



Building Consent

Section 35, Building Act 1991

Application

C & T FULLER	No.	990842
56 ROWSE STREET	Issue date	7/07/99
RANGIORA	Application date	1/07/99

Project

Description	NEW CONSTRUCTION BEING STAGE 1 OF AN INTENDED 1 STAGE NEW DWELLING
Intended Life	INDEFINITE, BUT NOT LESS THAN 50 YEARS
Intended Use	RESIDENTIAL
Estimated Value	\$175,000
Location	52 ROWSE ST, RANGIORA
Legal Description	LOT 26 DP 76235 BLK X RANGIORA SD
Valuation No.	2165564200

Charges

The Council's charges paid on uplifting this Building Consent, in accordance with the attached details are:

	\$	327.00
Building Research Levy	\$	175.00
Building Industry Authority Levy	\$	113.75
Total	\$	615.75

This building consent is a consent under the Building Act 1991 to undertake building work in accordance with the attached plans and specifications so as to comply with the provisions of the building code. It is not a consent under the Resource Management Act and does not affect any duty or responsibility under any other Act nor permit any breach of any other Act.

This building consent is issued subject to the conditions specified in the attached page(s) headed Conditions of Building Consent 990842.

Signed for and on behalf of the Council:

Name:

Date: 4. 7. 99.

1. This consent is issued subject to the attached Building Inspection Works Schedule:
2. Please note that the consent fees allow for a single inspection of construction stages of the project as specified in the inspection schedule. Any extra inspections required will be invoiced before a code compliance certificate is issued.
3. Please note that any deviation from the approved documents is subject to a new Building Consent.
4. Completion inspection required prior to issue of an interim or final Code Compliance Certificate. Please make application for inspection on the appropriate form.
5. Any special conditions of consent endorsed on the Building Consent and/or documents **MUST** be drawn to the attention of the subcontractors.
6. The duplicate copy of the approved consent documents and inspection schedule are to remain on site during construction
7. All boundary survey pegs must be located by discovery or redefinition and flagged before work is commenced.
8. Any special conditions of consent endorsed on the Building Consent and/or documents **MUST** be drawn to the attention of the subcontractors.
9. All buildings must have spouting and downpipes discharging to stormwater drains, in urban areas these drains must discharge to the street channel and be installed by a licensed drainlayer. An inspection is required **PRIOR** to completion.
10. All electrical work associated with this consent is subject to compliance with the requirements of the Electricity Act 1968.
11. Plumbing and/or drainage tradespersons should be on site during inspections.
12. **24 HOURS NOTICE MUST BE GIVEN:** - Prior to pouring ANY concrete - Prior to laying ANY floor - Prior to fixing ANY wall or ceiling lining - On completion of the building Provision must be made to allow the building inspector access.
13. To comply with the endorsements in red on the plan.
14. Ensure sleeves in foundation are set to allow for correct grade of all wastes in or under concrete floors.
15. All construction work and materials used shall comply with the New Zealand Building Code, notwithstanding any inconsistencies which may occur in the drawings and specifications.
16. **HEATING UNIT and FLUE** to be installed in strict accordance with the manufacturers instructions. **UNIT and HEARTH** shall be restrained in accordance with the Building Code, clause B1 and NZS 7421:1990. An **INSPECTION** is required **PRIOR** to lighting the fire.
17. **STORMWATER & FOULWATER DRAINS** must be installed by a **LICENCED DRAINLAYER** and inspected **PRIOR** to backfilling, **AND** when the works are **COMPLETED**. One working days notice required before **COVERING UP**.

PlaceMakers - Cranford Street

Page: ProdSt - 1

Job: 990453

Client: Craig Fuller

Site: Rowse Street

Phone:

Rangiora

Description:

Phone:

MiTek 2000 2.100 gcf

Gang Nail Group Ltd.

Tue Jul 06 08.44.03 1999

PRODUCER STATEMENT
MITek 2000(tm) ROOF TRUSS DESIGN**Certification of MiTek 2000(tm) Design Program**

The MiTek 2000(tm) roof truss design program has been developed by Gang Nail Group Ltd for the design of Gang Nail timber roof trusses in New Zealand. The truss designs computed by this program are prepared using sound and widely accepted engineering principles, and in accordance with NZS 4203, NZS 3603 and NZS 3604 as verification methods and acceptable solutions of the approved documents issued by the Building Industry Authority to satisfy the requirements of Clause B1: Structure of the Building Regulations 1992. This computer design for the proposed building complies with the relevant provisions of the NZ Building Code. This is subject to all proprietary products meeting their performance specification requirements, the provision of adequate bracing, fixings and the correct input of design data carried out by suitably trained personnel.

Summary of MiTek 2000(tm) Design Data and Output

The MiTek 2000(tm) computer design output for this job titled and located at the site identified on the top of this page is based on the following parameters entered into the program. The owner must ensure that the following job details below are current and relevant to the project before fabrication and erection of the Gang-Nail trusses.

Job Details

Roof Pitch:	30.00 deg	Timber Inventory:	MGP1080x45	Building Wind Zone:	Medium
Roof Material:	Light	Ceiling Material:	Standard	Design Wind Speed:	37.0 m/s
TC Dead Load:	0.250 kPa	BC Dead Load:	0.200 kPa	Pressure Coefficient:	C _{pe} = -0.9
TC Restraints:	900 mm centres	BC Restraints:	400 mm centres		C _{pl} = 0.3
Roof Live Load:	Lu = 0.250 kPa	Truss Spacing:	900 mm	Snow Load Zone:	Zone 4
	Lc = 1.0 kN	Standard Overhang:	0 mm	Altitude:	128 m
				Snow Load@30deg:	0.501 kPa

These trusses must be fabricated and erected in accordance with the Gang-Nail manual. Proper erection bracing must be installed to hold the components true and plumb and in a safe condition until permanent bracing is fixed. All permanent bracing and fixing must be installed before any loads are applied. The specifications for timber shall be as shown on the output. The timber shall be standard gauged and treated to the requirements of NZMP 3640.

Truss List

Legend: * detail only, ? input only, ~~xxx~~ failed design, Unmarked trusses: designed successfully

Truss	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Span (mm)	Pitch (deg)	Spacing (mm)	Truss	Span (mm)	Pitch (deg)	Spacing (mm)
EN01	4188	28.63	879	TD4	4388	28.63	849	TD8A	1088	28.63	782
FN02	4388	28.63	849	T05	7476	28.63	849	TD8B	1088	28.63	782
J01	1488	28.63	800	T05A	7476	28.63	849	T09	3900	28.63	869
J02	1488	28.63	884	T05B	7476	28.63	849	T09A	3900	28.63	869
T01	3808	28.63	879	T08	1088	28.63	784	T09B	3900	28.63	869
T02	3808	28.63	879	T07	1088	28.63	900	T09C	3900	28.63	869
T03	4188	28.63	879	T08	1088	28.63	762	T09D	3900	28.63	869

The computer design input has been carried out by:

Signed:  PLACEMAKERS
PP CRANFORD STREET

Date: 6-7-99

Name of Computer Operator:

LLOYD HARWOOD

Qualifications and Title:

MANUFACTURING MANAGER

Company:

PlaceMakers - Cranford Street

Verification / Acceptance of Input Data:

I have checked the input data against the construction drawings and specifications and verify that they are correct and suitable for this job

Signed:

Date:

Name:

Company:

5 July 1999

David Laing
Waimakariri Building Services
PO Box 387
RANGIORA

Connell Wagner Limited
Level 4 Torrens House
195 Hereford Street
PO Box 1061
Christchurch
New Zealand

Telephone: +64 3 366 0821
Facsimile: +64 3 379 6955

Dear David

**LOT 26 ROWSE STREET, RANGIORA
SOIL TEST**

Further to your instructions to Barry Fairburn of this office, soil tests were undertaken at the above site on Friday 2 July 1999.

Inspection Procedure

Two bore holes were dug and four Scala Penetrometer tests were undertaken to a depth of 1.6 metres on the site. See attached Site Location Plan and result.

Soil Profile

<u>Depth Below Ground Level (mm)</u>	<u>Soil Description</u>
0-200	Topsoil – dark brown silty
200-500	Firm brown silt
500-1600	Firm grey clay
1600	End of bore

The two bore holes gave relatively consistent results. The water table was not found.

Soil Bearing Capacity

The Scala Penetrometers indicated a consistent ground bearing capacity in excess of 100 kPa at all locations tested.

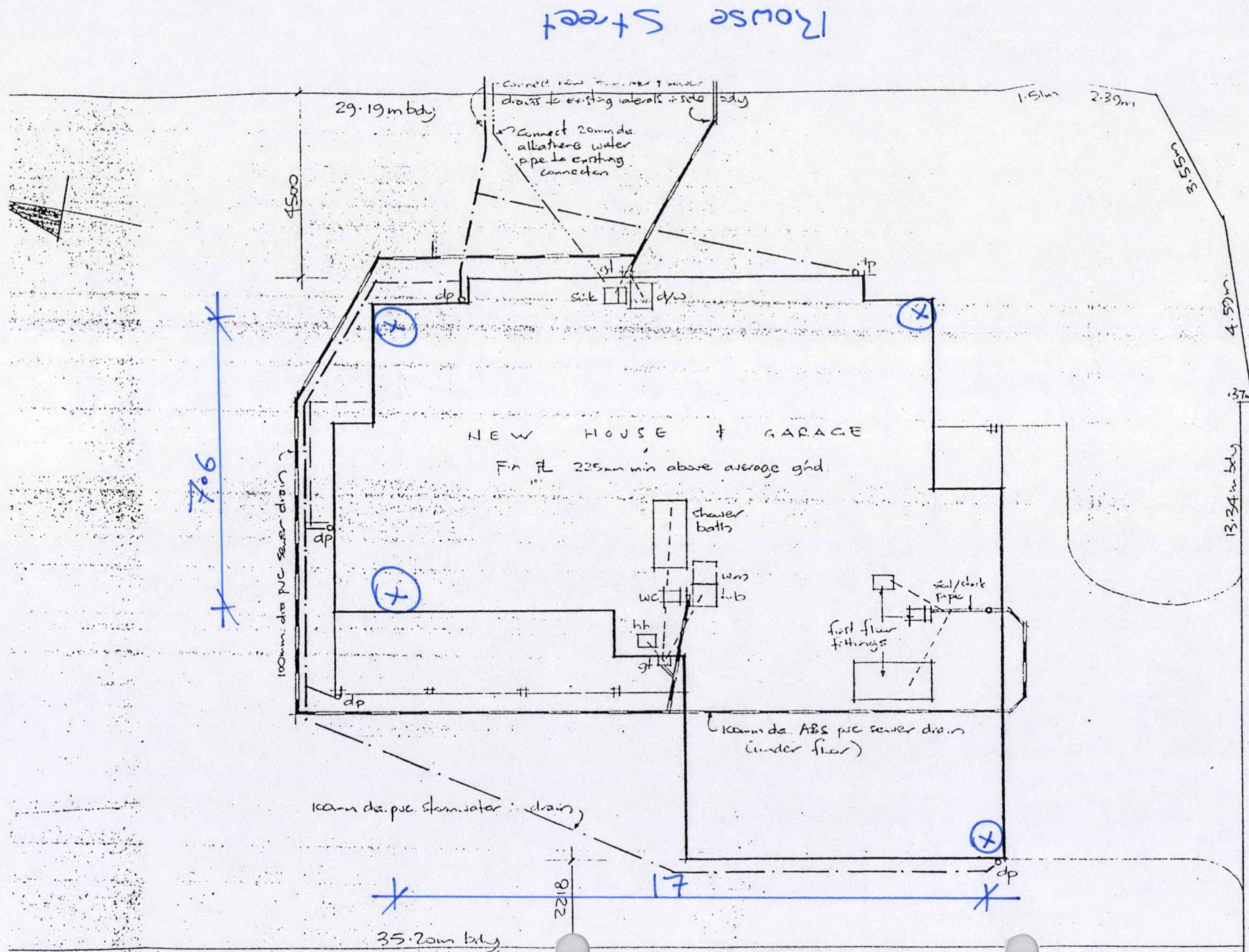
Recommendations

The ground bearing strength at this site met the minimum NZS 3604 requirements of 100 kPa. Therefore, a house built to NZS 3604, the code of light timber construction, will require a foundation to comply with that stub.

If you have any queries, please contact the undersigned, or Murray White.

Yours faithfully
CONNELL WAGNER LIMITED

Peter Bond
Engineer



D.P. 76235
LOCATION & DRAINAGE PLAN

Soil Test Location Lot 26
Rouse Street

THOMAS LANE

Connell Wagner

File No		17453	
Scale		NTS	
Surveyed			
Designed			
Drawn		MW	
Checked		MW	
Approved		P60	
Sheet		1	
Rev.			A

Lord 4
Terra House
155 Herald Street
PO Box 1051
Christchurch
NEW ZEALAND
Telephone: 03 366 0011
Facsimile: 03 379 5555

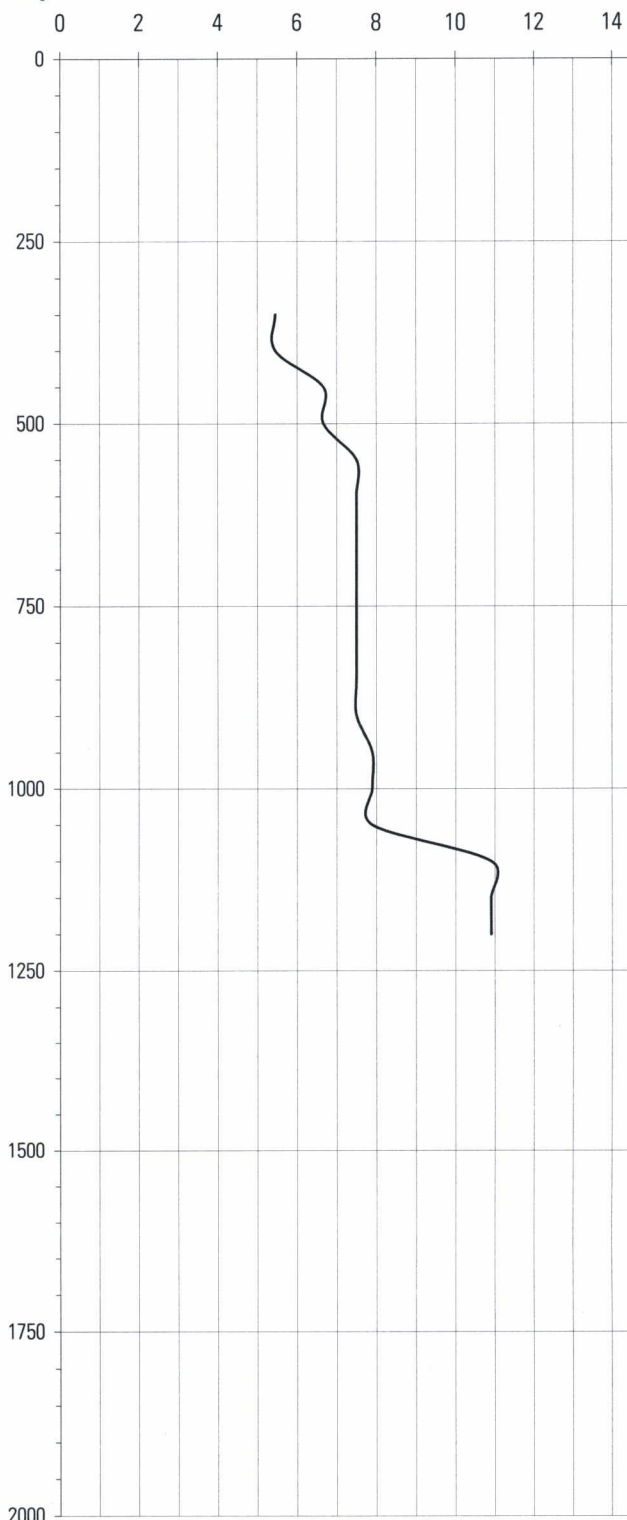
Client: Dave Laing	JOB NO	DATE July 5, 1999
	LOG 1	PAGE 1
Project: Lot 26 Rowse street Rangiora		BY MVW

Soil Description

Topsoil
Firm brown silt, Moist
Firm grey clay
End of bore

Depth (mm)

Average Blows per 150mm



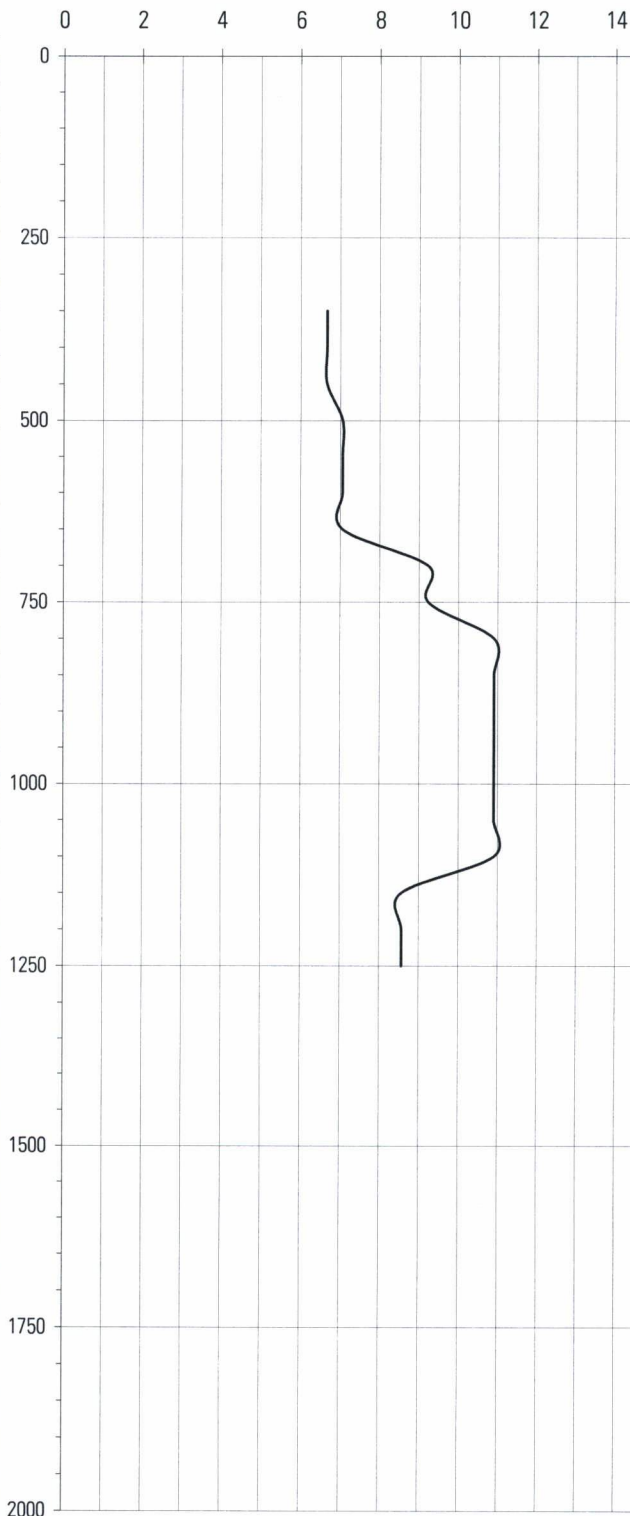
Client: Dave Laing	JOB NO	DATE July 5, 1999
Project: Lot 26 Rowse street Rangiora	LOG 2	PAGE 2
		BY MWV

Soil Description

Topsoil

Depth (mm)

Average Blows per 150mm



Client: Dave Laing	JOB NO	DATE July 5, 1999
Project: Lot 26 Rowse street Rangiora	LOG 3	PAGE 3
		BY MVW

Soil Description

Topsoil	
Firm brown silt, Moist	
Firm grey clay	
End of bore	

Depth (mm)

Average Blows per 150mm

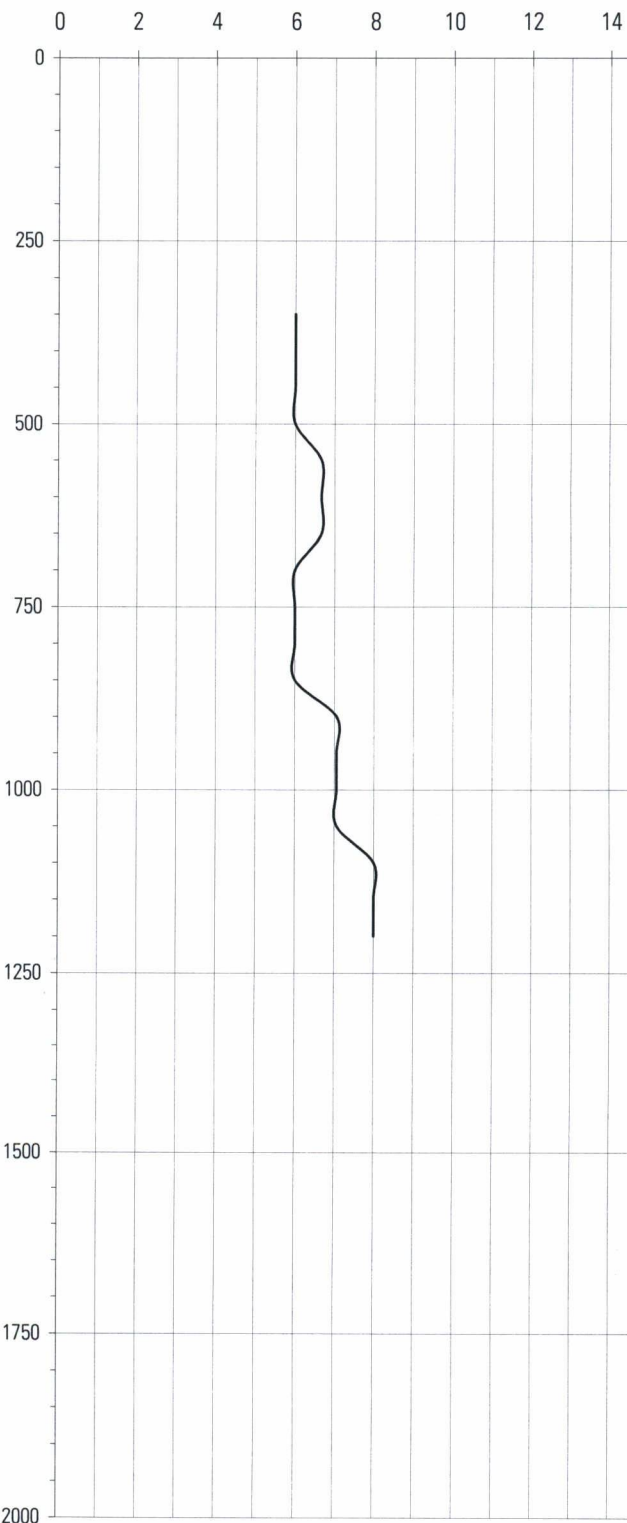


Client: Dave Laing	JOB NO	DATE July 5, 1999
Project: Lot 26 Rowse street Rangiora	LOG 4	PAGE 4
		BY MWV

Soil Description

Topsoil

Depth (mm) **Average Blows per 150mm**



05 July 1999

C & T FULLER
56 ROWSE STREET
RANGIORA

Dear Sir/Madam

Re your building consent application no. 990842
NEW DWELLING
52 ROWSE ST, RANGIORA

Your application for a building consent has been checked.

The proposal does not comply with the requirements of the New Zealand Building Code in the following respects:

- 1 Please supply the truss design and layout from the manufacturer.

- 2 *Engineer report for site. WDC's*
to do. ✓ read. 6/7.

When your plans and/or specifications have been amended to conform with the above comments, approval of your application will again be considered.

Yours faithfully



Building Control Officer

REFERRAL FORM

CONSENT No:

99/0842

DISTRICT:

Waimakariri

APPLICATION REC'D
DATE STAMP

CONSENT TYPE		Nº Inspections Charg'd	INFORMATION TO COME & COMMENTS:	Info rec'd -date
PIM ONLY		9.	✓ ✓ CT & Truss & fire details to come Engineers Statement due rec'd 7th ✓	6/1/94
FAST TRACK-P&D only	Amend Below If Required			
FAST TRACK - Nil Return				
MINOR WORKS with PIM				
MAJOR WORKS with PIM				
PIM prev. issued Nº.	Add to Doc.			
	QS-R110-AM			
	If amending Nº			
PROCESS REQUIRED		Initial & Date When Complete		
VETTING COUNTER			STANDARD CONDITIONS: 00, 01, 02, 05, 08, 12 03, 07, 14, 19, 22, 28, 31, 32, 33, 34, 35.	
PRE PROCESSING Site Inspection				
PIM		LPR. 2.7		
TECHNICAL CLERK - LOG IN		1/1/99		
B1 - PROCESS			SPECIAL CONDITIONS:	
PDI - PROCESS				
EHO - PROCESS				
OTHER				
LOG FIRE TO ISSUE				
PEER REVIEW/ VALIDATION				
TECHNICAL CLERK - PRINT OUT				

COSTING SHEET FOR PLAN REVIEW CHARGING

QS-R110-AH
Issue: 6
Date: 29/04/99

Owner:

Consent No:

Address:

Date Received:

District:

Consent Type:

Invoice: 72955

Function	Date	Actioned By	Units (6 Mins)	Comments	Value	Cost
Counter						
CSO Prelim						
T Clerk Prelim	1/7	J	3		21.90	
PIM Input						
Process Bldg	5.7.99.	RW	22.		160.60	
	6.7.99.	-	6.		43.80	
Process P & D	5.7.99.	RW.	6.		43.80	
Process Other	7.7	DL	4	CF	29.20	
Clerical General						
Validation	6.7.99	JAC	2		14.60	
Comp. Update	7.7.	J	2		14.60	
Correspondence						
Filing						
Research						
Other						
Photocopying	Consultant fee 258 + GST					
Photocopying						
Issue	7.7	J	1		7.30	
		Total Hours	46	Total Cost	306.60 284.70	
Invoice No.				Less Deposit	335.80	
Date				BALANCE REQUIRED		



WAIMAKARIRI DISTRICT COUNCIL

APPLICATION FOR A BUILDING CONSENT NON COMMERCIAL PROJECTS

Section 33, Building Act 1991
(Attach all relevant documents in triplicate)

CONSENT NO:

30990842

DATE STAMP
RECEIVED

- 1 JUL 1999

no def. paid

1. OWNER

Name: CRAIG & TANIA FUNNER

Postal Address: 56 ROUSE STREET
RANGIORA

Phone No.: 03 313-0036

Fax No.: 03 313-0037

2. AGENT (Owner's Representative)

Contact Name: MARK METZGER

Postal Address: 77 FOREST DRIVE
PARKLANDS CHRISTCHURCH

Phone No.: 03 383-5444

Fax No:

3. PROJECT LOCATION

Street Address: CORNER ROUSE STREET & THOMAS LANE

4. LEGAL DESCRIPTION

Valuation Number: 216 556 4200

OFFICE USE ONLY
Property ID:

Lot(s)
(Section) 26

DP/S
(Block) 76235
X

Lot Area(s) 735 m² squaremetres
hectares

5. PROJECT

5.1
☒ New Building

☐ Alteration

☐ Relocation

☐ Demolition

5.2
Intended Life:
Indefinite but not less
than 50 years
☐

OR specified

as _____ years

5.3 PROJECT (Description of Work) Residential
New Home Dwelling

5.4 INTENDED USE (Use of Building):

Private Living

5.5 FLOOR AREA (New Building Work): 234.11 m²

5.6 WORK VALUE (GST Inc.) Total Estimated Value: \$ 140,000
175,000

6. KEY PERSONNEL

(Give names, addresses, telephone numbers. Give relevant registration numbers (if known))

6.1 Builder: MBL (Metzger Builders Ltd)

6.2 Craftsman Plumber: Mike O'Loughlin

6.3 Registered Drainlayer: Nick Sisking

6.4 Designer: Neil Crawford

- ☐ Application for Building Consent only, in accordance with Project Information Memorandum No: _____
☐ Application for Building Consent and Project Information Memorandum - please complete 7. PROJECT DETAILS page 2

WHEN SPECIFIED IN THE PROJECT INFORMATION MEMORANDUM VEHICLE CROSSINGS MUST BE CUT/INSTALLED BEFORE ANY BUILDING OPERATIONS COMMENCE. ALL VEHICLES MUST USE THAT CROSSING. ANY DAMAGE TO THE PROPERTY'S FRONTAGE WILL BE REPAIRED BY THE COUNCIL AND CHARGED DIRECTLY TO THE PROPERTY OWNERS.

Signed by or for and on behalf of the owner

Signature: [Signature] Name FUNNER C.D Date 1 / 9 / 99
(PLEASE PRINT)

Waimakariri District Council, Private Bag 1005, Rangiora. Telephone (03) 313 6136. Fax (03) 313 4432

7. PROJECT DETAILS

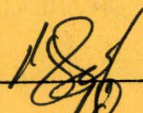
- Complete only if you have NOT applied separately for a Project Information Memorandum.

Please tick the matters below applicable to your project and attach relevant information in duplicate.

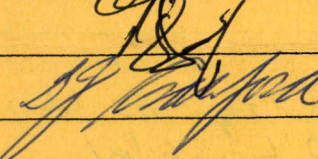
A.	☒	Location in relation to legal boundaries and external dimensions of new relocated, or altered buildings (site plan with elevations, topography, drawn to scale)
B.	☐	Details of any known or potential erosion, avulsion (rapid removal of soil by water), falling debris, filled ground, subsidence, slippage, alluvium (deposit of soil and sand left by rivers or floods), inundation, hazardous contaminants on or near the site.
C.	☒	Provisions to be made for vehicular access, including parking. (To be shown on site plan)
D.	☐	Provisions to be made in building over or adjacent to any road or public place.
E.	☒	Provisions to be made for disposing of stormwater and wastewater. (To be shown on site plan)
F.	☐	Precautions to be taken where building work is to take place over existing drains or sewers or in close proximity to wells or water mains.
G.	☒	New connections to public utilities, i.e. water supply, stormwater system, wastewater system.
H.	☐	Provisions to be made in any demolition work for the protection of the public suppression of dust, suppression of noise, disposal of debris and disconnection from public utilities.
I.	☐	Details of any cultural or heritage significance of the building or building site, including whether it is on a marae, or waahi tapu.
J.	☐	Copy or reference to, any resource consent or planning approval for this project.
K.	☐	Details of volume of Proposed excavations: include volumes for site preparation, basement and driveway.

BUILDING CONTROL USE ONLY

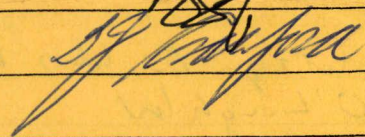
Signatures:

Building Consent Officer: 

Date: 6-2-99

Plumbing & Drainage: 

Date: 6-2-99

Senior Building Control Officer: 

Date: 6-7-99

Zone: _____

FOR COUNCIL USE ONLY

Date Received: _____

Receipt No. _____

Prepaid Fee: _____

Receiving

Officer: _____



WAIMAKARIRI DISTRICT COUNCIL

Questions to be answered by the owner when submitting a Building Consent Application to assist the Council in assessing the building inspection requirements.

LOCATION (tick where applicable)

- | | | | |
|---|--|---------------------------------|--------------------------------------|
| ☒ Rangiora | ☐ Kaiapoi | ☐ Oxford | ☐ Ashley-Eyre |
| ☒ Residential | ☐ Rural/Residential | ☐ Rural | ☐ Other |

PROJECT ADDRESS: CORNER ROUSE STREET & THOMAS LANE RANGIORA

NAME OF BUILDER: METZER BUILDERS LIMITED

ADDRESS: 77 FOREST DRIVE PARKLANDS CHRISTCHURCH

CONTACT TELEPHONE NO: 025-359-836 AM 03 383-5444

Is the builder responsible for the project and ensuring compliance with the consent drawings and specifications: (tick box)

☒ Yes

☐ No

If not, give details of construction arrangements : (tick box)

- | | |
|---|---|
| ☐ Labour only (contracts) | ☐ Separate Project Manager |
| ☐ Owner to arrange sub-contractors | ☐ Architect and/or engineer controlled |
| ☐ Owner builder | |

Extent of builder's responsibility: (tick box)

- ☒ Whole job to completion
- ☐ Partial completion: (specify who is responsible to complete works and extent of works to be done)

Give details of any producer statements that will be supplied in support of the construction by either the design consultants or the builder. Specify the section of Building Code that the producer statements supports.

Neville Melhop Engineer. Hackett House Rd. Cashmere.
Steel Beams, Lintels, Bracing.

C.D. FURMAN
Owner's Name

Signature

1/7/99
Date

Waimakariri District Council, Private Bag 1005, Rangiora. Telephone (03) 313 6136. Fax: (03) 313 4432

Reference:

Prior CT: 40C/1173

Document No.: A334808.9



REGISTERED

43D/889

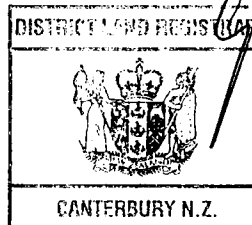
CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT 1952

This Certificate dated the 19th day of January One Thousand Nine Hundred and Ninety Eight under the seal of the District Land Registrar of the Land Registration District of CANTERBURY

WITNESSETH that CRYSTAL IMPORTS LIMITED

is seised of an estate in fee simple (subject to such reservations, restrictions, encumbrances and interests as are notified by memorial endorsed hereon) in the land hereinafter described, delineated on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 735 square metres, more or less being LOT 26

DEPOSITED PLAN 76235



for District Land Registrar

Appurtenant hereto is a Right of way over part R.S. 81 created by Deed 5 D 535

A221942.1 Mortgage to Countrywide Banking Corporation Limited - 26.2.1996 at 9.1

A334808.4 CAVEAT BY WAIMAKARIRI DISTRICT COUNCIL

A334808.5 CAVEAT BY MINNPOWER NEW ZEALAND LIMITED

All 19.1.1998 at 9.05

For DLR

A391176.4 Mortgage to Ashburton Permanent Building Society - 17.2.1999 at 12.01

for RGL

43D/889



Approval: *SHOWN AND EXISTING SURVEYED TO BE*
3000 DEANWILL CHAMBERLAIN RD
WAIMAKARIRI DISTRICT COUNCIL
2/7/99
 Registered Proprietor

Approved pursuant to Section 223 of the Resource Management Act 1991 on the 1st day of July 1997. Subject to the granting or reserving of the easements set out in the Memorandum hereon. The Common Seal of the Waimakariri District Council is affixed hereto in the presence of:

THE COMMON SEAL OF
 WAIMAKARIRI DISTRICT COUNCIL

Authorized Officer

 Authorized Officer

MEMORANDUM OF EASEMENTS

Nature	Servient Tenement Lot No	Dominant Tenement Lot No
Right of way, right to drain water & sewerage, right to convey water electric power & telephonic communications	3	A
	4	B
	62	C
	50	F
Right to drain sewage	43	C
	47	D
Right to convey Electricity in grass	30	G
Right to drain sewage & water	62	E
	50	F

Total Area 5.9302 ha.
 Comprised in CT 40C/1173

1. Craig Harold Thompson
 Registered Surveyor and holder of an annual practicing certificate for who may act as a registered surveyor pursuant to section 25 of the Survey Act 1980 hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof.
 Dated at Christchurch this 2nd day of July 1997
 Signature *[Signature]*

Field Book *[Blank]* Traverse Book *[Blank]*
 Reference Plans DP 69972, 61540, 61657, 35490
 30620, 71199, 73557, 5019596, BM 335
 Estimated *[Blank]* Correct *[Blank]*

Approved as to Survey *[Signature]*
 8/12/97 Deputy Chief Surveyor

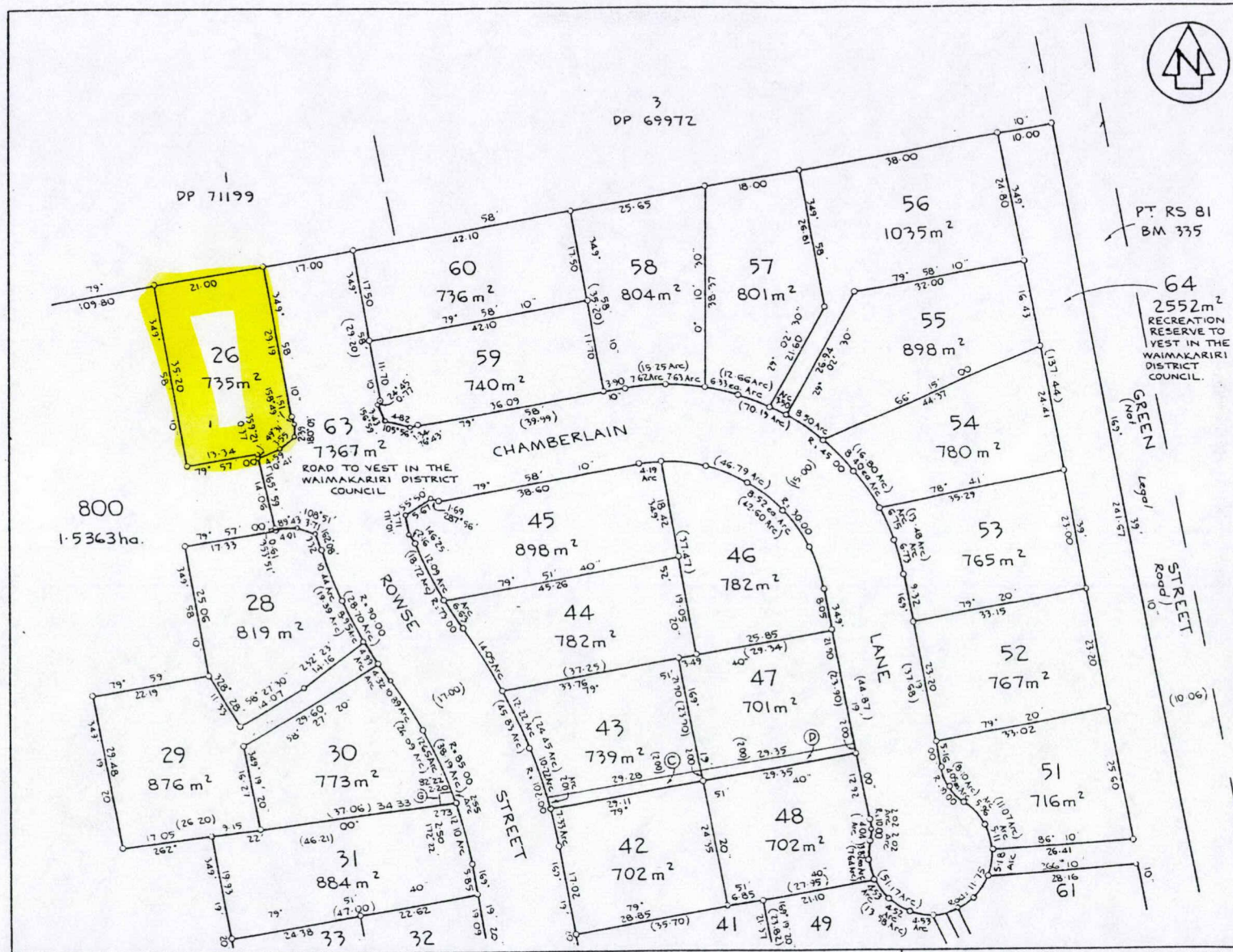
Deposited this 19th day of January 1998
[Signature] District Land Registrar

for
 Received 15.7.97 DP 76235
 Instructions

LAND DISTRICT CANTERBURY
 SURVEY BLK. & DIST. X RANGIORA
 NZMS 261 SHT M35 RECORD MAP No _____

LOTS 1-11, 26, 28-33, 37-64 & 800
 BEING SUBDIVISION OF LOT 2 DP 69972

TERRITORIAL AUTHORITY WAIMAKARIRI DISTRICT
 Surveyed by CONNELL WAGNER LIMITED
 Scale 1:1000 Date FEB-MAY 1997



Approvals

PT RS 81
BM 335

64
2552m²
RECREATION
RESERVE TO
VEST IN THE
WAIMAKARIRI
DISTRICT
COUNCIL.

GREEN STREET
(10.06)

DISTRICT LAND REGISTRAR

CANTERBURY N.Z.

Total Area.....

Comprised in

I, CONNELL WAGNER of CONNELL WAGNER LIMITED
Registered Surveyor and holder of an annual practising certificate for
who may act as a registered surveyor pursuant to section 25 of the
Survey Act 1986 hereby certify that this plan has been made from
surveys executed by me or under my directions, that both plan and
survey are correct and have been made in accordance with the Survey
Regulations 1972 or any regulations made in substitution thereof.
Dated at Christchurch this 19 day of February
of 1999

Field Book A Traverse Book A
Reference Plans See sheet 1

Examined WPN Correct —

Approved as to Survey [Signature]
8.11.2.97 Deputy Chief Surveyor

Deposited this 19th day of February 1998

[Signature] District Land Registrar

File LS 7.97 DP 76235
Instructions

LAND DISTRICT CANTERBURY
SURVEY BLK. & DIST. X RANGIORA
NZMS 261 SHT. M.35 RECORD MAP No

DIAGRAM 'Y'

TERRITORIAL AUTHORITY WAIMAKARIRI DISTRICT
Surveyed by CONNELL WAGNER LIMITED
Scale 1:500 Date FEB - MAY 1997

W.A. ROBERTSON, SURVEYOR GENERAL, DEPARTMENT OF SURVEY AND LAND INFORMATION, NEW ZEALAND Sheet 2 of 3 sheets REF: A 3759/34

"Compact fire for the modern home"

Available in a package deal. Fire, flue kit, hearth and stainless steel flue shield. Consult your Logaire dealer for details.



Clean Air Certification 99012.
No.

Micros

Ash hearth model

14 kw

- * Child-proof door locking mechanism.
- * 5 year warranty on proven firebox design.
- * Removable baffle for easy cleaning.
- * Single air slide with finger tip control.
- * Firebrick lined.
- * Wash system keeps glass clean.
- * Can burn 50% wood/coal mix.
- * Removable grille for access to cooktop.
- * Secondary burning technology.
- * Capable of overnight burning.
- * Non insulated hearth requirement.
- * Optional hot water booster.
- * Hard-wearing Durasteel™ Vitreous enamel finish in a range of colours.
- * Optional glass guard.

Waimakariri
BUILDING SERVICES
HEATING UNIT and FLUE to be installed in strict accordance with the manufacturer's instructions: UNIT OVER HEARTH shall be restrained in accordance with the Building Code, clause 7.4.2. N.Z.S. 7421:1990. An INSPECTION is required PRIOR to lighting the fire.

Pegasus

Ash Hearth Model

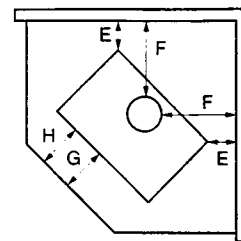
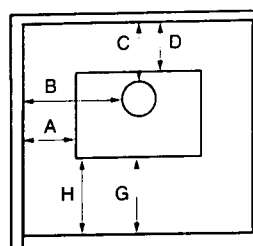
19 kw



The Pegasus Free Standing Fire is designed for the average 3-4 bedroom home. The Pegasus has a high heat output of 19 kilowatts.

Available in a package deal. Fire, flue kit, hearth and stainless steel flue shield. Consult your Logaire dealer for details.

SPECIFICATIONS



New Zealand Logaire Woodfire Clearance (mm)

Minimum woodfire to combustible wall distance

	A	B	C	D	E	F	G	*H
Pegasus/Ash with s/s flue shield	200	455	235	150	50	330	200	
Pegasus/Ash without flue shield	275	530	510	425	200	480	200	
Pegasus Multi with s/s flue shield	390	645	260	175	100	400	200	
Pegasus Multi without flue shield	390	645	610	525			200	
Atlanta with s/s flue shield	350	620	175	125	100	360	300	
Atlanta without flue shield	350	620	450	400	150	410	300	
Titan with s/s flue shield	350	670	405	325	200	525	300	
Titan without flue shield	400	720	630	550	345	675	300	
Apollo Wet with s/s flue shield	150	225	130	80	75	205	200	300
Apollo Dry with s/s flue shield	400	475	180	130	75	205	200	300
Apollo Dry without s/s flue shield	375	450	380	330	125	255	200	300
Micros Ash with s/s flue shield	200	405	140	70	25	255	200	
Micros Ash without flue shield	250	455	290	220	100	330	200	
Laredo Ash with s/s flue shield	280	560	205	100	80	360	200	
Laredo Ash without flue shield	280	560	405	300	310	590	200	
Atlanta In Built							350	

* Relates to Low Pedestal option only

Atlanta 1999 Bay Window with double s/s flue shield	300	545	155	100	100	345	200	
Atlanta 1999 Bay Window without s/s flue shield	300	545	405	350	150	410	200	
Micros Clean Aire with double s/s flue shield	300	405	140	100	25	255	200	
Pegasus Clean Aire	*							
Pegasus I/B Clean Aire								498 see Note 1

* At time of publication, clearance not available.

Note 1: Forward clearance is at zero hearth height. Check graphs for different heights.

SPECIFICATIONS

Logaire Woodfire Heat Output*

	Titan	Atlanta	Atlanta Inbuilt	Pegasus Ash	Pegasus Multi Fuel	Micros Ash	Apollo	Laredo	Pegasus InBuilt	Micros Clean Aire	Pegasus Clean Aire	99 Atlanta BayWindow
Estimated Peak Output (kw)	28	23	19	19	23 (Coal)	14	12	19	16	14	19	23
Normal Heat Output Range (kw)	2-25	2-21	2-17	2-17	2-19	2-12	2-10	2-17	2-14	2-12	2-17	2-21
Water Booster	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓
Estimated Average Heat output (kw)	13	11	9	9	11	7	5	9	8	7	9	11

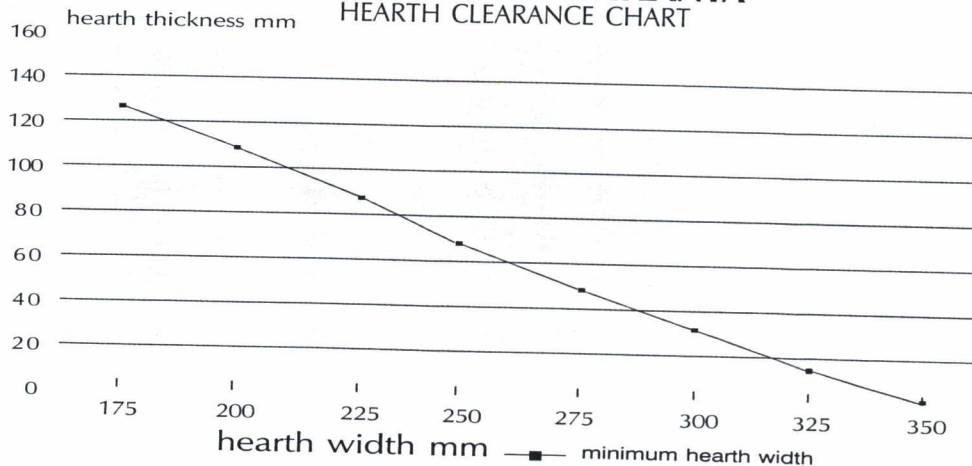
* Average Heat output (kw) and burn time will vary depending on fuel size and moisture content.

Logaire Minimum Hearth Sizes

FIRE	INSULATED	ASH HEARTH	WIDTH	DEPTH
Micros Ash		✓	825 MM	645 MM
Pegasus Ash		✓	890 MM	785 MM
Pegasus Multi-fuel		✓	890 MM	780 MM
Atlanta	✓		905 MM	985 MM
Atlanta Inbuilt	✓		950 MM	350 MM
Titan	✓		985 MM	1095 MM
Laredo Ash		✓	890 MM	735 MM
Apollo wet (on high base)		✓	660 MM	780 MM
Apollo wet (on med base)	✓		660 MM	780 MM
Apollo wet (on low base)	✓		660 MM	880 MM
Apollo dry (on high base)		✓	660 MM	830 MM
Apollo dry (on med base)	✓		660 MM	830 MM
Apollo dry (on low base)	✓		660 MM	930 MM
Atlanta 1999 Bay Window		✓	890 MM	895 MM
Micros Clean Aire		✓	850 MM	695 MM
Pegasus Clean Aire		✓	*	*
Pegasus InBuilt Clean Aire	✓		950 MM	

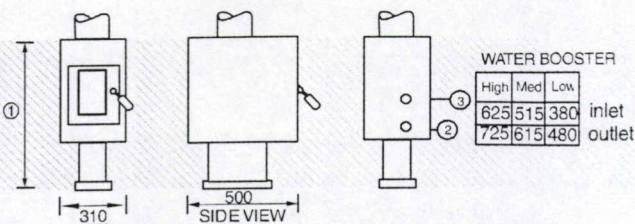
* At time of publication clearance not available.

LOGAIRE INBUILT ATLANTA HEARTH CLEARANCE CHART



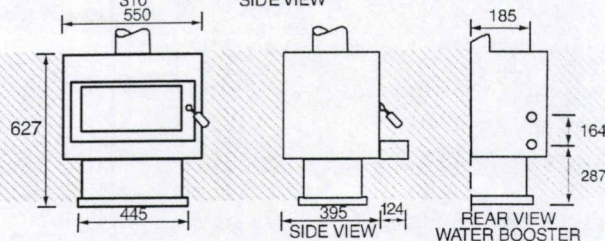
Apollo

①
High Base
870
Med Base
760
Low Base
625



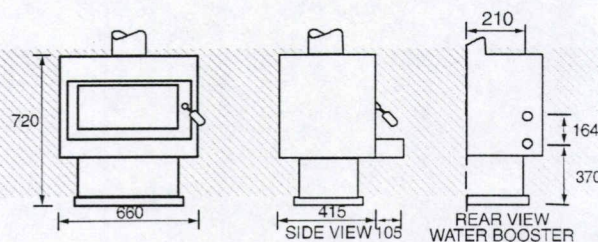
Micros

Ash Hearth



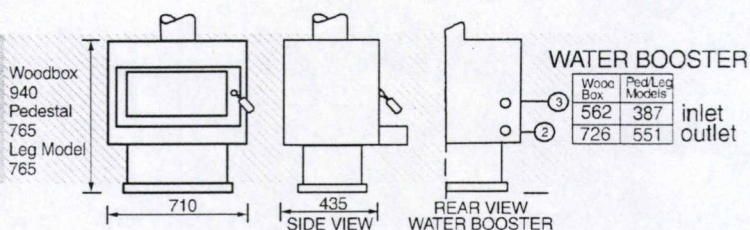
Pegasus

Ash Hearth



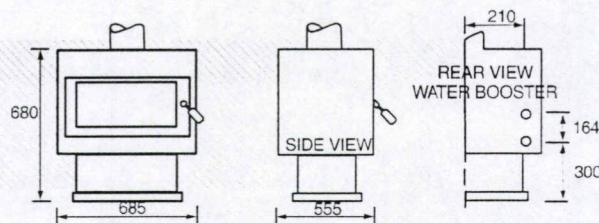
Laredo

Ash Hearth



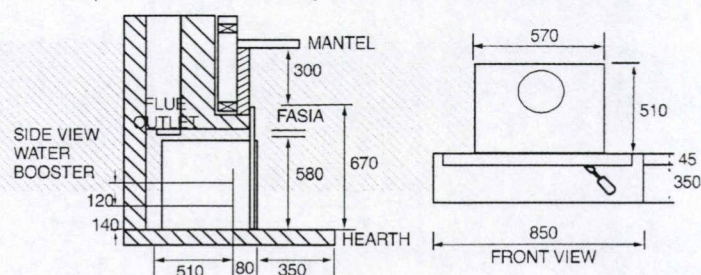
Atlanta

Free Standing



Atlanta

Inbuilt



Australia Logaire Woodfire Clearance (mm)

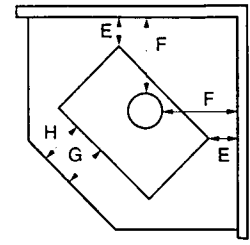
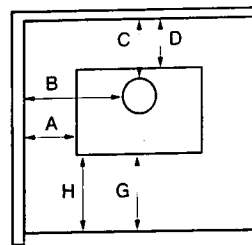
Minimum woodfire to combustable wall distance

	A	B	C	D	E	F	G	*H
Micros with 900mm s/s flue shield	250	455	190	120	100	330	325	
Pegasus with 900mm s/s flue shield	300	535	210	100	100	380	200	
Atlanta with 900mm s/s flue shield	350				100		300	
Titan with 900mm s/s flue shield	300	620	180	100	100	430	300	
Apollo with s/s flue shield & wet back	275	350	150	100	75	195	300	300
Laredo with 900mm s/s flue shield	280	560	205	100	80	360	200	
Atlanta 1999 Bay Window	100	155	300	545				

Note: At time of publication clearances not available. Consult your Logaire dealer for requirements.

Specifications given on this page are indicative only. Please refer to the installing and operating instructions before installing your Logaire Fire. Full installation instructions are supplied with each Logaire Fire.

SPECIFICATIONS



New Zealand Logaire Woodfire Clearance (mm)

Minimum woodfire to combustible wall distance

	A	B	C	D	E	F	G	*H
Pegasus/Ash with s/s flue shield	200	455	235	150	50	330	200	
Pegasus/Ash without flue shield	275	530	510	425	200	480	200	
Pegasus Multi with s/s flue shield	390	645	260	175	100	400	200	
Pegasus Multi without flue shield	390	645	610	525			200	
Atlanta with s/s flue shield	350	620	175	125	100	360	300	
Atlanta without flue shield	350	620	450	400	150	410	300	
Titan with s/s flue shield	350	670	405	325	200	525	300	
Titan without flue shield	400	720	630	550	345	675	300	
Apollo Wet with s/s flue shield	150	225	130	80	75	205	200	300
Apollo Dry with s/s flue shield	400	475	180	130	75	205	200	300
Apollo Dry without s/s flue shield	375	450	380	330	125	255	200	300
Micros Ash with s/s flue shield	200	405	140	70	25	255	200	
Micros Ash without flue shield	250	455	290	220	100	330	200	
Laredo Ash with s/s flue shield	280	560	205	100	80	360	200	
Laredo Ash without flue shield	280	560	405	300	310	590	200	
Atlanta In Built							350	

* Relates to Low Pedestal option only

Atlanta 1999 Bay Window with double s/s flue shield	300	545	155	100	100	345	200	
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Micros Clean Aire with double s/s flue shield	300	405	140	100	25	255	200	
Pegasus Clean Aire	*							
Pegasus I/B Clean Aire								498 see Note 1

* At time of publication, clearance not available.

Note 1: Forward clearance is at zero hearth height. Check graphs for different heights.

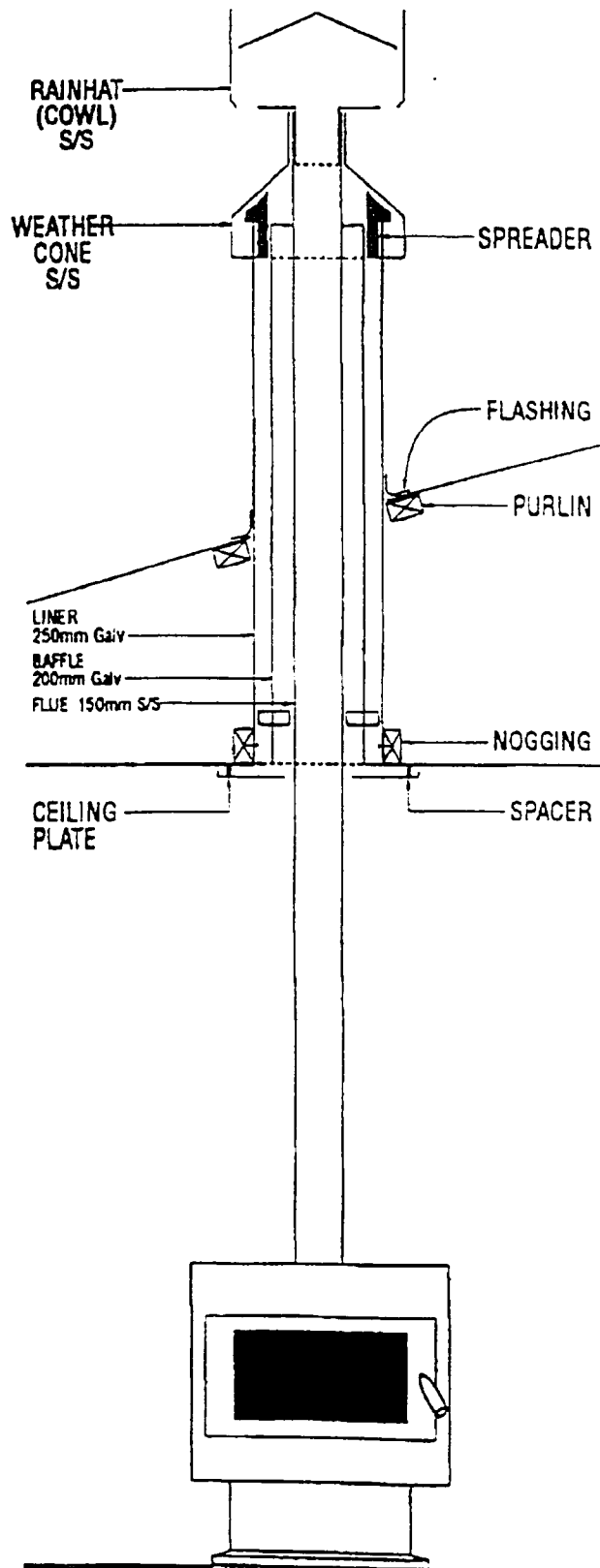
DATA SHEET (NZ)

NOTE: This sheet tabulates Dimensions and Clearances. Refer to the instructions supplied with your flue kit for complete installation details.

Flue Requirements

The Logaire may be installed with the standard Logaire freestanding flue kit or a similar flue system of equivalent specifications. The flue installation should be in accordance with Section 3 of the New Zealand Standards NZS 7421:1985 or 1990 or the equivalent Australian Standard AS 2918. The Atlanta requires a minimum flue height of 3.6 metres to ensure efficient operation of the heater. We do not recommend the use of flues in excess of 10 metres in height.

When the flue terminates within 3 metres of the highest point of the roof, the flue should extend at least 0.6m above the highest point of the roof. For all other installations the flue should terminate at least 0.9 metres above the roof penetration. All exposed portions of the flue above the roof penetration must be protected by at least one external shield.



Phone & Fax
332-5892



CRAWFORD
HOME DESIGN

22 Rossmore Tce. Christchurch 2

**Waimakariri
BUILDING SERVICES**

All construction work and materials used shall comply with the New Zealand Building Code, notwithstanding any inconsistencies which may occur in the drawings and specifications.

NEW RESIDENCE.

CHR THOMAS LANE & ROWSE STREET.

SHERWOOD GREEN. RANGIORA.

FOR C. FULLER & T. FULLER.

S P E C I F I C A T I O N

of work to be done and materials to be used in the erection of house and garage - Chr Thomas Lane & Rawse Street-Rangiora Lot 26, D.P. 76235 for C. FULLER & T. FULLER all in accordance with plans and specifications etc., prepared and subject to the general conditions of contract and other documents hereunto attached.

GENERAL CONDITIONS

Contractor and sub-contractors are to abide by all By-Laws and Regulations, also to provide all relevant insurance, permits and inspection fees, etc., and including 4.0m culvert crossing for driveway.

MATERIALS, PLANT AND LABOUR

The Contractor and individual sub-contractors shall provide all materials, plant and labour and all such materials shall be of their respective kinds. All work shall be of the best trade practice.

WORK

The extent of work consists of house and basement per plans and specifications and does not include any telephone connection fees, refrigeration, light fitting, clothes drier, washing machine, letterbox or clothes line..

PRIME COST SUMS

The owner reserves the right to select any article for which a P.C. sum is specified. P.C. sums shall be the amount allowed within the Contract at retail rate of purchase and does not include the cost of fixing the relevant article unless specified otherwise.

MAINTENANCE

The Contractor shall maintain the building for a period of 31 days after completion of the Contract against normal accepted defects, but excluding fair wear and tear.

SUB-CONTRACTORS

This specification is divided into trade sections for convenience of reference only and it shall not be construed that each trade

the preliminary clauses and conditions of contract shall apply to each trade section of this specification and each sub-contractor

FLUCTUATIONS IN PRICES

There shall be allowance for fluctuations in prices of materials, also labour costs in the event of a Government Wage Order made prior to the completion of the Contract.

EXTRAS TO CONTRACT

This will consist of any work or materials completed at the owner's request not inferred in the drawings and specification forming part of this Contract and are to be paid for separately by the owner within one month of such extras.

CLEANING UP

On completion of the Contract, the site shall be left clear of builder's rubbish and the floors and cupboards broom swept clean.

N.B. Any damage to footpath, grass lawn, kerbs or side channel to be general contractor's responsibility to make good.

CONCRETOR & CARPENTER

EXCAVATIONS

Remove all top vegetation off ground area on which ground floor is to be located. Excavate to levels shown. Stockpile soil and clay separately on site where directed by owner.

FOUNDATIONS

Excavations for foundation to be a minimum of 300mm below ground level. Boxing to be fixed level and firmly braced to dimensions indicated in drawings, care being taken during removal after concrete has hardened. Foundations to consist of 200mm ~~±~~ 250mm block filled with concrete layed on 300mm wide x 100mm thick site concrete to house and garage - strength to be 17.5 mpa. Reinforcing to be 16mm dia. rods horizontally with 10mm dia. stirrups at 600mm crs. and as indicated in relevant drawings. Within perimeter foundation of house ground floor and garage fill with 20/40mm tailings consolidated and screed to level. Lay 250 micron heavy polythene damp proof course overfill. Supply and install 6-6-5 reinforcing mesh supported on 60mm chairs and tied to foundations with R10 rods as shown. Lay 100mm thick concrete slab floor (17.5 mpa) for form level air face concrete finish with Kelly float. Holding down bolts to foundations, pipes for electrical mains, phone wires, water supply pipe to be fixed as necessary. One ply malthoid damp proof course to be provided between all faces of timber and concrete that would otherwise be in contact with each other.

SCHEDULE OF TIMBER

N.B. All framing timber to be kiln dried.

Floor joists	200 x 50	treated pines	gauged 600mm crs
"	"	"	" 400mm "
Studs	100 x 50	"	"
Top & bottom plates	100 x 50	"	"
Dwangs	100 x 50	"	" 800mm crs.
Ceiling strapping	75 x 40	"	" 400mm crs ± 600mm (under joists)
Rafters	100 x 50	"	" 400mm crs (gallery) ± 600mm crs (verandah)
Ceiling joists (to verandah)	100 x 50	"	" 600mm crs

Roof trusses (per manufacturers design details) at 900mm crs max.

Beams - 200 x 75 mm dsd N.Z. Oregon (study + ensuite)
 - 150 x 75 mm dsd N.Z. Oregon (front entry porch)
 - 200 x 50 mm dsd N.Z. Oregon (verandah roof supports)
 - 250 x 75 mm NZ Oregon (ridge beam - gallery)
 - 200 x 100 mm NZ Oregon (Balcony door lintel)
 Posts - 94 x 94 mm dsd tan pins.

INTERNAL FINISHES

Skirting 60 x 10mm fin. custom wood bullnosed

FRAMING UP

The whole of the building is to be properly and securely framed and the various sections securely spiked together. All framing being of the whole size specified, cut true and square. Plates shall be jointed with Pryde Nail plates and planer gauged for studs. Top trimmers over 1500mm long shall be checked 25mm into opening studs and any trimmers over 2700mm long shall have not less than 50mm solid bearing at each end.

Schedule of top trimmers and beams:-

Width of opening up to	1800mm	100mm in depth
" " " "	2400mm	150mm " "
" " " "	3000mm	200mm " "
" " " "	3600mm	250mm " "

ROOF COVERING

(a) Roof area to covered with G2 Trideck colorsteel (or zincalume) roofing fixed to 75x50mm purlins (at 900mm c/c). Provide and fix self supporting roofing underlay prior to fixing of roofing.
 Supply and fix matching valley and apron flashings where necessary. (Roof colour to be chosen by owner).

(b) Supply and fix 'Equis Chevaline Dorr' to manufacturers instructions on H3 tan 18 mm CD ply decking, carried up sufficiently under exterior cladding as shown to balcony.

(c) Supply and install 'KLASS' (or similar) external rain water system (colorsteel fascia, gutter and barge) graded with sufficient fall to downpipe outlets in positions shown on drainage plans.

EXTERIOR PRIMING

Priming of all exterior woodwork surfaces, ends and lap joints to be carried out by General Contractor (and not by Painter) using primer.

SOFFIT LINING

Line underside of all soffit overhangs with 4.5mm Hardieflex lining with edges and joints covered with suitable PVC mouldings.

EXTERNAL LININGS

Supply and fix where shown, 4.5mm Hardiebacker to all exterior walls fixed to manufacturers instructions. (refer Hard Plaster for exterior 'Rockate Listerik' solid plaster finish. Supply and fix light weight building paper laid horizontally from bottom to outside face of studs prior to fixing of exterior lining.

FLOORING (1ST Floor)

To be 20mm t.w.p. high density particle board fixed to joists with 60mm galv. twist nails. Nail at 150mm crs to perimeter and 300mm crs elsewhere. Punch on completion. Floor sanding to be carried out at end of contract by an experienced sub-contractor using an approved type of electric machine using a medium cut paper.

INTERNAL LININGS

Washroom & Ensuite - Supply 4.5mm hardieglaze with tiled pattern fixed to walls around shower bath (washroom) including face & side of bath; and walls to shower cubicle (ensuite); fixed with wallboard adhesive & matching p.v.c. mouldings.

INSULATION

All ceilings (except garage) to be fitted with R 2.6 fibreglass insulation. All exterior walls and garage/house wall to be fitted with R 1.8 thick fibreglass insulation.

GARAGE

The garage is to be constructed with 200mm wide concrete foundations with 100mm reinforced concrete floor slab and according to details indicated on drawings.

Supply and fix one 2100mm high and 4500mm wide Colorsteel sectional overhead complete with Merlin (or similar) automatic door opener and two transmitters. Joiner to supply ex 200 x 40mm treated pins. head and jamb for same.

BALCONY DECK

Erect balcony from gallery (over bedroom 2) as shown.

Refer Roofer for 'Equis Chevaline Deck' on 18mm 43 ply decking to 200x50mm joists (at 600mm crs) with galv. twist nails. Form dished channel as shown with sufficient fall from middle to exterior and discharge into 50mm pvc pipes at each end (These to discharge onto lower roofs). Frame up solid balustrade as shown complete with 100x50mm framing, etc 150x40mm preprimed tan pinus capping grooved to take 45mm Hardiebacker with Lite-rock solid plaster finish on both sides. Provide and fix 50mm dia. galv. pipe rail on 100mm high galv. stand-off brackets (at 1500mm crs) to top of balustrade.

VERANDAH & TERRACE

Erect verandahs from Living Room and front entry as shown. Support verandah roof on 200x50mm dtd N2 oregon beam (and 150x50mm dtd N2 oregon beam - front entry) bolted to 100x100mm dtd tan. posts with 2/10mm dia. galv. bolts. Provide similar fixing to Bowmac B197 galv. post supports set in concrete foundations. Provide 25mm outward fall to 100mm concrete terrace slab on hardfill. (Provide non-slip broom finish to top surface of terrace).

METAL WORK

- (a) Supply to site 5 galv. 'Bowmac' B197 post supports.
- (b) Supply to site the following:
 - (i) 250 universal beam 31# primed complete with 400x94x8mm m.s. plate lugs welded as shown (refer pg 6 & 7 engineers details).
 - (ii) 2/150 universal beams 18# primed complete with 400x94x8mm m.s. plate lugs welded as shown (refer pg 6 & 7 engineers details).
 - (iii) 2/200 universal beams 25# primed complete with m.s. plate lugs as above (refer pg 3 & 4 engineers details).
 - (iv) 6/600x600x6mm galv. angle plates (Living Room bay window) fixed to stud frame at 600mm crs (refer pg 2 engineers details).

P.C. SUMS - including G.S.T.

1. KITCHEN SINK BENCH TOPS & UNITS

Allow the P.C. sum of \$7,500 for formica sink bench complete with Clarke Corniche (or similar) double stainless bowl & drawer; prefinished beauty board cupboard units including pantry complete with toe spaces, 16mm melamine cupd doors & drawer fronts complete with 3mm matching reinforced edges (colour to be selected by owner).

2. VANITY TOPS AND UNITS

Allow the P.C. sum of \$2,500 for vanity units, tops and bowl (colour and type to be chosen by owner) - Bathroom and ensuite

3. HARDWARE

To be carried out by General Contractor in a neat, secure and tradesmanlike manner. The P.C. sum of \$1000.00 is allowed for all hardware excluding hinges.

4. SITE WORKS

Allow the provisional sum of \$3500 for the following:-

- (a) pressed concrete to drive and paths (colour and pattern to be chosen)
- (b) Clothesline and letterbox.

5. DISH WASHER & WASTEMASTER -

Allow the provisional sum of \$1750.00 for the supply and installation of dish washer and wastemaster of owner's choice.

6. LOG FIRE

Allow the provisional sum of \$3500.00 for the supply and installation of the following -

- (a) Yunca Log fire (or similar)
- (b) hearth and backing for above.
- (c) chimney flue complete with top cowl and roof flashing to make totally watertight.

BRICKLAYER

SEE ALSO OTHER TRADES AND GENERAL CLAUSES

EXTENT OF WORK

Supply all labour and materials necessary to complete the masonry work in a true tradesman-like manner as required by the drawings and as set out therein.

To construct 70mm brick veneer to exterior walls complete with matching "falling sills"

MORTAR - 8.62 MPA

Mortar shall be composed of three parts clean, washed sand to one part slaked lime to be gauged six parts mortar to one part cement immediately before use.

MATERIALS

- (a) All bricks to be "Monier" Old Timer brown Series 70 - 220 x 76 x 76mm.

VENEER WALLS

Build brickveneer walls clear of wood framing, generally forming a 10mm overhang to foundation and minimum of 40mm cavity, except adjoining fascia. The cavity, and brick ties are to be kept free from mortar droppings. The mortar being kept flush at the back of the walls. Leave clear weep holes at 800mm crs at foundations. Mortar joints are to be struck smooth as work proceeds,

HARD PLASTERER

CEMENT RENDERING

Materials to consist of cement plaster being one part Portland cement, to two parts clean, washed sharp pit sand. Foundations to be plastered on completion to a stippled finish.

EXTERIOR PLASTER

Supply and apply 'Rockcrete Lite-rock' solid plaster system (pattern and colour to be chosen by owner); fixed by experts in this class of work. (refer 'external linings' for fixing of 4.5mm hardie backer sheathing).

JOINERY

FRONT DOOR AND SIDE PANELS

Door to be 1980 x 860mm wide 4 panel Solid Fijian Kauri door. External frame and side light to be of treated pinus complete with 15mm galv. m.s. weather bar to sill. Provide and install middle rail to sidelight in position shown. (Refer Glazier for glass to sidelight).

EXTERIOR DOORS

1. Supply and fix powder coated aluminium sliding door/window sets to Living Room / verandah and Gallery / Balcony deck. Doors to have crashrail, 30mm veneered R.D.A. grooved reveals, and have inside locking only and fitted with security bolt to top (keyed alike).
2. Ldy garage / exterior door to be two panelled casement powder coated aluminium of width indicated on plan. Door to have crash rail, 30mm veneered R.D.A. grooved reveals and fitted with lockset and security bolt to top.

WINDOW FRAMES

Supply and fix powder coated glazed window frames to house and garage, sizes of frames as indicated on drawing. Frames to be delivered to site complete with 30mm RDA veneered finger jointed pinus grooved reveals.

Windows marked S.H. (side hung): A.H. (awning hung) F (fixed).

- N.B.
- (a) Provide and fix double snib handles to all opening sashes.
 - (b) All glass to be security glazed.
 - (c) Supply matching powder coated head flashings to all windows and doors where necessary.

INTERNAL DOORS

1. Interior doors to be economy Rmu hollow core flush panel doors of widths indicated on plan. Doors to have clashing strip on one edge only. (NB - under stair cup'd door similar)
2. Living Rm / Foyer door & sidelight to be similar to front door except that all four door panels to be glazed. (refer glazier for glass installation).
3. Doors to Bedrooms 1, 2, 3, 4 wardrobes, gallery & study cupboards to be 2 panel sliding powder coated aluminium (2050mm high) complete with 9.5mm gibraltar board infill panels.
4. Laundry / Foyer door to be as for (1) but fitted with closer.
5. Provide 1200mm high x 450mm wide x 18mm custom wood roof void doors hung within 50 x 18mm dtd pinus frame. Garage / under stair cup'd doors similar but 1 pr 1200 x 600mm.

INTERNAL DOOR JAMBS

All door frames, (incl. cupboards and wardrobes) to be 150 x 30mm veneered Rimu grooved to take wall linings. Supply and fix 50 x 12mm R.D.A. planted stops to form rebate for door. All door frames to be stopped and finished suitable for polyurethaning.

WARDROBE SHELVING

All shelving to be 18mm Customwood. - positions to be determined later in consultation with owner. Wardrobes to have one full depth shelf positioned 1600mm from floor under which silver anodised Pryde closet bars are to be fixed. Supply and fix half depth shelf mid way between above and ceiling.

CUPBOARD SHELVING

Provide 18mm customwood shelving complete with all necessary cleats to

- (a) Gallery cupboard - 4 x 500mm deep shelves. (with 18mm customwood division)
- (b) h.w.c. cupboard - 5 x 600mm deep slatted shelves (gallery).
- (c) Study cupboard - 6 x 400mm deep shelves
- (d) Foyer cupboard - 4 x 600mm " "
- (e) Garage cupboard - 4 x 300mm " angled shelves.

LAUNDRY CUPBOARD

Provide 2000mm high x 800mm wide x 600mm deep prefinished beauty board fabricated cupboard unit complete with 150mm high toe space; 1 pr melteca board hinged doors; 6 adjustable beauty board shelves.

Provide 50mm wide slot to shelving for broom storage.

STAIRS AND BALUSTRADES

All stairs to be of "closed" construction 1000mm wide over Rimu veneered customwood stringers (riser to approx. 178mm with 260mm going and 20mm nosing), constructed with 18mm Customwood. Provide and fix 850mm high framed up solid balustrade to stairwell and gallery. Supply and fix 50mm dia Rimu handrail fixed to top of balustrade with brass stand-off brackets. Supply and fix 50mm dia Rimu handrail fixed with brass handrail brackets to wall on one side lower flight stairs.

ATTIC LADDER

Provide and install attic ladder to garage ceiling.

ELECTRICAL

GENERAL

Refer to the General section which shall apply to all work in this section.

SCOPE

This Specification describes the complete electrical installation and all other materials necessary to complete the project even if not specifically written or drawn herein. The scope of the project includes the co-ordination and installation of the mains and the payment of all Southpower costs by the Electrical Contractor.

SUBCONTRACTORS RESPONSIBILITY

The subcontractor shall be deemed to have allowed in their tender for all trade items sundry or otherwise to complete the installation including commissioning.

REGULATIONS AND STANDARDS

All materials and methods of installation shall comply with the appropriate New Zealand Standard, and the Handbook of the Electrical Regulations 1993. It is the Electricians responsibility to ensure that all relevant Electrical Codes of Practice are adhered to in carrying out this work. Should any conflict between Southpower and the Electrician occur, Southpower requirements shall take preference. Nothing in this specification is to be interpreted to allow substandard materials or workmanship inferior to that required by the Electricity Regulations and codes of practice.

All equipment and materials used by the Electrical contractor that is required to have compliance and or certification documentation according to the Building or Electrical codes shall have the documentation collated by the Electrical contractor and provided to the Main contractor to form part of the building records at completion.

PERMITS

All permits required in connection with this subcontract shall be obtained in good time from local and other authorities. Allow to co-operate with Southpower and other local authorities required and arrange for and pay for all costs of services and code compliance inspections provided by them.

GUARANTEE

The Electrician shall be responsible to the Main contractor for the guarantee procedures. The Electrician shall allow for the labour and materials to replace all faulty Electrical components for 12 months from Subcontractors completion.

FLUSH BOXES

These shall be appropriate to the circumstances and shall be of adequate depth. Flush outlets shall have a clear finish around the openings and at a depth no greater than to allow standard fitting screws to be used.

SUB CIRCUIT WIRING

All sub circuit wiring shall be concealed in the wall and ceiling structure of the building

SUB CIRCUIT CABLE SIZES

- Power point outlets:- - the minimum size of cable shall be 2.5mm twin and earth stranded.
- Lighting outlets:- - the minimum wiring size shall be 1.5mm twin and earth stranded
- Volt drop:- - ensure that the cables are sized to comply with volt drop requirements of the Electrical regulations.

MAINS TYPE, SIZE AND INSTALLATION

supply and install *single* phase mains in a documented trench from the street boundary to *meter box position in garage. Allow to connect same.*

SUPPLY OF LIGHT FITTINGS

The Electrical contractor shall supply and install the fittings specified which shall be guaranteed for 12 months and all other maintenance requirements as described in the specification.

Lighting to stairs shall comply with the New Zealand Building Code D1/AS1/4.6

TERMINATION FITTING HEIGHTS, TYPES AND COLOURS

In general, heights from the floor level to light switches shall be 1100mm. Power points shall be 300mm. (Centre line measurements).

All light switches and power points shall be PDL 600 series, colour white and vertically mounted.

HOT WATER CYLINDER

Allow to wire and connect the hot water cylinder complete with elements and thermostat.

EYE LEVEL OVEN AND COOKING TOP

Allow a P.C. sum of \$2500.00 for supply of eye level oven and *gas cooking top.*

TILT-A-HOOD

Allow the P.C. sum of \$750.00 for the supply and installation of Tilt-a-hood positioned above cooking top. Provide ventilation through *exterior wall. (Provide #14 cover grille for same).*

TELEPHONE

Allow to supply and install wiring from underground Telecom connection and allow for wiring of 1 No main station and 2 No jack points to positions as instructed by the owner.

SCHEDULE OF ELECTRICAL FITTINGS

Power Points - 30 double, 3 single, 3 TV points
Lights - down lights - 30
- pendant - 5
Lights - Exterior - 4 + sensor (to entry light)

Sets of two-way switching - 5 sets

Eye level oven and cooking top to service supply.

1 meter box weatherproof material

Internal Mains

Switchboard to house

Night rate HWC to service supply.

2 Earth leakage circuit plugs - Ensuite & Washroom

Dishwasher to service supply .

2 'Taster' Compact HPM - Ensuite & Washroom.

heat, light & fan complete with 100mm dia. flexible duct to exterior wall.
Provide & fix 150x150mm aluminium grille for same.

PLUMBER

SEE ALSO OTHER TRADES AND GENERAL CLAUSES

GENERAL:

The Plumbing Contractor will supply all labour, plant and materials to complete the plumbing work as set out herein and all appliances needing plumbing work inferred by working drawings. The whole of the work is to be carried out in a tradesmanlike manner and left thoroughly water tight and weather proof except for overflow outlets, etc, and to comply with the 1992 Building Code G12.

FLASHINGS:

Supply and fix 1.5mm butyl flashing to all pipes at roof surfaces and at wall surfaces where necessary. Supply galvanised sill flashings to exterior timber door frames.

DOWNPIPES:

Refer Roof Covering (Item c) for prefinished fascia, gutter system fixed to manufacturer's instructions. Barges to be similar. Position the highest point to allow for adequate fall to 80 mm diameter pvc downpipes positioned as shown. Provide one downpipe dropper from high spouting to discharge onto lower roof. Fix pvc downpipes to external walls with pvc stand-off brackets.

SANITARY FITTINGS:

The whole of the work is to be carried out in accordance with the Drainage Board's Regulations and Laws and all appliance fittings, traps, vents, etc. are to be of the best quality, unless expressly specified otherwise, and are to be fitted where necessary in accordance with first class practice although they may not be expressly specified.

TRAPS, WASTES AND VENTS:

Supply and connect to drains with regulation pvc traps and pvc wastes together with chromium plated brass plugs and washers where desirable to sink, tub, shower bath, hand basin and pvc stump to ground floor WC pan. One 80 mm diameter pvc one pipe system to provide soil/stack pipe to first floor WC; discharge remaining 1st floor fittings into same, all back vented to comply with NZ Building Code G13/AS1.

- N.B. a) Washing machine waste to discharge into laundry tub waste;
b) Dishwasher waste to discharge into sink waste.
c) PLUMBER TO MAKE SURE WASTES ARE NOT CUT

THROUGH FIRST FLOOR JOISTS OR ANY VITAL TIMBERWORK.

COLD WATER SUPPLY

Run 20mm dia alkathene pipe high pressure water supply from existing connection at street boundary to enter house at kitchen. Allow 18mm pvc connection from same to 135 litre reserve tank (in roof space) complete with lid, tray and 50mm dia overflow. From reserve tank run 18mm dia pvc supply to 360 litre hot water cylinder and bath.

NB Lag all cold water pipes in ceiling space. Run 12mm pvc pipe branches to the following fittings:

2 handbasins	2 wc cisterns	1 dishwasher
1 tub and washing machine	1 sink fitting	
2 water taps	2 showers	

HOT WATER SUPPLY

- ① Provide and fix a 360 litre 'Superheat' medium pressure hot water cylinder, complying with 1992 NZ Building Code G12/AS1 - Fig 16 (positioned as indicated) complete with 4000 watt element and thermostat with exhaust pipe carried through roof. Provide 12mm connection under cylinder for drainage purposes. From h.w. cylinder lay 18mm dia copper supply pipe to bath and showers with 12mm dia copper pipe branches to hand basins, sink, tub & washing machine. Lag all hot water service pipes.

TAPS

Allow a P.C. sum of \$ 500.00 for the supply of all taps and shower valves to be selected by owner.

(a)	Bath	18mm fitting	2 Flush flange bib cocks & 100mm spout
① (b)	Showers	12mm "	2 cp. Slide shower faucets with shower mixers.
(c)	Sink	12mm "	Starmix
(d)	Hand basins	12mm "	2 Starmixers.
(e)	Single tub	12mm "	1 Combination A H I Super tub (or Cilotub) tap panel and fittings.
(f)	Washing machine	12mm "	
(g)	Isolation tap to H.W.C.	18mm "	1 Gate valve and 1 tempering valve
(h)	W.C. Cisterns	12mm "	2 Standard stop cock and pipe S
(i)	Hose taps	18mm "	2 18mm hose fittings

NB The owner reserves the right to purchase any of the above tapware. Allow to take delivery and install.

UNIONS

All unions between alkathene, pvc and copper pipes to be of brass. All copper pipes to be fixed with copper or brass fittings to allow adequate movement due to expansion and contraction.

PLUMBING FIXTURES

Provide fix and connect the undermentioned fixtures in positions indicated by working drawings:

- (a) 'Superheat' 360 litre electric hot water cylinder complete with 4,000 watt element and thermostat. (Suitable for night rate)
- (b) One coloured 1675mm 'Englefield Duo' sh' bath complete with safety glass 'Valencia' screen.
- (c) Two coloured W.C. pans (1 'P' trap & 1 'S' trap).
- (d) Two coloured 'Dux Delmonte' combination double flush cisterns and seats.
- (e) One single AHI Superhub complete with prefabricated cabinet & top panel.
- (f) One purpose made shower floor - (ensuite) complete with 6mm Hardipanel flooring under tiled floor. Supply and install hinged 'Valencia' safety glass screens to shower cubicle.

Ⓢ NB. The owner reserves the right to purchase any of the above fittings - allow to take delivery and install.

DRIER VENT

Allow to supply and install 80mm dia. flexible duct from back of drier to outside wall prior to internal linings being fixed.

D R A I N L A Y E R

SEE ALSO OTHER TRADES AND GENERAL CLAUSES

ACCORDANCE WITH BY-LAWS

All drainage work is to be strictly in accordance with ~~local~~ ^{NZBC 1992 G13/AS2} ~~By-Laws~~ notwithstanding any commission herein and to the entire satisfaction of the Inspector and all instructions issued by him must be carried out. All work included in this specification, not being in contravention to the N.Z. Building Code is to be carried out as specified.

MATERIALS

The sub-contractor is to supply all materials necessary for the due and proper installation of the drainage work as shown in drawings or as required, including all drain pipes, connections, inspection chambers and eyes, gulley traps or other traps, lampholes, fresh air vents etc. to comply with the N.Z. Building Code 1992.

STORMWATER DRAIN

Provide, lay and fix 100mm dia. PVC storm water drains to correct depth and fall as shown on site plan drawing. Discharge into existing lateral inside boundary.

SEWER DRAIN

Provide, lay and install 100mm dia. PVC sewer drain to correct depth and fall as shown on site plans. Discharge into existing lateral inside boundary.

I N T E R N A L P L A S T E R E R

SEE ALSO OTHER TRADES AND GENERAL CLAUSES

9.1 GENERAL

The Internal Plasterer will supply all labour, scaffold, plant and materials to complete the plastering work as set out herein. On no occasion must the sub-contractor sublet the works listed below without the approval of the main contractor.

9.2 EXTENT OF WORK

All internal walls, partitions, divisions 50mm or more thick between cupboards and wardrobes are lined with 9.5mm gibraltar board and all ceilings similarly.

N.B. - (1) Apply Finabond Level 4 paint finish to all walls and ceilings.

(2) Supply 9.5mm 'Bracebase' gibraltar board fixed to manufacturers instructions to one side of all walls highlighted in red (refer drawing elements - fix to clause E 13.2 (Fig E8 N25 3604)).

9.3 GIBRALTAR BOARD

Gibraltar board sheets to be thoroughly dry and seasoned, securely screw fixed and double nailed at 250mm centres, or by glueing to avoid drumming and the likelihood of nail popping. Joints to be left properly stopped and the whole of the work to be left clean and true, free from cracks, fractures and un-eveness etc. All wallboard to be taken down tightly to floor on all partitions and walls. Relevant rubbish to be removed from the building site on completion.

9.4 FINAL FACING UP

As per usual practice, final facing up of any minor faults is to be done just prior to painting and papering inside of house.

P A I N T E R

STANDARD OF WORKMANSHIP

As specified in General Clauses, standard of workmanship is to be of the highest grade and such things as stopping of woodwork where necessary with best linseed oil putty and the rubbing down between coats is all taken to be understood as coming within the scope of this work, even if not specifically mentioned.

The painting contractor is to supply all necessary labour, plant and materials, as for "exterior priming" to complete the painting work as set out herein and as inferred by working drawings.

MATERIALS

All of the materials used on the painting work are to be the best of their several kinds of well known makes and approved brands and to be of tints according to the owner's selection.

EXTERIOR WORK

Provide and apply two undercoats and one top coat of high gloss paint to all exterior woodwork including garage overhead frames.

The Hardieflex soffit lining is to receive two coats of matt paint. Front door, front door frame & sidelights to be sealed and given two coats exterior polyurathane.

Gas. meter box all p.v.c. down pipes and main vent to be primed and given two coats finishing paint colour to match that of wall behind. Verandah and entry porch beams and posts to have 3 coats 'Timbaeryl' (or similar).

INTERNAL PAINTING SYSTEMS

- (1) Wallpaper to the P.C. sum of \$35.00 per roll
 - (2) One coat gib. sealer and three coats Dulux Wash n Wear (or similar)
 - (3) Seal, two undercoats, one coat satin enamel
 - (4) Seal, two undercoats, one coat Hi-gloss
 - (5) Seal, two coats clear polyurethane
- N.B. (a) Inside walls to wardrobe to receive one coat sealer and one coat matt P.V.A.
- (b) All exposed beams to have two coats clear polyurethane.
- (c) All walls and ceilings of kitchen, laundry, washroom and ensuite to receive one coat gibseal plus two coats Dulux "Wash n Wear" (or similar) semi gloss finish (to N.Z. Building Code E3/AS1 cl 3.2.3.(d) and (e)).

SCHEDULE OF INTERIOR FINISHES

<u>Area</u>	<u>Ceilings</u>	<u>Walls</u>	<u>All Wood Trims</u>	<u>Doors</u>
Bedrooms 1,2,3,4 and <i>study</i>	2	2	5	5
Ensuite, Washroom	2	2	5	5
Laundry, Kitchen	2	2	5	5
Entry Foyer, <i>Passage</i>	2	2	5	5
Stairwell, <i>Gallery</i>	2	2	5	5
Dining, Living Room	2	2	5	5
Garage ,	2	2	5	5

GLAZIER

SEE ALSO OTHER TRADES AND GENERAL CLAUSES

GENERAL

All glass shall be fixed with neoprene rubber gaskets (supplied by Aluminium Joinery manufacturer). Fix glass to manufacturer's instructions. Glaze all positions indicated by elevations on drawings, with *clear* glass (free from imperfections). Provide and fix obscure glass to ensuite, and *washroom* windows. (Obscure glass pattern to owner's choice).

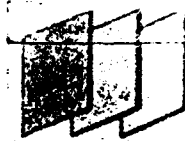
GLASS SCHEDULE (per N2S 4223 Part 3 1993)

Under	-	.3 sq.m.	-	2mm glass
.3	-	1.0 sq.m.	-	3mm glass
1.0	-	1.50 sq.m.	-	4mm glass
1.50	-	and over	-	6mm drawn plate

NOTE: Schedule of glass sizes to be used except where specified under exterior glazing below.

GLAZING

1. Glaze *four* panels of *liver*/living door & two panels of sidelight to be 4mm clear glass
2. Provide and install mirrors above vanity units in the following areas -
 - (a) 1000mm high x 900mm wide - *washroom*.
 - (b) 1000mm high x 1800mm wide - *ensuite*



GIBRALTAR BOARD
Wall Bracing Systems

WALLBRACING CALCULATION SHEET A

(For use with NZS 3604 : 1990)

Name: C. Fuller & T. Miller

1.	Location of STOREY	lower of two single upper of two upper of three
	SITE WIND ZONE: (Table 2.4)	low high medium
	EARTHQUAKE ZONE: (Fig. 2.2, Table 2.3)	A / B / C

SITE ADDRESS

City/Town or District: Rangiora.
Street and Number: Cor Thomas Lane & Rowe St
or
LOT AND D.P. Number: Lot 26 D.P. 76235

2. FOR EARTHQUAKE

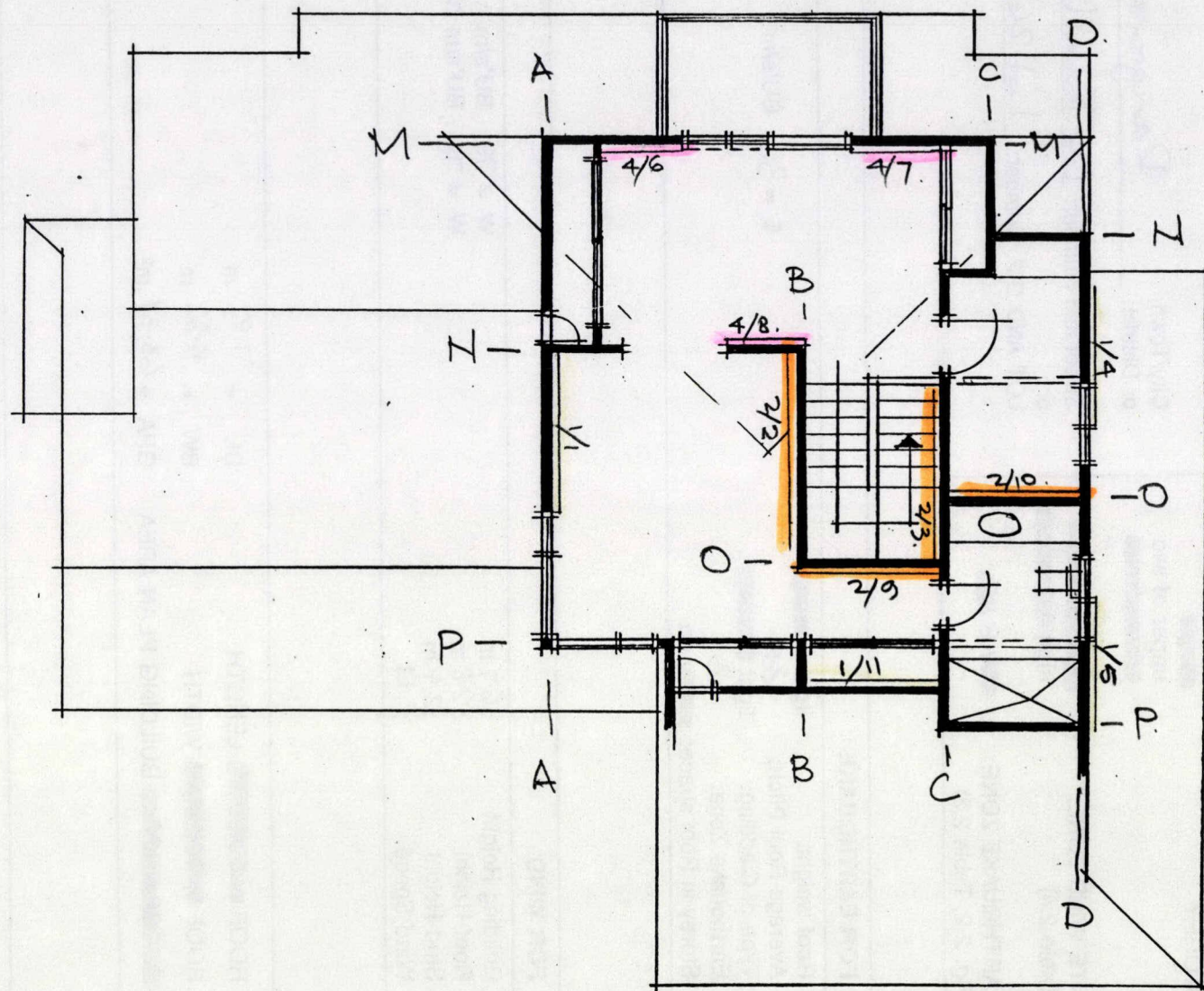
Roof weight:	light medium	
Average Roof Pitch:	<u>30°</u>	$E = 3.0 \text{ BU's/m}^2$
Type of Cladding:	light medium	
Earthquake Zone:	<u>B</u>	
Storey in Roof space:	yes no	

3. FOR WIND

Building Height	: <u>6.7 m</u>	$W = 78 \text{ BU's/m Along}$
Roof Height	: <u>2.8 m</u>	$W = 78 \text{ BU's/m Across}$
Stud Height	: <u>2.4 m</u>	
Wind Speed	: <u>4</u>	

4.	ROOF BUILDING LENGTH	BL = <u>7.87 m</u>
	ROOF BUILDING WIDTH	BW = <u>8.86 m</u>
	BUILDING BUILDING PLAN AREA	GPA = <u>63.37 m²</u>

5.	EARTHQUAKE LOAD (ACROSS and ALONG) $E \times GPA$	= 3×63.37	= <u>190.11 BU's</u>
	WIND LOAD: ACROSS	$W \text{ ACROSS} \times BL$	= 78×7.87 = <u>613.86 BU's</u>
	WIND LOAD: ALONG	$W \text{ ALONG} \times BW$	= 78×8.86 = <u>691.08 BU's</u>



WALL BRACING CALCULATION SHEET B
(For use with NZS 3604 : 1990)

ALONG

WALL OR BRACING LINE		BRACING ELEMENTS PROVIDED			EARTHQUAKE		WIND	
1	2	3	4	5	6 EQ	7 EQ	6 W	7 W
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BU/m EQ	BU's Achieved (BU/m x L) EQ	Rating BU/m W	BU's Achieved (BU/m x L) W
A	G1B1	1	1	2.4	50	120	75	180
B	G1B2	2	2	3.0	70	210	80	240
C	G1B2	3	2	2.7	70	189	80	216
D	{ G1B1 "	4	1	1.8	50	90	55	99
E		5	1	1.8	50	90	55	99

TOTALS ACHIEVED

EQ

699

W

834

TOTALS REQUIRED

EQ

190.11

W

691.08

(From Sheet A)

Type 4 brace - BR - 9.5mm brackline gibraltar bld fixed to NZS 3604.

ACROSS

WALL OR BRACING LINE		BRACING ELEMENTS PROVIDED			EARTHQUAKE		WIND	
1	2	3	4	5	6 EQ	7 EQ	6 W	7 W
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BU/m EQ	BU's Achieved (BU/m x L) EQ	Rating BU/m W	BU's Achieved (BU/m x L) W
M	{ BR5 "	6	4	1.2	87	104.4	98	117.6
		7	4	1.2	87	104.4	98	117.6
N	BR6	8	4	1.2	112	134.4	142	170.4
O	{ G1B2 "	9	2	2.0	60	120	75	150
		10	2	2.0	60	120	75	150
P	G1B1	11	1	1.8	50	90	55	99

TOTALS ACHIEVED

EQ

673.2

W

804.6

TOTALS REQUIRED

EQ

190.11

W

613.86

(From Sheet A)



GIBRALTAR BOARD
Wall Bracing Systems

WALLBRACING CALCULATION SHEET A

(For use with NZS 3604 : 1990)

Name: C. Fuller & T Miller

1.	Location of STOREY	<u>lower of two</u>
	SITE WIND ZONE: (Table 2.4)	<u>high</u>
	EARTHQUAKE ZONE: (Fig. 2.2, Table 2.3)	<u>B</u>

SITE ADDRESS

City/Town or District: Rangiora
Street and Number: Cnr Thomas Lane & Ruse St
or
LOT AND D.P. Number: Lot 26 D.P. 76235

2. FOR EARTHQUAKE

Roof weight: light
Average Roof Pitch: 3°
Type of Cladding: heavy
Earthquake Zone: B
Storey in Roof space: no

$$E = 6.1 \text{ BU's/m}^2$$

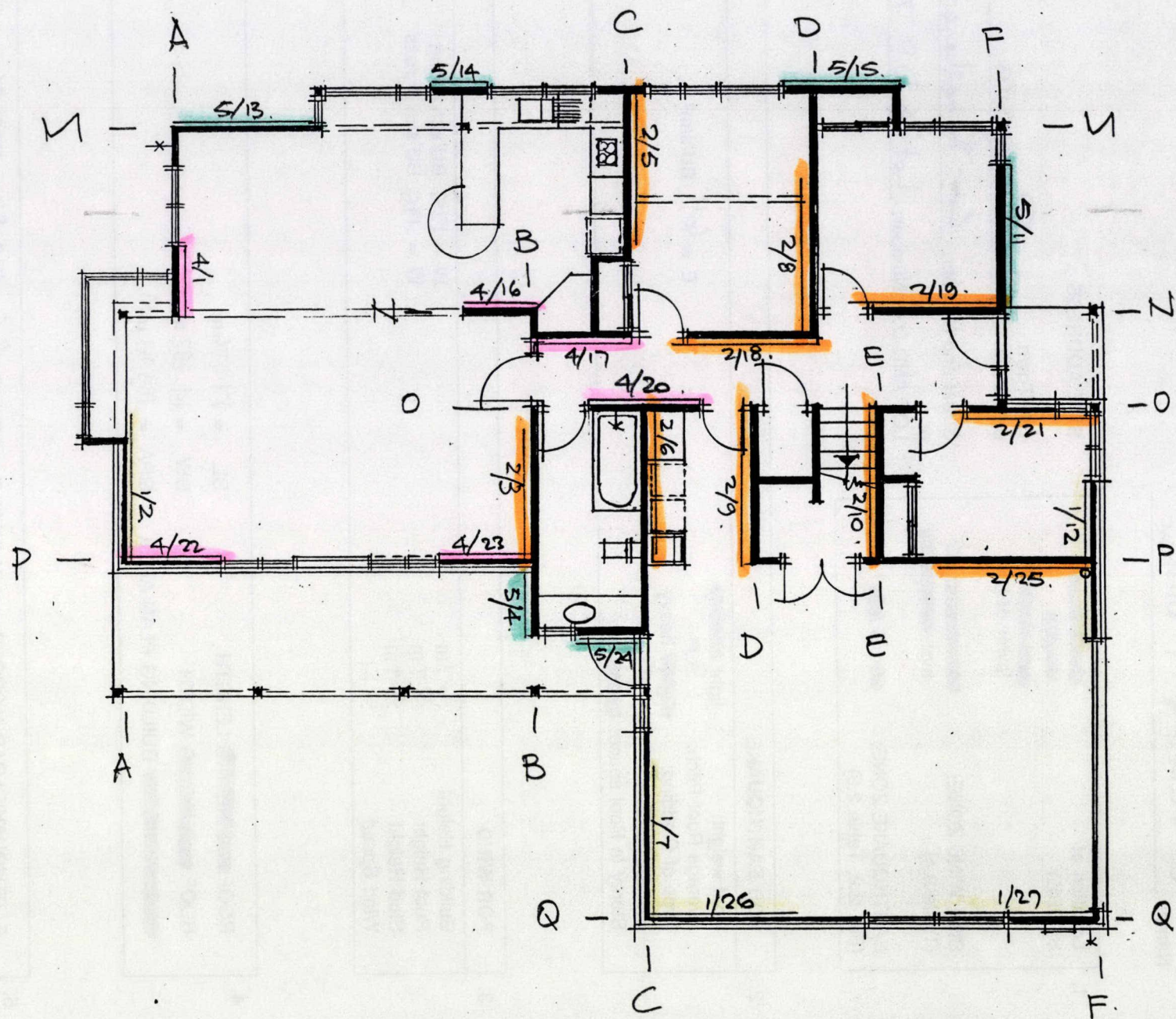
3. FOR WIND

Building Height: 6.7m
Roof Height: 2.7m
Stud Height: 2.4m
Wind Speed: 4

$$W = 125 \text{ BU's/m Along}$$
$$W = 125 \text{ BU's/m Across}$$

4. ROOF ~~BUILDING~~ LENGTH BL = 17.076m
ROOF ~~BUILDING~~ WIDTH BW = 14.282m
~~GROUND FLOOR~~ BUILDING PLAN AREA GPA = 189.83 m²

5. EARTHQUAKE LOAD (ACROSS and ALONG) $E \times GPA = 6.1 \times 189.83 = 1157.96 \text{ BU's}$
WIND LOAD: ACROSS W ACROSS $\times BL = 125 \times 17.076 = 2134.5 \text{ BU's}$
WIND LOAD: ALONG W ALONG $\times BW = 125 \times 14.282 = 1785.25 \text{ BU's}$



ALONG

WALL OR BRACING LINE		BRACING ELEMENTS PROVIDED			EARTHQUAKE		WIND	
1	2	3	4	5	6 EQ	7 EQ	6 W	7 W
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BU/m EQ	BU's Achieved (BU/m x L) EQ	Rating BU/m W	BU's Achieved (BU/m x L) W
A	BR5 GIB1	1	4	1.2	87	104.4	98	117.6
		2	1	2.4	50	120	75	180
B	GIB2 HBK4	3	2	2.4	70	168	80	192
		4	5	1.2	85	102	110	132
C	GIB2 GIB2 GIB1	5	2	2.4	70	168	80	192
		6	2	2.4	70	168	80	192
		7	1	2.4	50	120	75	180
D	GIB2 GIB2	8	2	2.4	70	168	80	192
		9	2	2.4	70	168	80	192
E	GIB2	10	2	2.4	70	168	80	192
F	HBK3 GIB1	11	5	2.4	80	192	105	252
		12	1	2.4	50	120	75	180

TOTALS ACHIEVED

EQ 1766.4

W 2193.6

TOTALS REQUIRED

EQ 1157.96

W 1785.25

(From Sheet A)

Type 4 brace - BR - 9.5mm bracing gibraltar b'd fixed to NZ S 3604.
Type 5 brace - HBK - 4.5mm hardie backer

ACROSS

WALL OR BRACING LINE		BRACING ELEMENTS PROVIDED			EARTHQUAKE		WIND	
1	2	3	4	5	6 EQ	7 EQ	6 W	7 W
Line Label	Minimum BU's Required	Bracing Element No.	Bracing Type	Length Element (m) L	Rating BU/m EQ	BU's Achieved (BU/m x L) EQ	Rating BU/m W	BU's Achieved (BU/m x L) W
M	HBK3 HBK4 HBK2	13	5	2.4	80	192	105	252
		14	5	1.9	85	76.5	110	99
		15	5	1.9	75	142.5	90	171
		16	4	1.2	112	134.4	142	170.4
N	" GIB2	17	4	1.6	112	179.2	142	227.2
		18	2	2.4	70	168	80	192
		19	2	2.4	70	168	80	192
O	BR6 GIB2	20	4	1.8	112	201.6	142	255.6
		21	2	2.0	60	120	75	150
P	BR5 " HBK4 GIB2	22	4	1.6	87	139.2	98	156.8
		23	4	1.6	87	139.2	98	156.8
		24	5	1.0	85	85	110	110
		25	2	2.4	70	168	80	192
Q	GIB1 "	26	1	2.4	50	120	75	180
		27	1	2.4	50	120	75	180

TOTALS ACHIEVED

EQ 2153.6

W 2684.8

TOTALS REQUIRED

EQ 1157.96

W 2134.5

(From Sheet A)

WALL BRACING CALCULATION SHEET B

(For use with NZS 3604 : 1990)

Neville R Melhop Limited

Director: N R Melhop BE, MIPENZ, C.Eng, MICE, MIQ
Registered Civil Engineer

CONSULTING ENGINEERS

103 Hackthorne Road
Cashmere
Christchurch 2, NZ
Phone/Fax (03)337 1001
Mobile 025 320 452
12/4/99.

DESIGN CERTIFICATE

New House at Cnr Thomas Lane and Rowse Street
Rangiora

for C.Fuller and T.Miller.

This is to certify that the timber and steel beams for the above new house, as detailed in the attached calculations, and drawings by Crawford Home Design, have been designed in accordance with

NZS 4203 : 1992

NZS 3604 : 1990

BRANZ Technical Recommendation No 2

and with current engineering practice

Signed



Neville R Melhop.

PRODUCER STATEMENT - DESIGN

(Guidance notes on the use of this form are printed on the reverse side)

NEVILLE R. MELHOP LIMITED

ISSUED BY: CONSULTING ENGINEER

(Specially qualified Design Professionals)

TO: C FULLER & T MILLER

(Owner)

IN RESPECT OF: NEW HOUSE

(Description of Building Work)

AT: CNR THOMAS LANE & ROWSE ST

RANGIORA

(Address)

LOT DP SO
NEVILLE R. MELHOP LIMITED

CONSULTING ENGINEER

103 HACKTHORNE RD

(Design Firm)

has been engaged by CRAWFORD HOME DESIGN

(Owner/Developer/Contractor)

I provide STRUCTURAL DESIGN services in respect of the

(Scope of Engagement)

requirements of Clause(s) B.1 of the Building Regulations 1992 for

☐ All☒ Part only as specified

TIMBER & STEEL BEAMS

of the building work. The design has been prepared in accordance with NZS 4203: 1992

(Verification method(s)/acceptable solution(s))

(respectively) of the approved documents issued by the Building Industry Authority and the work is described on

CRAWFORD HOME DESIGN

(Design Firm)

drawings titled

NEW RESIDENCE
CNR THOMAS LANE &
ROWSE ST,
RANGIORA

and numbered 1-3 and the specification and other documents according to which the building is proposed to be constructed.

I am an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum value of \$200,000, I BELIEVE ON REASONABLE GROUNDS that subject to:

(i) the verification of the following design assumptions

and (ii) all proprietary products meeting the performance specification requirements, the drawings, specifications, and other documents according to which the building is proposed to be constructed comply with the relevant provisions of the building code.

Date 12-4-99

BE MIPENZ Registered Engineer

(Professional Qualification)

ERB/AERB Reg No. 3767

Member ACENZ ☐IPENZ ☒ NZA103 Hackthorne Rd
Christchurch

①

Summary of Structural Calculations New house at 121 Thomas Lane & Rouse St Rangiora For C Fuller & T Miller

Gallery Beam (A)

roof loads only
 light roof
 Wind - medium
 snow load 0.5 KPa
 internal
 beam span 3.1m
 roof dimension 7.5m
 from
 BRANZ Technical Recommendation

No. 2,
 table 1.1 (roof)

(7.5) $DL = 1.50 \text{ KN/m}$
 $SL = 1.83 \text{ KN/m}$
 $TL = 3.38 \text{ KN/m}$

from table 2.9.
 for 250x100 NZS

(3.05) allowable $TL = 6.05 \text{ KN/m}$
 $DL = 3.02 \text{ KN/m}$
 $LL = 6.04 \text{ KN/m}$
 $\therefore \text{OK}$

Beam (B)

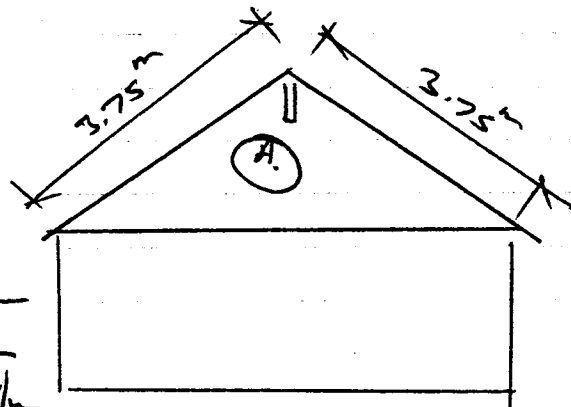
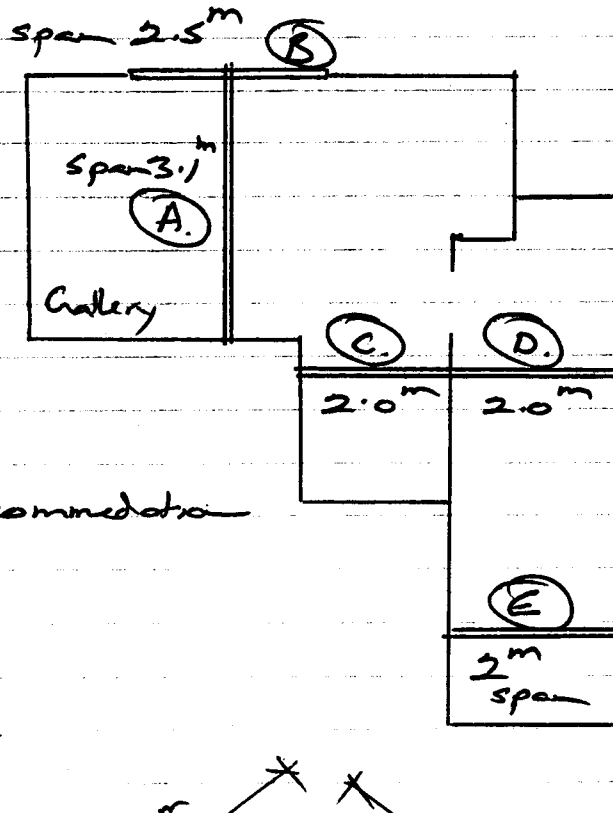
end load from beam A.
 $3.38 \times \frac{3.1}{2} = 5.24 \text{ KN}$

equiv. UDL

$$\frac{WL^2}{8} = \frac{5.24 \text{ KN} \times 2.5}{2}$$

$$= 3.27 \text{ KN/m}$$

$$W = \frac{8 \times 3.27}{2.5^2} = 4.19 \text{ KN/m}$$



Gallery
 Beam (A)
 use
 250x100
 NZS

(2.)

from table 2.9

(2.45) for 200x100

allowable $T_L = 5.93 \text{ KN/m}$

$DL = 3.12 \text{ KN/m}$

$LL = 5.93 \text{ KN/m} \therefore \text{OK}$

Gallery
Beam (E)
use

200x100
N20.

Stairwell / Study Beams (C) & (D)

roof dimension = 7.3m

beam span 2.0m

from table 1.1 (roof)

(7.5)

$DL = 1.50 \text{ KN/m}$

$SL = 1.88 \text{ KN/m}$

3.38 KN/m

from table 2.8

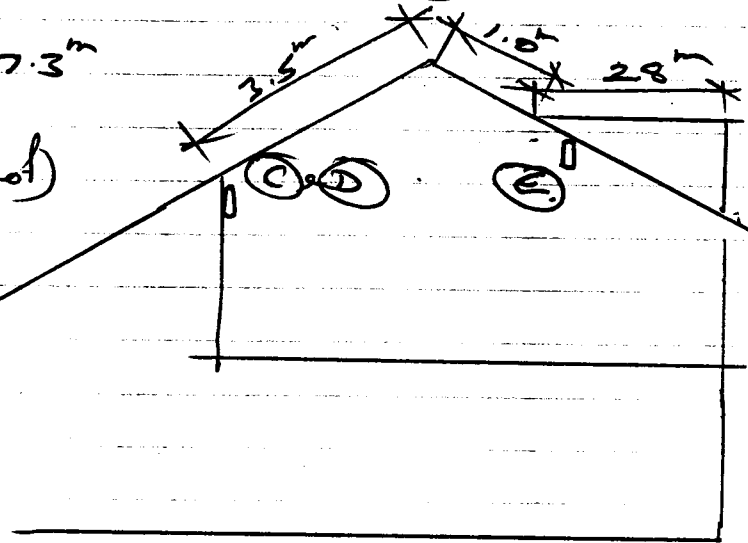
(2.15)

for 200x75

allowable $T_L = 5.65 \text{ KN/m}$

$DL = 3.50 \text{ KN/m}$

$LL = 5.65 \text{ KN/m} \therefore \text{OK}$



Stairwell/
Study
Beams

(C) & (D)

use

200x75
N20.

Beam (E) (Ensute)

as for (C) & (D)

Beam (E)

use

200x75
N20.

Living Room window brackets

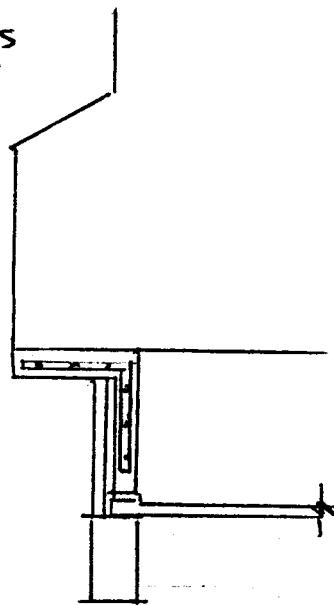
use 6/600x600x6mm galv.

m.s. angle plates

(Brymac or equivalent)

bolted to framing with

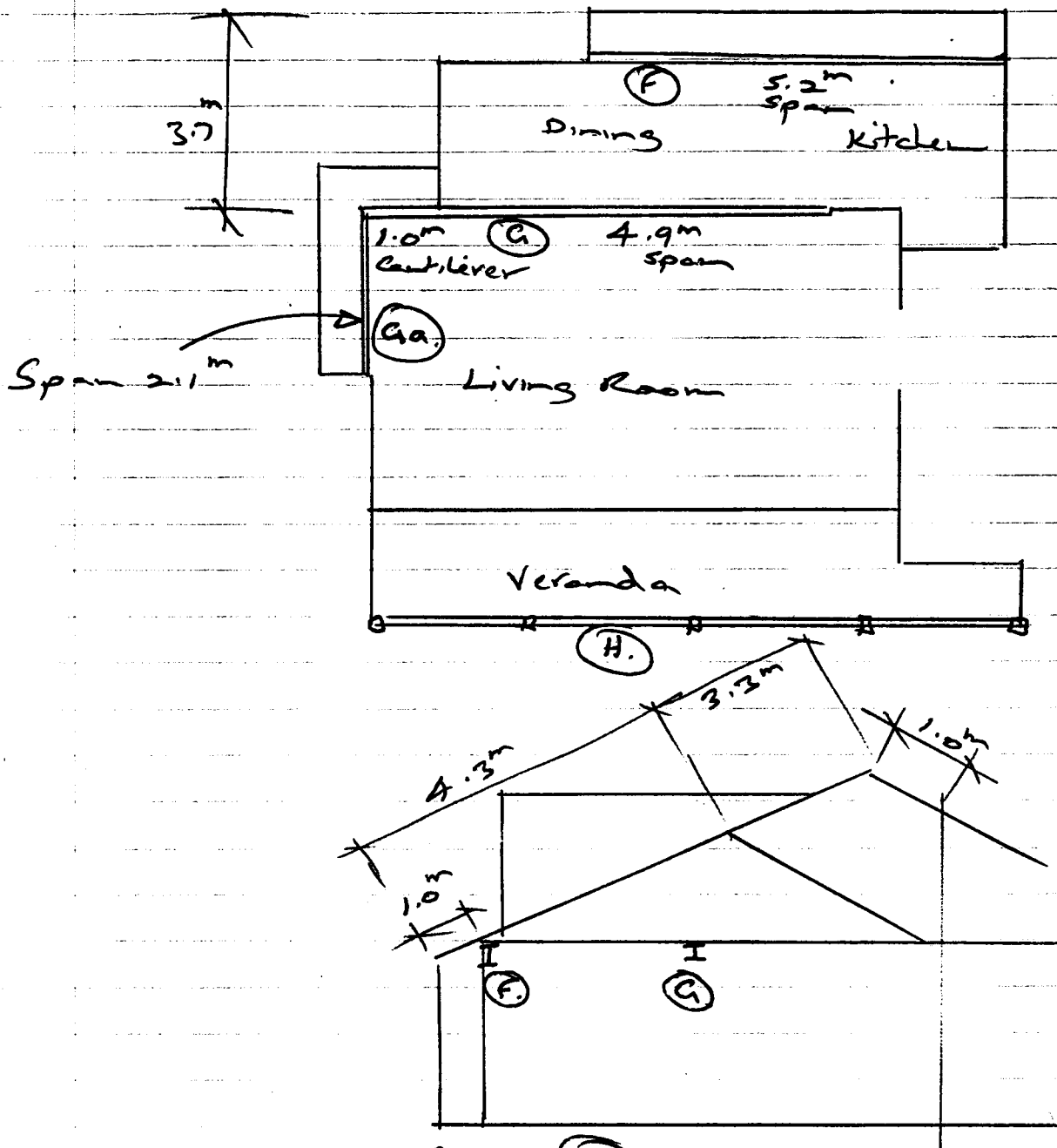
3/10 mm galv bolts per leg



Living
Room window
brackets

6/600x600x6
galv angle
plates.

3.



Dining Room Beam (F)

Beam span 5.2m
 roof dimension 6.3m
 joist span 3.7m
 from table 1.1 (roof)
 (6.3) $DL = 1.26 \text{ KN/m}$
 $SL = 1.58 \text{ KN/m}$
 2.84 KN/m

4.

from table 1.2 (floor)

(3.9) $DL = 1.17 \text{ KN/m}$

$1.5 \text{ KPa LL} = 2.93 \text{ KN/m}$

4.10 KN/m

$TL = 6.94 \text{ KN/m}$

from table 5.1

(5.15) for 200 UB 25

allowable $TL = 11.55 \text{ KN/m}$

$LL \text{ or } DL = 5.45 \text{ KN/m}$

$\therefore \text{OK}$

Beam (A) (Living Room)

beam span 4.9 m

joist span $= 7.9 \text{ m}$

roof dimension $= 7.6 \text{ m}$

from table 1.1 (roof)

(7.5) $DL = 1.50 \text{ KN/m}$

$SL = 1.88 \text{ KN/m}$

3.38 KN/m

from table 1.2 (floor)

(8.2) $DL = 2.43 \text{ KN/m}$

$LL = 6.08 \text{ KN/m}$

8.51 KN/m

$TL = 11.89 \text{ KN/m}$

from table 5.1

(4.89) for 200 UB 25

allowable $TL = 13.02 \text{ KN/m}$

$LL \text{ or } DL = 6.82 \text{ KN/m} \therefore \text{OK}$

Lintel (A) (Supported by cantilevered beam A.)

span 2.1 m

roof dimension 7.8 m

table 1.1

(7.5) $DL = 1.50 \text{ KN/m}$

$SL = 1.88 \text{ KN/m}$

3.38 KN/m

Dining/Kitchen

Beam (F.)

use

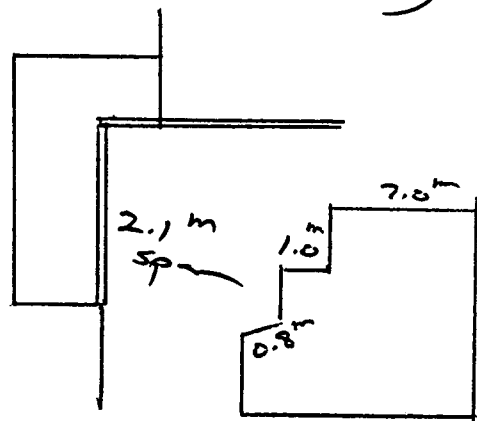
200 UB 25

Living room

beam (A.)

use

200 UB 25



3.

from table 2.9.

(2.15) for 200x100

allowable $T_L = 7.70 \text{ KN/m}$

$DL = 4.77 \text{ KN/m}$

$LL = 7.70 \text{ KN/m} \therefore \text{OK}$

Lintel

Ga.

use

2/200x50

Beam (H.) (Verandat.)

beam span 2.4^m

roof dimension 2.0^m

from table 1.1 (roof)

(2.7) $DL = 0.54 \text{ KN/m}$

$SL = 0.68 \text{ KN/m}$

1.22 KN/m

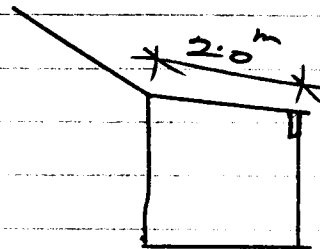
from table 2.7

(2.45) for 200x50

allowable $T_L = 2.96 \text{ KN/m}$

$DL = 1.56 \text{ KN/m}$

$LL = 2.96 \text{ KN/m}$



Bedroom 2. Beam (I)

beam span 3.1^m

roof dimension 4.0^m

joist span 4.0^m

from table 1.1 (roof)

(4.5) $DL = 0.90 \text{ KN/m}$

$SL = 1.13 \text{ KN/m}$

2.03 KN/m

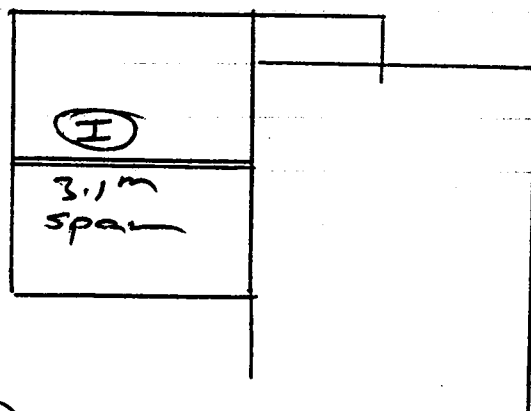
from table 1.2 (Floor)

(4.5) $DL = 1.35 \text{ KN/m}$

(2.0KPa) $LL = 4.50 \text{ KN/m}$

5.85 KN/m

$T_L = 7.88 \text{ KN/m}$



6.

From table 5.1

(3.35) For 150 UB 18

allowable $T_L = 13.53 \text{ KN/m}$

$LL \text{ or } DL = 9.28 \text{ KN/m} \therefore \text{OK}$

Bedroom 2

Beam (I)

use

150 UB 18

Entry Foyer Beam (J)

beam span 1.6 m

roof dimension 2.0 m

from table 1.1 (roof)

(2.1) $DL = 0.42 \text{ KN/m}$

$SL = 0.53 \text{ KN/m}$

0.95 KN/m

from table 2.8

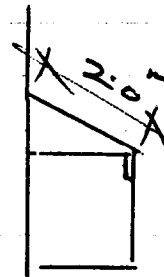
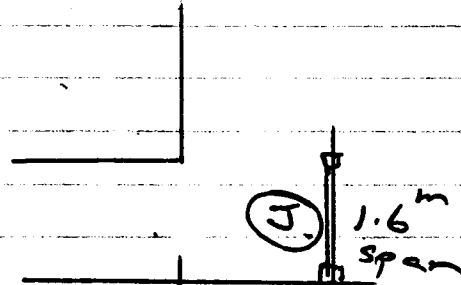
For 150×75

(1.85) allowable $T_L = 4.21 \text{ KN/m}$

$DL = 2.31 \text{ KN/m}$

$LL = 4.21 \text{ KN/m}$

$\therefore \text{OK}$



Entry Foyer

Beam (J)

use

150×75
N20

Garage Beams

Beam (K)

span 6.0 m

roof dimension 8.2 m

Joist spans 7.6 m

From table 1.1 (roof)

(8.1) $DL = 1.62 \text{ KN/m}$

$SL = 2.03 \text{ KN/m}$

3.65 KN/m

From table 1.2 (floor)

(7.5) $DL = 2.25 \text{ KN/m}$

(1.5 kPa) $LL = 5.63 \text{ KN/m}$

7.88 KN/m

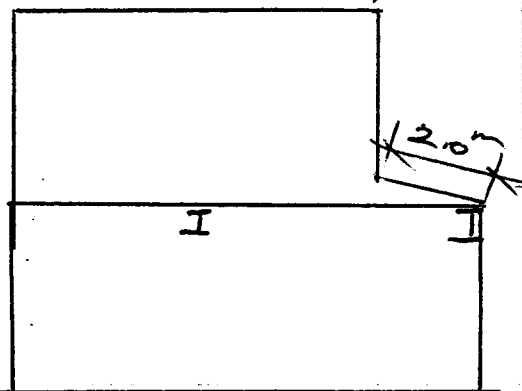
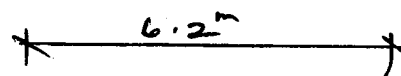
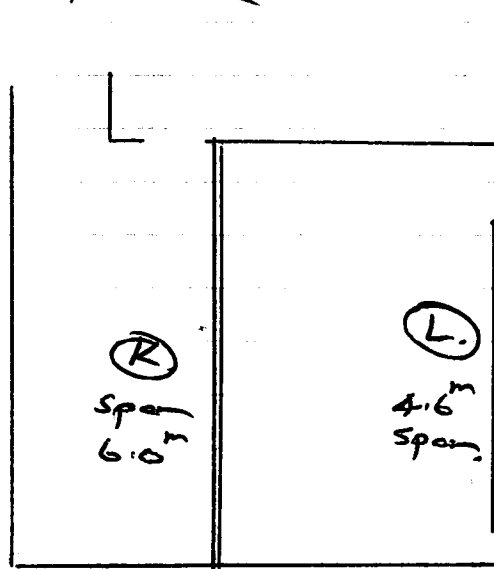
$T_L = 11.53 \text{ KN/m}$

from table 5.1

for 250 UB 31

(6.05) allowable $T_L = 12.73 \text{ KN/m}$

$LL \text{ and } DL = 5.50 \text{ KN/m}$



7.

adjusted to 6.0m span
allowable LL or DL = 5.70 KN/m $\therefore$ OK

Garage
Beam (R)
use
250UB 31

Beam (L) (Garage)

Beam span 4.6m
roof dimension 4.5m
joist span 3.9m
from table 1.1 (roof)

(4.5) DL = 0.90 KN/m
SL = 1.13 KN/m
2.03 KN/m

from table 1.2 (floor)

(3.9) DL = 1.17 KN/m
LL = 2.93 KN/m
4.10 KN/m

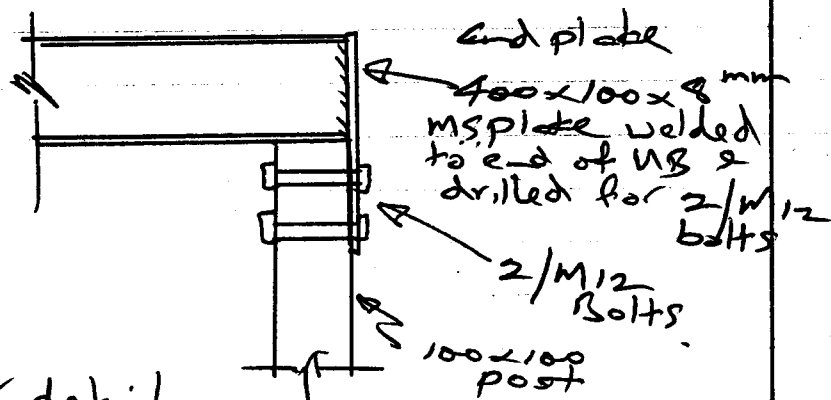
TL = 6.13 KN/m

table 5.1 for 150UB 18

(4.55) allowable TL = 7.33 KN/m
LL or DL = 3.19 KN/m $\therefore$ OK

Garage Beam
(L) use
150UB 18.

End Detail for steel beams



8mm thick
MS sheet
plate welded
to UB &
drilled for
2/M16 bolts
to lintel.

Lintel detail

200x100x8
MS plate
butt welded to
UB & drilled for
2/M12 bolts into
100x100 post

sheet plates
welded in either
side 8mm MS plate

Project Information Memorandum

Section 31, Building Act 1991

Application

C & T FULLER	No.	990842
56 ROWSE STREET	Issue date	2/07/99
RANGIORA	Application date	1/07/99

Project

Description	NEW CONSTRUCTION BEING STAGE 1 OF AN INTENDED 1 STAGE NEW DWELLING
Intended Life	INDEFINITE, BUT NOT LESS THAN 50 YEARS
Intended Use	DOMESTIC LIVING
Estimated Value	\$140,000
Location	52 ROWSE ST, RANGIORA
Legal Description	LOT 26 DP 76235 BLK X RANGIORA SD
Valuation No.	2165564200

This project information memorandum is confirmation that the proposed building work may be undertaken, subject to the provisions of the Building Act 1991, and any requirements of the building consent.

This project information memorandum includes:

- ☐ Information identifying relevant special features of the land concerned
- ☐ Details of relevant utility systems

Signed for and on behalf of the Council:

Name:

E P Reuben

Date:

2.7.99

No part of the structure is to exceed the Councils recession plane.

The certificate of title may make reference to land covenants - a copy of which should be submitted with the Building Consent application.

Any inbuilt or freestanding heater to be installed in this dwelling should be clean air approved.

A current copy of the certificate of title is to be submitted with the building consent application.

This project Information Memorandum does not purport to be a full report on every aspect of the property which is likely to be relevant to the building works proposed. It is information that is known to the Council at the date of the issue of this memorandum. It is issued pursuant to Sections 31 and 47 of the Building Act 1991.

INFORMATION IDENTIFYING RELEVANT SPECIAL FEATURES OF THE LAND

Wind Zone Medium

Snow Load Zone 4

Earthquake Zone B

Hazard Identification - Ground instability

Comments :

This property may be within an area of suspect foundation bearing capacity. An Engineers report on the bearing capacity of the ground is to be submitted with appropriate foundation designs in support of the Building Consent application.

INFORMATION ABOUT THE LAND OR BUILDINGS NOTIFIED TO THE COUNCIL BY ANY STATUTORY ORGANISATION HAVING THE POWER TO CLASSIFY LAND OR BUILDINGS

Nil

DETAILS OF RELEVANT UTILITY SYSTEMS (administered by the Waimakariri District Council)

Sewer

Stormwater

Water Supply

Attachments :

Services Information.

DETAILS OF AUTHORISATIONS WHICH HAVE BEEN GRANTED

Nil

DETAILS OF AUTHORISATIONS WHICH MUST BE OBTAINED BEFORE A BUILDING CONSENT WILL BE ISSUED

Nil

DETAILS OF AUTHORISATIONS WHICH HAVE BEEN REFUSED

Nil

This project information memorandum is confirmation that the proposed building work may be undertaken subject to the provisions of the Building Act 1991 and any requirements of the building consent not yet approved.

PROJECT INFORMATION MEMORANDUM CHECK LIST

Application No. 99 / 842 Date: 1 / 7 / 99

Map ☒ C/T ☐

Valuation No. 216SS. 642.00

DEPARTMENT REFERRALS	Referred Date	Received Date
PIM	<u>2.7.</u>	<u>2.7</u>
SERVICES	<u>2.7.</u>	<u>2.7</u>
PLANNING		
HEALTH		
FIRE		
CRC		
HISTORIC PL		
OTHER		

83 Enquiry Screen ☒	Property File ☒	Drainage Plan ☒
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	1. ☒	2. ☒	3. ☒	Authorisations Approved	Authorisations Required	Authorisations Refused
PBP ☒	Wind <u>WM</u>	CRC	SE			
PREC ☒	Snow <u>S4</u>	Transpower	ST			
PCOV ☒	Earthquake <u>EB</u>	Clean Air	WS			
P2M ☒	Hazard <u>HGI</u>	GA	WR			
PCA ☒	Fill <u>?</u>	Historic Place				
PCT ☒	Ground Instability ☒					
	Public Drains ☒					

2 Storey Bldg -
R950454

PIM ISSUE CONFIRMATION	PIM AUTHORISED FOR ISSUE
N/Apply ☐	<u>A P Reuben</u>
N/Approve ☒	Property Information Officer (PIM)
Attach ☐	Date: <u>2 / 7 / 99</u>

DOCUMENT G
Project Information Research Check List
For Dwellings and Major Construction

	Information Relevant to Project YES/NO	Information Attached	No Information Available
Zoning	① UD - ② Res 2.		
Road Widening	—		
Designations	—		
Limited Access Road Frontage	—		
Historic Buildings	—		
Protected Trees	—		
Site Subject to Flood Hazard	—		
- APP21 HCC			
- Rural 3/C Zone			
Property File/Domestic Drainage Plan	yes		
Resource Consent	—		
- Land Use No:			
- Subdivision No:	R950654		
- Cross Lease No:			
Land Fill	?		
Overhead Power Lines	—		
Known Natural Hazards	—		
Site Subject to Flood Hazard, Not in District Plan	—		
CRC Advice Received - Flood Hazard	—		
Harmful Contaminants, e.g. Asbestos, Timber Treatment Chemicals	—		
Water Supply/Sewer - Council Service	yes / yes		
- Well Water Supply	—		
- Septic Tank	—		

ACTION OFFICER:

GPR.

ACTIONED DATE:

2.7.99.



WAIMAKARIRI
DISTRICT COUNCIL

215 HIGH STREET
PRIVATE BAG 1005
RANGIORA
NEW ZEALAND
TEL: (03) 313 6136
FAX: (03) 313 4432
DIRECT LINE FROM
KAIAPOI: 327 6834

Services Connection Information

Information on standard requirements for the connection of a property to Council services, for use in Property Information Memorandums and Building Consents.

Application No: 990842

Date: 2/07/99

OWNER DETAILS

Name: C & T FULLER
Address: 56 ROWSE STREET
RANGIORA

PROPERTY DETAILS

Legal Des: LOT 26 DP 76235 BLK X RANGIORA
Val No:
Property Addr: 52 ROWSE ST, RANGIORA

Customer No: BC990842
Invoice No:
Receipt No:

Phone Work: 03 313 0036 Home:

CHARGES PAYABLE

Payment of the following charges is required before work can commence.

WATER

WATER CHARGES

Is a connection to a public water supply available? Yes
If yes, which public water supply? RANGIORA
Is the property already connected? Yes
What size connection is required 15 mm

Connection Fee \$ 0.00
Capital Charge \$ 0.00

Comments: CONNECTION AVAILABLE AS PART OF SUBDIVISION COMPLIANCE

NOTE: - Water connections to property boundaries are installed by the Council after the receipt of charges payable.
- A capital charge is payable where the property has not previously paid water rates.

SEWER

SEWER CHARGES

Is a connection to a public sewer scheme available? Yes
If yes, which public sewer scheme? RANGIORA
Is the property already connected? Yes

Connection Fee \$ 0.00
Capital Charge \$ 0.00
Inspection Fee \$ 0.00

Comments: LATERAL AVAILABLE AS PART OF SUBDIVISION COMPLIANCE

NOTE: - Sewer connections must be installed by registered drainlayers. It is the property owner's responsibility to arrange connection. New connections to sewer mains must be inspected and approved by the Council prior to backfilling.
- A trench opening permit is required to open a footpath or street.
- A Capital charge is payable where the property has not previously paid sewer rates.



Application No: 990842

Page 2

STORMWATER

Is a connection to a public drainage system available? Yes
Is the property already connected?
Discharge point: KERB & CHANNEL

STORMWATER CHARGES

Connection Fee \$	0.00
Capital Charge \$	0.00
Inspection Fee \$	0.00

Comments: CONNECTION AVAILABLE AS PART OF SUBDIVISION COMPLIANCE

NOTE: - Stormwater connections must be installed by registered drainlayers. It is the property owner's responsibility to arrange connection. New connections to drainage systems must be inspected and approved by the Council prior to backfilling.

- A trench opening permit is required if crossing a footpath.
- A Capital charge is payable where the property has not previously paid urban drainage rates.

VEHICLE CROSSING (ENTRANCEWAY)

ACCESS / CROSSING CHARGES

Is formation of a vehicle crossing from road edge to property boundary required? Yes
Type of access required: RESIDENTIAL

Comments: If you have not already done so, please complete and return the vehicle crossing application form (QP-C289-AA)

NOTE: - The Council requires that a vehicle crossing (entranceway) meeting Council specifications be constructed from the formed roadway to your entranceway. Vehicle crossings must be completed to base course stage prior to the commencement of building activity. Final surfacing can be completed once all building construction is substantially finished. Between the initial construction and final surfacing of the vehicle crossing, it must be kept in good condition to allow the safe passage of pedestrians.

TYPE OF FRONTAGE

Sealed road, Grass berm, Kerb & Channel, Footpath

NOTE: - During the construction period and any time prior to the issue of the Code Compliance Certificate, any damage noted to the grass berms, kerb and channel, footpath or adjacent roadway as applicable will be repaired by the Council and the cost charged to the owner.

TRENCH OPENING PERMIT

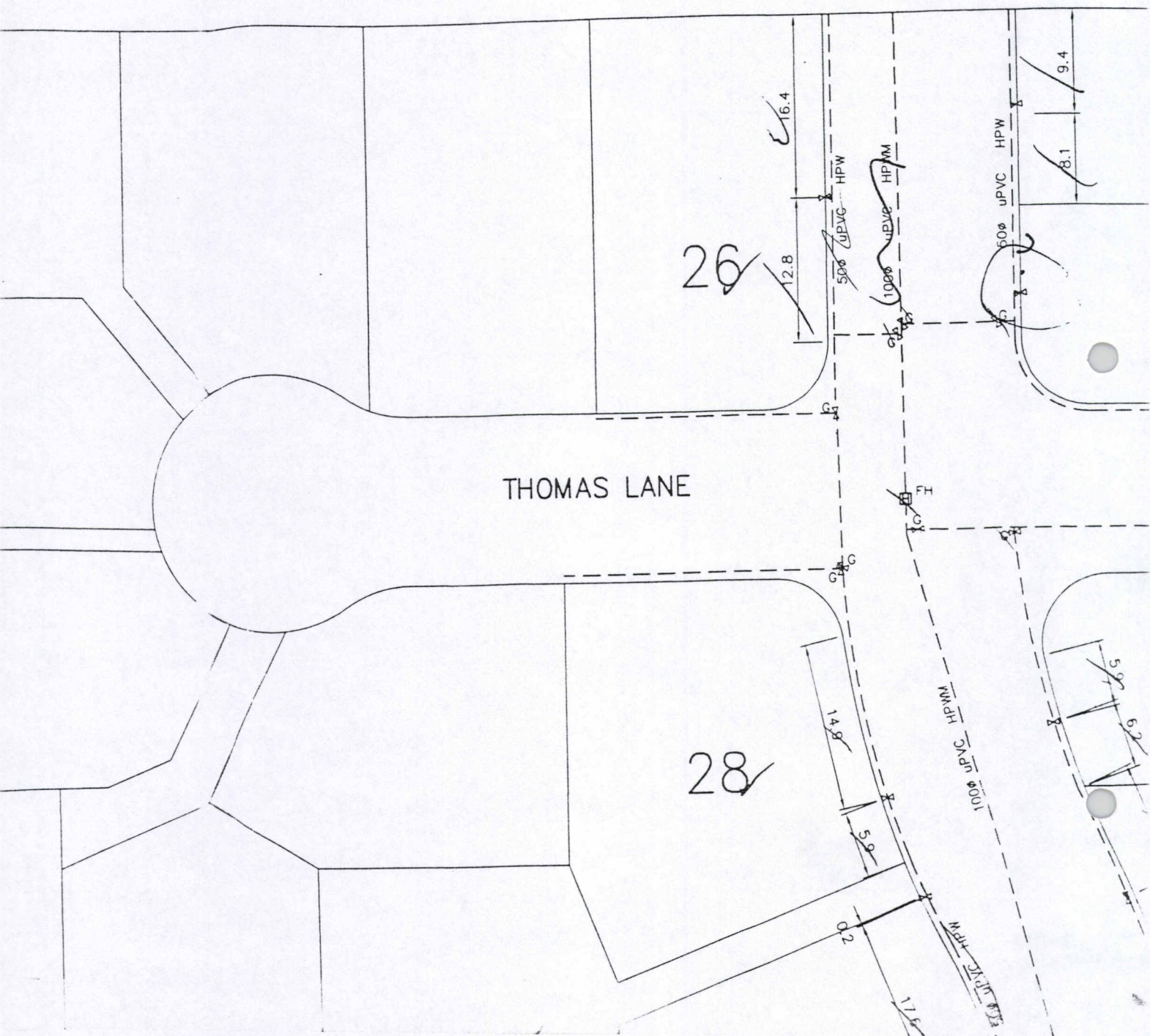
Total length of road and footpath trench seal restoration

Trench Restoration Cost	
\$	0.00
Trench Inspection Fee	
\$	0.00

NOTE: - Final sealing of trenches in sealed roads and footpaths will be carried out by the Council at the property owners expense. A trench opening permit from Council is required for ALL trenches within the road reserve or on other public land.

Contact Name for further enquiries: **PETER JOLLY**

Phone Rga 313-6136, CHCH 327-6834



WARNING: Measurements shown are subject to reasonable tolerance and have been provided from the Council records. The accuracy of the plan is not guaranteed. The user of this information has the responsibility to pothole and confirm the exact location of the service. When excavating in the vicinity of any council service, the contractor will be held responsible for all damage to council property. Photocopying will alter scale measurements.

SERVICE:

- ☒ WATER
- ☐ SEWER
- ☐ STORMWATER



WAIMAKARIRI
DISTRICT COUNCIL

DATE 2 / 7 / 99.

