LJS26DS	■	6
HGUS26-2	●	1



CONVENTIONAL
FRAMING BY OTHERS

ALL CONVENTIONAL FRAMING TO CONFORM WITH PART 9 OF THE OBC. ROOF RAFTERS THAT CROSS OVER TRUSSES TO BE MIN. 2x4 SPF @ 24" C/C WITH A 2x4 VERTICAL POST TO THE TRUSS BELOW. VERTICAL POSTS TO BE Laterally BRACED SO THAT UNBRACED LENGTH DOES NOT EXCEED 6'. DESIGN OF CONVENTIONAL FRAMING IS THE RESPONSIBILITY OF THE PROJECT ENGINEER.

JOB INFORMATION

Customer	GREENPARK HOMES
Job #	23-00124R0
Address	ZADORRA ESTATES OSHAWA, ON
Model	VILLA 12A-ELEV 3
Sales Rep	RALPH MIRIGELLO
Designer	RB
Date	6/14/23
Path	C:\MITEK\CA\JOBS\GREENPARK\ZADORRA ESTATES\VILLA 12A\VILLA 12A-3\T-VILLA 12A-3\

DESIGN INFORMATION

Code	NBCC 2015
Bldg	Residential - HSB (NBCC Part 9)
TC LL	34.8 lb/ft²
TC DL	6.0 lb/ft²
BC LL	0.0 lb/ft²
BC DL	7.3 lb/ft²
Deflection	LL=L/360 TL=L/360
Spacing	24" O/C unless otherwise noted
Complies With	OBC 2012 (2019 Amendment) CSA O86-14 and TPIC 2014

IMPORTANT INFORMATION

Hangers and Fasteners to be installed as per manufacturer

Refer to truss drawings in the Truss Engineering Package for ply-to-ply attachment notes

For site-framed valleys: top chords of all roof trusses must be laterally supported using 2x4 continuous bracing @24 O/C - all bracing must be anchored at ends as per TPIC Installation Guidelines

Read all notes on this page in addition to those shown on the KOTT Truss Engineering package

Field erection, handling and bracing are not the responsibility of KOTT, or KOTT Engineering

Unless noted otherwise, hurricane ties are to be installed at the bearings of all trusses > 40 ft clear span, and any girder or beam supporting trusses with a clear span >40 ft. See hanger legend for type.

Unless noted otherwise, for Part 9 bldgs, all trusses are to be anchored to the top of supporting walls as follows: trusses with a clear span <40 ft use 3-1/4" nails @ each bearing; trusses with a clear span >40 ft use 3-1/4" nails @ each bearing in addition to the appropriate hurricane tie.

KOTT Inc.
14 Anderson Blvd.
Uxbridge, ON
905.642.4400





CORPORATION OF THE CITY OF OSHAWA

TRUE COPY

OF PERMIT PLANS

Nov 21 2023

PER:

CHIEF BUILDING OFFICIAL

Engineering Notes: Trusses

NE0723-142

GREENPARK - ZADORRA

ESTATES - VILLA 12A-3

PLEASE READ ALL NOTES PRIOR TO INSTALLATION OF THE COMPONENT

RESPONSIBILITIES

THE UNDERSIGNED ENGINEER IS ONLY RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THIS BUILDING COMPONENT FOR THE CONDITIONS AND LOADS SHOWN ON CALCULATION PAGE. THE STRUCTURAL INTEGRITY OF THE BUILDING AND THE VERIFICATION OF THE DIMENSIONS AND THE DESIGN LOADS USED ARE THE RESPONSIBILITY OF THE BUILDING DESIGNER.

THE UNDERSIGNED ENGINEER DISCLAIMS ANY RESPONSIBILITY FOR DAMAGES AS A RESULT OF FAULTY OR INCORRECT INFORMATION, SPECIFICATION AND/OR DESIGNS FURNISHED TO THE ENGINEER.

IT IS THE RESPONSIBILITY OF KOTT Inc. TO ENSURE THAT TRUSSES ARE MANUFACTURED IN CONFORMANCE WITH THESE DESIGNS AND WITH THE SPECIFICATIONS OUTLINED BELOW. THE UNDERSIGNED ENGINEER IS NOT RESPONSIBLE FOR QUALITY CONTROL IN THE TRUSS MANUFACTURING PLANT.

DESIGN INFORMATION

THIS DESIGN IS FOR AN INDIVIDUAL BUILDING COMPONENT AND HAS BEEN BASED ON INFORMATION PROVIDED BY KOTT DESIGN.

1. THE BUILDING USE AND OCCUPANCY TYPE IS AS INDICATED ON THE DRAWING.
2. GEOMETRY OF THE TRUSS AND DIMENSIONS INDICATED ON THE DRAWING ARE IDENTICAL TO THOSE OF THE INSTALLED TRUSS.
3. THE TRUSS LOADING INTENSITY AND DISTRIBUTION AS WELL AS LOAD TRANSFER MECHANISM IS THAT INDICATED ON THE DRAWING. NO BUILDINGS, TREES, PARAPETS OR OTHER PROJECTIONS HIGHER THAN THE ROOF FOR WHICH THE TRUSSES ARE USED ARE LOCATED WITHIN A DISTANCE LESS THAN TEN (10) TIMES THE DIFFERENCE IN HEIGHT, OR FIVE METERS (16 FT) WHICHEVER IS GREATER, UNLESS THE DRAWING INDICATES THAT THE SNOW DRIFTING HAS BEEN TAKEN INTO ACCOUNT.
4. THE TRUSSES ARE TO BE SUPPORTED AT THE BEARING POINTS INDICATED AND ANCHORED TO THE SUPPORTS WHERE CONSIDERED NECESSARY BY THE DESIGNER OF THE OVERALL STRUCTURE. BEARING SIZES SHOWN ARE THE MINIMUM REQUIRED TO PREVENT CRUSHING OF THE TRUSS MEMBERS AND DO NOT NECESSARILY TAKE INTO ACCOUNT STABILITY OF THE OVERALL BUILDING STRUCTURE. ELEVATION OF BEARINGS MUST BE CAREFULLY CHECKED AND SHIMMED TO ALIGNMENT FOR SOLID BEARINGS. ADEQUATE WOOD TRUSS BEARING IS THE RESPONSIBILITY OF THE BUILDING DESIGNER.

CODE

TRUSSES ARE DESIGNED IN CONFORMANCE WITH THE RELEVANT SECTIONS OF THE NATIONAL BUILDING CODE OF CANADA OR THE CANADIAN CODE FOR FARM BUILDINGS, WHICHEVER APPLIES TO THE BUILDING TYPE INDICATED ON THE DRAWING, THE ONTARIO BUILDING CODE, TPIC AND CANADIAN STANDARDS ASSOCIATION GUIDELINES.

HANDLING, INSTALLATION AND BRACING

1. THE TRUSSES MUST BE HANDLED AND INSTALLED BY A QUALIFIED PROFESSIONAL AS PER THE SUPPLIED DOCUMENT TITLED INFORMATION FOR TRUSS INSTALLERS AND THE BCSI-B1 AND BCSI-B3 SUMMARY SHEETS.
2. THE COMPRESSION CHORDS ARE Laterally Braced by Continuous Rigid Diaphragm Sheathing or as Specified on the Drawing.
3. TEMPORARY AND PERMANENT BRACING MUST BE INSTALLED AS INDICATED ON THE TRUSS DRAWING AND ACCORDING TO THE BCSI-B1 AND BCSI-B3 SUMMARY SHEETS. BRACING FOR THE LATERAL STABILITY OF THE TRUSS IS TO BE PROVIDED BY THE BUILDING DESIGNER.
4. IT IS RECOMMENDED THAT A PROFESSIONAL ENGINEER'S ADVICE BE OBTAINED FOR THE BRACING OF TRUSSES SPANNING MORE THAN 12.37M (40'-7").

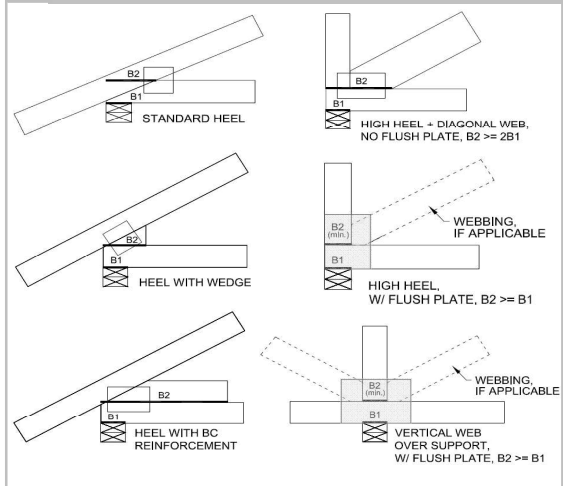
KOTT TRUSS BEARING CAPACITY TABLE

(INTERNAL USE ONLY)

TRUSS BEARING CAPACITIES (LBS.), BY RUSS LUI, TOP PLATE) 7-Jun-21

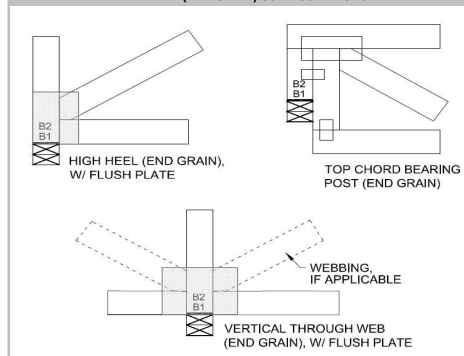
		1-PLY				3-PLY			
NO BEARING ENHANCER	BEARING PLATE (B1)	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
	1 1/2"		1383		2767		4151		5534
	2x4	3712	3228	7425	6457	11138	9685	14851	12914
	2x6	5834	5073	11668	10146	17503	15220	23337	20293
	2x8	7690	6687	15381	13375	23072	20063	30763	26750
FLUSH PLATE	TYPE 1, FLUSH PLATE								
	BEARING PLATE (B1)	1-PLY		2-PLY		3-PLY		4-PLY	
		MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
	1 1/2"		1383		2767		4151		5534
	2x4		3712		7425		11138		14851
	2x6		5834		11668		17503		23337
2x8		7690		15381		23072		30763	
BEARING ENHANCER	TYPE 1, FLUSH PLATE + BEARING ENHANCER								
	BEARING PLATE (B1)	1-PLY		2-PLY		3-PLY		4-PLY	
		MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
	CPn-4 (Simpson)	2x4	4515		9030		13545		18065
	CPn-6 (Simpson)	2x6	7095		14190		21285		28390
	CP4-9 (KOTT)	2x4	6007	4898	12014	9796	18021	14694	19801
CP6-9 (KOTT)	2x6	8677	7075	17354	14150	26031	21225	31117	28300
SBP4 (MiTek)	2x4		7288		11001		14714		18427
SBP6 (MiTek)	2x6		11030		16865		22699		28534
SBP6 (MiTek)	2x8		12886		20578		28269		35960

TYPE 1 CONFIGURATIONS



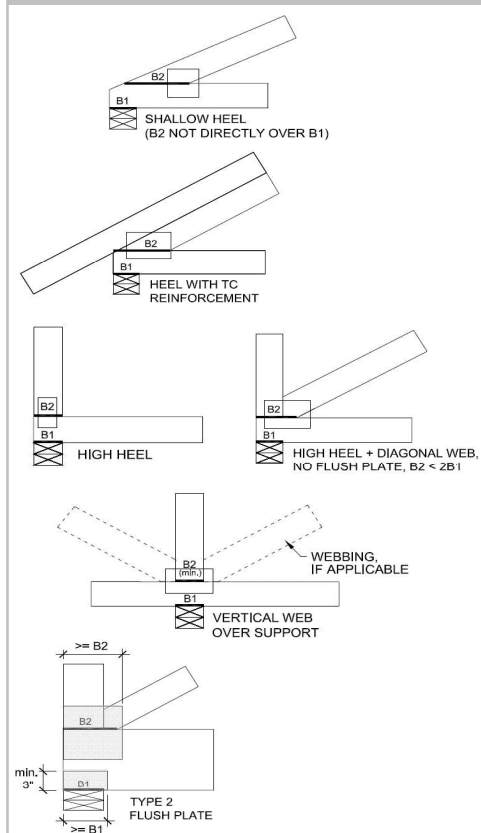
END GRAIN	BEARING PLATE (B1)	POST (B2) ABOVE BEARING	TYPE 1 (END GRAIN)							
			1-PLY	2-PLY	3-PLY	4-PLY	1-PLY	2-PLY	3-PLY	4-PLY
			MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)
	2x4	2x4	3712		7425		11138		14851	
	2x6	2x6	5834		11668		17503		23337	
END GRAIN, BEARING ENHANCER	BEARING PLATE (B1)	POST (B2) ABOVE BEARING	TYPE 1 (END GRAIN), FLUSH PLATE + BEARING ENHANCER							
			1-PLY	2-PLY	3-PLY	4-PLY	1-PLY	2-PLY	3-PLY	4-PLY
	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)
	CPn-4 (Simpson)	2x4	4515		9030		13545		18065	
	CPn-6 (Simpson)	2x6	7095		14190		21285		28390	
CP4-9 (KOTT)	BEARING PLATE (B1)	POST (B2) ABOVE BEARING								
			1-PLY	2-PLY	3-PLY	4-PLY	1-PLY	2-PLY	3-PLY	4-PLY
	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)
	CP4-9 (KOTT)	2x4	6007	4898	12014	9796	18021	14694	19801	19592
	CP6-9 (KOTT)	2x6	8677	7075	17354	14150	26031	21225	31117	28300
CP6-9 (KOTT)	BEARING PLATE (B1)	POST (B2) ABOVE BEARING								
			1-PLY	2-PLY	3-PLY	4-PLY	1-PLY	2-PLY	3-PLY	4-PLY
	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)	MSR2100	SPF No.2 (EG)
	CP6-9 (KOTT)	2x6	11030		16865		22699		28534	
	CP6-9 (KOTT)	2x8	12886		20578		28269		35960	

TYPE 1 (END GRAIN) CONFIGURATIONS



NO BEARING ENHANCER	BEARING PLATE (B1)	POST (B2) ABOVE BEARING	TYPE 2, NO FLUSH PLATE, B2 < 2B1							
			1-PLY	2-PLY	3-PLY	4-PLY	1-PLY	2-PLY	3-PLY	4-PLY
			MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
	2x4	2x4	2639	2152	5279	4304	7919	6457	10588	8609
	2x6	2x6	3393	2767	6787	5534	10181	8302	13575	11069
FLUSH PLATE	BEARING PLATE (B1)	POST (B2) ABOVE BEARING	TYPE 2, FLUSH PLATE							
			1-PLY	2-PLY	3-PLY	4-PLY	1-PLY	2-PLY	3-PLY	4-PLY
			MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950	MSR2100	SPF No.2 MSR1950
	2x4	2x4	4672	3809	9344	7619	14016	11429	18689	15238
	2x6	2x6	7342	5986	14684	11973	22026	17959	29368	23946

TYPE 2 CONFIGURATIONS



NOTES:

- Factored truss reaction shall not exceed bearing capacity corresponding to: configuration type, size of bearing surfaces, truss lumber, # of plies, and applicable enhancers.
- Values in table are in conformance with CSA O86-14 Cl. 6.5.7 and TPIC 2014-Update 2, and may be used for residential or commercial designs.
- Values in table are in conformance with MiTek Canada Detail B37821Q "SPF Bearing Capacities".
- Values in table are in conformance with Simpson Catalogue C-C-CAN2020.
- Conditions for use of table values include: standard duration ($K_D=1$), dry lumber ($K_{DP}=1$), length of bearing factor not applied ($K_L=1$).
- Size factor (K_{ZF}) applied to support material calculation when acceptable. Flush plate factor (K_P) applied to truss material calculation when acceptable (ie. excludes end grain).
- Flat roof factor (K_R) must applied for trusses making up a flat roof system; to do so, multiply bearing capacity values by 0.75 for this application.
- Bearing plate is to be specified by the project engineer; values in table assume a bearing material of SPF #2 (or better).
- When required, flush plate must not be located further than 1/4" away from bearing surface, and must cover the entire bearing plate length (B1).
- When required, bearing enhancer must be installed as per manufacturer's guidelines.
- Type 2 bearing configurations can be converted to use Type 1 table values as outlined in TPIC 2014-Update 1 Cl. 7.5.9.
- This table is not valid after April 30, 2022.

TOE-NAIL CAPACITY DETAILS

LATERAL AND WITHDRAWAL RESISTANCE OF BEARING ANCHORAGE BY TOE-NAILS

NAIL TYPE	Length (in)	Diameter (in)	LATERAL Resistance per nail (Lbs.)		WITHDRAWAL Resistance per nail (Lbs.)	
			SPF	D. FIR	SPF	D. FIR
COMMON WIRE	3.00	0.144	122	139	30	42
	3.25	0.144	127	144	32	45
	3.50	0.160	152	173	38	52
COMMON SPIRAL	3.00	0.122	96	108	26	36
	3.25	0.122	97	108	28	40
	3.50	0.152	142	161	36	50
3.25" Gun nail	3.25	0.120	94	105	28	39

Note: If using truss with D. Fir lumber and SPF bearing plate, use tabulated SPF values in table.

Nail type:	Common wire	Common spiral	Common wire	Common spiral	Gun Nail
Diameter (in.)	0.160	0.152	0.144	0.122	0.120
Length (in.)	3.50	3.50	3.00	3.00	3.25
LUMBER	MAXIMUM NUMBER OF TOE-NAILS				
2x4 SPF	2	2	3	3	3
2x6 SPF	4	4	4	5	5
2x4 D. FIR	2	2	2	2	2
2x6 D. FIR	3	3	3	4	4

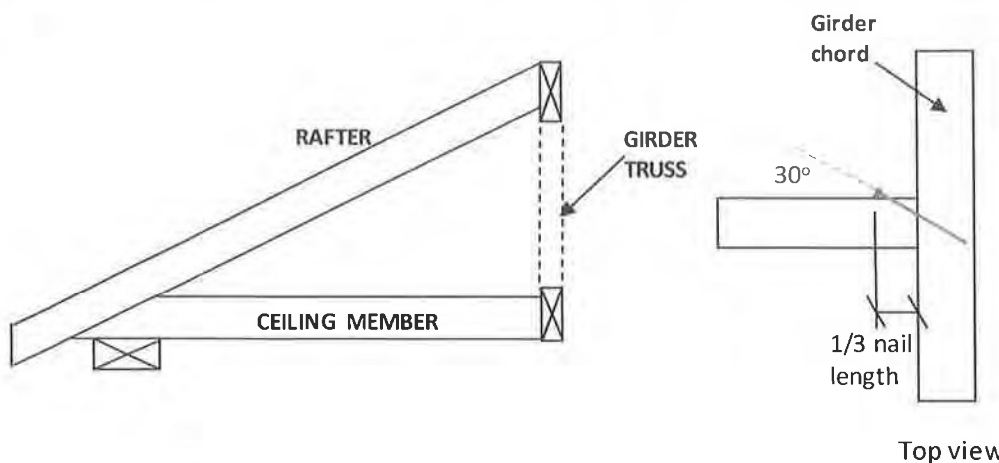
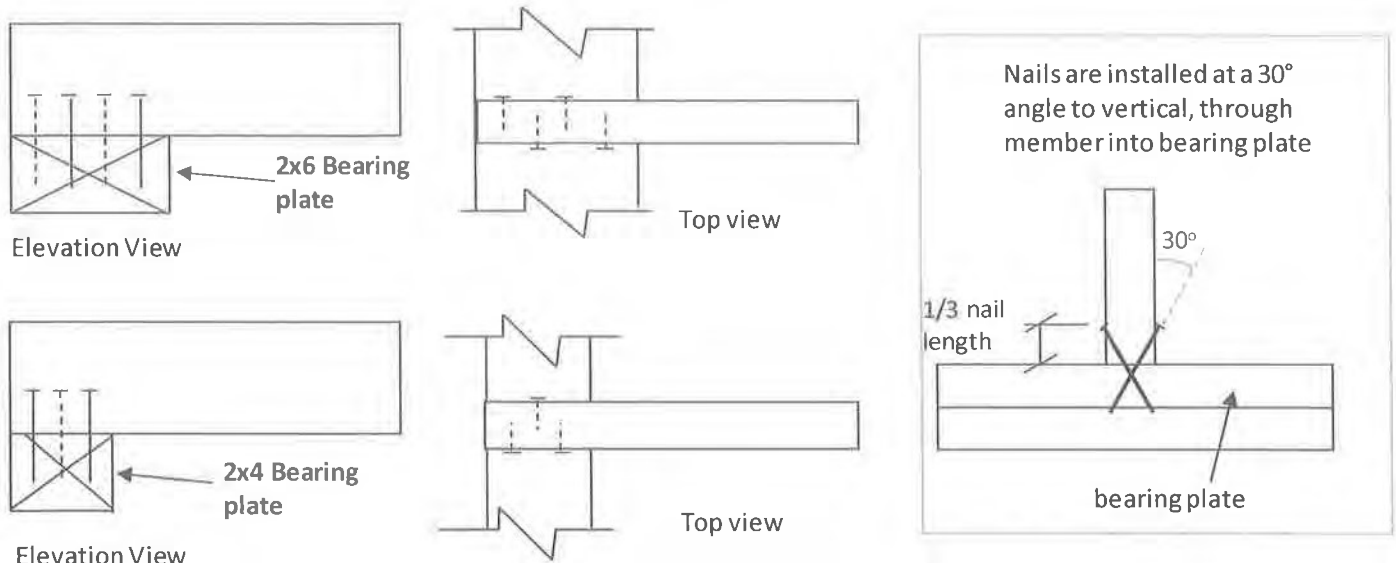


Figure 1: Toe-Nailing Rafter / Ceiling Member to Girder Truss

TOE-NAIL CAPACITY DETAILS

Figure 2: Toe-Nail Anchorage to Bearing Plate for Uplift



NOTES:

1. Rafter and ceiling members may be connected to top and bottom chords of girder truss by toe-nailing the members into the girder chords (see fig. 1), provided the factored vertical reactions of the supported members do not exceed the lateral resistance of the toe-nails. Mechanical connectors (hangers) are required if factored vertical reactions exceed the toe-nail capacity, or if the connection must resist horizontal loads (loads perpendicular to the face of girder or rafter).
2. Trusses, rafters or ceiling members may be anchored to the bearing plate with toe-nails (see fig. 2), provided that the factored uplift reactions due to **wind or earthquake loads** do not exceed the **withdrawal resistance of the toe-nails**. Mechanical anchors (tie-downs) are required for reactions that exceed the toe-nail withdrawal capacity. Toe-nail anchorage to bearing plates is **NOT** permitted if uplift reactions are generated from gravity loads (snow, floor live, dead).
3. Tabulated toe-nail resistances on page 1 are for **one** toe-nail. Multiply unit values by the number of nails used in the connection. Maximum number of nails in a connection shall not exceed the tabulated limits shown on page 1 for a given lumber size /species.
4. Nail values are based on specific gravity of $G = 0.42$ (SPF) and $G = 0.49$ (D. Fir).
5. Toe-nails shall be driven at approximately 1/3 the nail length from the edge of the joist/truss chord and driven at an angle of 30° to the grain of the member.
6. For wind / earthquake loads, tabulated lateral resistances may be multiplied by 1.15 (K_D factor). No increases are permitted for tabulated withdrawal resistances.
7. Lumber must be dry (< 19% moisture content) at the time of nail installation.
8. Nail values in this table comply with CSA O86-19, Clause 12.9.

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MiTek



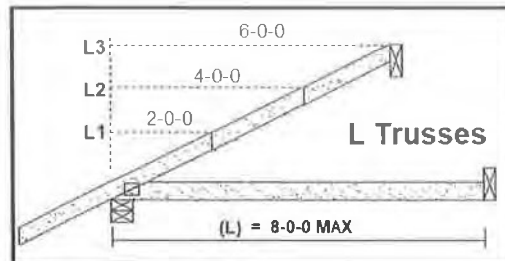
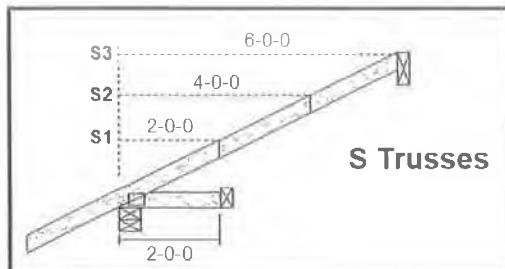
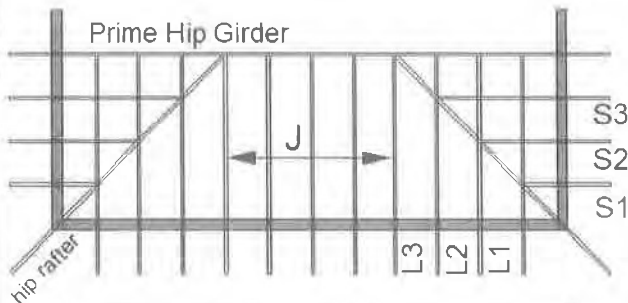
STANDARD DETAIL MSD2015-J

Issued: MARCH 17, 2021

Expiry: APRIL 30, 2023

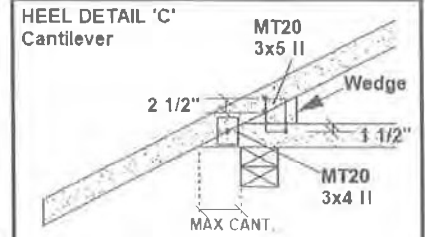
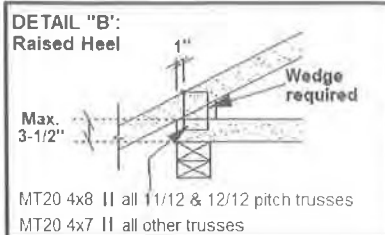
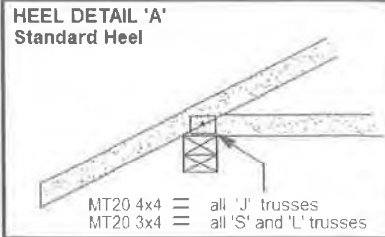
STANDARD HIP END FRAMING

PLAN VIEW



Specified Load Rating:

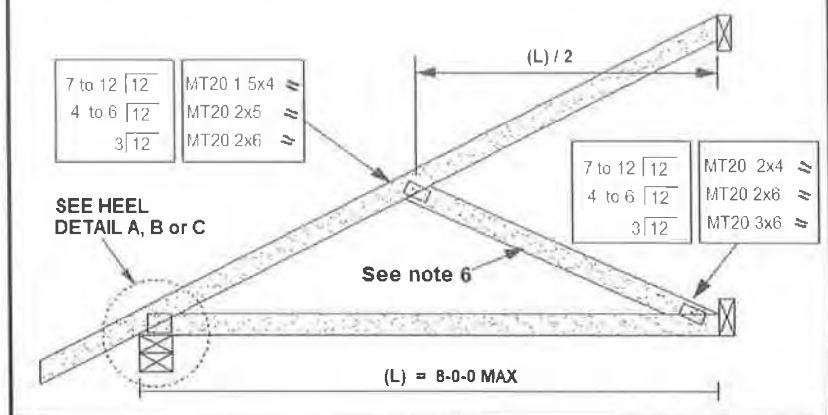
Top chord Live:	51.0 PSF or less
Top chord Dead:	6.0 PSF or less
Bottom chord Live:	0.0 PSF
Bottom chord Dead:	7.3 PSF or less



CANTILEVER DETAIL "C"

SLOPE	MAX CANT.	WEDGE PLATE	WEDGE SIZE
3/12	17"	3 X 5	2 X 3
4/12	14"	3 X 5	2 X 3
5/12	12"	3 X 5	2 X 4
6/12	10"	3 X 5	2 X 4
7/12	9"	3 X 5	2 X 6
8/12	8 5/8"	3 X 5	2 X 6
9/12	8"	3 X 5	2 X 6
10/12	7 5/8"	3 X 5	2 X 6

J Trusses



PEO

Certificate No. 10889485

NOTES:

1. This detail is valid only for projects conforming to **PART 9 NBCC 2015** that do not require a wind analysis to be incorporated into the design of the trusses.
2. Overhang length shall not exceed 24 inches.
3. All lumber shall be 2x4 SPF (or D-Fir) DRY No. 2 grade or better.
4. All plates specified are MITEK MT20, pressed into both faces of each truss. Heel plates of all trusses shall conform to heel details 'A', 'B' or 'C'.
5. Diagonal hip rafter design shall conform to section 9.23.14.6 of NBCC 2015.
6. For 6.0 ft. or less span, diagonal web on truss 'J' is optional. Girder design must reflect choice of partial jack ('J' with diagonal web) or open jack ('J' without diagonal web)
7. All truss-to-rafter and truss-to-truss connections shall be specified as per MITEK standard detail 'MSD2015-H: Toe-Nail Capacity Details'



STANDARD GABLE END DETAIL

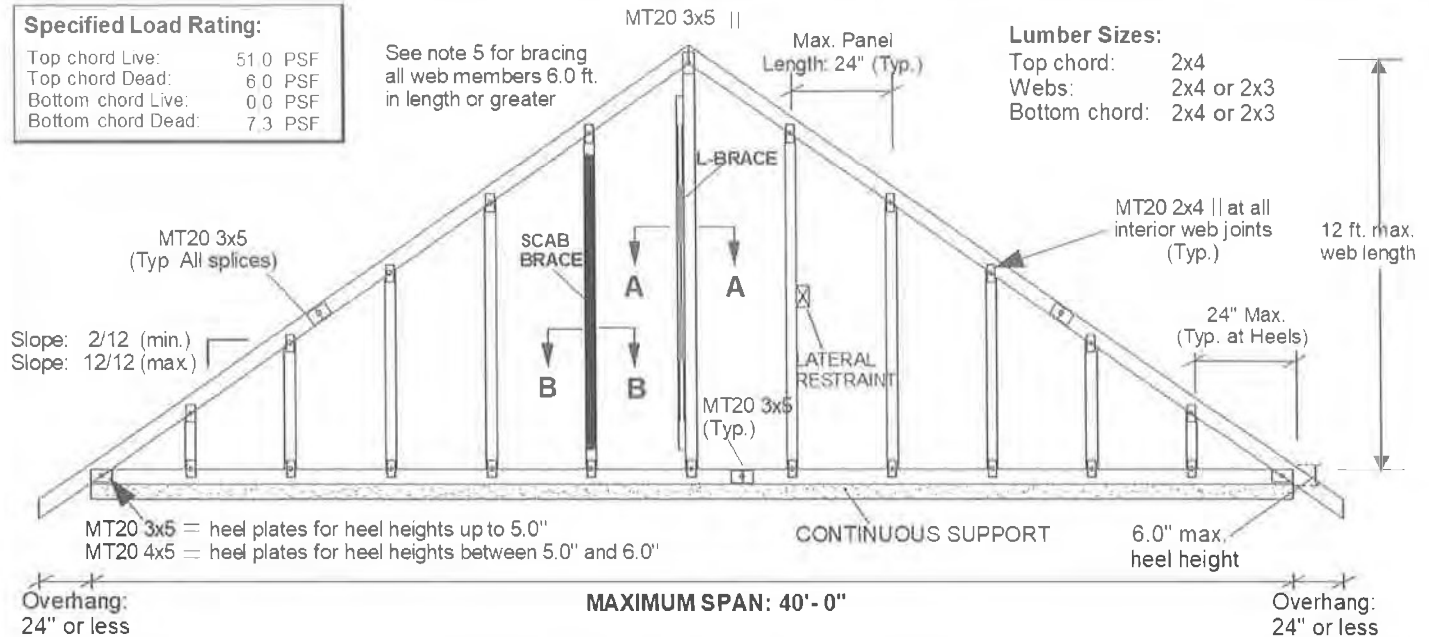
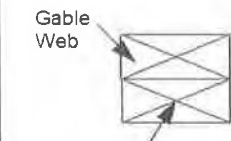
Specified Load Rating:

Top chord Live:	51.0 PSF
Top chord Dead:	6.0 PSF
Bottom chord Live:	0.0 PSF
Bottom chord Dead:	7.3 PSF

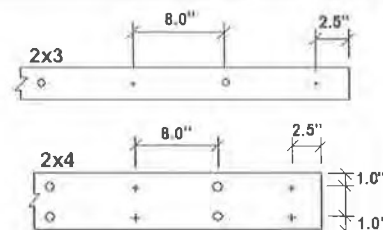
See note 5 for bracing
all web members 6.0 ft.
in length or greater

Lumber Sizes:

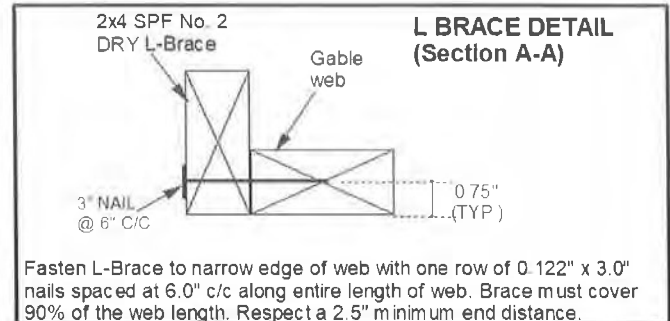
Top chord:	2x4
Webs:	2x4 or 2x3
Bottom chord:	2x4 or 2x3

**SCAB BRACE DETAIL
(Section B-B)**

SPF No. 2 DRY Scab, same
size as web. Scab brace
must cover 90% of web length



- + 0.122"x3.0" nail driven from front face
- o 0.122"x3.0" nail driven from back face



Fasten L-Brace to narrow edge of web with one row of 0.122" x 3.0" nails spaced at 6.0" c/c along entire length of web. Brace must cover 90% of the web length. Respect a 2.5" minimum end distance.

Notes:

1. This detail is only valid for projects conforming to **Part 9, NBCC 2015** that do not require a wind analysis to be incorporated into the design of the truss.
2. This detail is for vertical (gravity) load rating of the truss only. Truss must be continuously supported over the entire length of bottom chord.
3. Maximum web length not to exceed 12.0 ft. Spacing of gable stud webs in the truss not to exceed 24 inches cc.
4. Splice joints shall not be located in the first panel adjacent to the heel joint or peak joint.
5. Lateral restraint required at half-length of all webs over 6.0 ft. long. Alternatively install an L-Brace or scab brace as shown above. Scab braces shall be limited to 10 ft. long webs or less.
6. All plates are MITTEK MT20 pressed into both faces of truss.
7. All lumber to be SPF (or D-Fir) DRY and of No.2 grade or better.
8. Additional building bracing is typically installed to brace the face of the end wall assembly. See BCSI Canada 'Building Designer Responsibilities for Gable End Frame Bracing' for additional information on building bracing for gable-end assemblies.

PEO
Certificate No. 10889485



