



MiTek New Zealand Limited

Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
14 Pilkington Way, Wigram 8042
PO Box 8387, Riccarton 8440
Phone: 03 348 8691
Fax: 03 348 0314

www.mitek.nz.co.nz
Printed: 04:00:32 02 Nov 2011

MiTek 20/20 Engineering 4.6.6.121

PRODUCER STATEMENT for MiTek 20/20® TRUSS DESIGN - Version 4.6₁

ISSUED BY: **MiTek New Zealand Limited**
TO: **Christchurch Manufacturing**
IN RESPECT OF: **MiTek® Truss Designs**

111118055140
BC110550.01



TRIM Record Number

This producer statement covers the MiTek 20/20® truss design and the structural performance of the GANG-NAIL® connector plate for the job reference **CD91052** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

The MiTek 20/20® truss design program has been developed by MiTek New Zealand Limited for the design of MiTek® timber roof, floor and attic trusses in New Zealand. The truss designs computed by MiTek 20/20® are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Limited, and subject to:

- i) All proprietary products meeting their performance specification requirements
- ii) The provision of adequate roof bracing and overall building stability
- iii) Correct selection and placement of GANG-NAIL connector plates
- iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
- v) The design being undertaken by the accredited fabricator under the terms of the software licence

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20® truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Limited holds a current policy of Professional Indemnity Insurance no less than \$500,000.

On behalf of MiTek New Zealand Limited,

Date: Wednesday, 2 November 2011

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Limited

COUNCIL COPY

Christchurch Manufacturing

Job: CD91052

Client: Mike Greer Homes
Phone:

Site: Humpheys
149 Hodgsons Rd
Ioburn

Description:
Building Consent No.:
MiTek 20/20 Engineering 4.6.6.121

MiTek New Zealand Limited

Fabricator Design Statement : Page 1

02 NOV 2011

Phone:

Printed: 04:00:32 02 Nov 2011

BY: 110550 A

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Christchurch Manufacturing**, being licensed to use the MiTek 20/20[®] software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20[®] TRUSS DESIGN DATA

The MiTek 20/20[®] computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the MiTek[®] trusses.

Job Details

Importance Level : 2

Design Working Life : 50 years

Roof Truss

Timber Group: MSG8 DDP H1.2+MSG6

Pitch: 28.000 deg

Nominal Overhang: 600 mm

Roof

Material: Corona Shake
Dead Load: 0.300 kPa
Restraints: 400 mm centres
Live Load: Q_{ur} = 0.250 kPa
Q_c = 1.100 kN

Ceiling

Material: Standard
Dead Load: 0.200 kPa
Restraints: 400 mm centres
Live Load: Q_c = 1.400 kN

Wind

Area: High (44.0 m/s)
Pressure Coeff: C_{pe} = varies; C_{pi} = -0.30, 0.20

Snow

Location: Christchurch (N4) at 100 m
Open Ground Load: 0.900 kPa
Basic Roof Load: 0.630 kPa

Attic Floor

Material: 20mm Particle Board
Dead Load: 0.200 kPa
Restraints: Continuous

Attic Room Ceiling

Material: Gib Board 12mm
Dead Load: 0.200 kPa
Restraints: 600 mm centres

Attic Wall

Material: Gib Board
Dead Load: 0.300 kPa
Restraints: Continuous

The timber for these MiTek[®] trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a "closed environment", as defined by NZS3604:2011 Section 4.

MiTek[®] Truss List

Legend: * = detail only, ? = input only, -xx = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
WB = windbeam required

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
*BK1	16	855	0.000	900	J11	1	1292	28.000	900	T18	1	5044	28.000	900
*CN1	32	855	0.000	900	*R01	5	1791	28.000	900	T19	1	4671	28.000	900
CT01	1	858	28.000	900	*R02	15	891	28.000	900	T20	1	3352	28.000	900
CT01A	1	858	28.000	900	*R03	2	1636	28.000	900	T21	1	806	28.000	900
FJ1	7	3000	0.000	900	*R04	1	1614	0.000	900	T22	1	10892	28.000	869 LB
*HB01	6	6197	20.605	900	*R05	16	1600	28.000	900	T22A	1	10892	28.000	869 LB
*HB02	2	4361	20.605	900	*R06	1	1639	0.000	900	T23	1	8251	26.162	900 LB
HT01	2	7640	28.000	900 LB	S01	5	10892	28.000	869	T24	8	7640	28.000	900
HT01A	1	7640	28.000	900	T01	17	7640	28.000	900	T25	1	5067	28.000	900
HTG01	1	7640	28.000	900	T01A	1	7640	28.000	900	T26	1	4695	28.000	900
HTG01A	1	7640	28.000	900 LB	T01B	2	7639	28.000	900	T27	1	3511	28.000	900
J01	6	3000	28.000	900	T01C	4	7640	28.000	900	T28	1	965	28.000	900
J01A	1	3000	28.000	900	T01D	1	7640	28.000	900	T29	1	5053	28.000	900
J01B	1	3000	28.000	900	T01E	3	7640	28.000	900	T30	1	4680	28.000	900
J01C	1	3000	28.000	900	T02	1	8260	26.161	900	T31	1	3414	28.000	900
J01D	1	3000	28.000	900	T03	1	5575	28.000	900	T32	1	868	28.000	900
J01E	1	3000	28.000	900	T04	1	5576	28.000	900	T33	1	6236	28.000	900
J01F	1	3000	28.000	900	T05	1	10892	28.000	900 LB	T34	1	4063	28.000	900
J01G	12	3000	28.000	900	T05A	1	10892	28.000	900 LB	T35	1	3058	28.000	900
J02	5	2100	28.000	900	T06	1	7406	26.162	900	T36	1	7640	28.000	900
J02A	1	2100	28.000	900	T07	1	5033	28.000	900	T36A	1	7640	28.000	900 LB
J02B	6	2100	28.000	900	T08	1	2861	28.000	900	T37	1	3464	28.000	900
J03	1	1200	28.000	900	T09	1	1654	28.000	900	TG01	1	7640	28.000	900
J03A	1	1200	28.000	900	T10	1	4236	11.501	900 LB	TG01A	1	7640	28.000	900
J04	1	3404	28.000	900	T10A	1	4236	11.501	900 LB	TG02	1	4604	28.000	900
J05	1	1231	28.000	900	T11	1	4270	-28.000	900	V01	1	2341	28.000	900
J06	1	3402	28.000	900	T12	1	3898	-28.000	900	V02	1	1141	28.000	900
J07	1	1229	28.000	900	T13	1	3612	-28.000	900	V03	2	2898	28.000	900
J08	2	1945	28.000	900	T14	1	1579	-28.000	900	V04	2	1998	28.000	900
J08A	2	1945	28.000	900	T15	1	5604	26.162	900	V05	2	1098	28.000	900
J08B	1	1945	28.000	900	T15A	1	5604	26.162	900					
J09	1	1233	28.000	900	T16	1	3406	28.000	900					
J09A	1	1233	28.000	900	T16A	1	3406	28.000	900					
J09B	1	1233	28.000	900	T16B	1	3406	28.000	900					
J10	1	885	28.000	900	T17	2	5178	28.000	900					

Total quantity : 257

Christchurch Manufacturing

Job: CD91052

Client: Mike Greer Homes
Phone:

Site: Humpheys
149 Hodgsons Rd
Ibarn

Description:
Building Consent No.
Milek 20120 Engineering 4.8.8.12.1

Milek New Zealand Limited

Fabricator Design Statement: Page 2

02 NOV 2011

Phone:

Printed: 04:00:32 02 Nov 2011

BY:

110550A

The computer design input has been carried out by:

Name of Computer Operator: Brent Yellowlees

Qualifications and Title: Truss Detailer

Signed:



A Division of Carter Holt Harvey

Dated: Wednesday, 2 November 2011

Christchurch Manufacturing

Job: CD91052

Client: Mike Greer Homes
Phone:

Site:

Humpheys
149 Hodgsons Rd
Ioburn

Description:
Building Consent No.:
MiTek 2020 Engineering 4.6.6.121

MiTek New Zealand Limited

Slab Thickening Report: Page 1

02 NOV 2011

Phone:

Printed: 04:00:40 02 Nov 2011

BY:

110550 A

TRUSS BEARINGS EXCEEDING 10KN REPORT - Ultimate Limit State Loads

MiTek® Truss List

Legend: ? = input only, T× = failed design, Ø = non certified, Unmarked trusses = designed successfully

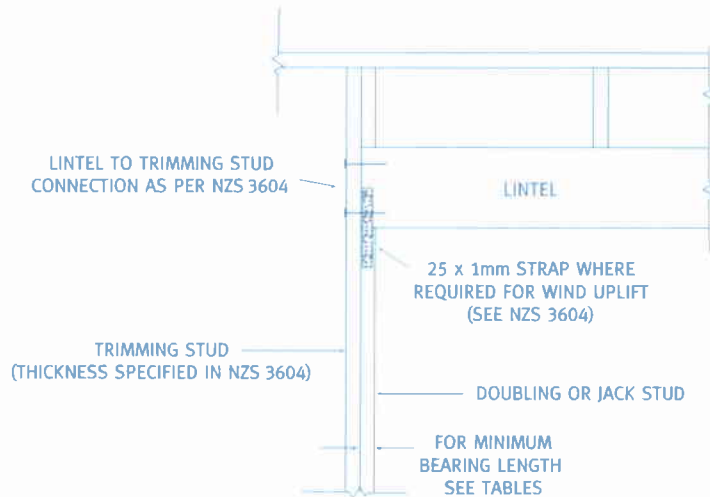
Critical Trusses	Qty	Span (mm)	Joint	Bearing Reactions (kN)	
				Down	Uplift
HTG01	1	7640	K	14.772	10.372
HTG01A	1	7640	B	10.935	6.842
			M	12.319	8.482
T05	1	10892	B	10.911	6.102
			T	20.682	13.102
T05A	1	10892	Q	19.402	11.169
T10	1	4236	F	12.506	10.336
T10A	1	4236	H	12.104	5.359
			F	14.465	9.768
T36	1	7640	M	11.643	7.516
T36A	1	7640	K	21.546	13.385

Note:

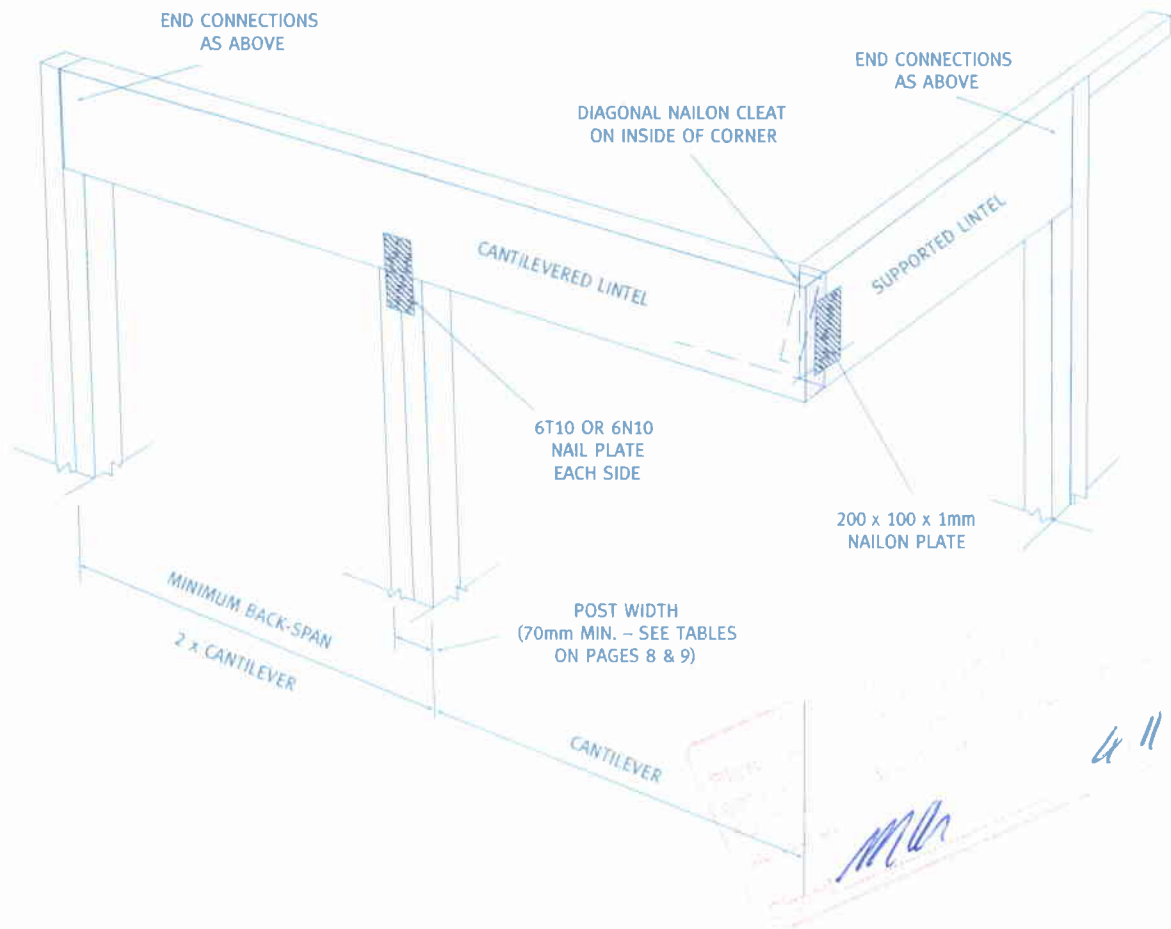
1) Select appropriate Slab Thickening Detail from the MiTek 'Internal Load Bearing On Concrete Floor Slabs' brochure.

Construction details

Lintel end connections



Cantilevered lintel connections



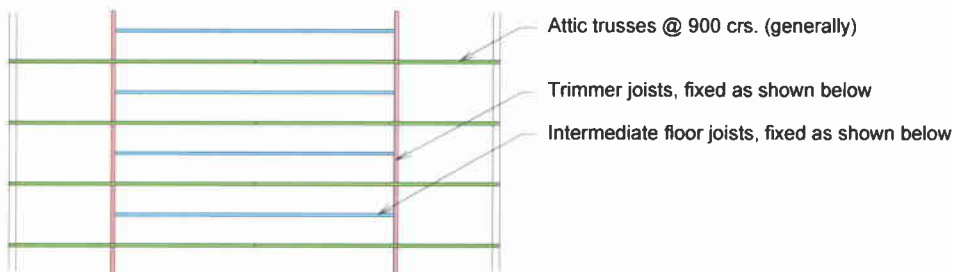
RESIDENTIAL

110550
Attic Trusses

Floor Details – 1.5kPa Live Load

Number of Supports	Max. Floor Span	Floor Joist Size
2 3400		190 ~ 45
2 4300		240 ~ 45
2 5000		290 ~ 45

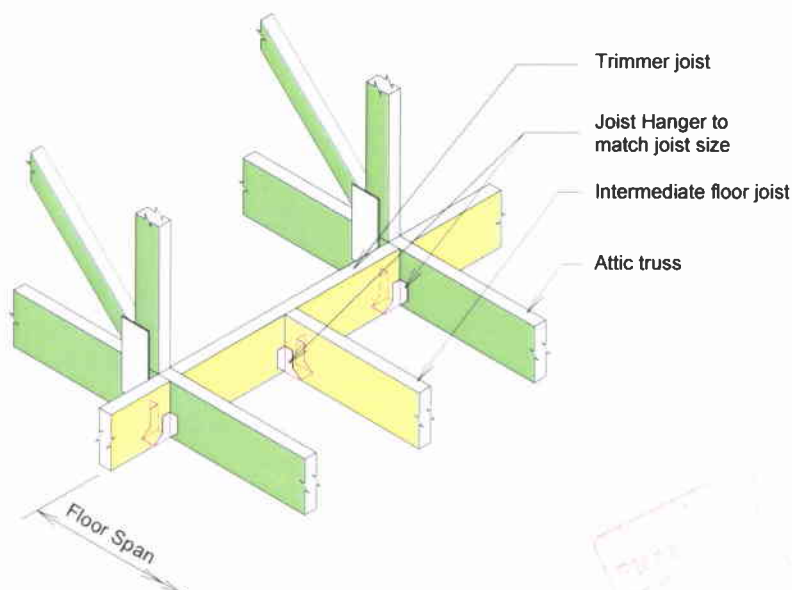
Definition



Attic Trusses – to be fixed to top plate with a minimum of 2 Wire Dogs each end.

Floor Joists

- ♦ Intermediate floor joist size as per NZS 3604:1999.
- ♦ Bottom chord size to be the same as the intermediate joist size.
- ♦ Trimmer joist size to match the intermediate floor joist size.
- ♦ Fix trimmer and intermediate floor joists with LUMBERLOK[®] Joist Hangers, size and fixing as per LUMBERLOK[®] "Joist Hanger Selection and Nailing / Screw Fixing" brochure.



CARTERS



110550 A

Manufacturing Statement

This statement, supplied to the Carters customer listed below, has been provided to assist a Building Consent Authority in determining compliance with the NZ Building Code and is issued subject to Carters standard terms and conditions of sale.

02-November-2011

**MIKE GREER NORTH CANTERBURY
149 HODGSONS ROAD, LOBURN
CD91052**

Roof Trusses

Roof trusses supplied by Carters to the above project have been manufactured as per any Producer Statement Design issued by Carters for consent purposes on the above project using verified timber grades that meet the requirements of NZS3603 and NZS3622. Carters is a licensed MiTek fabricator.

Pre Nailed Wall Frames

Pre-nailed Wall frames supplied by Carters to the above project have been manufactured as per the plans, specifications and information provided by the customer using verified timber grades, where required, that meet the requirements of NZS3603 and NZS3622. Laminated veneer lumber (LVL) lintels that have been supplied as part of a pre-nailed wall frame meet the requirements of AS/NZS4357 and NZS3603.

Timber Treatment

All treated timber products used in any items manufactured by Carters in the above project, are not less than the minimum levels specified in the plans, specifications and information supplied by the customer.

NZ Standards

NZ Standards listed in this statement are cited as acceptable solutions in the approved documents NZBC B1/AS1 Structure or B2/AS1 Durability as a means of complying with the NZ Building Code.

Simon Bruce

CHRISTCHURCH MANUFACTURING

Carters, a division of Carter Holt Harvey.

4 11 11
MMH

FINAL LAYOUT

CARTERS

MANUFACTURING

21 Broughs Rd
Christchurch

Ph (03) 359 27312 NOV 2011

JOB No **CD91052**

Client: Mike Greer Hon

Job Name: Humpheys

Address: 149 Hodgsons F
loburn

Consent #: **110550 A**

Pitch: 28.000

Roof Material: Corona Shake

Soffit Overhang: 600

Wind Area: High

Snow Load: 0.403 (Factored)

Trusses And Rafters At 900 Cent
Unless Stated Otherwise.

This layout is to be read in conjur
with the Architectural plans.

DRAWN BY Brent Yellow

DATE 1 Nov,2011 | PAGE

FIXINGS

A=47x90 JH

B=47x120 JH

D=47x190 JH

E=95x165 JH

C=CT200 (Pair)

M=Multigrip (Pair)

N=Nail On Plate

K=CPC 40 (Pair)

P=CPC 80 (Pair)

X=N21 Cleat (Pair)

**All other Truss
fixings must be
Two wire dogs
Unless indicated
as above.**

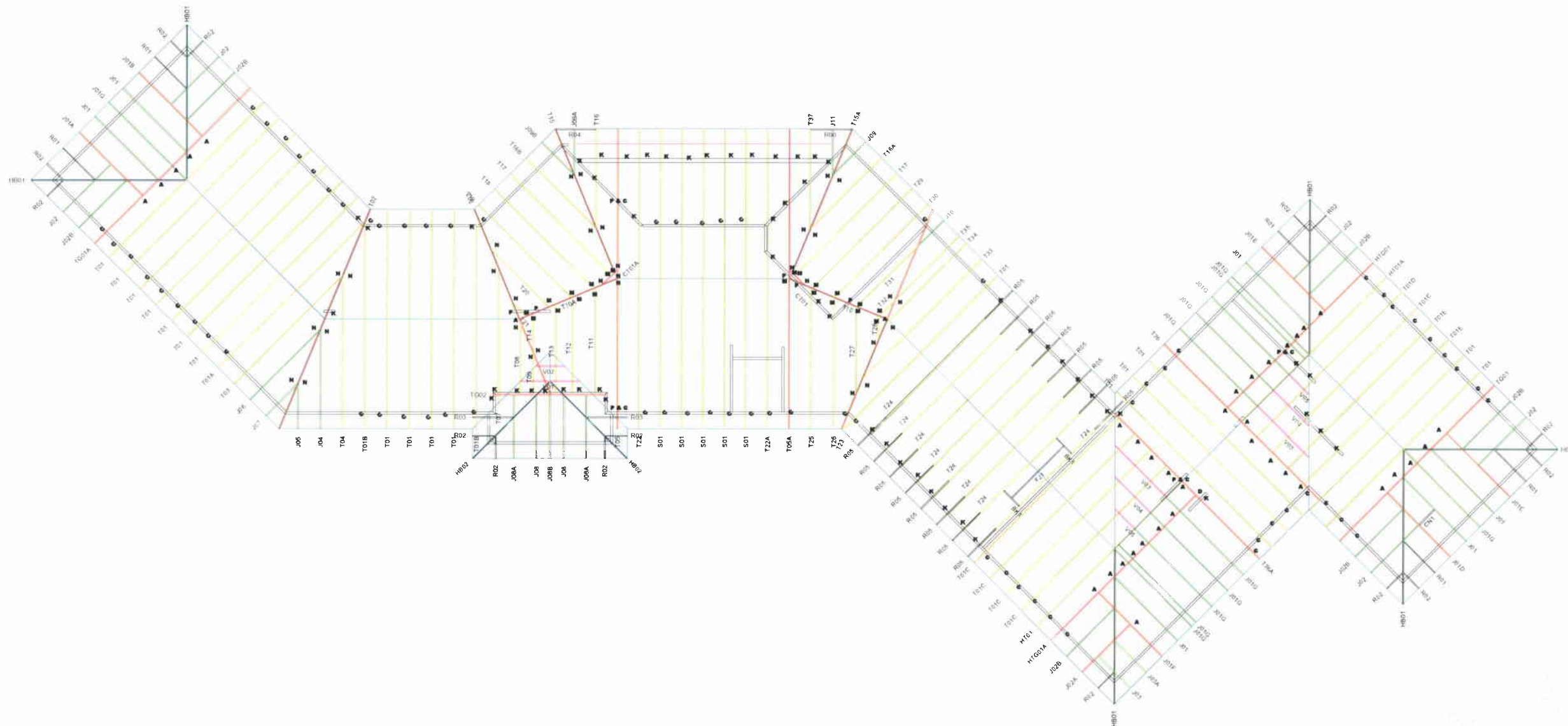
NOTE

Please contact your local CARTERS
Manufacturing Branch for any queries
regarding this layout or if any on site
work is required.

No modifications to Roof Trusses or W
are to be undertaken without first obta
written authority from CARTERS Mani



See Page 2 for Dimen
and Point Loads.



FINAL LAYOUT

CARTERS

MANUFACTURING

21 Broughs Rd
Christchurch
Ph (03) 359 2731

02 NOV 2011

JOB No **CD91052**

Client: Mike Greer Hon
Job Name: Humpheys
Address: 149 Hodgsons f
loburn

Consent #:

Pitch: 28.000

Roof Material: Corona Shake

Soffit Overhang: 600

Wind Area: High

Snow Load: 0.403 (Factored)

Trusses And Rafters At 900 Cent
Unless Stated Otherwise.

This layout is to be read in conjur
with the Architectural plans.

DRAWN BY Brent Yellow

DATE 1 Nov,2011 PAGE

NOTE

Please contact your local CARTERS
Manufacturing Branch for any queries
regarding this layout or if any on site
work is required.

No modifications to Roof Trusses or
are to be undertaken without first obt
written authority from CARTERS Mar

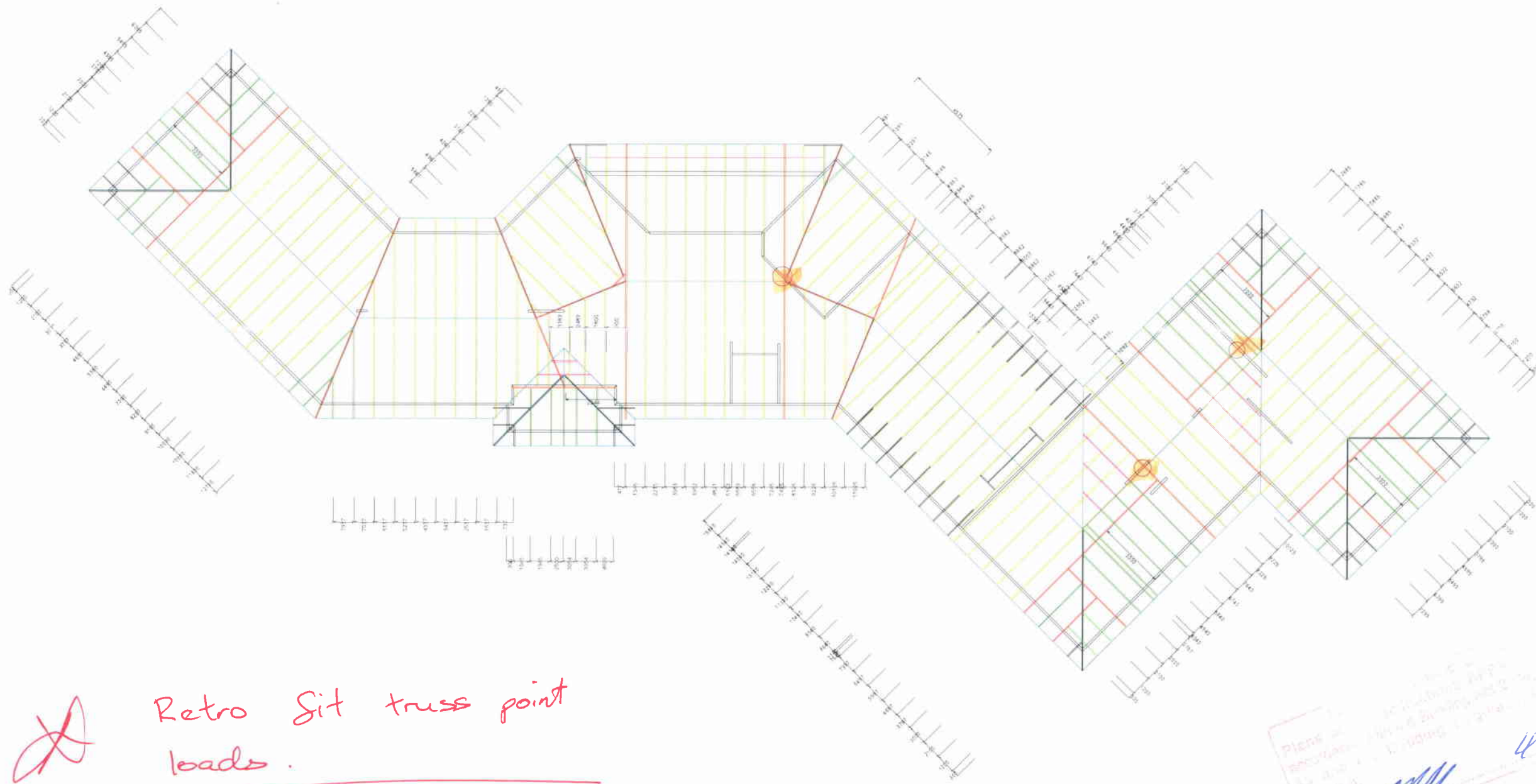
All walls indicated on the layout are c
to be load bearing.

LINTELS

**Refer Frame Lay
for Lintel Size**



NOTIFICATION OF POINT LOADED LINTELS AND POINT LOADS ON
INTERNAL WALLS WHERE THE DOWNLOAD IS HIGHER THAN 10kN
OR THE UPWARD LOAD IS GREATER THAN 10kN
Note: If no point loads indicated, loading does not exceed above.



Retro Sit truss point
loads.

Please at
secure...
by and...
Signed: [Signature]

FINAL LAYOUT

CARTERS

MANUFACTURING

21 Broughs Rd
Christchurch
Ph (03) 359 2731
02 NOV 2011

JOB No **CD91052**

Client: Mike Greer Horr
Job Name: Humpheys
Address: 149 Hodgsons F
loburn

Consent #:

Pitch: 28.000

Roof Material: Corona Shake

Soffit Overhang: 600

Wind Area: High

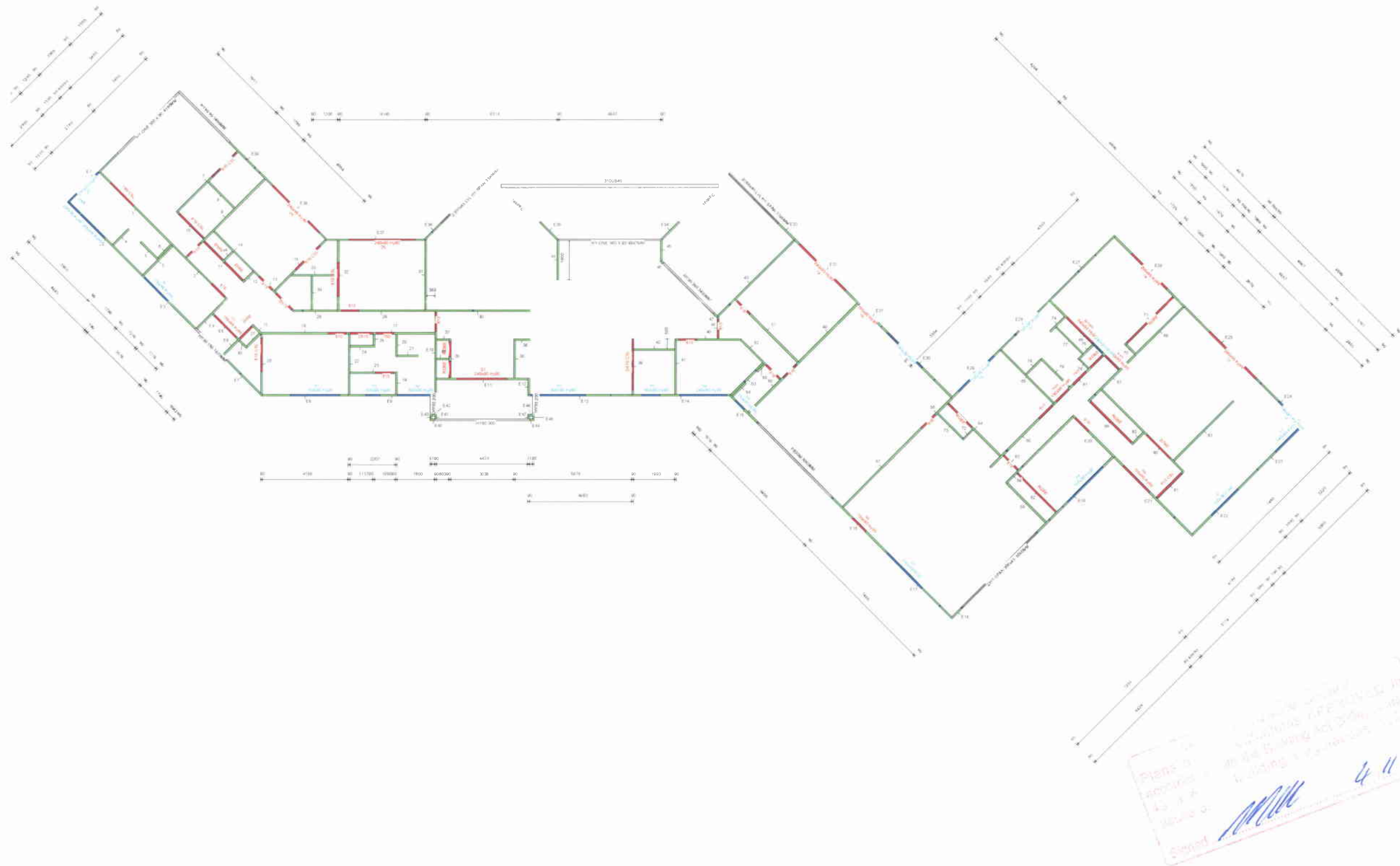
Snow Load: 0.403 (Factorec

Trusses And Rafters At 900 Cent
Unless Stated Otherwise.

This layout is to be read in conjur
with the Architectural plans.

DRAWN BY **Brent Yellow**

DATE 1 Nov,2011 | PAGE



These lintels have been sized using
one of the following:

The GANGLAM 04/2008 and
FLITCH BEAM 12/2007
selection manuals from MiTek NZ L

hyONE and hy90 lintels have been
using designIT v4 NZ software
(incl. sub versions) or selection mar
hy90 Edition 1, and hyONE April 20
provided by CHH Woodproducts.

Unless otherwise stated the timber
for all lintels is MSG8. Lintels not sl
are to be selected as per NZS3604

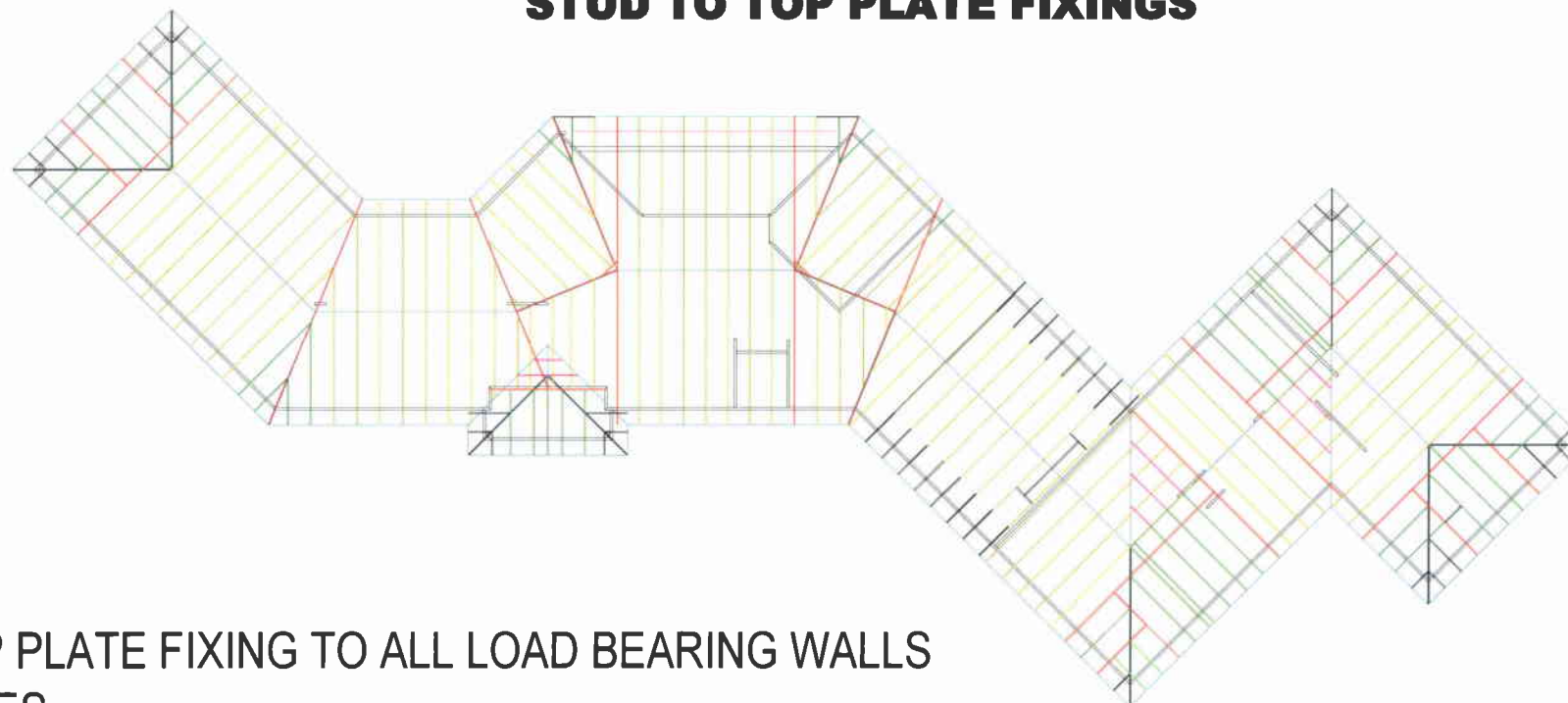
Level 1 Fran



See Other Pages Fo
Truss Layout and
Fixings

FINAL LAYOUT

STUD TO TOP PLATE FIXINGS

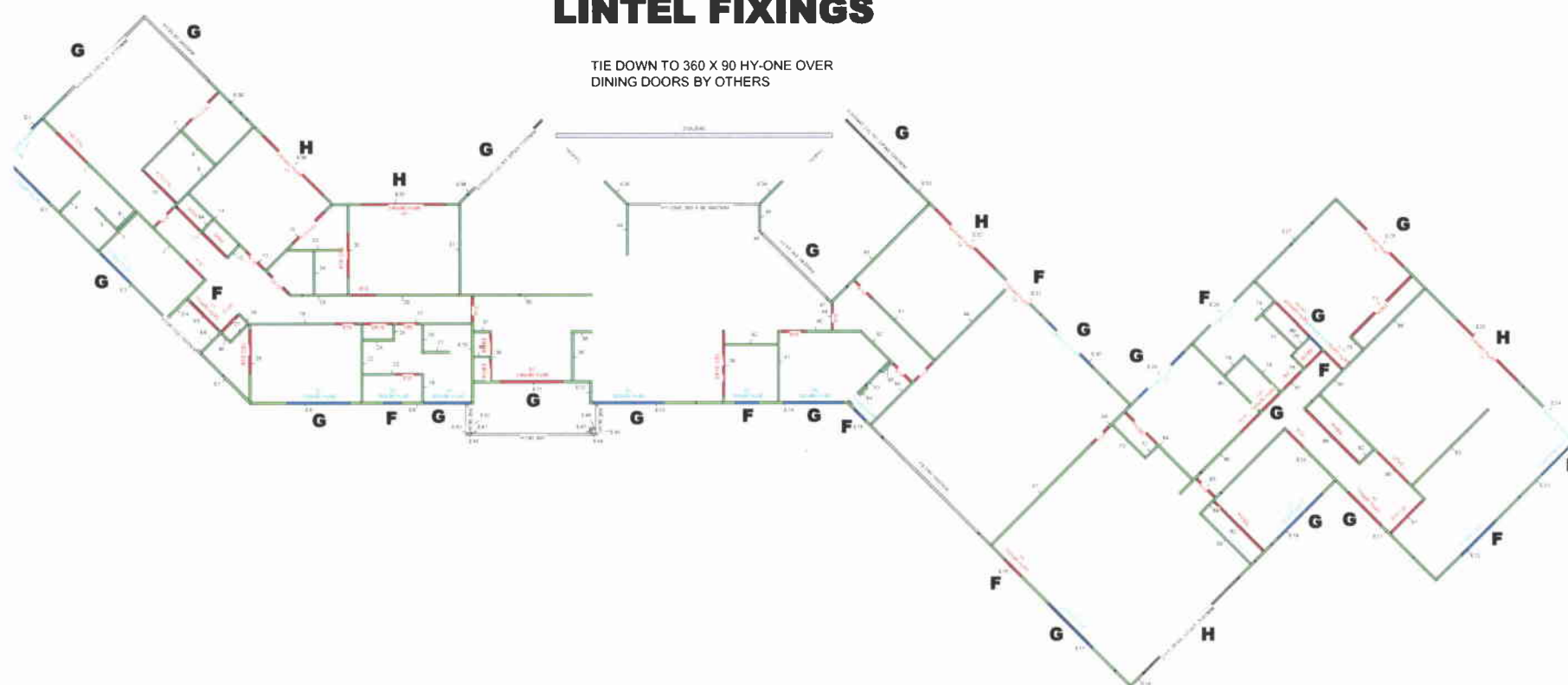


TYPE B STUD TO TOP PLATE FIXING TO ALL LOAD BEARING WALLS SUPPORTING TRUSSES.

PLEASE REFER TO ATTACHED PAGE OF THE FUTURE BUILD
LVL MANUAL FOR CANTERLEVER CONNECTIONS

LINTEL FIXINGS

TIE DOWN TO 360 X 90 HY-ONE OVER
DINING DOORS BY OTHERS



CARTERS

MANUFACTURING

21 Broughs Rd
Christchurch
Ph (03) 359 2731

02 NOV 2011

05504

JOB No **CD91052**

Client: Mike Greer Horr
Job Name: Humpheys
Address: 149 Hodgsons F
loburn

Consent #:

Pitch: 28.000

Roof Material: Corona Shake

Soffit Overhang: 600

Wind Area: High

Snow Load: 0.403 (Factorec

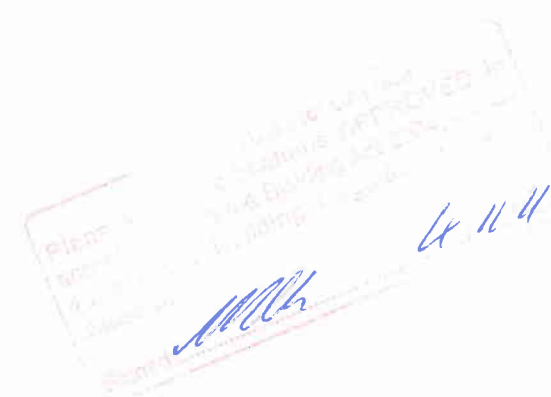
Trusses And Rafters At 900 Cent
Unless Stated Otherwise.

This layout is to be read in conjur
with the Architectural plans.

DRAWN BY Brent Yellow

DATE 1 Nov,2011 | PAGE

**Refer Final
Page for
Lintel and
Top Plate
Fixing Key**



Stud to Top Plate Fixing

Lintel Fixing

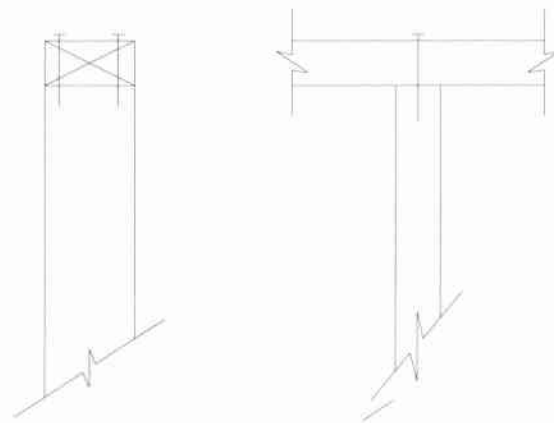
Page 5 of 5

02 NOV 2011

110550 A

Fixing Type A (0.7kN)

2/90x3.33 Plain Steel Wirenails
Driven Vertically Into Stud



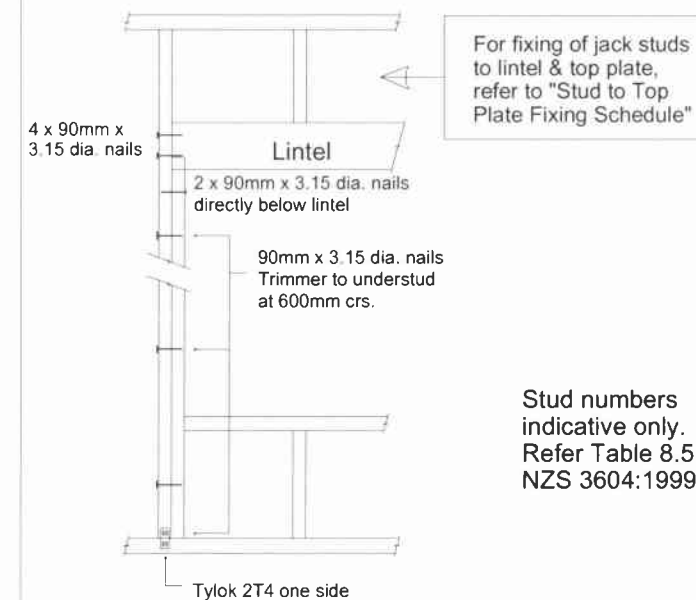
Fixing Type B (4.7kN)



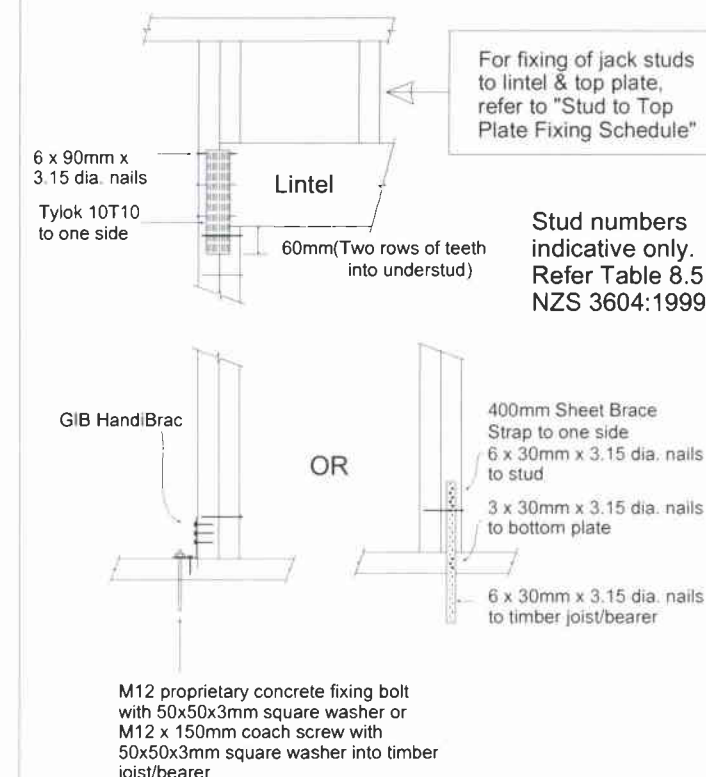
GANG NAIL Stud Strap
Design Capacity 6.1 kN
AS1720.1-1997

EASE NOTE:
Fixings supplied are only for applications shown.

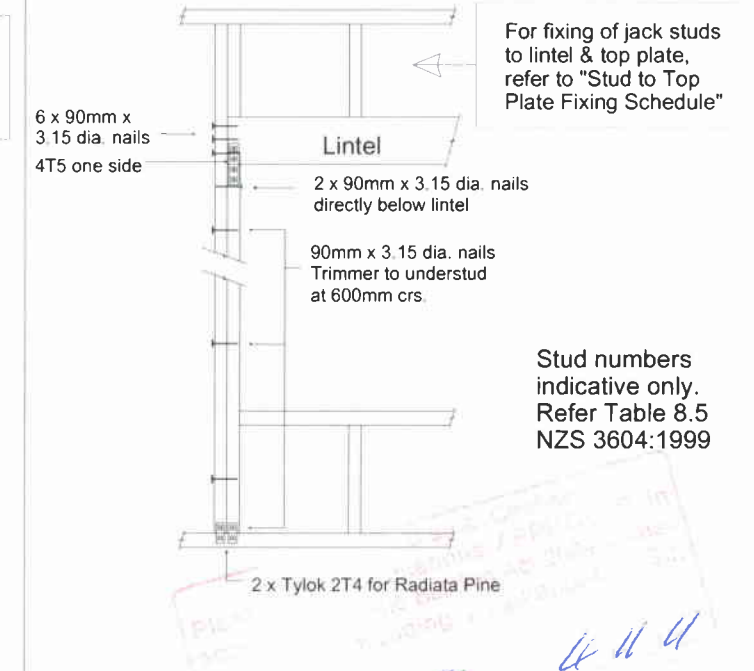
Type E (1.4kN)



Type G (7.5kN)



Type F (4.0kN)



Type H (13.5kN)

